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Gender Differences in Life Satisfaction and Social Participation

Stephan Humpert^{*,**}

Abstract

The paper deals with the effects of social participation activities on life satisfaction. Using the German General Social Survey (ALLBUS) for 2010, marginal effects of binary probit estimations on life satisfaction are presented. Strong gender differences are observable. While sport, welfare or parental activities affect only female life satisfaction, males are more affected by classical hobbies. As an interesting result that political activities, such as a political party or a union membership, have no or even negative effects. The general results may be interpreted in that way, that activities or memberships with influence in local fields with own responsibility and personal interest in a short of time, may be more satisfying than activities with more idealistic tasks and long run results, such as protecting nature or human rights.

Keywords: Subjective Well-Being, Social Participation, German General Social Survey (ALLBUS)

JEL Classification: I31, D60, Z13

1. Introduction

In Germany millions of individuals are members of clubs and associations. Literately Germany is a club nation. About 580.000 different associations exist in 2011 (NPO, 2011). For example the federal statistics office reveals 91.000 sports clubs with 24 million members nationwide. E.g. 7 million of these sportsmen are members of a local football club (Statistisches Bundesamt, 2011). But why are there so many members? From a social scientist's point of view, a membership is like an investment in social capital¹. Any investment should bring some utility. Hence individuals may get non-monetary benefit such as of joy and satisfaction from being a part of a strong community with similar thoughts and beliefs. However different motivations such as career or business related networking may

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^{**} This work is the the private opinion of the author.

¹ See Gannon and Roberts (2012) for an economical discussion of the sociological concept of social capital.

improve future monetary benefits, as well. Psychologists demonstrate that some activities can bring a long term increase in satisfaction. These are the so-called intentional activities, where individuals have to invest some time and personal effort (Lyubomirsky et al., 2005).

Table 1 shows gender and age specific participation rates for voluntary work² in Germany taken from the new ALLBUS 2012 data: 3.9 percent of males and 2.4 of females volunteer, every day, while 18.2 percent of the males and 14.8 percent of the females volunteer once a week. However 52 percent of the males and 57 percent of the females never volunteer. The most work is done by the youngest (18 to 29 years) and the middle aged individuals (30 to 59 years). The elderly (60 and older) report the lowest volunteering rates.

	Every Day	Once a Week	Once a Month	Less often	Never	Total
Gender						
Male	3.90%	18.15%	10.12%	15.94%	51.89%	100%
Female	2.36%	14.80%	10.48%	15.32%	57.03%	100%
Total	3.13%	16.47%	10.30%	15.63%	54.47%	100%
Age						
18-29 Years	2.17%	19.23%	10.87%	22.24%	45.48%	100%
30-44 Years	3.77%	12.65%	12.11%	16.69%	54.78	100%
45-59 Years	3.38%	18.42%	10.03%	15.81%	52.36%	100%
60-74 Years	3.05%	17.01%	10.66%	12.06%	57.23%	100%
75-89 Years	2.77%	12.11%	4.50%	8.30%	72.32%	100%
Total	3.13%	16.47%	10.30%	15.63%	54.47%	100%

Table 1: Age and Gender Differences - Volunteering in Leisure Time

Source: ALLBUS 2012 (GESIS, 2013)

Note: Own calculation

In this paper I try to analyze if and how a membership of a social activity organization affects the personal life satisfaction. Some of them are political or welfare activities, others are more leisure time orientated. Others have direct effects on personal living conditions, such as parental organization, while others have long run idealistic topics, such as peace or nature protection. Additionally some of them have topics for all ages, such as culture, while others, such as senior associations are specialized to some age groups. But they have all in common that a membership is voluntary, costs time and money to participate and may involve voluntary work, as well. These are the different organizations an individual may

² Yamamura (2013) shows that exogenous shocks, such as natural catastrophes, can increase rates and duration of volunteering.

attend: a cultural society, a sports club, a hobby society, a charity organization, a human rights organization, a nature protection association, a health club, a parents association, a senior association, a citizen initiative, an other association, a union or a political party. It is obvious that these organized groups differ in their goals, but in general there are comparable.

However it is a limitation of the analysis that I do not have information about the real intensity of participation and the dimension of membership fees, so I understand pure membership as a proxy for any participation.

I use the German General Social Survey (ALLBUS) for 2010 and present marginal effects of binary probit estimations on life satisfaction. There are strong gender differences in the results. While sport, welfare or parental activities affect only female life satisfaction, males are more affected by classical hobbies. It is an interesting finding that political activities, such as a political party or a union membership have no or even negative effects. The results may be interpreted in that way, that activities or memberships with influence in local fields with own responsibility and personal interest in a short of time, may be more satisfying than activities with more idealistic tasks and long run results, such as protecting nature or human rights.

This paper is organized as follows: after introduction, the second section shows findings of the relevant literature. In the third section, I describe the data set and the used estimation model. In the forth section, I discuss the results. In the fifth section, I present some a concluding remarks. A section on limitations of the study is at the end.

2. Literature Review

Sociologists know the importance of participation for decades. Phillips (1967) shows for the U.S. that social participation and voluntary work lead to higher life satisfaction.

Psychological studies show three different kinds of activities that improve satisfaction differently.

At first, physical activities, such as sports have a great influence on health and life satisfaction. Downward and Rasciute (2011) use 2005 UK data to show positive frequency and duration effects of sports on life satisfaction. They find clear evidence that activities with individual interaction, such as team sports, lead to higher satisfaction. With the same data set the authors show that even simple activities, such as walking or cycling can affect health and life satisfaction positive (Rasciute and Downward, 2010).

Second, any kind of social interactions improve satisfaction, as well. E.g. Heady et al. (2010) present results from the German SOEP data that clearly show for both sexes, that social interaction, such as meeting and helping friends, relatives or neighbors, increase satisfaction. With the same data set Becchetti et al. (2008) show that attending social meetings and cultural events, are as positive as participation in sports or voluntary work. Barker and Martin (2011) discuss that politics and life satisfaction have an interaction. Sharing equal ideas and beliefs, political organizations can increase satisfaction of their

members and participants³. Howard and Gilbert (2008) use European and US social survey data to analyze the impact of passive or active involvement on life satisfaction. In Western Europe effects of passive membership or donating both increase life satisfaction by 50 percent, while active membership and participation increase satisfaction by 51 percent, both relative to non-membership. These effects are smaller for the US.

Rodriguez-Pose and von Berlepsch (2013) use Europeans social surveys data and present evidence, that political activities, such as working for a party or campaigning have mixed effects on satisfaction, while union membership affects satisfaction positive. Humpert and Krüger (2012) show with German SOEP data that job satisfaction is not negative affected by a union membership⁴.

The third group are those of happiness increasing activities. Lyubomirsky et al. (2005) discuss an earlier study that showed, that helping others can improve life satisfaction substantially over the baseline level, when it is done frequently and in short intervals. Using UK data Kroll (2011) analyzes the effects of civic engagement and voluntary work on life satisfaction. Women and especially mothers participate more often than men in civic commitment. Here women with low or high levels of social capital benefit from participation in terms of satisfaction. Meier and Stutzer (2008) show with German SOEP data that pro social behavior, such as voluntary work, is more often done by intrinsic motivated individuals. This intrinsic volunteers report higher levels of life satisfaction, than volunteers with extrinsic goals in life.

Aknin et al. (2013) present results from four experimental studies worldwide that individuals receive psychological benefit from donating money to charity organizations. They report that pro social behavior increase life satisfaction. In an experimental design Aknin et al. (2012) show that individuals who remember past donation feel more satisfied, and will give money in the future. Lelkes (2010) uses 2006 EU-SILC, and 2004 and 2006 European social survey data to show that voluntary activities are common especially in the Scandinavian countries and the Netherlands. On one hand social activities such as acting with friends and relatives, or charity work increase life satisfaction significant. On the other hand the absence from any social participation can lower life satisfaction. Social isolation is especially a problem for the oldest ages.

3. Data and Method

I use the 2010 wave of the German General Social Survey (ALLBUS), a socialeconomic cross-section data set provided by the GESIS Group (GESIS, 2011). Although

³ Scarrow (1994) discusses a set of seven more or less important points why individuals may join a political party. The most important one is, that only party member will be future party candidates. The other six points may be done by non-registered party followers as well. Frey and Stutzer (2000) show that even democracy in itself increases life satisfaction.

⁴ In Germany political parties and unions have lost high numbers of members over time. See Van Bietzen et al. (2012) for a discussion of party members and Fitzenberger et al. (2011) for union members.

the 2012 wave has a direct question on volunteering, I use the 2010 wave because here I have information about several different kinds of participation. The data includes 2,827 individuals with about 1,000 variables. For my analysis I limit the data to 2,128 individuals. There are two samples, separated for males and females. So I observe 1,077 men and 1,051 women. The question concerning life satisfaction is a proxy for economic utility. It is asked like that:

"And now a general question. All things considered, how satisfied are you with your life as a whole these days?"

For the dependent variable I collapse the scale from 0 to 10 into a binary scale. The dummy is zero (not satisfied) when satisfaction is reported from 0 to 7, and one (satisfied) if it is reported from 8 to 10. It is not an unusual procedure to recode the longer scale into a binary variable. This is used e.g. in papers by Fleming and Kler (2008) or Kassenboehmer and Haisken-DeNew (2009).

The descriptive statistics separated for males and females are presented in Table 2.

		M	ale				Fer	nale		
Variable	Observation	Mean	Std. Dev.	Min	Max	Observation	Mean	Std. Dev.	Min	Max
Life Satisfaction	1,077	0.7168	0.4508	0	1	1,051	0.7288	0.4448	0	1
Age 30-44	1,077	0.2470	0.4315	0	1	1,051	0.2379	0.4260	0	1
Age 45-59	1,077	0.3027	0.4596	0	1	1,051	0.2797	0.4491	0	1
Age 60-74	1,077	0.2256	0.4182	0	1	1,051	0.2502	0.4334	0	1
Age 75-89	1,077	0.0761	0.2653	0	1	1,051	0.1018	0.3025	0	1
Born in Germany	1,077	0.8570	0.3502	0	1	1,051	0.8516	0.3557	0	1
House Owner	1,077	0.5738	0.4948	0	1	1,051	0.5138	0.5000	0	1
Fair Health	1,077	0.2748	0.4466	0	1	1,051	0.2769	0.4477	0	1
Bad Health	1,077	0.1504	0.3576	0	1	1,051	0.1770	0.3818	0	1
Secondary School	1,077	0.3389	0.4736	0	1	1,051	0.3606	0.4804	0	1
O-Level	1,077	0.3278	0.4696	0	1	1,051	0.3701	0.4831	0	1
Advanced Certificate	1,077	0.0715	0.2578	0	1	1,051	0.0428	0.2025	0	1
A-Level	1,077	0.2461	0.4309	0	1	1,051	0.2131	0.4097	0	1
Part Time Work	1,077	0.0251	0.1564	0	1	1,051	0.1836	0.3874	0	1
Marginal Work	1,077	0.0241	0.1536	0	1	1,051	0.0790	0.2698	0	1
No Work	1,077	0.3454	0.4757	0	1	1,051	0.4206	0.4939	0	1
Culture Society	1,077	0.1133	0.3171	0	1	1,051	0.1370	0.3440	0	1
Sports Club	1,077	0.3027	0.4596	0	1	1,051	0.2569	0.4371	0	1
Hobby Society	1,077	0.1383	0.3454	0	1	1,051	0.0714	0.2575	0	1
Charity Organization	1,077	0.0854	0.2796	0	1	1,051	0.1009	0.3013	0	1
Human Rights Organization	1,077	0.0093	0.0960	0	1	1,051	0.0162	0.1262	0	1
Nature Association	1,077	0.0594	0.2365	0	1	1,051	0.0733	0.2607	0	1
Health Club	1,077	0.0399	0.1959	0	1	1,051	0.0552	0.2285	0	1

Table 2: Descriptive Statistics

1					i					
Parents Association	1,077	0.0241	0.1536	0	1	1,051	0.0476	0.2130	0	1
Senior Association	1,077	0.0241	0.1536	0	1	1,051	0.0219	0.1464	0	1
Citizens Initiative	1,077	0.0158	0.1247	0	1	1,051	0.0114	0.1063	0	1
other Association	1,077	0.1049	0.3066	0	1	1,051	0.0561	0.2303	0	1
Union	1,077	0.1718	0.3774	0	1	1,051	0.0951	0.2936	0	1
Political Party	1,077	0.0511	0.2202	0	1	1,051	0.0266	0.1611	0	1
Separated	1,077	0.0241	0.1536	0	1	1,051	0.0200	0.1400	0	1
Widow	1,077	0.0362	0.1869	0	1	1,051	0.1361	0.3430	0	1
Divorced	1,077	0.0752	0.2639	0	1	1,051	0.1304	0.3369	0	1
Single	1,077	0.2656	0.4418	0	1	1,051	0.2160	0.4117	0	1
Kids out of Home	1,077	0.2433	0.4293	0	1	1,051	0.2521	0.4344	0	1
Kids at Home	1,077	0.4457	0.4973	0	1	1,051	0.4995	0.5002	0	1
Hamburg	1,077	0.0139	0.1172	0	1	1,051	0.0114	0.1063	0	1
Lower Saxony	1,077	0.0724	0.2593	0	1	1,051	0.0847	0.2785	0	1
Bremen	1,077	0.0037	0.0609	0	1	1,051	0.0095	0.0971	0	1
North Rhine Westphalia	1,077	0.1662	0.3724	0	1	1,051	0.1541	0.3613	0	1
Hesse	1,077	0.0650	0.2466	0	1	1,051	0.0676	0.2511	0	1
Rhineland-Palatinate/Saarland	1,077	0.0501	0.2183	0	1	1,051	0.0352	0.1844	0	1
Baden-Wurttemberg	1,077	0.0947	0.2929	0	1	1,051	0.0980	0.2975	0	1
Bavaria	1,077	0.1402	0.3474	0	1	1,051	0.1846	0.3881	0	1
Berlin	1,077	0.0288	0.1673	0	1	1,051	0.0352	0.1844	0	1
Brandenburg	1,077	0.0585	0.2348	0	1	1,051	0.0561	0.2303	0	1
Mecklenburg-Western Pomerania	1,077	0.0511	0.2202	0	1	1,051	0.0400	0.1960	0	1
Saxony	1,077	0.0845	0.2783	0	1	1,051	0.0676	0.2511	0	1
Saxony Anhalt	1,077	0.0734	0.2608	0	1	1,051	0.0685	0.2527	0	1
Thuringia	1,077	0.0631	0.2433	0	1	1,051	0.0561	0.2303	0	1
HH Income	1,077	2,582.12	1,543.96	90	10,000	1,051	2,263.90	1,515.89	150	17,000

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Note: Own calculation

The main independent variable is a dummy variables which is one if the individual is member of one of the social groups. Otherwise the dummy variable is zero. The variables are the following: memberships of a cultural society, a sports club, a hobby society, a charity organization, a human rights organization, a nature protection association, a health club, a parents association, a senior association, a citizen initiative, other association, a union or a political party. I control for a set of variables, such as age groups, health status, family formation, employment situation, home owner ship, being born in Germany, presence or absence of children and household income.

I analyze individuals in the age of 18 to 89 years. The reference group is the youngest age category 18-29. The other groups are: 30-44 years, 45-59 years, 60-74 years and 75-89 years. In reference to good health, I present effects of fair and bad health conditions. The type of family formation is controlled, as follows: while status married is used as

Source: ALLBUS 2011 (GESIS, 2012)

a reference, other characteristics are separated, widowed, divorced, and single. The employment status is used like that: full time employment, part time employment, marginal employed, and non-employed. The last category includes the unemployed and pensioners. Home ownership is a dummy variable for owning a house or a flat, or not. It captures wealth effects. Being born in Germany is a proxy for non-migration. The information of children is used, as well. Relative to no children, the categories are children at home, or children not at home. This is a proxy for having younger or older children. To analyze income effects, I use monthly household income in Euros. Individuals without any household income are excluded from the analysis. Finally, I control for the German federal states. The reference state is Hamburg. Here the Saarland and Rhineland-Palatinate, as well as the Eastern and Western parts of Berlin are aggregated⁵.

The most of these controls are typical variables in life satisfaction estimations. I do not discuss their directions and refer to book chapters or paper such as Argyle (1999), Blanchflower (2009) or Humpert (2010, 2013).

For the regressions I use a simple probit estimation technique with ALLBUS sample weights. Because of the binary information on life satisfaction I am able to present marginal effects of the coefficients⁶. Keeping all constant, this is the percentage change when a dummy turns from zero to one. In other words the direct membership effect on life satisfaction. The general estimation equation is like that:

life satisfaction_i =
$$a_0 + a_1$$
 membership_i + $X_i b + \varepsilon_i$ (1)

For every individual *i* the life satisfaction is regressed on specific dummies of social participation activities $(a_i \text{ membership}_i)$ and on a vector of individual social-economic characteristics X_i b. Epsilon (ε_i) presents the residuum.

4. Estimations and Results

The first result is that both gender and age groups differ obviously in their participation. The descriptive statistics show that 30 percent of the males and 26 percent of the females are members of sports clubs. This is the highest share of all kinds of organizations. Here the mean age for men is 47 and 49 for women. The next highest shares are union memberships, where 17 percent of males and 9.5 percent of females participate. The mean age is 50 years for both. Concerning classical hobbies, 14 percent of men (mean age 50) and 7 percent of women (mean age 55) are member of hobby societies. Cultural societies are joined by 11 percent of the males (mean age 53) and 14 percent of the females (mean age 50). The

⁵ It is obvious that size or quality of social networks may improve satisfaction as well. So for robustness reasons I tried the size of the social network members as additional variable in the regression. Unfortunately, the number of observations lower to the halve. The effects discussed above remain for the most of the activities. However, membership in health clubs is dropped because of co-linearity with self-reported state of health.

⁶ The marginal effects are computed with the dprobit command implemented in STATA.

residual category of other associations has shares of 10.5 percent of males (mean age 52) and 6 percent of females (mean age 53), respectively. Charity organizations are joined by 8.5 percent of the men (mean age 55) and 10 percent of the women (mean age 59). All other kinds of activities and associations have much lower shares. Concerning nature protection societies, 6 percent of the male and 7 percent of the female population are associated with these organizations. The mean ages are close to each other (males 49; females 50). Only 5 percent of males (mean age 52) and 3 percent of the females (mean age 56) are members of political parties. Health clubs are joined by 4 percent of the men and 6 percent of the women. The mean age is 50 for both. Human rights associations have low shares. Males participate with only 1 percent and women with 2 percent. Here the clearest age differences are observable. Mean age for males is 42 and 53 for females. Citizen associations, which are founded only in special cases, are joined by 2 percent of males (mean age 54) and 1 percent of females (mean age 55). The last two groups are somewhat different. Parental and senior associations are age and gender sensible groups, because children are more related to younger individuals and mothers, while seniors activities are related to the elderly. Here 2 percent of males and 5 percent of females participate. The mean ages are 45 (males) to 43 years (females). It is not surprising, that senior associations have the oldest members. Both sexes join these association by 2 percent, with mean ages from 70 (males) to 68 (females).

This section turns to the regression in Table 3 and 4. In general only a small number of memberships lead to significant effects on life satisfaction. The results of the probit estimations of binary life satisfaction are structured like that: the tables have thirteen columns for the different social participation activities. The last column shows the results for all thirteen activities together.

Culture Society	0.03616													0.02706
	(0.04165)													(0.04319)
Sports Club		0.00300												-0.01830
		(0.03167)												(0.03218)
Hobby Society			0.10023***											0.10151***
			(0.03099)											(0.03072)
Charity Organization				0.08593**										0.08647**
				(0.04280)										(0.04361)
Human Rights Organization					-0.10994									-0.24268
					(0.20023)									(0.21405)
Nature Association						0.07482								0.09392**
						(0.05167)								(0.04422)
Health Club							0.08347							0.07947
							(0.05444)							(0.05467)
Parents Association								0.07102						0.07246
								(0.08460)						(0.07341)
Senior Association									-0.04371					-0.10686
									(0.10296)					(0.11188)
Citizens Initiative										-0.02547				-0.12927
										(0.12117)				(0.13563)
other Association											-0.05072			-0.06412
											(0.04706)			(0.04925)
Union												0.01373		0.00955
												(0.03575)		(0.03613)
Political Party													0.02333	0.02469
													(0.06906)	(0.06538)
Pseudo R2	0.2325	0.2320	0.2382	0.2347	0.2324	0.2335	0.2332	0.2327	0.2321	0.2320	0.2328	0.2321	0.2321	0.2481

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Culture Society	0.04735													0.02853
	(0.03789)													(0.03995)
Sports Club		0.05819*												0.05458*
		(0.03051)												(0.03019)
Hobby Society			0.03598											0.02772
			(0.05074)											(0.05229)
Charity Organization				0.05035										0.03156
				(0.04137)										(0.04546)
Human Rights Organization					-0.01885									-0.09703
					(0.13026)									(0.17176)
Nature Association						0.02013								0.01004
						(0.04949)								(0.05608)
Health Club							0.02615							-0.00147
							(0.05534)							(0.06166)
Parents Association								0.12578***						0.11806**
								(0.04437)						(0.04754)
Senior Association									0.02171					-0.03818
									(0.07842)					(0.09756)
Citizens Initiative										0.14873***				0.14800^{***}
										(0.05067)				(0.04744)
other Association											0.01934			0.01407
											(0.05806)			(0.05818)
Union												-0.09787*		-0.10726*
												(0.05323)		(0.05544)
Political Party													0.08121	0.04782
													(0.05894)	(0.06759)
Pseudo R2	0.2161	0.2178	0.2153	0.2160	0.2149	0.2150	0.2150	0.2185	0.2149	0.2163	0.2150	0.2178	0.2157	0.2281
Source: AI I RUS 2010 (GFSIS 2012)	10 (GEST	S 2012)												

Table 4: Life Satisfaction females

Source: ALLBUS 2010 (GESIS, 2012) Note: Own calculation, Probit Estimation with marginal Effects, Levels of Significance: * p<0.05, ** p<0.01, *** p<0.001, N=1,051. Controls not reported.

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In Table 3 the marginal effects for males are presented⁷. A membership of a hobby club increase male life satisfaction significant by 10 percent. A charity organization has a positive and significant effect of 9 percent. All other activities and organizations have no statistical effect on male life satisfaction.

In the estimation with all social participation activities together, the effects remain, but the membership in a nature protection organization turn into significance, as well. In this specification, a hobby club membership increase satisfaction by 10 percent, while a charity organization membership increases satisfaction by 9 percent. Now the membership in a nature protection association led to a 9 percent increase in satisfaction. All other organizations have no effects.

Table 4 shows the results for the females. There is a statistical significant effect of a sports club membership. Women have an increase in life satisfaction by 6 percent. Additionally women have strong positive effects in life satisfaction by memberships of a parental organization and a citizen initiative. Parental organizations increase satisfaction by 12.5 percent and citizen initiatives by 15 percent. The membership in a trade union has a significant negative effect on satisfaction. Female union members suffer from a decrease in satisfaction in terms of 10 percent. All other memberships have no effect on life satisfaction.

The estimation with all social participation activities included together supports these results. The membership in a sports club increase female satisfaction by 5.5 percent. Parental organizations increase satisfaction by 12 percent and citizen initiatives by 15 percent. Union member have a decrease in satisfaction by 11 percent.

5. Conclusion

In this paper I try to analyze if and how a membership of a social activity organization affects the personal life satisfaction. As discussed earlier, different kinds of participation, especially active or passive ones, have different strong impacts on life satisfaction. Lyubomirsky et al. (2005) show that intentional activities, with replicated investments of own effort, can substantially improve life satisfaction. Concerning gender effects Kroll (2011) show that women and especially mothers invest more often in civic engagements and profit than men. While Meier and Stutzer (2008) show that intrinsic motivated individuals are more often participating, Widjaja (2010) discusses that men and women have similar intensities of intrinsic, but different intensities of extrinsic motivations. So, men may be more interested in goals of extrinsic activities.

Some of the analyzed memberships are political or welfare activities, others are more leisure time orientated. It is obvious that these organized groups differ in their goals and beliefs, but there are comparable in general. Physical activities improve satisfaction on one hand because of the pure activity, on the the other hand because of social interactions. Interaction itself is a key reason for differences between passive memberships and active

⁷ The dependent variables have the typical directions of satisfaction estimations. Full results are presented at the end of the paper in Tables AI and AII.

participation. At last, caring and giving, such as donations and participation in charity organizations improve satisfaction, as well. It is obvious that passive memberships, such as of a political party, or a human rights organization have no effects on life satisfaction, while more direct activities, such as sports or hobbies have positive effects.

In general, the results may be interpreted in that way, that activities or memberships with influence in local fields with own responsibility and personal interest in a short of time, may be more satisfying that activities with more idealists tasks and long run results, such as protecting the nature or the human rights.

6. Limitations of the study

There are some limitations of the study above. E.g. the number of some observations is relatively small. The main limitation is that only membership itself is observable in the data. Neither the intensity of participation, nor the size of membership fees are included. An other limitation is on causality. Only panel data and panel methods could shed some light on the directions of the effects. So problems of unobserved heterogeneity can not be solved.

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Table

Age 30-44	-0.12900**	-0.12949**	-0.13941**	-0.13044**	-0.12988**	-0.12586**	-0.12698**	-0.13139**	-0.12853**	-0.12924**	-0.12827**	-0.13044**	-0.13037**	-0.13619**
	(0.05845)	(0.05846)	(0.05896)	(0.05824)	(0.05848)	(0.05817)	(0.05838)	(0.05858)	(0.05857)	(0.05855)	(0.05837)	(0.05848)	(0.05863)	(0.05804)
Age 45-59	-0.16110**		-0.16903**	-0.15841**	-0.16023**	-0.15642**	-0.15825**	-0.15915**	-0.15882**	-0.16014**	-0.15837**	-0.16165**	-0.16062**	-0.16297**
	(0.06629)	(0.06644)	(0.06673)	(0.06577)	(0.06624)	(0.06645)	(0.06627)	(0.06612)	(0.06635)	(0.06636)	(0.06623)	(0.06653)	(0.06614)	(0.06683)
Age 60-74	0.04655	0.04905	0.04402	0.05036	0.04803	0.05110	0.05308	0.05120	0.05049	0.04867	0.04815	0.04789	0.04928	0.04840
	(0.06854)	(0.06819)	(0.06870)	(0.06750)	(0.06824)	(0.06771)	(0.06771)	(0.06780)	(0.06825)	(0.06830)	(0.06835)	(0.06829)	(0.06813)	(0.06790)
Age 75-89	0.11508**	0.11572**	0.11164*	0.11109*	0.11444**	0.11777**	0.11900^{**}	0.11701**	0.11970**	0.11531**	0.11302*	0.11407**	0.11543**	0.11483**
	(0.05748)	(0.05729)	(0.05844)	(0.05813)	(0.05755)	(0.05630)	(0.05620)	(0.05669)	(0.05634)	(0.05739)	(0.05821)	(0.05786)	(0.05734)	(0.05659)
Born in														
Germany	0.04186	0.04463	0.03302	0.04366	0.04579	0.04005	0.04176	0.04244	0.04497	0.04510	0.04897	0.04560	0.04379	0.02849
	(0.04337)	(0.04358)	(0.04299)	(0.04358)	(0.04360)	(0.04313)	(0.04324)	(0.04333)	(0.04345)	(0.04347)	(0.04378)	(0.04348)	(0.04340)	(0.04304)
House Owner	0.08946***	-	0.08969***	0.08937***	0.08893***	0.09166***	0.08979***	0.08921***	0.09102***	0.09165***	0.09355***	0.09024***	0.08957***	0.09149***
	(0.03408)	(0.03406)	(0.03395)	(0.03383)	(0.03408)	(0.03406)	(0.03409)	(0.03429)	(0.03417)	(0.03411)	(0.03420)	(0.03416)	(0.03417)	(0.03305)
Fair Health	-0.13966***	-0.14023***	-0.14065***	-0.14391***	-0.13961***	-0.13980***	-0.14107***	-0.13927***	-0.14053***	-0.14094***	-0.13748***	-0.14071***	-0.14012***	-0.14242***
	(0.03657)	(0.03659)	(0.03647)	(0.03683)	(0.03656)	(0.03661)	(0.03661)	(0.03634)	(0.03665)	(0.03653)	(0.03647)	(0.03663)	(0.03658)	(0.03642)
Bad Health	-0.34267***	0.34267*** -0.34022***	-0.34249***	-0.34351***	-0.34028***	-0.34298***	-0.34343***	-0.34019***	-0.33940***	-0.34127***	-0.34043***	-0.34139***	-0.34049***	-0.35267***
	(0.05255)	(0.05238)	(0.05245)	(0.05259)	(0.05242)	(0.05250)	(0.05236)	(0.05218)	(0.05249)	(0.05228)	(0.05238)	(0.05237)	(0.05230)	(0.05294)
Secondary														
School	-0.06484	-0.06437	-0.06777	-0.06251	-0.06390	-0.06435	-0.06241	-0.06331	-0.06468	-0.06360	-0.06685	-0.06450	-0.06410	-0.06977
	(0.11557)	(0.11578)	(0.11552)	(0.11634)	(0.11612)	(0.11555)	(0.11571)	(0.11549)	(0.11569)	(0.11575)	(0.11538)	(0.11561)	(0.11587)	(0.11537)
O-Level	0.00740	0.00872	-0.00065	0.00319	0.01011	0.00868	0.00974	0.00718	0.00925	0.01050	0.00433	0.00840	0.00895	-0.01058
	(0.10973)	(0.10962)	(0.11026)	(0.11091)	(0.10997)	(0.10954)	(0.10969)	(0.10980)	(0.10961)	(0.10965)	(0.10971)	(0.10962)	(0.10989)	(0.11068)
Advanced														
Certificate	-0.00648	-0.00652	-0.01395	-0.00829	-0.00644	-0.00967	-0.01051	-0.01053	-0.00592	-0.00565	-0.00717	-0.00805	-0.00550	-0.03163
	(0.12135)	(0.12166)	(0.12334)	(0.12249)	(0.12203)	(0.12248)	(0.12293)	(0.12286)	(0.12143)	(0.12151)	(0.12118)	(0.12223)	(0.12149)	(0.12733)
A-Level	0.10561	0.10718	0.10710	0.10198	0.11044	0.10159	0.10615	0.10612	0.10715	0.10840	0.10334	0.10789	0.10655	0.09214
	(0.09511)	(0.09483)	(0.09419)	(0.09632)	(0.09467)	(0.09581)	(0.09511)	(0.09488)	(0.09486)	(0.09460)	(0.09514)	(0.09461)	(0.09507)	(0.09605)

-0.01821 (0.09064)	-0.07016	(0.09848)	-0.17348***	(0.05096)	-0.13649	(0.10944)	-0.04539	(0.08086)	-0.19433***	(0.07012)	0.00503	(0.05125)		-0.05478	(0.05305)	-0.00501	(0.04486)	0.00002	(0.00001)	0.02706	(0.04319)	-0.01830	(0.03218)	0.10151***	(0.03072)		0.08647**	(0.04361)
-0.03336 (0.09658)	-0.07984	(0.09937)	-0.17824***	(0.05085)	-0.14625	(0.10860)	-0.05233	(0.08152)	-0.20009***	(0.07060)	-0.00034	(0.05222)		-0.05670	(0.05370)	0.00410	(0.04541)	0.00002	(0.00001)									
-0.03082 (0.09558)	-0.07559	(0.09778)	-0.17622***	(0.05072)	-0.14559	(0.10873)	-0.05164	(0.08184)	-0.19984***	(0.07037)	-0.00101	(0.05226)		-0.05804	(0.05356)	0.00346	(0.04532)	0.00002	(0.00001)									
-0.03467 (0.09624)	-0.07451	(0.09655)	-0.17849***	(0.05078)	-0.14617	(0.10785)	-0.04102	(0.07749)	-0.20118***	(0.07055)	-0.00103	(0.05230)		-0.05742	(0.05360)	0.00591	(0.04536)	0.00002	(0.00001)									
-0.02962 (0.09412)	-0.07737	(0.09820)	-0.17748***	(0.05077)	-0.14852	(0.10896)	-0.05165	(0.08145)	-0.19927***	(0.07036)	-0.00278	(0.05291)		-0.05941	(0.05470)	0.00194	(0.04564)	0.00002	(0.0001)									
-0.03238 (0.09568)	-0.07361	(0.09821)	-0.17671***	(0.05083)	-0.14894	(0.10882)	-0.05111	(0.08151)	-0.19961***	(0.07050)	-0.00031	(0.05226)		-0.05785	(0.05362)	0.00340	(0.04536)	0.00002	(0.0001)									
-0.03440 (0.09597)	-0.07580	(0.09760)	-0.17786***	(0.05048)	-0.14281	(0.10790)	-0.05022	(0.08109)	-0.19573***	(0.07030)	0.00323	(0.05202)		-0.05659	(0.05332)	0.00411	(0.04522)	0.00002	(0.00001)									
-0.02928 (0.09505)	-0.07632	(0.09878)	-0.17950***	(0.05103)	-0.15483	(0.10997)	-0.05141	(0.08142)	-0.20093***	(0.07026)	0.00084	(0.05210)		-0.05805	(0.05344)	0.00152	(0.04530)	0.00002	(0.00001)									
-0.03173 (0.09574)	-0.07624	(0.09845)	-0.17534***	(0.05071)	-0.14464	(0.10821)	-0.04817	(0.08103)	-0.20261***	(0.07092)	0.00329	(0.05181)		-0.05549	(0.05327)	0.00388	(0.04530)	0.00002	(0.0001)									
-0.03162 (0.09564)	-0.07873	(0.09839)	-0.17750***	(0.05071)	-0.14482	(0.10919)	-0.05211	(0.08154)	-0.20141***	(0.07046)	-0.00136	(0.05229)		-0.05705	(0.05360)	0.00390	(0.04527)	0.00002	(0.00001)									
-0.02953 (0.09571)	-0.08172	(0.09930)	-0.17672***	(0.05059)	-0.13862	(0.10675)	-0.06156	(0.08379)	-0.19640***	(0.07081)	0.00286	(0.05165)		-0.05178	(0.05284)	0.00131	(0.04503)	0.00002	(0.00001)								0.08593**	(0.04280)
-0.03453 (0.09626)	-0.07531	(0.09616)	-0.17743***	(0.05089)	-0.14994	(0.11132)	-0.05263	(0.08262)	-0.19473***	(0.07051)	-0.00297	(0.05182)		-0.05564	(0.05309)	-0.00196	(0.04518)	0.00002	(0.0001)					0.10023***	(0.03099)			
-0.03280 (0.09589)	-0.07714	(0.09816)	-0.17763***	(0.05071)	-0.14735	(0.10859)	-0.05158	(0.08145)	-0.19999***	(0.07062)	-0.00117	(0.05240)		-0.05769	(0.05363)	0.00310	(0.04545)	0.00002	(0.0001)			0.00300	(0.03167)					
-0.03447 (0.09620)	-0.07311	(0.09779)	-0.17677***	(0.05073)	-0.14410	(0.10807)	-0.05365	(0.08235)	-0.19728***	(0.07027)	-0.00027	(0.05237)		-0.05818	(0.05364)	0.00262	(0.04526)	0.00002	(0.0001)	0.03616	(0.04165)							
Part Time Work	Marginal Work		No Work		Separated		Widow		Divorced		Single		Kids out of	Home		Kids at Home		HH Income		Culture Society		Sports Club		Hobby Society		Charity	Organization	

Human Rights														
Organization					-0.10994									-0.24268
					(0.20023)									(0.21405)
Nature														
Association						0.07482								0.09392**
						(0.05167)								(0.04422)
Health Club							0.08347							0.07947
							(0.05444)							(0.05467)
Parents														
Association								0.07102						0.07246
								(0.08460)						(0.07341)
Senior														
Association									-0.04371					-0.10686
									(0.10296)					(0.11188)
Citizens														
Initiative										-0.02547				-0.12927
										(0.12117)				(0.13563)
other														
Association											-0.05072			-0.06412
											(0.04706)			(0.04925)
Union												0.01373		0.00955
												(0.03575)		(0.03613)
Political Party													0.02333	0.02469
													(0.06906)	(0.06538)
Pseudo R2	0.2325	0.2320	0.2382	0.2347	0.2324	0.2335	0.2332	0.2327	0.2321	0.2320	0.2328	0.2321	0.2321	0.2481
			(010)											

Source: ALLBUS 2010 (GESIS, 2012) Note: Own calculation, Probit Estimation with marginal Effects, Levels of Significance: * p<0.05,** p<0.01, *** p<0.001, N=1,077.

l Controls)
(al
Female
Satisfaction
Life
Table AII:

Age 30-44	-0.12220**	-0.12257**	-0.12350**	-0.12410**	-0.12253**	-0.12390**	-0.12384**	-0.12852**	-0.12273**	-0.12090**	-0.12306**	-0.11599*	-0.12333**	-0.11898**
	(0.06016)	(0.06009)	(0.06026)	(0.06033)	(0.06035)	(0.06058)	(0.06044)	(0.06016)	(0.06029)	(0.06008)	(0.06040)	(0.05986)	(0.06046)	(0.05978)
Age 45-59	-0.04842	-0.05018	-0.05129	-0.05842	-0.05132	-0.05546	-0.05276	-0.05300	-0.05248	-0.05156	-0.05274	-0.04596	-0.05079	-0.03929
	(0.05744)	(0.05707)	(0.05712)	(0.05767)	(0.05693)	(0.05707)	(0.05721)	(0.05667)	(0.05719)	(0.05702)	(0.05727)	(0.05696)	(0.05708)	(0.05622)
Age 60-74	0.10083*	0.10019*	0.10010^{*}	0.09471*	0.10123*	0.09854^{*}	0.10043*	0.09683*	0.10037*	0.09959*	0.10069^{*}	0.10363*	0.10019*	0.09795*
	(0.05448)	(0.05400)	(0.05454)	(0.05521)	(0.05421)	(0.05465)	(0.05441)	(0.05434)	(0.05448)	(0.05431)	(0.05445)	(0.05395)	(0.05467)	(0.05361)
Age 75-89	0.07799	0.08057	0.07626	0.07112	0.07739	0.07508	0.07644	0.07077	0.07665	0.07476	0.07728	0.07828	0.07773	0.07589
	(0.05474)	(0.05380)	(0.05498)	(0.05606)	(0.05480)	(0.05518)	(0.05489)	(0.05572)	(0.05488)	(0.05511)	(0.05475)	(0.05436)	(0.05474)	(0.05408)
Born in Germany	-0.00065	-0.00354	0.00054	-0.00178	0.00137	0.00054	0.00108	-0.00073	0.00143	0.00107	0.00143	0.00546	0.00004	-0.00650
	(0.03883)	(0.03842)	(0.03861)	(0.03839)	(0.03873)	(0.03884)	(0.03871)	(0.03835)	(0.03877)	(0.03867)	(0.03876)	(0.03904)	(0.03864)	(0.03773)
House Owner	0.06988**	0.07057**	0.07178**	0.07299**	0.07398**	0.07249**	0.07356**	0.07491**	0.07296**	0.07281**	0.07343**	0.07505**	0.07284**	0.06944**
	(0.03143)	(0.03161)	(0.03101)	(0.03142)	(0.03143)	(0.03132)	(0.03137)	(0.03138)	(0.03147)	(0.03126)	(0.03132)	(0.03126)	(0.03131)	(0.03115)
Fair Health	-0.16307***	-0.16110***	-0.16081***	-0.16062***	-0.16146***	-0.16041***	-0.16182***	-0.16111***	-0.16157***	-0.16146***	-0.16203***	-0.15727***	-0.16157***	-0.15901***
	(0.03804)	(0.03792)	(0.03788)	(0.03781)	(0.03774)	(0.03776)	(0.03798)	(0.03780)	(0.03797)	(0.03784)	(0.03768)	(0.03768)	(0.03790)	(0.03748)
Bad Health	-0.33379***	-0.32562***	-0.33056***	-0.33105***	-0.33138***	-0.32935***	-0.33179***	-0.32882***	-0.33119***	-0.32733***	-0.33158***	-0.32728***	-0.32899***	-0.32032***
	(0.04974)	(0.04948)	(0.04938)	(0.04954)	(0.04945)	(0.04947)	(0.04960)	(0.04963)	(0.04948)	(0.04948)	(0.04935)	(0.04934)	(0.04947)	(0.04984)
Secondary School		-0.01650	-0.01422	-0.01946	-0.01586	-0.01582	-0.01696	-0.01893	-0.01629	-0.01757	-0.01669	-0.01063	-0.01792	-0.02004
	(0.10239)	(0.10152)	(0.10137)	(0.10249)	(0.10189)	(0.10192)	(0.10206)	(0.10162)	(0.10199)	(0.10172)	(0.10204)	(0.10109)	(0.10222)	(0.10105)
O-Level	0.01759	0.01894	0.02494	0.01832	0.02333	0.02282	0.02123	0.01878	0.02310	0.02237	0.02246	0.02957	0.02242	0.01571
	(0.10091)	(0.10008)	(0.09951)	(0.10082)	(0.10003)	(0.10011)	(0.10027)	(166660:0)	(0.10007)	(0.09980)	(0.10020)	(0.09905)	(0.10024)	(0.09966)
Advanced														
Certificate	0.08149	0.07862	0.08750	0.08294	0.08494	0.08568	0.08377	0.07972	0.08489	0.08364	0.08315	0.09112	0.08510	0.07640
	(0.08794)	(0.08923)	(0.08468)	(0.08728)	(0.08617)	(0.08578)	(0.08675)	(0.08798)	(0.08624)	(0.08638)	(0.08708)	(0.08310)	(0.08614)	(0.08926)
A-Level	0.11532	0.11444	0.12375	0.11927	0.12304	0.12033	0.12120	0.11692	0.12194	0.12075	0.12154	0.12679	0.12067	0.11032
	(0.08444)	(0.08387)	(0.08171)	(0.08313)	(0.08231)	(0.08296)	(0.08258)	(0.08274)	(0.08242)	(0.08222)	(0.08250)	(0.08081)	(0.08269)	(0.08382)
Part Time Work	0.01429	0.01216	0.01438	0.01447	0.01696	0.01657	0.01648	0.01239	0.01683	0.01618	0.01631	0.01499	0.01794	0.00041
	(0.04202)	(0.04219)	(0.04203)	(0.04193)	(0.04181)	(0.04174)	(0.04189)	(0.04216)	(0.04180)	(0.04173)	(0.04194)	(0.04176)	(0.04169)	(0.04287)

-0.07934	(0.06415)	-0.01602	(0.04340)	-0.22300*	(0.13514)	0.01878	(0.04359)	-0.05879	(0.04845)	0.02973	(0.04378)	0.06454	(0.04125)	0.09301**	(0.04259)	0.00008***	(0.0002)	0.02853	(0.03995)	0.05458*	(0.03019)	0.02772	(0.05229)		0.03156	(0.04546)		-0.09703	(0.17176)
-0.06466	(0.06276)	-0.00904	(0.04346)	-0.21059	(0.13199)	0.01782	(0.04455)	-0.06688	(0.04932)	0.02882	(0.04486)	0.08192**	(0.04002)	0.10003**	(0.04303)	0.00008***	(0.00002)												
-0.07358	(0.06373)	-0.01334	(0.04346)	-0.21364	(0.13390)	0.01589	(0.04467)	-0.06441	(0.04909)	0.03217	(0.04436)	0.08132**	(0.03976)	0.10370**	(0.04273)	0.00008***	(0.0002)												
-0.06335	(0.06242)	-0.00844	(0.04342)	-0.20583	(0.13210)	0.01669	(0.04468)	-0.06806	(0.04927)	0.02948	(0.04486)	0.08156**	(0.04013)	0.10126**	(0.04307)	0.00008***	(0.00002)												
-0.06445	(0.06227)	-0.00729	(0.04325)	-0.21595	(0.13326)	0.02051	(0.04428)	-0.06599	(0.04910)	0.03083	(0.04455)	0.08029**	(0.04005)	0.10067**	(0.04287)	0.00008***	(0.00002)												
-0.06244	(0.06228)	-0.00768	(0.04341)	-0.20617	(0.13203)	0.01660	(0.04467)	-0.06750	(0.04932)	0.03044	(0.04473)	0.08177**	(0.04009)	0.10212**	(0.04300)	0.00008***	(0.0002)												
-0.06178	(0.06191)	-0.00586	(0.04329)	-0.20256	(0.13136)	0.01843	(0.04404)	-0.06717	(0.04897)	0.02882	(0.04447)	0.06528	(0.04173)	0.09767**	(0.04262)	0.00008***	(0.00002)												
-0.06318	(0.06234)	-0.00862	(0.04332)	-0.20819	(0.13273)	0.01713	(0.04464)	-0.06919	(0.04944)	0.03009	(0.04479)	0.08229**	(0.04010)	0.10139**	(0.04293)	0.00008***	(0.00002)												
-0.06166	(0.06209)	-0.00746	(0.04331)	-0.20853	(0.13257)	0.01696	(0.04473)	-0.06825	(0.04930)	0.02931	(0.04485)	0.08137**	(0.04000)	0.10283**	(0.04291)	0.00008***	(0.00002)												
-0.06334	(0.06243)	-0.00761	(0.04338)	-0.20742	(0.13219)	0.01692	(0.04448)	-0.06808	(0.04935)	0.03074	(0.04481)	0.08169**	(0.04009)	0.10203**	(0.04298)	0.00008***	(0.00002)											-0.01885	(0.13026)
-0.06352	(0.06229)	-0.00946	(0.04335)	-0.20823	(0.13404)	0.01688	(0.04463)	-0.06256	(0.04890)	0.02892	(0.04474)	0.07909**	(0.04022)	0.09964^{**}	(0.04299)	0.00008***	(0.00002)								0.05035	(0.04137)			
-0.06211	(0.06233)	-0.00843	(0.04352)	-0.20799	(0.13267)	0.01752	(0.04452)	-0.06936	(0.04941)	0.03073	(0.04470)	0.08357**	(0.03987)	0.10191**	(0.04303)	0.00008***	(0.00002)					0.03598	(0.05074)						
-0.06334	(0.06215)	-0.00905	(0.04348)	-0.19855	(0.12951)	0.01262	(0.04520)	-0.06861	(0.04912)	0.02885	(0.04470)	0.08102**	(0.04017)	0.10105**	(0.04319)	0.00008***	(0.00002)			0.05819*	(0.03051)								
-0.06543	(0.06279)	-0.00717	(0.04336)	-0.21019	(0.13168)	0.01695	(0.04473)	-0.06933	(0.04948)	0.02780	(0.04497)	0.08113**	(0.04005)	0.10004**	(0.04307)	0.00008***	(0.0002)	0.04735	(0.03789)										
Marginal Work		No Work		Separated		Widow		Divorced		Single		Kids out of Home		Kids at Home		HH Income		Culture Society		Sports Club		Hobby Society		Charity	Organization		Human Rights	Organization	

Nature														
Association						0.02013								0.01004
						(0.04949)								(0.05608)
Health Club							0.02615							-0.00147
							(0.05534)							(0.06166)
Parents														
Association								0.12578***						0.11806**
								(0.04437)						(0.04754)
Senior														
Association									0.02171					-0.03818
									(0.07842)					(0.09756)
Citizens Initiative										0.14873***				0.14800***
										(0.05067)				(0.04744)
other Association											0.01934			0.01407
											(0.05806)			(0.05818)
Union												-0.09787*		-0.10726*
												(0.05323)		(0.05544)
Political Party													0.08121	0.04782
													(0.05894)	(0.06759)
Pseudo R2	0.2161	0.2178	0.2153	0.2160	0.2149	0.2150	0.2150	0.2185	0.2149	0.2163	0.2150	0.2178	0.2157	0.2281
Source: ALLBUS 2010 (GESIS, 2012)	BUS 2010	(GESIS, 2	(012)											

Note: Own calculation, Probit Estimation with marginal Effects, Levels of Significance: * p<0.05, ** p<0.01, *** p<0.001, N=1,051.