This paper aims to analyse the mutual impact of formal and informal social activity on personal subjective-well-being (SWB) in the middle and older age in European countries. Our research questions are the following: (1) Do formal and informal social activity substitute or complement each other in terms of SWB in the middle and older age? and (2) Does this effect – substitutional or complementary – differ across European countries?

There is almost a complete consensus in theoretical and empirical literature that social activity contributes to higher subjective well-being (SWB), i.e. in the middle and older age (Havinhurst, 1963; Berkman et al., 2000; Baker et al., 2005; Litwin, Shiovitz-Ezra, 2006). In particular, in activity theory, social activity is viewed as a constructive human activity, which brings happiness and life satisfaction (Diener, 2007), that is especially crucial in older age, when some social roles (an employee, a spouse, a friend) may be lost (Havinhurst, 1963). Also, according to the social network concept (Berkman et al., 2000), social activity seems to enhance self-esteem, self-worth, the sense of belonging to society that improves SWB in the middle and older age. Thus, our first hypothesis is that *social activity increases personal SWB in the middle and older age (Hypothesis 1)*.

Although being socially active increases personal SWB, particular types of social activity may have different impact on SWB, i.e. in the middle and older age (Menaghan, 1989; Thoits, 1992). Most researchers distinguish certain types of social activity into formal (via organizations) and informal (via personal communication without organizations). Adams et al. (2011) compared the results of 42 cross-sectional and longitudinal studies and concluded that both formal and informal social activity have a greater impact on SWB than any other activity (physical, cultural, hobby), and informal social activity has the largest independent effect. Informal interactions with friends and relatives are usually more personal and intimate than interactions within formal institutions that bring the sense of understanding, trust, caring, sympathy, protection and comfort (Diener, 2000; Lin, 2001). In the line with attachment theory (Bowlby, 1969, 1982), these interactions provide higher SWB. Based on the above mentioned studies, we hypothesise that *informal social activity has a stronger impact on personal SWBin the middle and older age than formal social activity (Hypothesis 2)*.

More recent cross-country studies argue that SWB determinants vary between countries and depend on theircultural background and the level of socio-economic development (Fleche et al., 2012; Sotheix and Lonqvist, 2014). Using the data on 80 countries from the 4 waves of the WVS¹, Sarracino (2010) concludes that, in low-income countries, happiness significantly depends on time spent with colleagues or people at church as well as participating in charitable

¹The World Values Survey (1980-1982, 1990-1991, 1995-1997, 1999-2001): http://www.worldvaluessurvey.org/wvs.jsp

or political organizations, while in high-income countries, time spent with relatives or friends has the most beneficial effect on happiness. Examining European countries, Puntcher et al. (2015) reveals that close social ties, activity in organizations, and general and institutional trust explain the most part of national differences in life satisfaction and happiness. Thus, we hypothesise that *influence of social activity on personal SWBin the middle and older age varies between European countries (Hypothesis 3)*.

Both types of social activity – formal and informal – may be interconnected. Participation in organizations (charitable, voluntary, civic, political, etc.) may lead to informal interactions outside orgazinations, and informal social activity may grow into the same activity in organizations (ex., informal volunteers join and establishvolunteer organization) (Bian et al., 2017). Due to this reason, it seems rather crucial to analyze both types of social activity mutually, instead of separately, for the explanation of SWB in the middle and older age.Several authors provide an empicial evidence that the significance of the relation between certain types of social activity and personal SWB is rather sensitive to controlling for other types of activity – economic, leisure, physical, etc. (Baker at al., 2005; Adams et al., 2011).

Obviously, the participation in formal as well as informal social activity is not equal in various countries, i.e. in European countries (Salamon and Sokolovski, 2001; Curtis et al., 2001).On the basis of the indicators of people's membership in social clubs and voluntary organizations, interpersonal trust, frequency of contact with friends, relatives, and colleagues, social support, Pichler and Wallace (2007) classify 27 European countries and distinguish four main patterns of substitution / complementarity of formal and informal social capital (Nordic, Western-European, Southern, Eastern-European). We suggest that these patterns also reflect differences in the mutual impact of formal and informal social activity on personal SWB in the middle and older age. Thus, based on Pichler and Wallace (2007)'s classification, we hypothesise *that in Nordic, Western European and Southern countries, formal and informal social activity complement each other in terms of SWB in the middle and older age, while in Eastern-European countries, both types of social activity substitute each other (Hypothesis 4)*.

This research is based on the 6th wave of the European Social Survey (ESS)² conducted in 2012. The sample includes people at the age of 50 years and over from 26 European countries (the total number of observations is 23766).In order to take into account national differences, we apply random slope logit multilevel models with binary responses.The random slope models allow the relationship between social activity and SWB to vary across countries. Individuals and countries form the first and the second levelsofthe models correspondingly.The slope is specific for each country, and it shows the influence of more regular social activity on SWB.

² https://www.europeansocialsurvey.org/

To test Hypothesis 4, we split the sample in two parts on the base of the frequency of voluntary activity and apply random slope models for each part. These models include social contacts both as a coefficient and a slope. We compare the effect of informal social activity for the SWB of the respondents who participated and did not participate in voluntary activity for each of 26 countries we study.

We use the evaluative and affective measures of SWB – life satisfaction and happiness (OECD, 2011). Despite rather high correlation between these measures (Chamberlain, 1988; Slocum-Gori et al., 2009), some authors distinguish short-term, situation dependent expressions of mood, related to happiness, and more stable evaluations, related to life satisfaction (Helliwell and Putman, 2004). Thus, we suppose that the determinants of life satisfaction and happiness in the middle and older age can be quite different.

We define formal social activity as participation in voluntary or charitable organizations work during last 12 months (categories: never participated in volunteering; participated at least once), and informal social activity as the frequency of social meetings with friends, relatives and colleagues excluding for work or duty (categories: meetings once a week or more; meetings several times a month or less). Besides, we control for socio-demographic predictors: age, quadratic form of age, gender, education level (general; professional and secondary special; higher and post-graduate), marital status, type of settlement (rural; urban), and employment status (employed; not employed); personal characteristics: subjective general health (very good; good; fair; bad; very bad), belonging to any particular religion or denomination (yes; no) and perception of living conditions in the form of feeling safe walking alone after dark in the area of living (safe; unsafe), number of individuals in the household.

We found positive significant influence of formal and informal social activity on the middle-aged and elderly SWB. The informal social activity has higher impact on SWB than formal social activity as the odds ratio is higher for both life satisfaction and happiness. The preliminary results show significant differences between European countries in the impact of social activity on SWB in the middle and older age. In Nordic and Western European countries, participation in voluntary organizations seems to complement contacts with friends and relatives for higher SWB (the complementarity pattern). In Southern and Eastern-European countries, the substitution pattern of volunteering by contacts with friends and relatives mainly exists.