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HOW TO MONITOR INTERGENERATIONAL SOLIDARITY IN SOCIAL SUPPORT NETWORKS?

Abstract. *The Intergenerational Solidarity in Slovenia research focused on the sources of intergenerational solidarity in social support networks. In the paper we presented the methodological problems that we faced as we used data that was not collected for this specific research, i.e. the study of intergenerational solidarity. First of all the article presents the conceptual and operational definition of intergenerational solidarity. This is followed by a description of the survey, data and the solutions to the methodological problems at implementing the concept of intergenerational solidarity. In the descriptive overview of the basic results we show that the approaches used for the operational definition of intergenerational solidarity lead to an appropriate estimate of intergenerational solidarity in social support networks.*

Keywords: *intergenerational solidarity, social support networks, social support, generations*

Introduction

The *Intergenerational Solidarity in Slovenia* research, the first results of which are shown in this and the following contributions, studied intergenerational solidarity in Slovenia. Not a lot of research on the elderly exists in Slovenia, thus we also used the data on social support and social support networks that was collected within the frame of the research entitled Social Networks in Slovenia that was carried out in 2002[1] (Ferligoj et al., 2002). This was a cross-sectional study conducted on a random representative sample of adults in Slovenia, and it thus enables statistical conclusions as regards the population – the composition and structure of the social networks for

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   [1] *Ferligoj, Anuška et al. Social Networks in Slovenia. 2002 [code book]. Ljubljana: Faculty of Social Sciences and the Social Protection Institute of the Republic of Slovenia*

six types of social support. As we used data from a research that was not primarily intended for measuring intergenerational solidarity (however it enables its research) we had to thoroughly check the restrictions of the used indicators as well as the manner of measuring social support networks and the exchange of social support. We also have to conceptually and operationally define intergenerational solidarity, and compare and connect the selected concept of intergenerational solidarity with the concepts of social support and social support networks. In the first part of the contribution the concepts of intergenerational solidarity, social support and social support networks are described and linked. The second part presents the methodological problems that occur from the use of secondary data and the solutions to these problems.

Intergenerational solidarity

Bengston – one of the authors of the leading theory on intergenerational solidarity – describes intergenerational solidarity as social cohesion between generations (Bengston and Oyama, 2007) or intergenerational cohesion between parents and children once the children grow up and create their own families (Bengston and Roberts, 1991: 856).

From these two definitions we can see that the term 'generation' is used in two meanings. It can denote a part of the inhabitants or society defined by age. In this case we speak about individuals who are 'young', 'old' and similar. The Anglophone demographers also use the term birth cohort as these are groups of people with a common characteristic – the year of birth. This represents the macro social meaning of the term 'generation'. On the micro social level the term generation denotes relations between relatives (e.g. parents and children, grandparents and grandchildren) (Hareven, 2001: 143). In this paper the word birth cohort is used when we speak about defining intergenerational relations between non-relatives and we define the mean age of the parents at the birth of their firstborn. When we speak about relations between parents and children within a family the word generation is used.

The term solidarity (Bengston and Oyama, 2007) is linked to the relations between people as well as the research into the ties that link individuals with groups and groups amongst each other. Solidarity is linked to the positive aspects of links between people (warmth, affection, attraction, interaction, offering help when necessary). Regardless of the emphasis on the positive aspects of the relations between people (Szydlik, 2008), and regardless of whether we are observing intergenerational solidarity on the micro or macro level the term solidarity is linked to the term conflict. On the macro level we ponder whether the demographic changes will lead towards

greater solidarity and connection between the various age groups or into conflicts amongst them. On the level of relations within the family we ask ourselves what sort of characteristics do the relations between the members from the different generations have – are they harmonious and reciprocal or are they full of tension, conflicts and ambivalent (van Gaalen and Dykstra, 2006).

When Bengston's theory speaks about intergenerational relations within a family this is a micro theory (Bengston and Roberts, 1991). The observation unit is represented by the dyad relations between the parents and a grown up child that Bengston described theoretically as well as operationally. His descriptions are shown in Table 1.

Bengston empirically verified the model on numerous occasions. The first empirical verifications of the intergenerational solidarity model were limited to three components of intergenerational solidarity – social interaction, emotional ties and the consensus in which they assumed the two represent a single theoretical dimension and have a positive correlation. However, verifying the model with three dimensions did not yield the expected results. The modified model (Bengston and Roberst, 1991) included all dimensions (except for functional solidarity) and assumed that consensual solidarity is independent from emotional ties and social interactions. Normative solidarity (of adult children as well as parents) was strongly correlated to emotional solidarity, while it was only indirectly linked to social interaction (through stronger emotional affection). The occasional variables (geographic proximity of living and health of parents) influenced the contacts between parents and adult children. Due to the direct link between the theory and empirical indicators the model was tested on a number of occasions. As it is oriented towards the positive aspects of intergenerational relations the model was also deeply criticised (this is discussed in other contributions).

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Table 1: SIX ELEMENTS OF INTERGENERATIONAL SOLIDARITY

Construct	Nominal definition	Empirical indicators
Associational solidarity	Frequency and patterns of interaction in various types of activities in which family members engage.	1. Frequency of intergenerational interaction (e.g. face-to-face, telephone, mail) 2. Types of common activities shared (i.e. recreation, special occasions, etc.)
Affectual solidarity	Type and degree of positive sentiments held about family members, and the degree of reciprocity of these sentiments.	1. Sharing affection, warmth, closeness, understanding, trust, respect, etc. For family members. 2. Ratings of perceived reciprocity in positive sentiments among family members.

Construct	Nominal definition	Empirical indicators
Consensual solidarity	Degree of agreement on values, attitudes, and beliefs among family members.	1. Intrafamilial concordance among individual members of specific values, attitudes, and beliefs. 2. Ratings of perceived similarity with other family members in values, attitudes, and beliefs.
Functional solidarity	Degree of helping and exchanges of resources.	1. Frequency of intergenerational exchanges of assistance (e.g. financial, physical, emotional). 2. Ratings of reciprocity in the intergenerational exchange of resources.
Normative solidarity	Strength of commitment to perform family roles and meet family obligations (familism).	1. Ratings of importance of family and intergenerational roles. 2. Ratings of strength of filial obligations.
Structural solidarity	Opportunity structure for intergenerational relationships reflected in number, type and geographic proximity of family member.	1. Residential propinquity of family members. 2. Number of family members. 3. Health of family members.

Source: Bengston and Roberts, 1991

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In the following paragraphs some of the most relevant research results that test this theoretical model with the use of multi-variate analysis methods (most often linear structural modelling) are described. Lee et al. (1994) studied the connections between the expectations parents have from adult children (ibid 561–562, measured in general – what is expected of adult children), and reciprocal[2] exchange of services or help. High expectations were positively linked to the quantity of help that the parents offered their adult children, but not linked to the quantity of help that they received from them. It showed that reciprocity exists between the quantity of exchanged help (the more help the parents offered their adult children, the more help they received from their children). The conclusions of this study are methodologically limited as they only observed parents. Lawton et al. (1994) established the connection between the emotional links and the quantity of social interactions between parents and adult children. Amongst the factors that could have influenced both dimensions of intergenerational solidarity and its necessary links, not only geographical proximity was included but also other factors that can directly influence the treated dimensions of intergenerational solidarity. These were: (1) individual factors (age and gender), (2) family structure (marital status of the parents and marital status of the adult children, whether they have children, the influence of grandparents),

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[2]   *They only observed parents, aged 65 or more, who reported on an exchange of services – what they do for the adult children or what the adult children do for them.*

and (3) social structure (race, education, income). In this study they analysed the responses of adult children (separately for the mother and father) on a representative sample of Americans over 18 years old. The reciprocal connections between emotional links and social contacts were confirmed only for the relationship between the mother and the adult child (greater emotional proximity leads to more frequent contacts and more frequent contacts lead to greater emotional affection), but not for the relationship between the father and the adult child (greater emotional proximity does not lead to more frequent contacts). The authors assumed that there might be a different motivation behind the contacts with the father when compared to the contacts with the mother (more instrumental reasons linked to the feelings of obligation). The second difference between the mother and father was shown in the marital status of the parents. The level of contacts with a divorced mother was reduced only if the level of emotional affection was reduced, on the other hand the level of contacts with the father changed regardless of the level of emotional affection.

The question as to whether daughters and sons are lead by different motives (altruistic, normative, utility) in their provision of social support to their parents was treated one year later (Silverstein et al., 1995), in the study of dyads between parents and adult children. They observed four dimensions of intergenerational solidarity: functional, emotional and normative solidarity (obligation to parents and expectation of inheritance) and social interactions. The health of the parents, their marital status and gender were amongst the control variables. The characteristic of this research was the use of longitudinal data, which enabled the observation of changes in time. Emotional attachment was a stronger factor for predicting social support from daughters, while it only indirectly influenced the support from sons (due to the increase in the number of contacts). It seems that sons help their parents only if they have regular contacts with them, while daughters offer help if they are emotionally attached. The differences between genders were also noticed in the norms. Most authors state that sons are more motivated by their sense of obligation, regardless of the quality of their relationship with the parents. Amongst daughters the expectations of inheritance increases the frequency of contacts with the parents, but reduces the quantity of help. There are no differences as regards the gender of the parent; however the results indicate that emotional attachment represents a more important influence than inheritance expectation for the help offered to the mother, while for the help offered to the father it was the other way round.

The ascertained differences in intergenerational solidarity between parents and adult children encouraged the search for differences and not only similarities in the relations between parents and adult children

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(Silverstein and Bengston, 1997)[3]. On the basis of the five dimensions of intergenerational solidarity (normative solidarity was excluded from this model) the authors created a typology of intergenerational relations. The following indicators of intergenerational solidarity were used: frequency of contacts, emotional closeness, similarity of viewpoints, geographical proximity and receiving and offering instrumental support. The authors found five types of relationships which they linked to family types. *Closely linked relationships* are typical for *traditional extended families* (adult children and parents were linked by all dimensions of intergenerational solidarity). *Isolation* is typical for *isolated extended families* (none of the six dimensions of intergenerational solidarity between adult children and their parents exist). The remaining types of relations included some (but not all) dimensions of intergenerational solidarity. For instance *social relations* are characteristic for *modified extended families*, in which there is no functional intergenerational solidarity, however there is affection (adult children live close to their parents, have contacts with them, they are emotionally close, they are also joined by consensual solidarity, however there is no functional solidarity). It is possible that the need for functional solidarity has not yet developed in such families, but could be established if necessary. In *intimate but distant relations* the emotional closeness was not linked to the contact (social closeness) or to instrumental help (adult children and parents were linked only by emotional closeness and similarity in viewpoints, but did not share geographic proximity or any other types of solidarity). The *obligation relation* was dominant in *extended families*, which practice instrumental help amongst family members, but show no emotional affection (this is also characteristic for geographic proximity and frequent contacts). The authors looked at the distribution of types within the sample at which they took into account the demographic characteristics of the children (gender and age) and parents (marital status); in the multi-variate analyses they also took into account the possible influence of other (structural) variables. Most adult children had close relationships with their mothers however they were less likely to have a close relationship with their father (e.g. a distant or isolated relationship with the father was four times more common than with mothers). The marital status of the parents (especially divorce and widowhood) had a stronger influence on the relationship with the father. Younger adult children were more likely to have integrated relationships with parents, probably because the parents help them in their transition to independence. Middle aged adult children (the sandwich generation) have to probably coordinate the conflicting expectations of the parents and their own children as well as their jobs.

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3   *In this cross-sectional study adult children are respondents .*

The study, performed by Ikkink, van Tilburg and Knipscher (1999), was based on the same theoretical model. Methodologically this study was special, for it reported on the dyads of parents and adult children. The study also included more children, not only the one who offers the most help or has the strongest emotional ties with the parent. All respondents reported on the exchange of instrumental support which enabled the verification of reciprocity and the possible bias in the reports on the exchange. The authors observed the influence of the norms (the perception of the individual's obligation towards the family – the child as well as the parent) and structure of opportunities for the exchange of instrumental support. One of the more important findings was the gaps between the reports on the exchange of instrumental support, at which merely a relative level of agreement between the reports on exchange was ascertained. For instance parents did not usually differentiate between their children, however when they did the differences were linked to the evaluation of their needs (special circumstances). On the contrary children linked the quantity of the provided instrumental support to the needs of the parents (parents, who in the opinion of the children needed more support, also received more) – at this they are not comparing the mother and father within the same family, but comparing families. The characteristic of this study was that no differences were found between sons and daughters as regards their offer of individual types of instrumental support. The authors explained this with the methodological characteristics of the study (more children from the same parents were included). Parents with special needs received more instrumental support (divorced or widowed, with some sort of medical problems). The employment of the child also had no influence on the level of instrumental support, which could be explained by the fact that most women in the Netherlands are employed for a lower number of hours. Authors drew attention to the important role of long-term reciprocity in family relations – adult children, who needed more also received more help from the parents; it is also true that if parents are convinced that the adult children need to help the aged parents they provide more help for their adult children.

Parrot and Bengston (1999) researched how the history[4] of the relationship and concrete exchanges between parents and adult children influence the quantity and reciprocity of social support exchange at present. As a consequence of the criticism of Bengston's model of intergenerational solidarity (which will be discussed in the continuation) the negative aspects of the relations between the parents and adult children were included amongst the

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[4] *This research includes longitudinal data and the questions were answered by parents as well as adult children from the same 328 families.*

important factors. The authors distinguished between the various types[5] of social support – three types of social support were included in the research: instrumental support (household chores, transport and shopping, looking after children, helping when ill), emotional support (emotional support, exchanging information and advice, discussing important matters, joint spending of spare time) and financial support (financial support, organising financial matters). Also evaluated was the support reciprocity that was expressed as the difference between the number of exchanges that the parents offered the adult children and vice versa. Their analysis was based on the responses of the responsible children. With a logistic regression they ascertained that the conflicts in the past did not influence the current exchange of functional solidarity. A strong feeling of obligation towards the family (generalised estimates on the importance of the family) influenced the social support given to the fathers but not to the mothers. In the case of the fathers the exchange was not reciprocal, adult children provided their fathers with more support than they received from them. The expectation that encouraging strong family norms in society would result in a greater level of inclusion of the family in the process of intergenerational solidarity was not empirically supported. Fathers who had a greater need for social support (due to illness) received more support and also gave more – the exchange was reciprocal. The history of emotional attachment between parents and adult children had a double effect. If there was no history of emotional links, the adult children provided more support to their parents than they received from them. If the relationship included a strong emotional attachment in the past, the exchanges of support were more reciprocal or beneficiary for the children. Even though authors ascertained from the exchange of social support that emotional attachments between parents and adult children are not entirely necessary, it is clear that the reports of children emphasise non-reciprocity in the exchange of social support and the feeling that they give more than they receive (in relations that do not include a strong emotional attachment).

The intergenerational solidarity model (Bengston and Roberts, 1991) enables the study of various components of intergenerational solidarity on the micro level, while taking into account the individual factors (age and gender of the parent and the adult child), family structure (marital status of the parents and adult children, presence or absence of children and the number of children, household composition), and the social structure (education, income, place of living). The previously mentioned researches show that it is possible to use a variety of methodological approaches to study

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[5] *More on the connection between social support, social support networks and intergenerational solidarity will be explained in the following section.*

intergenerational solidarity, from cross-sectional to longitudinal research, from researches in which the respondents are the elderly (e.g. over 50s), their children, or both. It is also possible to use one or more dimensions of intergenerational solidarity. In Slovenia we lack representative quantitative data that would enable a direct research of intergenerational solidarity. However, the term intergenerational solidarity can be linked to the study of social support and social support networks and through this we can analyse intergenerational solidarity in social support networks. The next section is dedicated to the description of the social support concept which is in turn linked to intergenerational solidarity concept.

Social support, social support networks and intergenerational solidarity

The early social support definitions (e.g. Weiss, 1974; Cobb, 1976; Thoits, 1982) emphasised the emotional component and the welfare effects brought forth by the contacts with people who are close to us and give us the feeling they understand, accept and care about us. They also mention the negative effects of the loose relationships that can be a source of dissatisfaction, stress or even illness (Cassel, 1976). Good social support is exchanged in various relationships (that do not have to be close relations, Caplan, 1974) and this provides protection from stress (Cassel 1976; Cobb 1976). The more recent definitions (e.g. House, 1981; Vaux, 1988, 1988; Burleson, Albrecht and Sarason, 1994) expose the interaction or communicational aspect of reciprocal relations. Vaux' (1985, 1988) definition of social support is also empirically appropriate for it enables a fair conceptual and operational definition of social support as a complex term of a higher order. Social support consists of three elements – sources (social support networks), forms (exchange of support) and evaluation (what does the support represent to the individual). The social support network is that part of one's entire network (all the people we know) to which we turn to for help. We usually assume that the characteristics of this network are stable (e.g. size, composition, density), except in the period of larger life transitions (e.g. retirement). The support takes the form of concrete actions (i.e. a discussion or lending money) that people receive from and give to the social support network. The evaluation of the social support occurs when the individual ascertains that he is pleased or displeased (if the present support is sufficient or not) with the exchanged support (or sources of support).

The operational forms of social support appear in various classifications, e.g. support can be divided into practical help and emotional support (Cutrona and Russell, 1990), emotional, material and informational support (Caplan, 1974), instrumental support, emotional support and financial

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support (Parrot and Bengston, 1999) or instrumental, informational and emotional support and socialising (Vaux, 1988; Cauce, Reid, Landesman and Gonzales, 1990; Walker, Wasserman and Wellman, 1994; Wan, Jaccard and Ramey, 1996).

In order to measure social support networks and the exchange of social support we usually use the name generator approach. In this approach the exchange of social support is monitored by first measuring the social network[6] (who are the sources of support), and then the exchange of social support (the type of support obtained from an individual source). Measuring the exchange of social support takes place in the following manner: the respondent (ego) names his social support sources (alters or members of the social support network, e.g. Valentina H., Vojka Š. and Maja M.) and then answers a series of questions linked to these people; the contacts he has with them and the support they exchange (frequency, quality, satisfaction and similar). The list of names is obtained through the questionnaire that we call name generator. The name generator approach for measuring social support networks and social support exchange was used in various international researches, e.g. in the SHARE survey (Survey of Health, Ageing and Retirement in Europe).

How can we observe intergenerational solidarity within a social support network? We deal with the respondent (ego) and the members of his social support network (alters). For each of the alters we also know the type of relationship he has with the ego (father or mother, son or daughter, friend, etc.) and what type of social support they exchange. On the basis of the relations between the ego and alters we can divide these relations (and social support network members – i.e. social support sources) into two groups – intergenerational and intragenerational. When studying intergenerational relations we need to focus on parents and adult children, as well as grandparents and grandchildren. This means that we are looking at the entire egocentric social support network, not merely at the dyad relation between the parent and the adult child. On the basis of the division of social support sources we can ascertain *what share of the social support network is represented by intergenerational* and what share by intra-generational sources. As we are dealing with multiple types of social support we can also ascertain which types of support favour intergenerational sources and which do not. We can also link the concept of intergenerational solidarity with various types of support, e.g. instrumental support is a part of *functional solidarity* (see Table 1), as are the exchange of financial means, help in the event of

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6 *Indicators of the network structure and composition are the size of the network, the share of individual types of relations (e.g. relatives, friends, neighbours), share of women, closeness between network members, conflicts within the network, geographical proximity between the members of the network, etc.*

illness and emotional support. Socialising is an indicator of a *social interaction* between the generations. In social support networks we can monitor functional intergenerational solidarity as well as the level of social interactions between the members of various generations in a nuclear or extended family, between friends, neighbours or co-workers.

Empirical determination of intergenerational ties in social support networks

The data used in this article was gathered for the study Social Networks in Slovenia (Ferligoj et al., 2002). In this study six types of theoretically defined social support networks[7] were measured (see Hlebec and Kogovšek, 2003): socializing, financial support, small material support, large material support, emotional support and support in the event of illness. We used the name generator for each of the supports and respondents named people from whom they receive certain type of support. For every named person the relation with the respondent was determined – e.g. partner, son, daughter, parent or sibling. The description of the relation with the respondent – ego – is somewhat insufficient if we wish to analyze intergenerational solidarity in social support networks. The following relations between the ego and alters were named: partner or ex-partner, father or mother (stepfather or stepmother), brother or sister (half brother or half sister), child, other relative, co-worker or former co-worker, co-member of some organization or former co-member, neighbour, friend, acquaintance, consultant or former consultant, and others.

The descriptions of the relations between the ego and the alters do not include grandchildren, grandparents or nephews. If we wish to accurately evaluate the percentage of intergenerational sources of social support, we would have to measure also other intergenerational relations (e.g. friends and neighbours can also belong to two different generations). So how can we access additional information as regards intergenerational ties if we did not specifically request it from the interviewees? The selected variables measuring the alters' characteristics (members of the social support networks) also include the age of these people. By calculating the age difference between the respondents (egos) and the alters we can determine which ties can be additionally marked as intergenerational ties.

As we have already mentioned some of the intergenerational ties were previously described in our database (parents and children). Other relations that can be defined as intergenerational (grandchildren and grandparents, nephews and nieces, etc.) were not determined in our original database. In

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[7] *The exact wording of the survey questions (name generators) can be found in the appendix.*

our search for the indicator of intergenerational ties (parents and children were excluded) we started from the *thesis that a relation can be considered intergenerational when the age difference between the ego and the alter is equal or greater than the age difference between a parent and a first-born child*. All alters who were younger than the ego by more than the average age of the first-born child (within a certain generation) fall into the intergenerational support sources – in addition to those, who were already marked as intergenerational sources (parents and children). Although this way of determining intergenerational ties is suitable and reasonable and might appear easy at first sight, the practical implementation of this rule is not as easy.

As a measure of time distance between the parent and child generations we used the mean age of parents at the birth of their first-borns (x). All alters that were at least x years younger than the respondents (egos[8]) belong amongst intergenerational social support sources. However, such indicator selection yields certain difficulties.

The vital statistic data allows us to calculate the mean age at the birth of the first-borns only for female birth-cohorts, and not for male birth-cohorts. For men we can only estimate their mean age at the birth of their first-borns. Our estimate is based on the data on the mean age of men and women when first married. This period data shows that between 1955 and 2005 grooms were approximately 3 years older than the brides (Šircelj, 2006: 140). As the age difference did not change within such a long period we can conclude that it remained the same also in the birth-cohorts that we are observing. This is how we can determine the mean age of men at the birth of their first-borns from the data for women (age of women + 3 years).

In the younger birth-cohorts the number of unmarried parents of first-borns is on the rise (over 50 %), and for unmarried fathers it is impossible to estimate their age at the birth of the first-borns from their age at first marriage. However, nothing leads us to believe that the age difference between unmarried couples differs from the age difference of the married couples.

The vital statistics offer us the opportunity to calculate the women's mean age at the birth of their first-borns only for the birth-cohorts born between 1930 and 1972. In these birth-cohorts the mean age was first on the decline and then on the rise, similar to other European counties. There is no suitable data for the older birth-cohorts, and it is impossible to calculate the mean age for the younger birth-cohorts, as they are still too young and their reproductive period has not ended yet. As a result the values for the older and younger birth-cohorts are merely an estimate.

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[8] *In the beginning we searched for alters who fell into the younger intergenerational ties. Of course we had to also label the older alters as intergenerational ties. We will show how we did this on a practical example.*

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For the birth-cohorts born between 1902 and 1929 we estimated the mean age of women at the birth of their first-borns with the aid of the incomplete data for the 2nd half of the 19th century and with the knowledge that this age was on the decline in the era of demographic transition. Incomplete data for the 2nd half of the 19th century is presented by the data on the mother's mean age at the birth of their first-borns in the village of Brusnice, the mean age at first marriage of female workers in cigarette factory in Ljubljana, the mean age of mothers at the birth of their first-borns in late 19th century Austrian countries and the time gap between the marriage and the birth of the first child in some villages (Šircelj, 2006: 66, 70–71, 92). According to this estimation the mean age of women at the birth of their first-borns was 26.9 years in the 1902 birth-cohorts. The values for other birth-cohorts (those born between 1903 and 1929) were set with a linear interpolation between the values for the birth-cohorts 1902 and 1930. In reality the mean age of women at the birth of their first-borns did not decrease linearly, because all lived to see at least one World War, however, the oscillations caused by the wars are impossible to estimate.

Women born post 1972 are still too young for us to be able to calculate their mean age at the birth of their first-borns, therefore the values are merely estimates. We assumed that the mean age is still on the increase, because demographic developments in Slovenia are similar to developments in west European countries, but with some time delay, and mean age of women at birth of first child is in many west European countries already higher as in Slovenia.

In order to calculate the estimates we used the data from the Netherlands as they have the longest series of suitable data (Council of Europe, 2005: 102). In the Netherlands the birth-cohort of women born in 1950 had their first-borns at the same age as Slovenian women born in 1970. If the increase in the mean age will follow the Dutch birth-cohorts born between 1950 and 1970, the mean age in the 1972–1984 birth-cohorts in Slovenia will increase by 0.2 years every year. This means that the 1984 birth-cohorts would give birth to their first-borns at an average age of 27.9 years. The mean age of women at the birth of their first-borns would increase somewhat slower than it did so far.

*Example of empirical determination of intergenerational ties*

After we calculated the mean age of women[9] at the birth of their first-born, we calculated the lower limit of the difference in age for designating intergenerational ties for women. An example of the calculation of the lower limit:

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[9] *Calculations for men were similar, but 3 years were added.*

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Ego's age (at which the ego is a woman) – the mean age of women at the birth of their first-born = age, at which the connection is considered to be intergenerational.

Ego's age (at which the ego is a man) – (the mean age of women at the birth of their first-born + 3 years) = age, at which the connection is considered to be intergenerational.

Figure 1: EXAMPLE OF EMPIRICAL DETERMINATION OF INTERGENERATIONAL RELATIONS
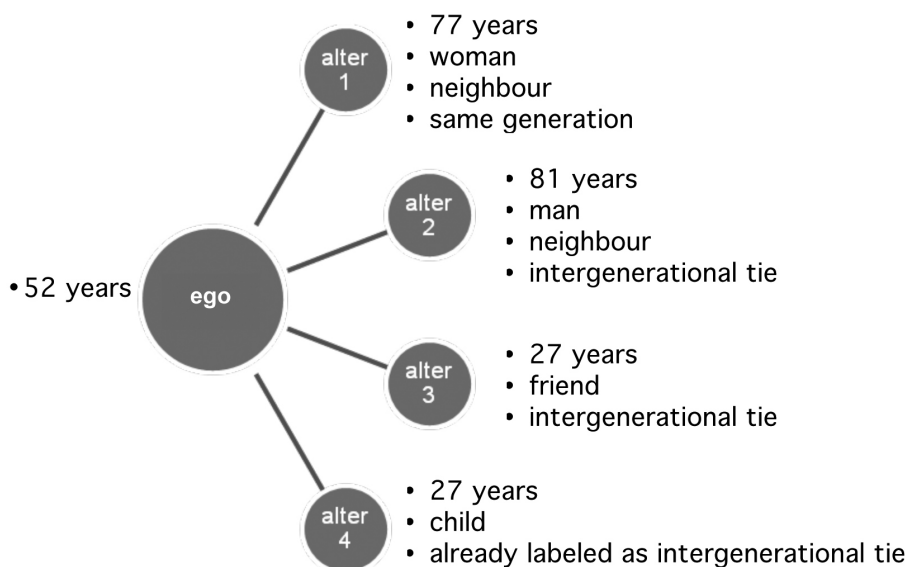
The respondent was a woman aged 52 (the data was collected in 2002), which means that she was born in 1950. For women born in 1950 the mean age at the birth of their first-born was 23.18 years. If we subtract the mean age at the birth of the first-born from 52, we end up with the age of 28.82. This means that all listed alters that are younger than 28.82 have an intergenerational relationship with the ego. Thus, the respondent's relation to Alter 3 can be marked as an intergenerational one. As for Alter 4 we knew already from the begging that the relation was an intergenerational one, for Alter 4 is the respondent's child. It is easy to calculate the intergenerational differences for the lower limit of intergenerational relations; however calculating intergenerational differences for alters who are older than the ego has proven to be harder. Let's focus on the examples of Alter 1 and Alter 2.

Table 2: EXAMPLE OF THE CALCULATION OF INTERGENERATIONAL
        DIFFERENCES FOR YOUNGER PERSONS

ego		*female*	
year of birth	age	women's average age at the birth of their first-born	generation's *lower* limit
1950	52	23.18	**28.82**

Alter 1 is a female. In 2002 she was 77 years old, which means that she was born in 1925. Amongst women born in 1925 the average age at the birth of their first-born was 25.25 years, which means that the lower limit for determining intergenerational relations is 77 – 25.25 = 51.75 years. As the ego was 52 years old, this relation cannot be marked as an intergenerational one, thus it remains intra-generational.

The upper limit age difference for determining intergenerational connections cannot be calculated as easily as the average age at the birth of the first-born varies. The upper limit age difference for intergenerational connections cannot be determined merely by adding the age at the birth of the first-born to the ego's age. In this case it is necessary to check the alter's age and subtract either the average age of the woman at the birth of her first-born or the corresponding age of the man from the alter's age. Age and sex of the ego are important for the lower limit, and the age and sex of the alter are important for the upper limit. Actual examples are shown graphically.

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Table 3: EXAMPLES OF THE CALCULATION OF INTERGENERATIONAL
        DIFFERENCES FOR OLDER PERSONS

alter's year of birth	alter's age	*female*		*male*	
		women's average age at the birth of their first-born	generation's *lower* limit	men's average age at the birth of their first-born	generation's *lower* limit
alter 2 – 1921	81	25.53	55.47	28.53	**52.47**
alter 1 – 1925	77	25.25	**51.75**		

Alter 2 is a male, who was 81 years old in 2002, which means that he was born in 1921. For the male alters we obtain the average age at the birth of their first-born by adding 3 years to the average age of women at the birth of their first-born (25.53 + 3 = 28.53). The age at which a relation is defined as intergenerational is therefore 81 – 28.53 = 52.47. As the respondent was 52 years old this relation was defined as an intergenerational one.

Evaluations of intergenerational ties in social support networks

The used data was collected in the Social Networks in Slovenia (Ferligoj et al., 2002) research. The research was cross-sectional which means that the data was gathered simultaneously for all age groups. The sample was relatively large (5013 respondents) and therefore enabled a detailed analysis by age groups. We have sufficient data for each age group to reliably estimate the sources of social support. The data was gathered through a telephone survey and is representative for the inhabitants of Slovenia in 2002. It is true that the data is slightly older than would be ideal, however, it is still valid because we are assuming that informal social support networks are relatively stable, both in size and composition, except in transitional periods of life and greater changes (e.g. transition from a lower to higher level of education, marriage, divorce, serious accident, loss of work, retirement) (Mandič and Hlebec, 2005; Hlebec and Mandič, 2005). The characteristics of the social support network (size, composition and quality of relations within) influence its value – its sensitivity, accessibility and ability as a support source. Social support networks are thus a source upon which an individual can lean on (Vaux, 1988).

When examining the basic demographic characteristics it turned out that the sample characteristics do not match the population structure, therefore the data needed to be weighted for our analysis. The post-stratification weighting method was used for calculating population weights. The data was weighted according to the 2002 census data, in ten classes that combined gender and age, and additionally according to the education structure within each age group. The weighted data fits the population structure as regards the before mentioned parameters. The basic demographic characteristics of the sample are presented in the table 4.

We redefined the links between the egos and the alters on the basis of the described procedures. Let's take a look at the shares of the social support network represented by intergenerational ties. The share of intergenerational ties is calculated for the entire social support network as well as for each individual support.

Table 4: DEMOGRAPHIC CHARACTERISTICS OF THE SAMPLE

Age						
up to 29 years	30–39 years	40–49 years	50–59 years	60–69 years	above 70 years	
25.76	17.67	17.39	15.76	12.39	11.03	
Gender						
male	female					
48.34	51.66					
Education						
not completed primary school	primary school	vocational school	secondary school (4 years)	college	university	master's degree or higher
5.03	28.00	19.27	34.78	5.05	7.24	0.44
Residence						
village	suburban	town				
46.37	20.05	33.59				
Marital status						
single	living with a spouse	married	divorced	widow/-er		
28.08	8.30	50.64	3.60	9.39		
Household composition						
single	single-parent family with children	couple without children	couple with children	multigen-erational household	other	
11.63	8.76	15.07	46.43	6.51	11.59	

Table 5: INTERGENERATIONAL COMPOSITION OF THE SOCIAL SUPPORT NETWORK

Composition of the network	%
Partner	10.49
IEGT – nuclear family	19.61
IAGT – nuclear family	8.82
IEGT – extended family	4.21
IAGT – extended family	8.70
Intergenerational links with the family – total	23.82
Family – total	51.83
IEGT – nuclear family – relatively	37.84

Composition of the network	%
IEGT – extended family – relatively	8.12
IEGT – within a family – relatively	45.96
IEGT – friend	1.07
IAGT – friend	30.47
IEGT – co-worker	0.13
IAGT – co-worker	4.45
IEGT – neighbour	1.19
IAGT – neighbour	7.33
Other	3.53
Total	**100.00**

Legend:
IEGT – intergenerational ties
IAGT – intra-generational ties

IEGT – nuclear family: parents and children
IAGT – nuclear family: siblings
IEGT – extended family: all other intergenerational links, e.g. grandchildren, grandparents, nephews, etc.
IAGT – extended family: all other intra-generational ties, e.g. cousins, sisters-in-law, brothers-in-law, etc.
IEGT – nuclear family – relatively: share of IEGT nuclear family according to the share of the network presenting total family
IEGT – extended family – relatively: share of IEGT extended family according to the share of the network presenting total family
IEGT – within a family – relatively: share of IEGT in the family according to the share of the network presenting total family

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Family presents half of the social support network; the partner represents 10 %, parents and children 20 %, siblings 9 %, and the extended family 13 %. Intergenerational ties within a nuclear family present 20 % of the entire social support network and 38 % of all family ties. Intergenerational ties in an extended family present only 4 % of the entire social support network or 8 % of all family ties. Intergenerational ties present a major part in a nuclear family, and a smaller part in an extended family.

Family ties represent majority of all ties in all social support networks except socializing network. Especially important are for social support in the case of illness, financial support, emotional support and large practical aid. Intergenerational ties within nuclear family represents about half of family support sources for financial support and about 40 % of support sources in the case of illness and practical aid. As shown in this descriptive overview, intergenerational ties are an important source of social support and need further research attention.

Table 6: INTERGENERATIONAL NETWORK COMPOSITION BY TYPE OF SUPPORT (IN %)

	Social-izing	Financial support	Small material support	Large material support	Emotional support	Support in the event of illness
Partner	7.52	5.39	6.16	10.88	32.79	33.11
IEGT – nuclear family	12.23	33.25	18.38	24.24	15.44	35.83
IAGT – nuclear family	8.81	13.47	10.51	10.9	7.65	7.39
IEGT – extended family	3.29	3.66	3.28	4.13	1.56	3.42
IAGT – extended family	8.72	8.51	10.18	11.47	3.18	3.16
IEGT – total	15.52	36.91	21.67	28.37	16.99	39.25
Family – total	40.57	64.29	48.52	61.61	60.62	82.9
% IEGT nuclear family / family – total	30.15	51.72	37.88	39.34	25.47	43.22
% IEGT extended family / family – total	8.11	5.69	6.76	6.70	2.57	4.13
% IEGT total / family – total	38.25	57.41	44.66	46.05	28.03	47.35
IEGT – friend	1.18	0.6	0.95	1.02	0.72	0.48
IAGT – friend	40.98	25.82	26.21	21.48	28.23	9.91
IEGT – co-worker	0.14	0.11	0.08	0.1	0.09	0
IAGT – co-worker	5.79	3.47	2.22	1.97	4.68	0.59
IEGT – neighbour	0.85	0.58	2.74	1.64	0.44	1
IAGT – neighbour	6.41	3.42	16.66	8.82	3.31	4.42
Other	4.09	1.7	2.63	3.35	1.92	0.69

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Conclusions

The main goal of this paper was to explore the possibility of integrating the concepts of intergenerational solidarity and social support. We started from the basic model of intergenerational solidarity as proposed by Bengston and Roberst (1991) and its delineation of the six elements of intergenerational solidarity among which functional solidarity is the closest to social support conceptualization (see e.g. House, 1981; Vaux, 1988, 1988; Burleson, Albrecht and Sarason, 1994) as it focuses on the frequency of intergenerational exchanges of assistance. In the overview of empirical studies (Lee et al. 1994; Lawton et al. 1994; Silverstein et al. 1995, Silverstein and Bengston 1997; Ikkink, Tilburg and Knipscher 1999, Parrot and Bengston 1999) we further illustrated that there are numerous ways of how one can conceptualize and study intergenerational solidarity.

In the second part of the paper we explained how the concepts of social support and support networks are linked to the concept of intergenerational solidarity. We further demonstrated how intergenerational solidarity is empirically assessed within social support networks, using the estimation of intergenerational ties as an indicator of intergenerational solidarity. The practical application of assessing intergenerational solidarity and the obstacles in the estimation of the share of intergenerational ties within social support networks were given in section 4, which was followed by a descriptive presentation of the various estimates of intergenerational ties within social support networks.

We have shown that intergenerational solidarity can be linked to social support research, and that in some instances, social support networks enable us to explore intergenerational solidarity in a broader way than proposed by Bengston and Roberts (1991). The estimates of shares of intergenerational ties within a nuclear and extended family as well as in non-family ties such as friends and neighbours are especially useful for extending the concept of intergenerational solidarity.

Furthermore, a descriptive overview of the intergenerational composition of six support networks indicates that intergenerational ties are especially important for the provision of help in the case of illness (Pahor, Domajnko and Hlebec 2010), financial support and practical help (Filipovič and Hlebec, 2010). Further research should reveal how the potential for intergenerational help and assistance is developed in local communities (using ties among friends and neighbours within a neighbourhood).

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Appendix: Survey questions for measuring social support

4. Sometimes people socialise with other people, for instance they visit each other, go for trips or diner together, etc. With whom do you usually socialise?
5. Let's say that you found yourself in a situation in which you needed a large sum of money that you do not have at your disposal, for instance five monthly salaries (approx. 4000 EUR). Who would you borrow the money from (a person and not an institution like a bank)?
6. Sometimes people borrow things from other people (for instance tools) or they ask for help with small household chores (e.g. simple household chores). Who do you usually ask for this kind of help?
7. Try to remember the last big chore in or around your house or flat (e.g. building the house, renovating the house or flat, large works in the garden). Who did you turn to for help?
8. Sometimes people discuss important personal matters with other people, for instance when they have an argument with somebody, have problems at their work or similar. With whom do you usually discuss personal matters of importance?
9. Let's say that you are seriously ill or that you are so weak that you cannot leave your flat and go shopping or fetch your medication from the chemists. Who do you usually turn to for this kind of help?

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