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**MEASURING THE SOCIAL IMPACT BY EGO-NETWORK BASED
METHODOLOGY – CASE STUDY RESEARCH IN A HUNGARIAN NON-
PROFIT ORGANIZATION**

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Table of Content

Table of Content.....	3
Table of Figures	4
Abstract.....	5
1. Introduction.....	6
2. Literature overview and theoretical grounding	7
2.1. Social impact measurement and program evaluation in sociology	7
2.2. Measuring the social impact	10
2.3. Social capital and approaches.....	14
2.4. Measuring social capital by social network analysis	15
2.5. Research questions.....	18
3. Methodology and data sample	19
3.1. Case study research in the case of InDaHouse non-profit organization from Hungary	19
3.3. Collected data about InDaHouse, the organization	20
3.3.1. A questionnaire filled by the volunteers	20
3.3.2. Social network data.....	21
3.3.3. Participant observation	22
3.4. Collected data about the children participating in the program.....	24
3.4.1. Interview	24
3.4.2. Questionnaire filled by the children and a control group	25
4. Results	26
4.1. Results on mapping the resources of InDaHouse	26
4.1.1. Calculated prestige indexes based on the questionnaire filled out by the volunteers	26
4.1.2. The social network of InDaHouse (Figure 10)	30
4.2. Results about the Output and the Impact within the children in the program	32
4.2.1. Changes and impact – personal opinion	33
4.2.2. The extent of social capital	35
4.2.3. Social capital outside InDaHouse – experimental and control group results	36
4.2.4. Social capital of the children from InDaHouse.....	39
5. Conclusion	41
6. Discussion	43
Literature.....	44
Tables	47
Table of Figures	47
Appendix.....	48
All prestige indexes among the volunteers of InDaHouse.....	52

Table of Figures

Figure 1 Source: Millenium Development Goals (MDGs) and Result Chains (2015) online page.	9
Figure 2 Result ladder Resource: PHINEO g AG (2016). Social Impact Navigator. Page 5.....	9
Figure 3 Source: SRS Guideline (2014). Page 9.....	10
Figure 4 Source: SRS Gudeline (2014). Page 26.....	11
Figure 5 Source: own work.....	48
Figure 6 Distribution of gender in InDaHouse. Source: own work.....	48
Figure 7 Level of education among the volunteers. Source: own work.	49
Figure 8 Type of residence among the volunteers. Source: Own work.....	49
Figure 9 Increasing number of volunteers by years. Source: own work.	50
Figure 10 The social network of InTheHouse. Source: own work.....	50
Figure 11 In-Degre Distribution. Source: own work.	
Figure 12 Betweenness Centrality Distribution. Source: own work.	51
Figure 13 The Impact Chain of the social capital as an Input. Source: own work.....	41

Abstract

A szakdolgozatom célja egy olyan újfajta módszertan tesztelése, mely során a kapcsolatháló elemzés megközelítését alkalmazva, azon belül az ego-háló alapú mérési technika esettanulmányán keresztül kívánom megragadni az úgynevezett társadalmi hatás egyes összetevőit (social impact). Egy lefolytatott esettanulmány szolgál a dolgozat és az alkalmazott holisztikus szemlélet alapjául mely az InDaHouse nonprofit szervezet programjában résztvevőktől gyűjtött adatok elemzését is magában foglalja.

The aim of this master's thesis is to test a new way of approach: combining social network analysis - the ego-based network methodology – in order to retain the social impact of an organization or program. During the conducted case-study of a non-governmental organization in Hungary, InDaHouse I plan to design a holistic way of research with the support theory of the social capital and it's network science method, position generator.

1. Introduction

In Hungary the appear of non-governmental organizations was after 1989, the “Rendszerváltás” (as “regime change” or “system change”). With the new democratic political system the need for socially sensitive not-for-profit organizations has been increased. A representative quantitative data collectionl also started from this years by the Hungarian Central Statistical Office. According to the Statistical Reflections report, three main indicators can illustrate the position of the nonprofit sector: the number of organizations, the real value of revenue and the number of employees. Since 1993 a stable increase has been observed within all three types of indicators. Only from 2012 has been a curve shift down compared to the previous years and this decline has continued in 2013 (KSH, 2014). Nevertheless civic area has an important role giving alternatives to state welfare system launching social programs with education, care for disabled or elderly people, giving job opportunities. These organization’s funding options can be state (public) funds, european funds, private support (e.g. companies or individuals donations and sponsoring), additional activity revenues and other income/gifts.

A new type of business model has appeared by the 2000s: social enterprises. A social enterprise is an organization that applies commercial strategies to maximize improvements in financial, social and environmental well-being—this may include maximizing social impact alongside profits for external shareholders. Social enterprises can be structured as a for-profit or non-profit, and may take the form (depending in which country the entity exists and the legal forms available) of a co-operative, mutual organization, a social business, a benefit corporation, a community interest company, a company limited by guarantee or a charity organization (Abu-Saifan, 2012).

Operating and managing NGOs and social enterprises need a special aim, to reach a kind of change within the target group they are working with. This is what happens in a certain sociocultural context interrupting the existing patterns, dynamic offering an innovative solution. The organization has to know how they can measure the success of failure. Data collection is emphasized more and more both quantitative - financial reports, cash flow, eared revenue, possible growth in the future, employees and qualitative level - deeper motives of the target group, collecting attributes concerning an exact program of an organization and stakeholders. Impact measurement is the key answer how an organization can have a proof to exist, build trust through transparency, convince the

stakeholders to invest and expand in the future. „*Social entrepreneurship has flourished significantly at the practical level, but not at the theoretical level. Future research should focus on linking social entrepreneurship as a new discipline and research field to the theory of entrepreneurship.*” (Abu-Saifan, 2012: 27). My personal opinion relates to Abu-Saifan’s comment because this topic of social impact is especially important from a sociological point of view: there is a necessity of theoretical support and that involves applying new methodology and inventing to contribute to the organization’s work. My approach is mainly holistic but the foundation of it is from sociology. This thesis offers a possibility to see a good example of combining methodology on a topic which has not really been explored yet by sociology. Moreover it’s for a good cause which is also needed today as above the statistics of the non-profit sector showed the stopped growth of NGOs with also facing financial and legal difficulties.

2. Literature overview and theoretical grounding

2.1. Social impact measurement and program evaluation in sociology

Firstly to better understand the definition and existence of social impact measurement we have to go back to the 20th century. Since the 1900s it has been applied from the medical experiments to the public program evaluation in several ways (Kormos, 2017). Nevertheless Moksony (2011) writes in *Statistical Methods for Program Evaluation* that sociology has also started to emerge focusing and improving methodology on the field of program evaluation during the 20th century. Coleman has divided three phases of program evaluation in American sociology. Firstly from the beginning of the 20th century until the 1930s the Chicago School has started to conduct empirical researches exploring various social problems like crime, suicide, prostitution. The motivation of the researchers were mainly personal without outside interest. The second period (from the 1930s to 1950s) brought somewhat difference because with the lead of Paul Lazarsfeld at the Columbia University the Applied Social Research was born and there has been many request from external consumers to gain feedback. Local social problems has extended to national with the bigger companies and the media. From 1960s the responsibility to handle social problems were taken by the state level reforms. The large-scale governmental programs needed to be measured by as called *policy research* including

program evaluation (Moksony, 2011). Nowadays sociology has a broader and deeper methodology to measure impact with the developed statistical models. The main aim is to discover the change taken place after any intervention. To gain reliable data and results all of the alternative, other casual mechanisms which needs to be filtered statistically by randomization, test and control groups and/or longitudinal data (Moksony, 2011).

The definition of social impact varies in the literature, it has been conceptualized using terms such as social value, social performance, social returns, and social accounting – being close to each other however also making a distinction based on the field (finance, business, sociology). Moreover, social impact has been studied in connection with education, health care, environmental sustainability, and poverty, which can be difficult to compare (Rawhouser et al., 2017). According to Global Social Impact Investment Steering Group (2014) impact is long-term, social and/or environmental benefit generated by an organization's/program's goals and the societal challenges it seeks to address. The change occurring is a consequence of the actions the organization/program takes. Yule (2015) lines up two attribute of social impact measurement: (1) to prove its existence, (2) to improve performance, developing the organization or program. Social impact measurement has similarities to program evaluation, but has many differences as well. Both methodology is based on the existence of an intervention/action causing something to change as a result, it is crucial to measure the difference between real impact and alternative or random causes.

Nowadays business and even non-governmental organizations have their own standards to report successful performance and outcomes. This means gathering data, analysis and taking possible actions according to the results. In the non-profit area even with the emerge of hybrid organizations such as social enterprises transparency is crucial. An NGO operates with funds, donations and volunteering work, however more and more organizations are also launching programs to have a product or a service, strengthening their economical sustainability and to be more impactful to change their target group's life.

„The phenomenon of social entrepreneurship (SE) falls within this sector as it uses economic activity to pursue a social objective. Although, in many respects, SE is similar to conventional entrepreneurship, it involves the provision of goods or services not as an end in itself, but as an integral part of an intervention aimed at contributing to social change (Grieco et al., 2015: 1174).“

Consequently there is an increasing pressure towards these organizations to show how successful their operation is especially economically for potential impact investors or other funders (Rawhouser et al., 2017). Based on Dóra Kormos (2017) thesis In Hungary the these four important factors can be listed why there is a need for anyone to assess their impact.

- Corporate Social Responsibility is gaining more and more importance as companies face a pressure to give back to the environment and society. Impact measurement is a way to quantify these initiatives' results and communicate even in marketing and PR materials.
- Year by year the number of social enterprises is growing having the goal to make a positive change within the society while staying sustainable financially, if possible even producing profit. It is necessary to report (successful) performance or to act on, if there is lack of impactful progress.
- A new way of investing is based on impact by philanthropists, angel/early-stage investors, professional investors, institutional investors, private sector corporate partnerships, the financial industry, and governments. The investment has to return not only financially but socially (Global Social Impact Investment Steering Group, 2014).
- In the civil sector, for not-for-profit organizations donations has been given by citizens or funds what claims higher level of transparency.

Based on Dóra Kormos's (2017) typology motivations to assess impact can be a following: (1) who is concerned, (2) the change is positive or negative, (3) what areas the change is taking place, (4) to what extent. The scope of the assessment is an exact program or the whole organization. Otherwise the purposes of it is to:

- Legitimize the activity, existence, build trust in stakeholders, target group, volunteers, broader society.
- Measure performance (can the settled vision be reached, if not in what way can be modulated),
- Increase recognition and credibility – using the results in communication and marketing, building positive image.
- Convince (possible) funders, donators, investors building up transparency.

Szepesi (2013) defined three types of impact measurement with timing as an other important factor:

- (1) Preparatory, prospective impact assessment: with the aim of preparing the launch of a certain program or founding an organization in order to convince decision-makers. This kind of impact evaluation supports positive effects and future success building up a vision and proving its realization. Moreover designing the analysis the methodology and indicators will be part of the whole activity fostering reliable data and results. Then at the end of a certain program it makes the evaluation easier.
- (2) Intermediate impact assessment: This type is giving a feedback to the organization and other stakeholders if the direction is right. If not it enhances modifying the activities.
- (3) Retrospective impact assessment: Closing a certain program or a greater period in an organization's life it is part of the evaluation process. This can be used also to build a new vision and find other directions having the conclusions of previous times. Communicating the success is also necessary toward the stakeholders.

2.2. Measuring the social impact

Standardized models has been evolved through out the developement of NGOs and social enterprises in order to measure their impact. The theory of these models is based on the so called *Impact Chain* or *Impact Value Chain*.

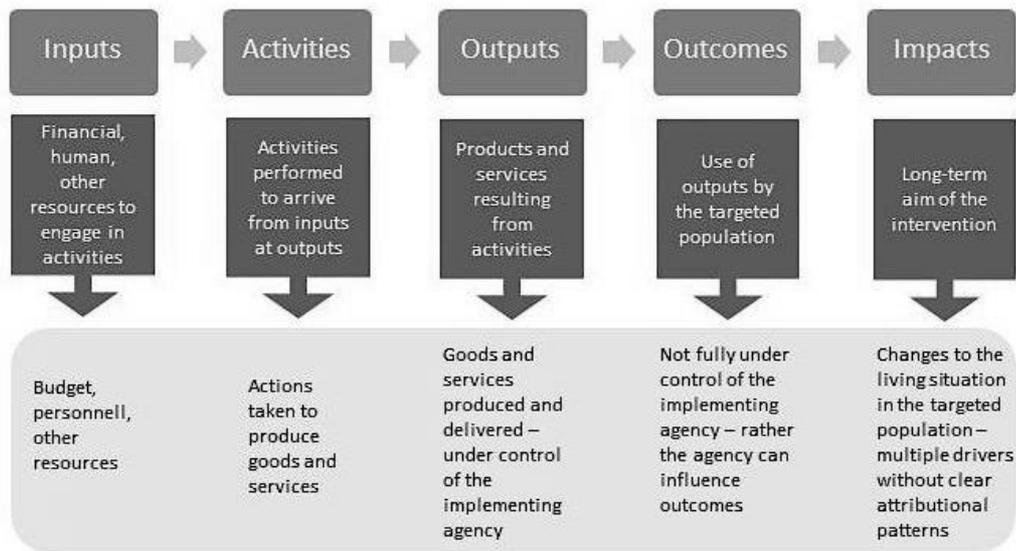


Figure 1 Source: Millenium Development Goals (MDGs) and Result Chains (2015) online page. [https://energypedia.info/wiki/Millennium_Development_Goals_\(MDGs\)_and_Result_Chains](https://energypedia.info/wiki/Millennium_Development_Goals_(MDGs)_and_Result_Chains)

The impact value chain traditionally starts with input-level data and progresses to activity, output, outcome, and impact-level data (Global Social Impact Investment Steering Group, 2014). The Input can be an investment or any resource given in an organization. As a process in time and development of reaching impact, certain activities leading to outputs (sometimes also called results, product, practises or services). The most important part are the Outcomes and the Impacts. The difference is the level of change and the time period. The following chart is about the levels of impacts or change showing the categories the Impact can happen and why it's not the same as the Outcome (Phineo, Social Impact Navigator, 2016).



Figure 2 Result ladder Resource: PHINEO g AG (2016). Social Impact Navigator. Page 5.

The main aim of reaching the biggest impact the so called social change. It is conceptualized as a shift in the society's way of thinking while their attitude, habits change as well as the legal/social framework they are living in.

There are two widespread models already applied also in Hungary in order to measure the social impact. Because of the heterogeneity in the non-profit and social business's sector it was a hard task to assess impact. Standardization was a key factor owing to that the framework used to be modified to the exact NGO or SE having their unique way of operation. External reports has mostly been limited to accounting bodies, committee structures and activities, or direct performance results (SRS Guideline, 2014). First of them the Social Reporting Standard (SRS). The logic is built on the *Impact Chain* being a hybrid methodology it has roots in finances, economy and also sociology. „*The SRS provides a common language and a comprehensible system for the results-based reporting of social organisations. It facilitates dialogue about results, and makes the value of social work visible to the community. The common language and the discussion about results help contribute to an outcome-oriented learning culture both within the organisation as well as with partners and sponsors* (SRS Guideline, 2014:2).“

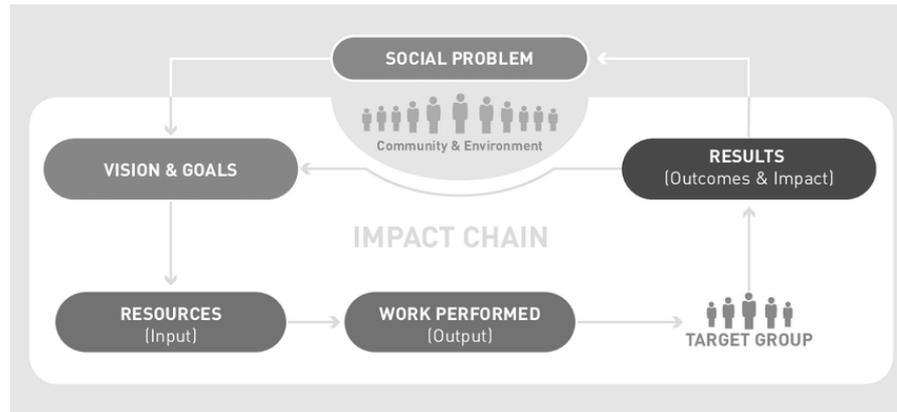


Figure 3 Source: SRS Guideline (2014). Page 9.

There is an initial social situation and the social problem. Causes and consequences then lead to the solution offered by the organization. An overview on the target group is also crucial. It contains also the description of the organization structure and the team proving professionalism and motivation. Indicators have to be defined in order to prove the data and the results. An example is given below to the survey methods applied.

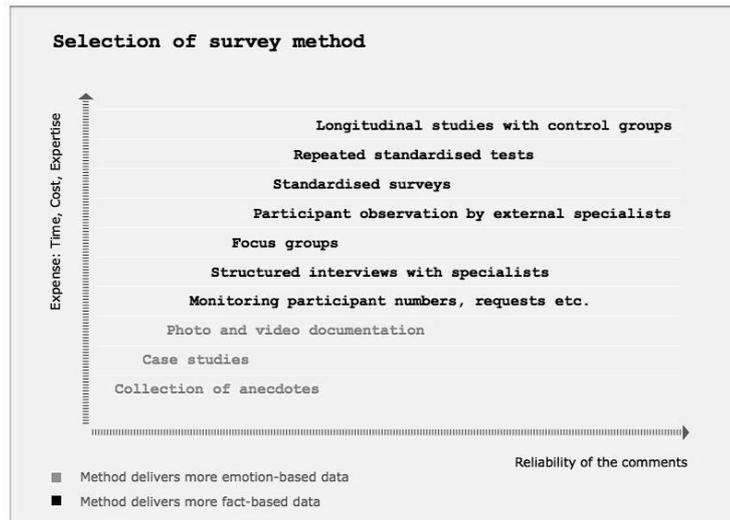


Figure 4 Source: SRS Guideline (2014). Page 26.

The other framework to measure the impact is Social Return on Investment (SROI) analysis. Originally published in 2009 then re-edited in 2012 its guideline contains all the specific informations. This type is also based on the *Impact Chain* logic. It mainly seeks for value created during the organization’s activity meaning a quantified report with ratio of benefits to costs calculated. Money is a common unit to express quantity. It can be used as a tool for strategic planning and improving, for communicating impact and attracting investment, or for making investment decisions (SROI Guideline, 2012). Firstly establishing the scope and identify stakeholders should be made for an SROI analysis providing the background and knowledge on the organization. Secondly certain indicators has to be defined to list all the inputs and then output, outcomes, impact. All these will be valued and supported by the data collected. After calculating the impact the total SROI can be specified by dividing the discounted value of benefits (approximated value based on outcomes and impacts) by the total investment (inputs). This methodology is mainly based on accounting however communicating the exact amounts can be easier to understand for investors.

Both SRS’s and SROI’s aim is to fulfill the criteria of reliability and proper research design. Although SRS is more opened to conduct whether SROI is strictly based on calculation and values.

2.3. Social capital and approaches

In the following part of the literature overview I will include also the theoretical background for social capital and social network analysis. Capital is both a concept and a theory. Lin and Ericson (2008:3) states that *as a concept capital represents investment and possession of resources of value in a given society*. Moreover as a theory certain mechanisms can be noted how these valued resources are produced, reproduced and accumulated. Types of capitals by Marx, Coleman, Bourdieu and Putnam are defined as economic, social and cultural capital and proved their importance in sociological research (Lengyel and Szántó, 1998).

According to Coleman cited by Paul Whiteley (2015:174) „*social capital emphasizes the importance of community ties between individuals in facilitating and enabling collective action to take place. It permits society to do things that it otherwise could not do, and though it is utilized by individuals it originates in relationships between people in society.*“ Van Oorschot et al. (2006) made a distinction whether Coleman and Bourdieu studied social capital in a micro level, others, Putnam and Fukuyama has brought it to a macro-sociological level. societal structure and culture, on the one hand, and collective action, on the other. Many topics as trust, collective action, democratic participation, shared norms and values has been examined and publicated throughout the years. By trust existing it can even indicate such actions as voluntary activity benefiting the society (Whiteley, 2015).

It is neither possessed by individuals nor by groups or the society. Based on the literature social capital's foundation is built on the individuals and their relations, but the consequences can be noted both on a micro and macro level collectively (Lin and Erickson, 2008). Furthermore the resources are embedded in social networks affecting a need for a specific conceptual model in network science as well (Van der Gaag and Webber, 2008). The accessibility is by someone's directed and indirected ties. Flap cited by Lin and Erickson (2008) three elements of social capital exist:

- (1) The number of others who prepared to help the individual,
- (2) The extent to which they can help (the strength the ties),
- (3) In terms of resources if there is any accessible at the other side of the tie, by the individual.

So these resources through ties provide also flow of information, influence, rendering of social credentials and affirmation of social identity. Investing in social relations such as taking care of our relationships has also a generating effect on social capital and other resources. Empirical findings have shown that to find a job, or attain higher social status through one's social network, social capital should be specific; it is necessary to know the right people with the right resources in order to climb the social ladder (Van der Gaag and Webber, 2008). Unequal acquire of social capital begins with birth to a certain family statuses. It is greater for those who have a father with higher education or higher income. Social capital gains depend also on (social) location, gender, race or ethnicity (Lin and Erickson, 2008).

2.4. Measuring social capital by social network analysis

Van Oorschot et al. (2006) researched social capital among European citizens including also the structural characteristics of gender, age, household income, educational level and work status, as well as the cultural characteristics of religiousness and political left–right preference. According to their article there is a need for more structure and precision in social capital studies therefore they applied a composite measurement instrument. They argue that „*social capital can be analysed at multiple levels, i.e. at the micro level of individuals and small groups, at the meso level of communities and associations, and at the macro level of sub and supranational regions and nation-states*“ (Van Oorschot et al., 2006:151). The analyzed data is from European Values Study (EVS) individual level (Europeans) and aggregated to regional clusters. The three dimensions are network, trust and civism operationalized with indicators. The testing was made with a second-order confirmatory factor analysis model with the results of positive intercorrelation between network and trust in a country-level. In the individual level for example social capital's dimensions as friends positively correlate with active participation and trust. Social capital is higher in the Scandinavian countries otherwise it can't be stated that diversity is strongly influencing Europe. The authors has proven also classical capital-accumulation hypothesis as economic capital tend to add to higher levels of social capital. In social network analysis the ego-based networks methodology is spreading to study the relations role in the society. The network approach was a new paradigm from the 1940-50s coming from the sociometry (Kmetty and Koltai, 2015). With the growing amount

of data from the 1970s even the macro-sociological questions could be researched by social network analysis. Lin and Erickson (2008) stated that the most important resources are concentrated in particular parts of the social structure. This design of doing a research on social links to social locations where the resources are in higher concentration is called position generator. Van der Gaag et al. (2008) has distinguished in social capital research from a structural point of view, as for example capital measures are calculated from data matrices about relationships in networks or based on data from ego-centered social networks concerning the existence of specific alters with specific roles. There is a duplications of resources between alters and ego thus also attainment of goals and intentions are considered.

Kmetty and Koltai (2015) described four types of ego-based network instruments also including the position generator itself. The name generator or name interpreter is a way to explore the ego's network by asking him or her to list the names in different situations e.g.: who do you ask for help, advice...etc. Giving attributes to the names then deeper level of information could be explored with mapping the stronger ties. The network's volume is the indicator of the core network's resources however social capital can't be measured by this method. Only by more diversity and/or heterogeneity can enhance potential gain of resources. Size generator instrument is a method to study nexus between ego and groups of society. It's enhancing tracking segregational lines between groups estimating vertically if these groups are forming blocks making it easier to generalize any statement about the structures of the society.

The remaining two types: position generator and source generator are both well-developed ways to measure social capital (Lin and Erckson, 2008; Van der Gaag et al., 2008). Position generator is based on Lin's concept of structural hierarchy in the society. Imaging a pyramid if someone is higher in the pyramid that person will have more access to relations as well as resources so his or her instrumentál actions will be more successful (Kmetty and Koltai, 2015).

Operationalized through exact positions and jobs according to Angelusz and Tardos's term of (cited by Kmetty and Koltai, 2015) *nexusdiversity* is the indicator accessing these positions being the volume of social capital. „*This measurement model is firmly rooted in theory, the logic and theoretical rigor behind its operationalization enables a systematic development of versions for every society in which occupations, occupational prestige or job-related socioeconomic indices have been catalogued*“ (Van der Gaag et al., 2008:40). The threats of this instrument is to have biased by professional people

mistaken for personal network members or the question of prestige for certain group of society.

Resource generator is similar to position generator but giving a horizontal pattern on the accessible resources themselves with the instrumental act involved (Kmetty and Koltai, 2015). Van der Gaag and Snijders has designed a 37-itemed list and out into four main categories by Kmetty and Koltai (2015):

- Social capital connected to education and prestige (someone who knows literature, higher education..etc),
- Social capital within politics and business (someone in a party, activist in a party..etc),
- Social capital connected to individual skills (someone knowing to use computer, programming, hobbies),
- Social capital connected to giving help (asking for advice in work situations, helping to move out..etc).

Van der Gaag et al. argues that: „*The examples of social capital included in the instrument [source generator] need to be potentially productive, exchangeable, acceptable to ask for, and memorable for the respondent. Since most of these characteristics are culturally dependent, developed versions of resource generator instruments are strongly bound to a specific population (2008:41)*“

2.5. Research questions

In this essay my aim is to create a new way of studying social impact by the operationalization of social capital. Being a certain resource, social capital can be an Input and an indicator for social impact assessment. While the Output and the Impact are observed within the target group if they have a certain reach to the social capital and the resources. Assumptions and predictions can certainly be made for the amount and nature of social impact based on an analysis for ego-networks by the instruments described before (position and source generator).

- (1) RQ1: Can the exist of elements of social impact be explored by ego-network analysis instrument position generator?
- (2) RQ2: How the quantity and quality of social impact can be predicted by the analysis in RQ1?
- (3) RQ3: By a case study at a Hugarian non-profit organization can the each elements of social impact be mesured by detecting and exploring social captial?
- (4) RQ4: How the Output and the Impact (based on children's measured social capital and qualitative results) relate to the Input (the resources of the volunteer's social capital)?

3. Methodology and data sample

3.1. Case study research in the case of InDaHouse non-profit organization from Hungary

In order to test a new way of methodology a case study research has been designed. The chosen program is called InDaHouse which has been founded in 2013 and started operating in 2014. Firstly they have initiated a mentor system and camps for children in Pere, Borsod-Abaúj-Zemplén county, in Hungary. The majority of local children are of romany heritage and they come from and live in poverty. They have difficulties in school, even starting the first grade lacking necessary knowledge and they fall further behind because of the dysfunctionalities in the educational system. The volunteer based child program is a way of personal mentoring and non-formal group activities on a weekly basis. Children are obliged to take part every weekend otherwise it wouldn't bring the planned results. A vital focal point of the program is to be able to provide and maintain financial security which does not interfere with the professional work of the volunteers and mentors. The organization is mostly operating based on donations and funds. Although a social enterprise has also been initiated, a guest house in Pere making the work more efficient¹.

The hardest part was the beginning: the villagers could not understand their intentions, could not believe that someone from Budapest wanted to help them; they were mistrustful and gossiped a lot. Time and the constant presence solved this issue, honest conversations are the base of their relationships with the families of the children taking part in the program. The program itself was launched in 2014 although the individual mentoring has started in November 2015. After the certain volunteer basis they have been traveling every week from January 2017.

Right now they are fundraising to build a local centre for volunteers to sleep in and store the materials used for education and leisure time. The founder and leader of InDaHouse is Fruzsina Benkő, a social worker. She has a background of leading other programs for youth. Despite the fact that she is the heart and mind of the organization she used to be working for free doing everything needed on a daily basis, right now she is receiving a

¹ Resource link: <https://indahousehungary.wordpress.com>

financial support by a fund. Moreover the volunteers has formed working groups being more integrated and motivated making it easier for Fruzsina to function.

The reason why InDaHouse was chosen is because it has been in a growth since 2014 and right now lots of movements are taking place: as the building of the new centre, increasing amount of volunteers, forming structural hierarchy (working groups, leaders) and a total number of 90 children in the tanoda² which is the maximum capacity with their resources. Whatsmore, the time has come to measure the impact and set future goals based on that. By my research I'm supporting the organization giving feedback after evaluating the collected data.

The case study has been designed in two parts:

- (1) As an Input for the social impact an overview is drawn about the organization and the volunteers by evaluating a questionnaire filled by volunteers about their background, occupation and their social network.
- (2) A cross-sectional study comparing experimental and control groups based on personal interviews and a questionnaire:
 - a. 12 children participating in the program of InDaHouse – experimental group,
 - b. 5 children not participating - control group.

3.3. Collected data about InDaHouse, the organization³

3.3.1. A questionnaire filled by the volunteers

To have a sample of all the volunteers who has already taken part somehow I have received a list made by Fruzsina Benkő, the leader of the organization. I could code which year they have participated, if someone is a working-group leader, and being active: as traveling, mentoring, creating worksheet for the children (N=83). With the contribution of an other volunteer a questionnaire has been made to have the information about all volunteer's socioeconomic background and attributes such as age, gender, highest level of education, residence and year when they joined the program of InDaHouse. The most important variable made based on this questionnaire is the occupation by all of the

² Non-formal educational, after school program is called tanoda in Hungarian.

³ The questions of the interview and the questionnaire is attached on the CD.

volunteers who have filled out this form (N=55) . This will lead to compute the indexes for prestige as a resource Input.

3.3.2. Social network data

Lin writes „...without networks it would be impossible to capture the embedded resources (...) What is needed is to specify conditions under which certain network features such as density or openness lead to the capturing certain resources that generate certain kinds of returns.“ (2008:58-59). Social network analysis is based on graph theory stating that humans are connected to each other on various levels such as: human institutions (e.g., governments), processes (e.g., economy) and infrastructures (e.g., global airline network). Moreover, networks can be found in the natural world as well, like ecosystem or communicating neurons. Starting in the early to mid 1990s with the exploding growth of internet and IT innovations, modeling, analyzing social networks has become easier and available for several areas of science. Complex systems and often massive amounts of data can be used for developing the theory or methodology and doing computations with. This kind of approach can be used for micro, meso and macro level of research both in a cross-sectional and longitudinal time frame. Descriptive analysis is often the first step being done with the exact social network. Then visualization should be part of the process managing to combine a number of important aspects in one picture (e.g.: gender, types of attributes, ties). Capturing characteristics of a given network degree, centrality, betweenness, network cohesion: density (Kolaczyk and Csárdi, 2014).

Number of degree (in and out) tells about how many connection the actor has referring to his or her influence on the others. Density means the proportion of all possible ties that are actually present. For a valued network, density is defined as the sum of the ties divided by the number of possible ties. „*The density of a network may give us insights into for example the speed at which information diffuses among the nodes, and the extent to which actors have high levels of social capital and/or social constraint.*“ (Hanneman and Riddle, 2005:74). Average distance shows the diffusion of information in a rather macro level also giving a notion about influence. The actors closer to others may be exert more power than the ones more distant. Geodesic distance shows the number of shortest walk possible from one actor to the other. Shorter distance brings less transactional cost (cost of making a connection) and so fluent information and higher chance of collective action. Reciprocal relations is measured by a ratio of total number of ties while transitivity

regards triads (ties between three actors) if out of ABC, AB and BC are connected then we will also see AC. Betweenness represents a structurally advantaged position in the network also referring to power and influence and more access to resources. Sub-structures may be present in the whole network as dense clusters or „cliques“. It can be useful building up a bigger structures based on small groups but only with „overlapping“ – one person being member in two or more cliques. They serve as bridges which tie is endorse cohesion within the network, being able to perform collective acts and support mobility (Hanneman and Riddle, 2005).

When I was collecting the data for social network analysis I also set a boundary: including all the volunteers who has been marked as active (based on Fruzsina Benkő's help). They were asked to fill out a social network data table individually (N=41). The question was to pick the other volunteer who they knew or already had a contact with (by email or in person). This led to a binary, directed network overview of the ties between volunteers (Further results in the next chapter).

3.3.3. Participant observation

A rather qualitative methodology I have chosen participant observation. The main aim of this type of method is to watch the people connected to subject of the research right at the scene of the social life. Within sociology this is rather particular, often characterized as limited because it can't offer an answer to a question about fairly large populations, the precise causal relationships among limited sets of variables. It's rather appropriate for exploratory studies, descriptive studies and studies aimed at generating theoretical interpretations (Jorgensen, 1989). Designing a case study of a kind participant observation provides detailed information and a an in-depth holistic examination of a phenomenon. The case studied may be a culture, society, community, subculture, organization or a group. Their interactions and meaning viewed from the insiders' viewpoint in everyday life situations and settings. During the process an informant can help to the researcher to enter the group or community. Trust and respect are the keywords to keep the naturality of situations. No stereotypes or pre-concepts are allowed to be made during and after the observation. Taking part and being in other people's shoes are needed to be done with empathy (Héra and Ligeti, 2005).

In this research I am in a lucky position because I have become a volunteer in October, 2017. Every two weeks I was tutoring a 18-year-old girl to help her with the English final

exam. Step-by-step I got to know the whole organization, some other volunteers and the children too. What is important to note is that during the research I made a distinction between my role as a volunteer and a researcher in order to avoid bias and false results. I have traveled to Hernádszentandrás two times and also participated teaching the children. The dynamics of these weekends are interesting because everything starts on Friday taking the two-hour-long car drive is kind of a team building experience setting everyone's mind on the tasks. The organization is using a community space in the village with two rooms, a bathroom and a kitchen. In one room studying and group sessions are taking place, while the other room is for the volunteers to sleep on mattresses. Children are coming in groups of 4-5-6 in a regular schedule. For older children (6-12 grades) the study time is 1,5 hours, while on Sunday, for the younger kids it's only one hour usually. Specific exercises should be prepared the evening before the „class“ for each children with the help of the Test Builder Working Group. The topic of one test is based on the school materials, the child's development strategy (outlined by the mentor and the volunteers). Mathematics, reading, writing, comprehension of a text and English are the crucial subjects in focus. The children are coming from Hernádszentandrás and 3 other villages nearby. They are transported by the minibus before and after the class. Every week there is a different group of volunteers who sometimes doesn't know each other or for the first time traveling neither the children. As I have experienced everyone is opened and kind to each other supporting the main aim the progression of the kids and the organization. The process of a studying „class“ starts usually with a short game to get to know each other (if needed). Then a rather formal part of the learning is doing exercises, but the organization owns several non-formal, playful tools and board games to enhance better understanding of a topic. It depends on the exact volunteer what to plan for each class. Despite the fact that there are always different volunteers to study with children are gaining openness towards strangers in a safe environment of the weekend classes. As I have observed it doesn't really matter who are they studying with if there is a certain flow of working together. The exception is the mentor-mentored sessions where the relationship is emphasized next to studying. The mentor's role is to keep track of the child in school, contacting his or her teacher, parents and traveling there regularly to also meet.

3.4. Collected data about the children participating in the program

3.4.1. Interview

The methodology of interviewing is giving an opportunity to the individual to answer with a better understanding about participants' experiences, beliefs and behaviours in a comfortable situation. The data will ensure deeper, qualitative knowledge shaped by the individual's own words. Moreover it's a good way to have plus information about the respondent's vocabulary, environment and socioeconomic background. The observed phenomena won't have a statistically significant analysis but a richer overview about one group's, or a small community's opinion and way of thinking (Héra and Ligeti, 2005). The sample is usually smaller than at a quantitative research, however the quality of the data will predict the researches' success. The spontaneous situative reactions, the added plus informations the formulation of responses can not only give an answer to the research questions of a kind but also open new windows with a fresh point of view, additional considerations can be made about the phenomenon and its circumstances. (Héra and Ligeti, 2005). There are more types of interviews such as structured, semi-structured and strictly structured. The questions can be open-ended or closed, the first is usually used by anthropologists. Under the one-to-one category falls face-to-face interviews, telephonic interviews as well as "internet and intranet mediated" interviews. The researcher must work diligently to ensure the validity and reliability of the interview data otherwise, interviewers themselves, can turn to be weaknesses due to their own bias, subjectivities and lack of interviewing skills (Hofisi, Hofisi and Mago, 2014).

Within my thesis I have chosen a way of semi-structured interviews. With both closed and open-ended questions I also asked spontaneous questions from the children and all the interviews have been recorded. Giving validity I have had the help of an expert to choose which child should be asked (both the founder of the organization and the first „senior“ participant who is going to graduate first of all the children participating). The conditions were that the interviewed children should be in the program at least since the beginning of 2017, and have the variety of ages and gender to result the sample of 12 children asked⁴. Figure 5 displays the distribution of what year they have started to attend the tanoda.

⁴ All the respondent's parents under 18 were asked for permission to take part in the research.

They are 9-18 years old and they are from Pere, Hernádszentandrás, Ináncs and Hernádbüd. Most of them (8 children) goes to Arany János Elementary School in Ináncs, the rest of the group goes to Váci Mihály Secondary School in Encs. The second school is considered to be „higher quality education“ with more youngster graduating and even continue studying. Out of all the respondents there are 9 girls and 3 boys which relates to the composition of the whole group of children going to the tanoda (N=90).

3.4.2. Questionnaire filled by the children and a control group

Next to the interviews a questionnaire was answered by the 12 children after every interview. At the same time I've reached out to my local helper (the same girl who has helped me choosing the children to be interviewed) to find children and youngsters who are not part of the program in order to form a control group. At the end 7 people filled out the same questionnaire as the interviewee. Unfortunately 2 weren't complete so it became the group of 5, 4 girls and one boy. They are all from Hernádszentandrás, where the tanoda is located physically and their age range from 10 to 17 years. Only two of them go to the same school as the majority of the children from InDaHouse, the other three attend schools in Miskolc, Tokaj and Mezőkövesd.

The questions firstly inquired of their age, place of residence, school, number of friends, number of Facebook friends of where they know their friends from. Secondly, to estimate the magnitude of social capital it was asked: of whom they reach out for help or with a school problem and they were requested to pick occupations out of a list of which they know somebody, and who is that person exactly, how close they know him or her.

4. Results

In the following chapter all the results will be shown both by description and even in a more graphic way. The two main parts are the following: firstly I will summarize the outcomes of the data about the organization itself (by the questionnaire and the social network), secondly all the consequences will be written about the interviews with the children.

4.1. Results on mapping the resources of InDaHouse

4.1.1. Calculated prestige indexes based on the questionnaire filled out by the volunteers

In the Impact Chain the Inputs are financial, human and other resources to engage in activities. In the research one of the Inputs social capital was defined as a resource. This is measured by prestige numbers. All the volunteer's occupation got a certain prestige number in the scale of 0 to 100, based on Van der Gaag et al. (2008:31) and Nakao and Treas's (1994:42-69) distinction of scores. The first is a research about position generator and social capital had 30 main occupations scored however I have integrated the second publication about additional measures because several occupations weren't included in the first one. To make sure about the scores I have defined minimum and maximum scores and then their average. The minimum score is usually defined to be a unskilled laborer then it goes up to the lawyer which is the highest score possible (there is no 0 and 100 score but 15 and 86) (Van der Gaag et al., 2008). In the literature they also measure socioeconomical indexes however in this case it doesn't add more values to the indexes.

Descriptive statistics for prestige scores				
		Minimum prestige	Maximum prestige	Average prestige
N	Valid	55	55	55
	Missing	28	28	28
Mean		51.94	62.45	57.19
Mode		68.00	70.00	60.50
Std. Deviation		17.1	16.26	16.46
Minimum		15.00	25.00	20.00
Maximum		84.00	87.00	85.50
Sum		2857.00	3435.00	3145.50

Table 1 Range and average of prestige scores of volunteers. Source: own work.

In Table 1. All the statistics can be seen about the minimum, maximum and average prestige scores of the volunteers. Based on Van der Gaag et al. (2008) and Kmetty and Koltai (2015) certain prestige indexes can be calculated in order to measure the input social capital:

1. Highest accessed prestige and occupation (Maximum of the average scores),
2. Average prestige score (Mean of the average prestige scores),
3. Range in accessed prestige (The difference between the highest and lowest average score),
4. Number of different positions accessed – heterogeneity of occupations,
5. Total accessed prestige (Sum of the average scores).

Usually these indexes are calculated on by one individual person in the network but this case the individual is the organization itself and it's network, that's how ego-based methods can applied. „*Highest accessed prestige is currently the only regularly used social capital measure referring to beneficial effects resulting from the presence of specific elements in social networks.*“ (Van der Gaag et al., 2008:33). Consequently accessing network members with high prestige leads to the generation of higher returns. Diversity measures are showing that there are more opportunity to access successfully more social capital in a diverse network calculated by indexes as *Range in accessed*

prestige and *Number of different positions*. In addition also Average accessed prestige and Total accessed prestige are included for a better picture.

In the case of InDaHouse out of 55 respondents 29 different occupations were distinguished, excluding the high school students. The question have been raised if someone is retired or a student then how the scores should be calculated? Should they be included or excluded? Two women of volunteers were retired recently therefore they have been given scores based on their last job. In the case of students, high school students were scored with a minimum of 15 and a maximum of 25 because of their contribution to the work with family and friends. Furthermore university student have more access to social capital themselves by the university, and these students also take part in a College for Advanced Studies giving many possibilities to build a network and become bridges. They also tend to do internship that's why they were rated with the average of 35 (min: 25, max: 45). The volume of all the indexes computed are in Table 2. Minimum of highest accessed prestige is the minimum of average prestige scores. It shows that the highest reached prestige is 85,5, which is a volunteers' who works as a lawyer considered to be the highest rated occupation accessed also.

Prestige indexes within the volunteers of InDaHouse			
	Min	Max	St. deviation
Highest accessed prestige and occupation	20	85,5	16.2
Average prestige score	51.94	57.19	16,4
Range in accessed prestige	0	72	-
Number of different positions accessed	0	29	-
Total accessed prestige	2857	3145.5	16,46

Table 2 Calculated prestige indexes. Source: own work.

Average prestige score deviates between 52 and 57 which is considered to be a little higher than for example in Van der Gaag et al. (2008) research about the position generator within the Dutch society (51,67). However in the case of InDaHouse the

volunteers are usually from the middle, upper middle part of the Hungarian society because of being socially aware. In 2010 based on an online representative survey KAI consulting Kft. The majority of the volunteers are women (80%), from the 21-40 age group (although now it's more mixed because of the obligatory community service in high schools), and has a higher education degree, more of an intellectual working as an employee (Czike and Szabóné Ivánku, 2010). The volunteers of InDaHouse also shows this pattern with both employees and managers.

Descriptive statistics about the age of volunteers		
Age		
N	Valid	55
	Missing	28
Mean		30.65
Std. Deviation		10.5
Minimum		17
Maximum		65

Table 3 Distribution of the age within the volunteers. Source: own work.

Out of the respondents to the questionnaire, just to enumerate the most common, there are 6 high school students, 6 people working in an IT sector (one now retired), 5 social worker, 6 people working and/or studying HR, 5 high school or private teachers, 5 managers or project managers, 2 engineers. The total accessed prestige is minimum 2857 and maximum 3145.5. The range between the highest and the lowest scores is 72 which is also considered to be high but this because of the heterogeneity ages. In Table 3 the layout of the Age is shown with the mean of 30,7. The youngest volunteer is 17 years old and the oldest is 65.

Regarding the general attributes of the volunteers who have responded to the questionnaire (N=55) certain statements can be made. Around 81% are the female and 19% are the male part of all the active volunteers (the definition of active was mentioned in 3.3.1.). Most of them are in higher education finishing BA, MA or Ph.D living in Budapest (65%). In Figure 6, 7 and 8 (see in the Appendix) the full proportion of each groups are shown. This result reflects also to the report of KAI consulting Kft. about

volunteers in Hungary being usually women and with a higher educational degree (Czike and Szabóné Ivánku, 2010). Figure 9 (in the Appendix) shows the increasing number of volunteers joined to the program. These are again the now active respondents (N=83) based on Fruzsina Benkő's distinction. The majority has entered the program in 2017, consequently there is a flow of fluctuation during the 3,5 years. There is no contracted obligation towards the volunteers, it's quite easy to take part so as to stop contributing, unless if someone is working as a coordinator or a mentor, because that is more responsibility to replace.

The organization is built up by the volunteers/mentors, the coordinators and Fruzsina, as the leader. The coordinators are the leaders of the working groups. The main groups are: Communication and PR coordination, English, Competitions and tenders, Volunteers group, Professional and educational working group, Teen group, Constructional group, Skype volunteers coordination, Early childhood development group.

4.1.2. The social network of InDaHouse (Figure 10)

The analysis of the social network was made in Gephi and Ucinet Software. I have run general descriptive measures about it. In a social network every person, called actors or nodes can have ties between one another. Directed ties means that one actor in the network picks the other, where undirected ties are just regular connection between two nodes. Within InDaHouse there are 85 nodes (all the volunteers who are active now), and 1108 edges (links). The average degree, as the average measure of marking someone who they know or being marked to be known, is 13,035. Whatsmore the two components in-degree and out-degree shows the number of ties sending and receiving between each other. If someone knows a lot of people in a group so has a higher out-degree doesn't mean that he will be popular having a lot of in-degree too. In InDaHouse's case the most out-degree is by the volunteer coordinator (76 out of 85), the second is by the test-making working group coordinator (74) and the third is by the leader of the organization, Fruzsina Benkő (71). The in-degree, as the most incoming marking to be known, is similar to this: the test-making working group coordinator has the most (40), the leader Fruzsina has the second highest in-degree (38), then comes the volunteer coordinator (33), and a young, but very active volunteer (30). Figure 11 (see in Appendix) shows the distribution of the in-degree scores.

A walk is an alternating sequence of points and lines, beginning and ending with a point, in which each line is incident on the points immediately preceding and following it, whereas a path in the network is to go from one node to another in which no node is visited more than once. The average path shows the graph distance between all pairs of nodes, in this case is 1,753, for all possible pairs of network nodes almost 2 paths is enough to reach each other. Diameter quantifies the longest graph distance between any two nodes in the network, therefore within InDaHouse the length of it is 4, the most graph distance between two actors is 4. As written in the Methodology chapter density describes how close the network is to complete. A complete graph has all possible connections between the nodes and density equal to 1. InDaHouse's matrix with all the markings contained a few missing people who didn't fill it out consequently the density is 0,155. That means for example an information has to go through several nodes in order to reach everyone and 15,5% is the density compared to the all possible ties. Reciprocity represents the mutual, symmetrical tie in a network where dyad reciprocity consider one mutual tie as one reciprocal. In this case it's 0,36, besides to collate it with it's maximum number of 1, where all ties are mutual, it considered to be lower. Regarding the structural attributes of the network centrality and power can be measured as the individual's importance, influence, prominence. Betweenness demonstrates that in a complete network how many times can be on the way between two nodes. Freeman betweenness, a specific metric, relies on the higher in- and outdegree numbers, one actor having the shortest paths to all the actors in a network (Brandes, 2001). Figure 12 (see in Appendix) shows the distribution of betweenness scores with the highest of 702 (the test-making working group coordinator), then the second and third owned by the Fruzsina Benkő, the leader and the volunteer coordinator. Also the graph shows how the lower scores have a higher rate as opposed to the three top scores.

Degree centralization score (with a total number of 1 – only one actor has all the connections in a network) is 0,768 implying that this network can be counted as more centralized, with few central actors. Transitivity means that my friend's friend becomes my friend too. This can be measured by Triad census, showing all kinds of formations of triads whether their connection is mutual, asymmetric or null. According to the structural equivalence theory transitivity will at the end result in a equilibrium, however this can be observed with rather dynamic (longitudinal) networks (Csaba and Pál, 2010). Here in the network of InDaHouse transitivity is 0,267 with a lower ratio of transitive triads compared to the intransitive ones.

Equally important to examine the number of subgroups in the network. Cliques are small subgroups with high cohesion and tight or dense connections between each other (Varga, 2011). I have run cliques statistics in Ucinet software where 265 cliques has been found (with the minimum N of 3). On the other hand Gephi software has a function called Modularity where bigger subgroups can be visible. In this case 4 community can be seen which is characterized by higher density and similarity between the actors than in a random network with comparable measurements. The three people in center: the volunteer coordinator, the test-making working group coordinator are in one community, and the leader of the organization, Fruzsina Benkő is in an other. The rest of the communities are strongly connected with a few bigger nodes (Figure 12, see in Appendix). Then with the help of this software the communities are distinguished by colour and the size of the nodes vary by betweenness (higher score with bigger size). It can be noticed that there are a few actors who only known by one or two volunteers, it is possible that they haven't responded to the table that's why they are in a outsider position. In Table 4 there is an overall display of all the statistics mentioned before.

Summary of statistics of the InDaHouse social network		
Metrics	N	Percentages
Nodes	85	-
Edges	1108	-
Average degree	13,035	-
Average path	1,753	-
Diameter	4	-
Density	0,155	15,5%
Dyad Reciprocity	0,36	36%
Degree centralization	0,768	76,8%
Transitivity	0,267	-

Table 4 Source: own work.

4.2. Results about the Output and the Impact within the children in the program

Firstly certain descriptive statistics will be shown based on the interviews and the questionnaires with the children who attend weekly the InDaHouse tanoda and the control group, who don't. In the following part I will display the results in clean structure of three main dimensions:

1. Results about changes and impact in children's own life,
 - a. Changes in their grades.
2. Their extent of social capital in:
 - a. reached prestige numbers,
 - b. who are they ask for help in school or with a personal problem,
 - c. personal ego network of what volunteers they know,
 - d. their connection with their mentors,
 - e. growth of the Facebook friends compared to the all number of Facebook friends.

4.2.1. Changes and impact – personal opinion

Analyzing a qualitative data from for example interviews it is important to find common aspects of the answers. So higher frequency of certain opinion has higher reliability in case of a certain group (Hofisi, Hofisi and Mago, 2014). In the interview the 2-4. questions aimed to target the personal opinions and beliefs about children's own personal life. Firstly I have asked about their first impression and I was looking for the positive or negative distinction in their answers. All of answers were positive like: *„they listened to each other“*, *„I really liked that day“*, *„there is acceptance and it was good to know new people“*, *„I like the people here“*, *„they were sympathetic“*, *„the volunteers were really kind“*, *„finally there was something in Pere which could work“*, *„I really liked it, also that they are helping a lot“*. In 4 cases it contained negative opinions mainly about that *„it was weird at first“*, *„I was afraid that they would laugh if I do something wrong“*. Then it was questioned: *„What has changed in your life since you attend the tanoda?“* *„Has something good happened to you?“*. The answers fell into the following categories: studying, social, well-being, ability, nothing. Table 5 shows the results about the responses.

Category	Frequency	Example
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Education, studying	9	<p>„Since I come here my grades have become better“,</p> <p>„it have become easier to study“,</p> <p>„I know more“,</p> <p>„After the first half I almost failed one of the classes but then at the end of the school year I got a grade 3 after I started the tanoda“</p> <p>„It’s better to study here and have fun“</p>
Emotions, well-being	9	<p>„There are many bad opinions, but I don’t really care anymore, if somebody says something offensive I can handle it better“,</p> <p>„If I do something right I get compliments, this changed a lot“,</p> <p>„I feel better“</p> <p>„I am more confident now also in studying“</p> <p>„I know my aim and I’ve become more firm about my decisions, because I was uncertain about my future“</p> <p>„I’ve become more mature, I feel like I can make my decisions“</p> <p>„It’s good to be here in the tanoda and I got my mentor“</p>
Social, openness	8	<p>„I am better with strangers, I communicate more easily“,</p> <p>„It got better to get along with my friends“,</p> <p>„I’m more in touch with people“,</p> <p>„It’s easier to get to know someone“,</p> <p>„I got to know some girls and we are friends now“,</p>
Experience, travel	5	<p>„We went to Budapest, and we also got some presents for Christmas“</p> <p>„We usually go to camps“</p> <p>„It was my dream to go to Budapest and Fruzsi took us, before that I only got to Miskolc.“</p> <p>„We went to Nagyecsed and we ate and saw everything“</p> <p>„When we are in camps or do a picnic and we can play football it’s good“</p>

Ability, skills	1	<i>„We have become more creative. We don't see for example just a table, but we can see more into it.“</i>
Nothing	1	

Table 5 Main dimensions of the opinions on impact. Source: own work.

After the time they have started to go to InDaHouse's tanoda on the weekends all of the 12 children said their grades have got better at least by an average of one grade. Also 7 of them have improved so much they even kept up changing their grades by 2 grades (e.g.: 1 to 3, 2 to 4, 3 to 5). *„My teacher has noticed, they were happy about my better grades. Even my math teacher was bragging to the other teachers with me.“* (18-year-old girl). *„On my German language class I always raise my hands and answer to the teacher“* (17-year-old girl). *„I improved my grades a lot last year. Before that I got 3s and 4s but by the end of the school year they were all 4s and 5s. It was the hardest with English but I changed my grade from 2 to 5“* (15-year-old girl). *„English, math and biology improved from 2 to 3 or 4. Chemistry especially got a lot better I got a 4.“* (14-year-old boy).

4.2.2. The extent of social capital

From the question 7, 10 to 17 and 19 to 22 were targeting to measure the children's social capital mobilized within InDaHouse. That's why it was asked: *„Who have you got to know?“*, *„Do you know their profession?“*, *„Who is your mentor?“*, *„Do you know Benkő Fruzsi's profession?“*, *„Who is your friend of all the volunteers?“*, *„Who did become your Facebook friend?“*, *„What do you know about the people who you've mentioned?“*, *„Have you asked for any help in InDaHouse?“*.

In general it was more likely to mention the volunteers who were present at that weekend including myself, and the children have added that it's easier to know someone if they meet him or her, not only by name. The connection with the mentors is essential because the child receives a „guiding hand“ supporting in school, in the social life and also emotionally. All the mentors are volunteers too, they don't take part in any serious learning process, only by doing it. All the mentors keep in contact with the child's family, headteacher and most important with the kid, by visiting, sending birthday wishes and building trust to be able to give aid in a need. Best case scenario it is a strong tie for a longer period. Moreover they are all connected to Fruzsi with a stronger bond too

respecting what she is doing, knowing that it's for their development. On the other hand most of them (7 out of 12) don't know what is her original profession as a social worker and what would that mean. „*She drives the children back and forth.*“ (11-year-old girl).

4.2.3. Social capital outside InDaHouse – experimental and control group results

Measuring their social capital by the position generator and prestige numbers the differences between the examined group and the control group will be visible.

		Cumulated minimum prestige	Cumulated maximum prestige	Average per child
N	12	12	12	12
	0	0	0	0
Mean		542.00	782.08	58.54
Mode		130.08	855.00	54.67
Std. Deviation		542.00	142.34	10.84
Minimum		967.00	593.00	54.13
Maximum		8574.50	1066.00	62.95
Sum		7764.00	9385.00	702.50

Table 6 Prestige numbers by the experiment group. Source: own work.

Table 6 is summarizing all the cumulated and mean prestige numbers based on the occupations the children have chosen in the questionnaire with the average minimum of 542 and the maximum of 967 and the average minimum of 54 and the maximum of 62 per children. The method was at first to have the scores summated per children in the interval of maximum and minimum (out of which occupation they picked to know somebody) and then average values were given for each scores. Then to have an average number per children all cumulated minimum and maximum and average scores were divided by 12. In this case also the five indexes can be computed similar to the previous ones (Table 7). The list contains 20 jobs which is based on Van der Gaag et al. (2008) as being a representative example from all the occupations.

Prestige indexes within the children's group			
	Min	Max	St. deviation
Highest accessed prestige and occupation	21	85.5	11.3
Average prestige score	54.13	62.95	9.8
Range in accessed prestige	0	71	-
Number of different positions accessed	10	17	-
Total accessed prestige	647	782.1	11.8

Table 7 Prestige indexes of children. Source: own work.

Out of the 20 occupations (of which they knew someone) they picked an average of 12 jobs. Compared to the control group there are main differences between the children in the tanoda and youth who don't go to there. It was surprising that the control group has picked the average of 17 occupations in the questionnaire and so had higher cumulative scores than the experimental group. Important to notice that the children and youth who I've found not attending this vocational education don't especially in need for additional help in studying. 3 of them were older and going to high school in bigger cities that's why there is a bias by the sampling⁵. Besides to this factor the average scores were similar to the ones of in the InDaHouse (see in Table 8). The minimum scores both were to know „public workers“ („közmunkás“, rated as min:16, max:26) and the highest scores were to know a doctor (rated as min:67, max:87). Some characteristics of the region (East-Hungary) can be caught as they all know the postman coming there, the shop assistant in the stores, teachers and their principal in the school. In the tanoda-group was more unlikely to know a university professor, lawyer, engineer, scientist or a secretary. Whereas there was a better chance to know a police officer, a driver, a cleaner/cleaning lady, mechanic, a cook, a high school teacher (only by the girls who attend the high school), the district nurses or a social worker like Fruzsina or other volunteers in

⁵ There is a waiting list to get to the tanoda and also there is the group of who don't need extra support. In this research only two out of five children was from the first group the rest of them is who don't need to go to the InDaHouse's tanoda.

InDaHouse. The most unexpected result was that they all knew their mayor, meanwhile maybe it's not by person it can't be stated. In the control group all 5 of them knew a doctor, a lawyer, a teacher, a principal, a shop assistant, a postman, the mayor, a cook, a social worker, a „public worker“ and the district nurse. Almost everyone could mention a mechanic, a cleaner/cleaning lady, a driver, a secretary, a high school teacher and a police officer. Only one or two people could name an engineer and a scientist and three could say someone who is a university professor.

Prestige indexes within the control group			
	Min	Max	St. deviation
Highest accessed prestige and occupation	21	85.5	11.3
Average prestige score	52.80	63.05	9.2
Range in accessed prestige	0	71	-
Number of different positions accessed	12	20	-
Total accessed prestige	898	1071.6	14.5

Table 8 Prestige indexes of the control group. Source: own work.

About the mobilization of the social capital it was asked who is the one they ask help if they don't understand something in the school or have any kind of a problem. Both outside and inside InDaHouse the most common were to mention the parents or family, friends and teachers. Less cases, usually on the third or fourth place children from the tanoda mentioned the volunteers, their mentor or Fruzsina. „*It happened that I didn't know something from school and I asked Fruzsi*“ (14-year-old boy). „*I totally didn't understand English grammar in school. I asked my mentor for tiny help.*“ (11-year-old girl). „*Fruzsi got to know that I had a fight with my godmother and she asked what happened. Then she helped too. She really listen to us*“ (18-year-old girl).

4.2.4. Social capital of the children from InDaHouse

In the last part the demonstration of the results continues with the ego-networks of the children. In Table 9 the frequencies of people the children have mentioned answering the questions about who they got to know or who has become their Facebook friend.

Statistics of what volunteers the children know and number of Facebook friends		How many volunteers do you know?	How many Facebook friends have you had from the InDaHouse?
N	Valid	12	12
	Missing	0	0
Mean		10.4167	16.0833
Median		10.0000	6.5000
Std. Deviation		1.97523	19.31772
Minimum		7.00	.00
Maximum		14.00	50.00
Compared to the all numbers average %		10%	9%

Table 9 Descriptive statistics of knowing by name. Source: own work

During the interview they mentioned the minimum number of 7 volunteer's name, and the maximum number of 14 people, the most common was 10 people. About the Facebook friends some of them had only 3 or 4 (or didn't have a Facebook account – 0) new friends but especially the girls who attend high school and use the Facebook a lot had 40-50 new friends while attending the tanoda. It was always asked of every name they have mentioned if they know the person's occupation that's how they have a chance to mobilize the social capital of the volunteers. However only the three older girls knew about the jobs. As younger the kid is as more likely to not to know about the volunteer's jobs. There is the example of a volunteer who is teaching a dance choreography to the children for a bigger event because it's her hobby but she is an engineer at a chemical company. None of the children knew what she is doing for a living, all of them said that something like „*she is dancing or teaching dance*“. Justificated by counting the percentages in average the children know only 9-10% of all the volunteers or have them

on Facebook. Nevertheless the percentage is even lower in actually knowing the professions of the volunteers. In the case of their mentor it was similar. Less than half of them knew the occupation of their mentor.

5. Conclusion

To summarize the results of the research and the thesis the social impact can be measured by this methodology of social capital: the position generator. It can be a good way to have an overview about an organization's human resources and how this results in any Outcomes and Impact. In InDaHouse's case the volunteers network is a good source of accessing heterogeneous levels of prestige. The network itself has an average density with four main groups by the betweenness – the measurement for influence and managing informations. It is a benefit for InDaHouse because between the four main part there are hundreds of ties which delivers all the information needed to generate action as the coordinated everyday work of the working groups (Whiteley, 2015).

The advantage of InDaHouse's volunteer-mentor system is to provide diverse type of connections to the children. These connections from outside their family, friends, school network could act as a bridge and open up possibilities as new knowledge, a job opportunity later on, or a friendship. An example for this was told by the interviewees: *„There is a volunteer, K. We get along very well. She is studying to be a teacher for disabled children and she invited us (three girls who are the oldest in the tanoda) to Germany to work in a camp in the summer where she has also worked.“ (17- and the 18-year-old girls)*. These girls were also taken into special care because they will graduate soon from high school: they were invited to Budapest to visit other NGOs and the ELTE university seeking new opportunities and meeting new people facilitated by the leader of InDaHouse.

Based on the results from the interviews and the questionnaire it can be stated that as a child is getting older he or she learns more about the volunteers and the activation potential for the Input social capital is the highest by the age of 16-18. Otherwise in general the Impact – as the reach and mobilization of social capital – is blocked by the fact that the children don't know about the volunteers occupation or don't know about worklife at all (type of jobs or positions). Figure 13 shows this proces of how the social capital works as a possible impact and how it is altered by the age of the child participating in the program. It is important to note that social capital as an Input is just one element of InDaHouse's all Impact. Otherwise the education, social skills, well-being – to avoid a future of poverty and dependence on the state welfare system. In the followings all the research questions will be answered based on the thesis.

Research question one and two were: Can the exist of social impact be explored by ego-network analysis instrument position generator and How the quantity and quality of social impact can be predicted by the analysis in RQ1?

As the prestige indexes has shown the amount of social capital the exact measurement of social capital is given to have a type of Input. Then a to get the Output and the Impact a certain data collection need to be designed as well. Only in this case can work the instrument of position generator. The quality of social impact can be anticipated but only by data collection within the social target group. In the case of InDaHouse it could have been stated that the amount of social capital is calculated by the prestige numbers consequently the Impact will be far-reaching but the answer was no.

Furthermore research question number three and four: By a case study at a Hugarian non-profit organization can the each elements of social impact be mesured by detecting and exploring social captial?, How the Output and the Impact (based on children’s measured social capital and qualitative results) relate to the Input (the resources of the volunteer’s social capital)? have a positive result based on the research. There was enough data to fill out all the steps in the process of the Impact Chain (Figure 13). Moreover the behaviour of the Impact can be caught by the oldest members of the tanoda: how they are recieving extra support right before their milestone leaving into adult life and how they are taking this seriously. It can be predicted that in their case the accessed social capital (because they knew the most occupations also) has an impact on their education and adult life by going to the university and finding a job later on.

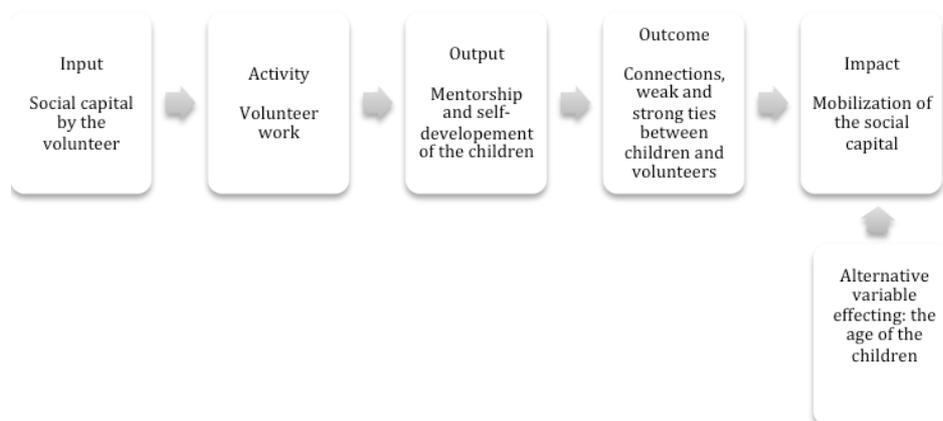


Figure 13 The Impact Chain of the social capital as an Input. Source: own work.

6. Discussion

The center of this thesis's research was to approach the topic of social impact in a holistic way based on sociology's theoretical background of social capital. It was concentrating on the connection between the Input and the Impact and found major takeaways about it: how an alternative variable can bias the process and interfere in the Impact to happen as the mobilization of the social capital and the change in the childrens' life.

Based on this case study it is crucial to see the importance of an Impact measurement in a not-for profit organizations's life and everyday work. This depends on a lot of factor: how the leader sees this question, if the oorganization has resources or any professionalism to conduct a whole impact measurement and also the donors – if the transparency and the proofs of existence is valued or not. Unfortunately there is not a sure prospect how the NGOs will have to adapt to any changes occuring in the future. That's why the field of sociology has to pay attention and support these organizations by contribution with professional research skills and build a theoretical background validating social impact measurement from a scientific point of view.

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Tables

Table 1 Range and average of prestige scores of volunteers. Source: own work.....	27
Table 2 Calculated prestige indexes. Source: own work.	28
Table 3 Distribution of the age within the volunteers. Source: own work.	29
Table 4 Source: own work.	32
Table 5 Main dimensions of the opinions on impact. Source: own work.	35
Table 6 Prestige numbers by the experiment group. Source: own work.	36
Table 7 Prestige indexes of children. Source: own work.	37
Table 8 Prestige indexes of the control group. Source: own work.	38
Table 9 Descriptive statistics of knowing by name. Source: own work.....	39

Table of Figures

Figure 1 Source: Millenium Development Goals (MDGs) and Result Chains (2015) online page. https://energypedia.info/wiki/Millennium_Development_Goals_(MDGs)_and_Res ult_Chains	9
Figure 2 Result ladder Resource: PHINEO g AG (2016). Social Impact Navigator. Page5.....	9
Figure 3 Source: SRS Guideline (2014). Page 9.....	10
Figure 4 Source: SRS Gudeline (2014). Page 26.....	11
Figure 5 Source: own work.....	48
Figure 6 Distribution of gender in InDaHouse. Source: own work.....	48
Figure 7 Level of education among the volunteers. Source: own work.	49
Figure 8 Type of residence among the volunteers. Source: Own work.....	49
Figure 9 Increasing number of volunteers by years. Source: own work.	50
Figure 10 The social network of InTheHouse. Source: own work.	50
Figure 11 In-Degre Distribution. Source: own work.	
Figure 12 Betweenness Centrality Distribution. Source: own work.	51
Figure 13 The Impact Chain of the social capital as an Input. Source: own work.....	41

Appendix

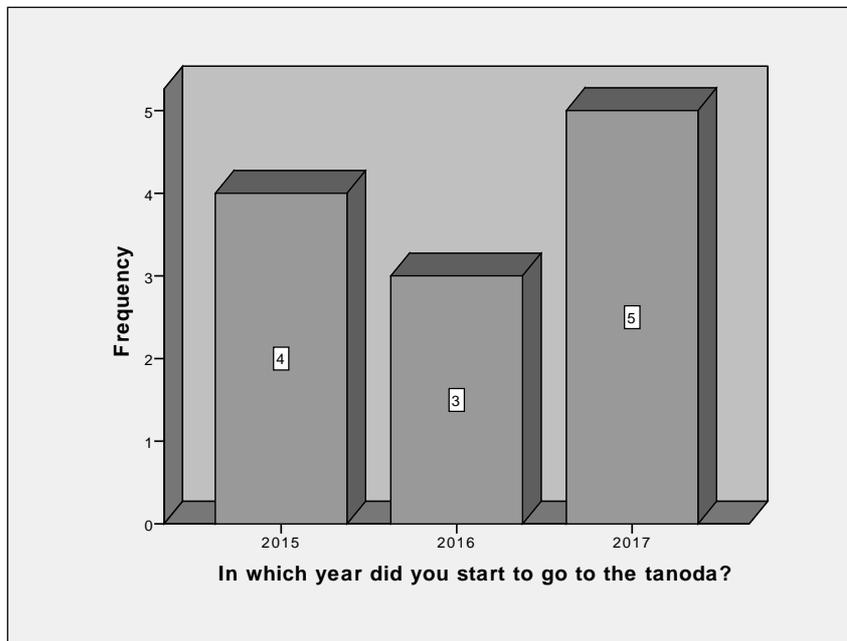


Figure 5 Source: own work.

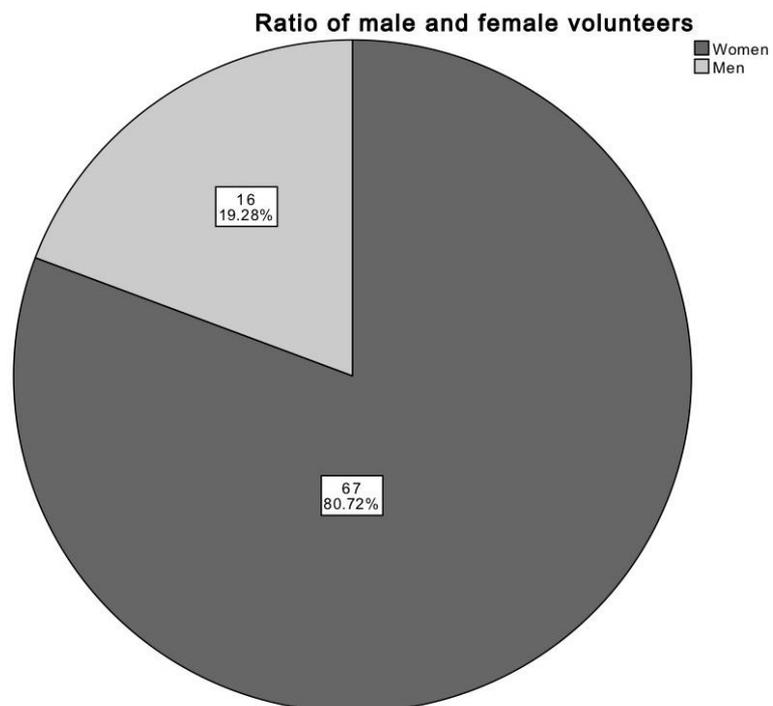


Figure 6 Distribution of gender in InDaHouse. Source: own work.

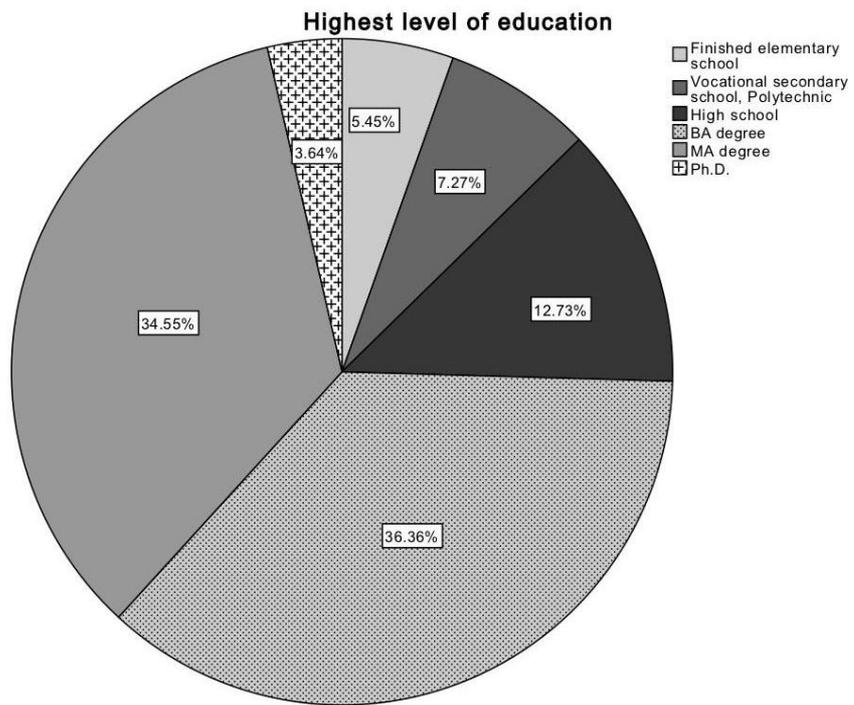


Figure 7 Level of education among the volunteers. Source: own work.

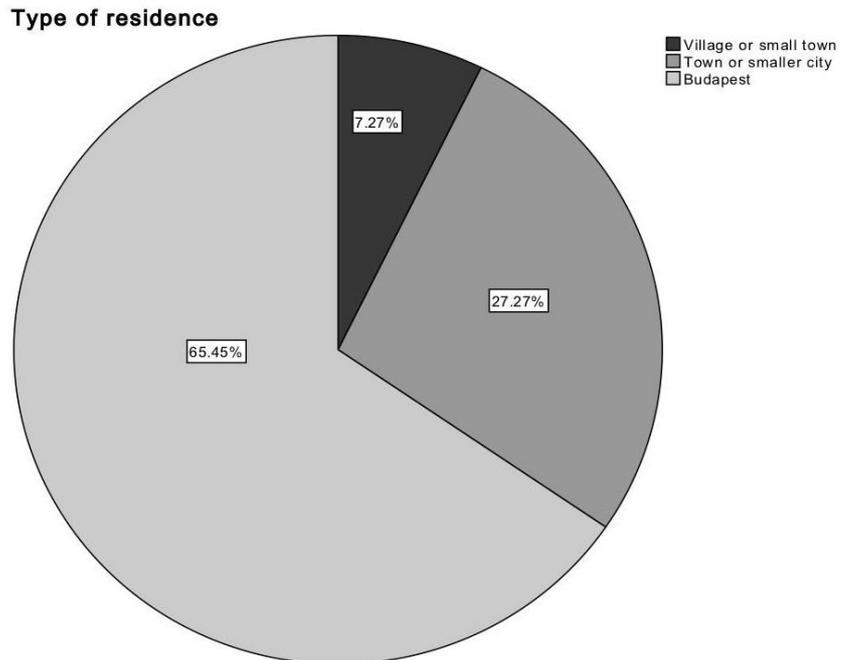


Figure 8 Type of residence among the volunteers. Source: Own work.

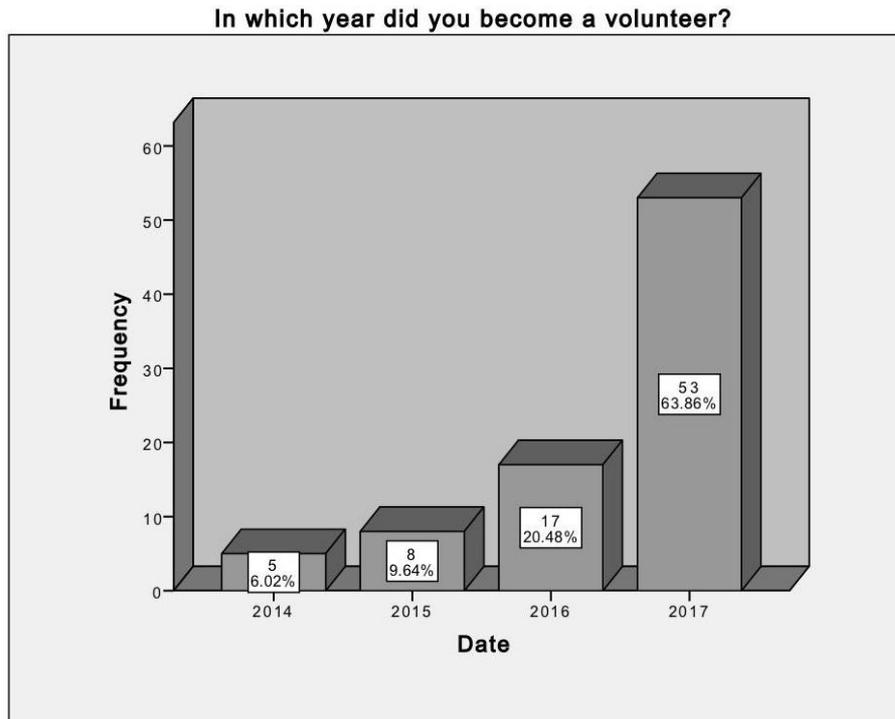


Figure 9 Increasing number of volunteers by years. Source: own work.

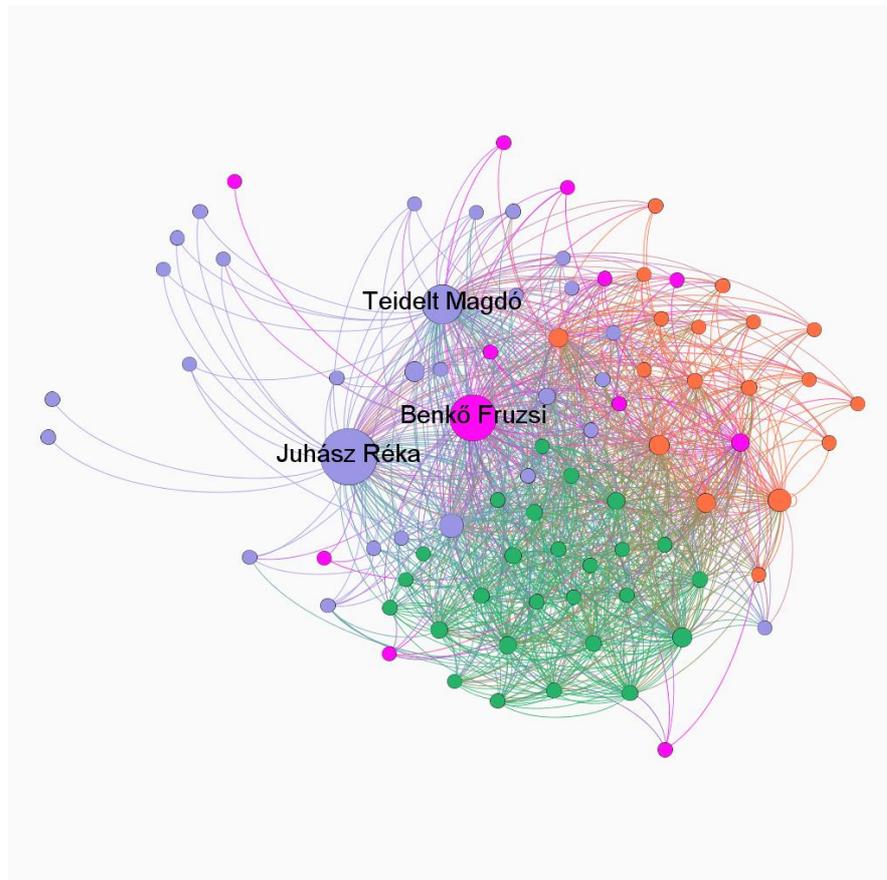


Figure 10 The social network of InTheHouse. Source: own work.

In-Degree Distribution

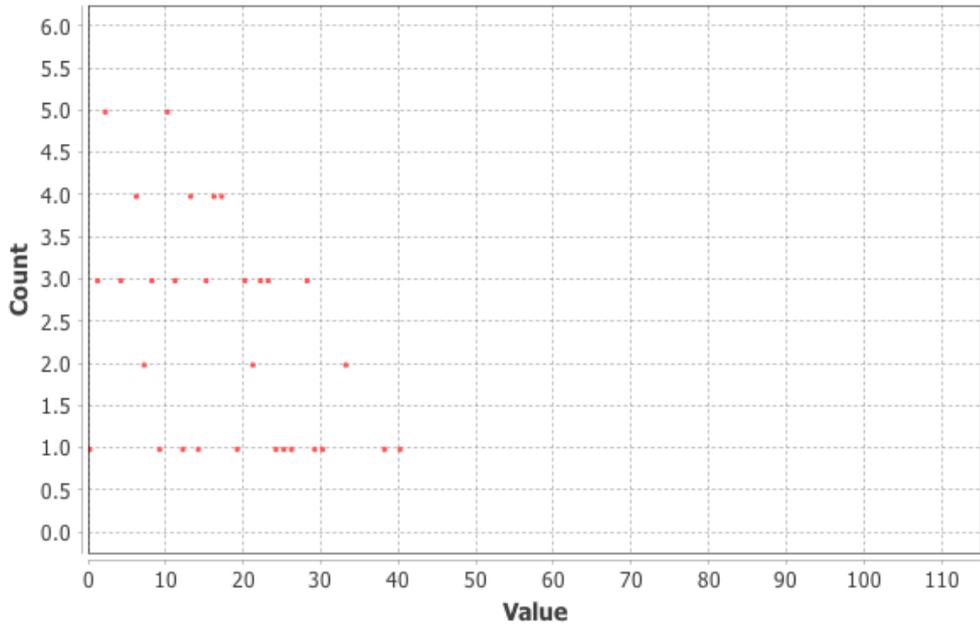
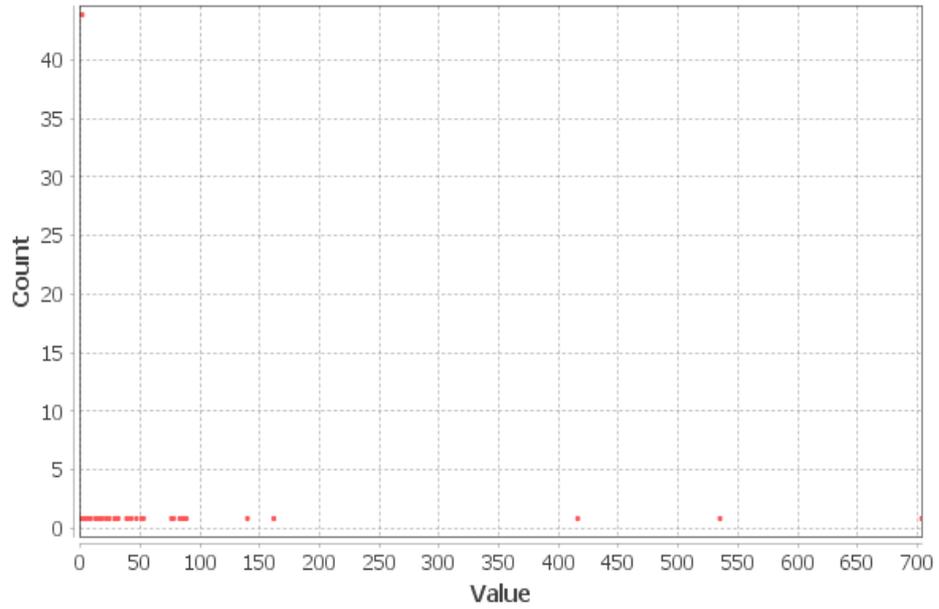


Figure 11 In-Degree Distribution. Source: own work.

Betweenness Centrality Distribution



All prestige indexes among the volunteers of InDaHouse

Occupation	Min score	Max score	Avg. score
Social worker	52.00	69.00	60.50
Social sciences - sociologist	65.00	75.00	70.00
IT	68.00	70.00	69.00
Project manager	59.00	68.00	63.50
Civil Servant	61.00	64.00	62.50
Online journalist	44.00	65.00	54.50
Graphic designer	47.00	61.00	54.00
Social worker	52.00	69.00	60.50
High school teacher	62.00	66.00	64.00
Student	15.00	25.00	20.00
Student	15.00	25.00	20.00
Social worker	52.00	69.00	60.50
HR	49.00	68.00	58.50
HR assistant	49.00	68.00	58.50
Student	15.00	25.00	20.00
Project manager	65.00	70.00	60.50
IT - now retired	52.00	61.00	56.50
Instructor for hendicapped children	64.00	65.00	64.50
Psychologist	69.00	70.00	76.00
Social worker	52.00	69.00	60.50
Firefighter and entrepreneur	53.00	64.00	58.50
Beautician	36.00	40.00	38.00
Engineer	68.00	76.00	72.00
Lawyer	68.00	75.00	71.50
Administration	51.00	70.00	60.50
Head secretary of a Local Government	52.00	53.00	52.50
HR	51.00	65.00	58.00
Sales	45.00	66.00	55.50
Historian, museologist	65.00	71.00	68.00
Landscape designer	47.00	61.00	54.00

IT	68.00	70.00	69.00
IT	68.00	70.00	69.00
Accountant, financial consultant	59.00	74.00	66.50
Researcher, manager of a laboratory	65.00	71.00	68.00
Student - international relations	25.00	45.00	35.00
Engineer	68.00	76.00	72.00
IT - software developer	68.00	70.00	69.00
Vetenarian	62.00	87.00	74.50
HR	51.00	65.00	58.00
High school teacher	62.00	66.00	64.00
Project manager, consultant	59.00	73.00	66.00
Sociologist	61.00	75.00	68.00
Social worker	52.00	69.00	60.50
Private teacher	52.00	64.00	58.00
Student	15.00	25.00	20.00
Student	15.00	25.00	20.00
Babysitter, receptionist	29.00	31.00	30.00
IT	68.00	70.00	69.00
Student - international relations	25.00	45.00	35.00
Student	15.00	25.00	20.00
Lawyer	84.00	87.00	85.50
HR and IT, HR system analyst	68.00	76.00	72.00
Administration	51.00	70.00	60.50
Ph.D student, science	65.00	70.00	67.50
Manager	59.00	73.00	66.00