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Abstract: The concept of social capital has become very popular but its definition and measurement are still rather unclear. We frame our study in one of its components, social participation. In this article we develop an optimal measure for social participation based on the questions asked in the first round of the European Social Survey. Our analyses suggest that a distinction has to be made between informal and formal participation because they relate very differently to other variables such as age, education, political action and happiness. We also found that these two types of participation had hardly any relationship with other important components of the social capital construct, such as social trust and political trust. The latter result does not devalue the validity of the developed indices for informal and formal participation but suggests that participation and trust should be considered formative indicators of social capital.

MEASUREMENT OF SOCIAL PARTICIPATION AND ITS PLACE IN SOCIAL CAPITAL THEORY

ABSTRACT

The concept of social capital has become very popular but its definition and measurement are still rather unclear. We frame our study in one of its components, social participation. In this article we develop an optimal measure for social participation based on the questions asked in the first round of the European Social Survey. Our analyses suggest that a distinction has to be made between informal and formal participation because they relate very differently to other variables such as age, education, political action and happiness. We also found that these two types of participation had hardly any relationship with other important components of the social capital construct, such as social trust and political trust. The latter result does not devalue the validity of the developed indices for informal and formal participation but suggests that participation and trust should be considered formative indicators of social capital.

1. INTRODUCTION

The notion of 'social capital' was introduced in the social sciences by Bordieu (1986), Coleman (1990), Fukuyama (1995), and Putnam (1995). It was particularly after the publications of Putnam that the idea was given a lot of attention in the scientific world and also in the political domain. The concept of social capital has become a recurring theme on government research agendas in a number of countries. It has been said that contemporary democracies, such as those in the European Union, increasingly suffer from a declining involvement by their citizens in the political process and a general weakening of the bonds that hold society together (van Deth 2003). Indeed, the World Bank considers this topic sufficiently relevant to have developed a questionnaire - the Social Capital Integrated Questionnaire (SC-IQ) - to measure social capital (Grootaert et al. 2004).

However, the weakness of the social capital discussion is a lack of consensus on its conceptualization (Rupasingha, Goetz and Freshwater 2006). No single definition is widely accepted in the literature. When defining social capital, many studies refer to social ties, shared norms and sanctions. Coleman (1990) cites trust as a major issue, arguing that trust in each other (and common norms) enables things to be accomplished which would otherwise be impossible. The importance of trust has been widely referred to and even used as the single indicator for social capital (Halpern 2005).

In the public health literature, social capital has been operationalized as 'social participation' (the number of groups and associations to which citizens belong within different regions), social trust and a state of generalized reciprocity among citizens (Kawachi et al. 1997).

The importance of social participation is mentioned by nearly all scholars (Fitzpatrick and LaGory 2002). Some refer to the work of de Tocqueville (1840, trans.

1969) who argued that the democracy he observed in the US was underpinned by the existence of numerous voluntary organizations. Paxton (1999) sees the basic components of social capital as social contacts, trust in other people and trust in institutions. Others deny that social participation has any effect on trust in people or institutions (Freitag 2003).

An interesting issue is the distinction made between bonding relationships and bridging relationships (Burt 2000; Putnam 2000). In the former context, the assumption is made that the members of a small group will be very close, have clear norms and sanctions, trust each other, and thus help each other to obtain goods which would otherwise be difficult to obtain without personal support. In the latter context, Burt (2007), Freeman, Borgatti and White (1991), and Granovetter (1982), among others, underline the influence of outside contacts in helping such small groups to get new ideas and get ahead.

Another major controversy in this field is whether social capital should be seen as a mainly personal characteristic (Bourdieu 1986; Coleman 1990) or as a community characteristic (Knack and Keefer 1997; Lochner, Kawachi and Kennedy 1999).

It is not our aim to resolve these controversies here. Our intention is to concentrate on the measurement of one concept – social participation – seen as fundamental in the literature. This concept plays a role in nearly all the approaches which have been advanced for social capital, whether seen as an individual or collective characteristic, and whether one is interested in bonding or bridging relationships. Only where social capital is measured purely by trust in people or trust in institutions does the concept have no role to play (Halpern 2005).

More specifically, we focus on the evaluation of social participation as operationalized in the European Social Survey (ESS). In doing so, we consider many

different possibilities for the operationalization of the concept in order to obtain an optimal measure. To be sure that the measurement of social participation is valid, we also look at its relationships with other variables. Obvious candidates are, as mentioned above, trust in other people, referred to here as social trust, and trust in national institutions, referred to as political trust. In addition, we look at the relationships with other variables such as political action and happiness. The relationships between social participation and these variables are suggested in social capital theory (Hyyppä and Mäkki 2003; Lindström, Merlo and Östergren 2002). We also evaluate the relationship with age and education, which have been indicated as causal variables for social capital (Baum 2000; Lindström 2000; Morales 2007).

Before discussing these relationships, we first focus on the measurement of social participation in order to create as reliable an index as possible.

2. DEFINITION AND MEASUREMENT OF SOCIAL PARTICIPATION

Traditionally, social participation has been almost exclusively measured by the number of social contacts (Grootaert et al. 2004; Lindström, Merlo and Östergren 2002). Our definition of social participation is in line with this approach. Social participation (P) is defined as the total number of contacts a person has with other individuals over a certain period of time, formally expressed as:

$$P_j = \sum_{i=1}^{n} f_{ij} \qquad (1)$$

where f_{ij} is the number of contacts of person j with a person i.

2.1. A Direct Measure of Social Participation

While it would be nice if the questions used to measure social participation were in line with the above definition, it is rarely the case. In the ESS, one question is asked that

could be seen as a direct measure of social participation. We call this variable the comparative judgment of social participation or CJSP. We use the term comparative because the question does not ask for an absolute value but a relative value, as can be seen from the following formulation:

> *Compared to other people of your age, how often would you say you take part in social activities?*
>
> *(1) much less than most*
> *(2) less than most*
> *(3) about the same*
> *(4) more than most*
> *(5) much more than most*

We do not consider this to be an optimal measure of social participation because no absolute frequency is asked about – simply the relative frequency of contacts compared with the peer group. Moreover, the response categories presented are less than precise.

The quality of the CJSP has been evaluated with the program Survey Quality Predictor (SQP[1]), based on the work of Saris and Gallhofer (2007). The program predicts the explained variance in the observed variable by the variable of interest. The predictions were .60 for the Netherlands, .61 for Great Britain, and .76 for Germany. These results can be used as a reference point for proposing alternative ways of measuring social participation. If the alternatives composed of more questions do not yield a higher quality or better results then it would seem logical to rely on this direct measure.

[1] More information about this program can be found on www.sqp.nl

2.2. Use of Different Types of Social Participation

Newton and Montero (2007) identified five different types of social participation: meeting socially, helping behavior, participation in a voluntary organization, conventional political participation and political protest behavior.

We have chosen to make a distinction between two basic types of participation: formal social participation (FP) and informal social participation (IP). The operationalization of Newton and Montero (2007) can be blended into our classification if we classify meeting socially and helping behavior as informal participation, and participation in voluntary organizations as formal participation. We ignore political participation because it tends to be operationalized in different individual actions and we accept the World Bank's[2] stance that political participation (in our case, political actions) is best seen as a dependent variable rather than a part of social participation. This does not hold for participation in a political party which has been included in formal participation.

As mentioned, the distinction between formal and informal participation is well established in the literature. More precisely, informal participation refers to the number of interactions that an individual has with relatives, friends and work colleagues in an informal setting, while formal participation refers to the number of interactions resulting from involvement in established organizations in society.

This idea can be formulated as in Equation (1) by making a distinction between contacts between individuals and those with individuals in different institutions, represented as follows:

$$P_j = IP_j + FP_j = \sum_{i=1}^{n} f_{ij} + \sum_{k=1}^{K} \sum_{i=1}^{m} f_{kij} \qquad (2)$$

where f_{kij} is the number of contacts of person j has with a person i in organization k.

[2] For more detailed information, visit: www.worldbank.org/poverty/scapital

The distinction between informal and formal participation may be seen as a weak operationalization of the distinction between bonding and bridging social contacts, as suggested by Patulny and Svendsen (2007) .

Our next step is to develop efficient measures for formal and informal participation. We start with the measurement of informal participation because this is the simplest measure in the ESS. We devote more attention to the operationalization of formal participation because the part of the questionnaire relating to this concept is rather complex. After these two indices have been developed, we consider whether it makes sense to combine the two indices again in a single measure for the concept of social participation.

2.2.1. Measurement of Informal Participation

In the ESS, a direct question is posed to measure informal participation (IP). Respondents are asked to indicate the frequency with which they meet socially with friends, relatives or work colleagues. The following question[3] is used for this purpose:

How often do you meet socially with friends, relatives or work colleagues?

(1) never
(2) less than once a month
(3) once a month
(4) several times a month
(5) once a week
(6) several times a week
(7) every day

The answers to this question are not directly numerical, but an approximate numerical value can be derived for the response categories. The quality of the

[3] Question C2 in the ESS1

categorical variable informal participation is assessed using SQP (Saris and Gallhofer 2007). We found that the quality is .70 for the Netherlands, .65 for Great Britain and .80 for Germany. There is clearly a difference between the three countries but the quality is quite good and higher than the direct measure of social participation (CJSP) in all three countries.

We predict that this measure will have a strong relationship with the direct measure of social participation (CJSP) because informal participation should be part of the total social participation of a given individual. In round 1 of the ESS[4], the correlation between these variables is .273 in the Netherlands, .351 in Germany and .346 in Great Britain.

We also transformed the ordinal scale into numeric values using the following values for the different categories: 0, 6, 12, 24, 54, 156 and 365 times a year. We expected higher correlations between this numeric variable and the CJSP but neither the numeric scoring nor its log improved the correlations. Hence the categorical variable presented above is used for further analysis.

2.2.2. Measurement of Formal Participation

Formal participation (FP) is approached in the first round of the ESS[5] and the CID by asking respondents to indicate for 12 organizations whether they are "a member", "participate actively" and/or "do voluntary work". The question is presented in Figure 1.

----- **Insert Figure 1 about here** -----

[4] For the ESS data we refer to the ESS website: www.europeansocialsurvey.org/
[5] Questions E1 to E12 in the ESS1

Table 1 indicates the percentage of respondents that are members (Mbr), participate actively (Prt), and/or do voluntary work (vw) in each organization per country.

----- Insert Table 1 about here -----

The percentages of people who are a member, participate, and/or do voluntary work in sports clubs are the highest for all three countries. Intuitively, participation in sports clubs is regarded as different from participation in other organizations. Participation and voluntary work in most organizations are very low except in sports, cultural and religious organizations.

On the basis of these questions many different indices for formal participation can be developed. In the following sections we discuss different possibilities in order to choose the best option based on these data.

2.2.2.1 Direct counting of the positive responses

One possibility, used by Morales (2007), for example, is to count the number of organisations in which the respondent is a member (membership), participates actively (participate) and does voluntary work (voluntary), using the following procedure:

$$IP_j = \sum_{k=1}^{K} x_{kj} \qquad (3)$$

where x_{kj} = 1 or 0, depending on whether person *j* has answered yes or no to the question about the k^{th} organization mentioned in Figure 1. So x_k can represent membership, participation or voluntary work in any of the 12 organizations mentioned.

This approach is in agreement with our way of defining formal participation if it can be assumed that the number of organisations in which a person is active gives a decent estimate of the frequency of the contacts that the person has. These measures

ignore the individual and the organizational variations that may exist in the number of contacts in different organizations.

Thus we expected that these measures might not be highly correlated with the direct measure of social participation (CJSP) discussed above. We found that these correlations were indeed rather low in the three countries. Membership correlated .266 for the Netherlands, .194 for Great Britain, .201 for Germany; participation correlated .220 for the Netherlands, .222 for Great Britain, .185 for Germany; voluntary work correlated .249 for the Netherlands, .130 for Great Britain and .150 for Germany. Given that these correlations are rather low, we looked for alternative approaches to measure formal participation.

2.2.2.2. Use of cumulative scales

It seems reasonable to assume that the variables membership, participation and voluntary work form a cumulative scale (Guttman 1950). The expected response pattern for a cumulative scale is presented in Table 2.

----- **Insert Table 2 about here** -----

There are many other response patterns possible. But if the responses are in agreement with the patterns specified in Table 2 it means that people who participate are also members, and people who do voluntary work are also members and participate actively. We tested these patterns for all organizations using the Mokken scale procedure (Mokken 1971; Mokken 1997) in which the quality of the scales is evaluated by the H coefficient (Molenaar 1991). The H coefficient will be low if many response patterns are found which differ from the expected response patterns presented in Table 2. If the H coefficient is higher than .3 the cumulative scale pattern is accepted. The results with

respect to the scale H coefficient and reliability for these 12 organizations are presented in Table 3.

As shown, all the scale coefficients are above .3. Table 3 also provides the reliability of the scales. All are sufficiently high with few exceptions. Given this result, one can say that membership, active participation and voluntary work form ordinal cumulative scales in every organization. We call this variable 'position in the organization'. Based on the response patterns, the score of each respondent is equal to the total number of yes answers given.

----- **Insert Table 3 about here** -----

The score on the variable position varies from 0 to 3, indicating the role the person plays in the organization. In principal these scores are ordinal because we would expect a participant to be more active than a person who is simply a member, and a volunteer to be more active than a participant.

Assuming that the distance in position is equal so that the ordinal variable can be seen as a metric variable, and assuming a linear relationship, we can present the relationship between the 'position in the organization' (pos) and the 'frequency of participation' (part) by a linear function.

So formal participation *(FP)* of person *j* in organisation *k* can be defined as:

$$FP_{kj} = b_k pos_{kj} \tag{4}$$

and formal participation *(FP)* defined over the different organisations can be defined as:

$$FP_j = \sum_{k=1}^{K} FP_{kj} = \sum_{k=i}^{K} b_k pos_{kj} \tag{5}$$

If we assume that the participation, given a specific position in an organisation, is the same in all organizations ($b_i=b$), it would seem reasonable to fix all b-coefficients equal to 1 so that formal social participation can be computed as the addition of the scores of the positions on all organizations. Using this approach we computed the total score for all respondents. This estimate of FP gives a higher correlation with the direct measure of social participation (CJSP) than the one obtained in the previous section: .308 for the Netherlands, .234 for Great Britain and .219 for Germany. However the increase is slight.

But the assumptions made may be wrong for two reasons. One is that the ordinal scores of the variable positions can not be used in a metric way; the other is that the effect of position on participation may be not the same for all organisations. We consider both assumptions in the sections below.

2.2.2.3. Optimal numeric scores derived using MCA

In order to deal with the first assumption we try to get optimal numeric values for the ordinal scores on the variable position using multiple correspondence analysis (MCA). This approach looks for the numeric values for each variable which maximize the linear relationship between the different position variables and the direct participation variable CJSP. The ordinal position variable has four values, 0 – 3, but non-membership and membership do not indicate participation, while the active participation and the voluntary work variables received very low scores. So one would expect maximally three different scores (non participation, participation and voluntary work), whereas in many cases only two different values were obtained by MCA.

We calculated a score for formal participation using the following formula:

$$FP_j = \sum_{k=1}^{K} optimal(pos_{kj}) \qquad (6)$$

where *optimal(pos$_{kj}$)* is the optimal score for the position of person *j* in organization *k*.

Given the results of MCA, we did not expect any improvement from this approach in the correlation of this direct measure with social participation. This was effectively the case. The correlation with the direct measure CJSP was .261 for the Netherlands, .129 for Great Britain, and .194 for Germany, which was lower than the correlations for the scores from the cumulative scale and even lower than that from the membership variable, which only counts the number of memberships of organisations.

2.2.2.4. Unequal weights derived using SEM

The other possibility is to assume that the position scale is an equal distance scale but that its effect on formal participation is not equal for the different organisations. This can be studied using structural equation modelling (SEM). The specification of the model used is shown in Figure 2.

----- **Insert Figure 2 about here** -----

This model is in line with Equation (5). The model in Figure 2 can be estimated for each country separately, obtaining the different effects for each organization on formal participation. It suggests that the position variables for the 12 different organizations determine the latent variable formal social participation and that this variable contributes to the direct measure of social participation CJSP. It was assumed that the effects of the position variables could be different for the different voluntary organizations while testing for equal effects across countries. This multiple group model was tested using the Weighted Least Squares (WLS) of Lisrel in order to cope with the non-normal distribution of the variables.

For some organizations, non-signifcant effects of the position variables on the latent variable formal participation (FP) were found in all three countries. These effects were found for the following organizations: trade union, professional, science, consumer, humanitarian and environmental. This means that the position variables do not contribute to the formation of a formal participation construct.

These results are consistent across countries and can be explained by looking at the distribution of the variables participation and voluntary work presented in Table 1. In this table we see that for most of the organizations mentioned 'participation' is close to zero and 'voluntary work' even more so. One can be a member of most of these organizations without having any contact with other members or participating in any activities. According to these results, we may say that the latent variable formal participation will only significantly be influenced by activities in some organizations, more specifically in sports, cultural, religious, political party, social club, and other voluntary organizations in all three countries.

In order to estimate the measurement invariance of the position effects variables for the six above-mentioned voluntary organizations across countries we specified a structural model with different effects for different organizations which were restricted to be equal across countries. The effects were again estimated using WLS through Lisrel.

In order to test whether misspecifications were present in the model, we adopted the approach based on Saris, Satorra and Van der Veld (in press) using the program Jrule – Judgment Rule Aid for Structural Equation Models (van der Veld, Saris and Satorra 2008). Using this procedure we found a misspecification in the equality of the effect of sports club on FP across the three countries. This assumption did not hold for the Netherlands. Another misspecification was found for the equality restriction of the

effects of political party. This restriction did not hold for Great Britain. Therefore these effects cannot be restricted to be equal across countries. After these two corrections of the model, the procedure for detection of misspecifications of Saris, Satorra and Van der Veld (in press) using the Jrule program did not indicate any additional misspecifications. The results of the estimation are shown in Table 4.

----- **Insert Table 4 about here** -----

Using the weights presented in Table 4 we calculated a composite score for FP. The correlations between these estimates of FP and the direct measure of social participation (CJSP) are the highest we have obtained so far but still rather low for all three countries: .345 for the Netherlands, .294 for Great Britain and .240 for Germany. These low values may be due to the differences between absolute and comparative judgements because the direct question for social participation is a comparative judgement referring to the different age groups or due to the existence of measurement errors in the two variables. We check for both possibilities in the following sections.

2.2.2.5. Formal participation for different age groups

The direct question for social participation (CJSP) was, *"Compared to other people of your age, how often would you say you take part in social activities?"* If the means for formal participation in different age groups are unequal, a weak correlation with the direct judgement of social participation can be expected. However, as seen in Table 5, the means for the different age groups are not large and indeed not significantly different from each other. Given this result we can not expect any differences by adjusting for the means in the different age groups.

----- **Insert Table 5 about here** -----

2.2.2.6. Correction for measurement error

Our final test was to correct for measurement error. We estimated the reliability of each position variable for each Mokken scale of the voluntary organizations. We used this information to estimate the quality of the composite score of formal participation using the procedure suggested in Saris and Gallhofer (2007). The quality estimates of the composite scores for formal participation were .794 for the Netherlands, .679 for Great Britain and .687 for Germany. If we compute the disattenuated correlations between formal participation and the direct measure of social participation (CJSP) we find a considerable increase in their values: .49 for the Netherlands, .45 for Great Britain and .31 for Germany. This presents a strong indication that correction for measurement error is necessary.

2.2.2.7. Summary of the quality of indicators for Formal Participation

The starting point for assessing the measurement of FP was the set of questions for formal participation used in the CID research and in the ESS. In the previous sections we have tried to establish the best measure for formal participation. The criterion used for the evaluation of the quality was the correlation of the index for formal participation with the direct question of social participation (CJSP). We assume that the index which correlates best with this measure will also be the best indicator for social participation. The results of this exercise are presented in Table 6.

----- **Insert Table 6 about here** -----

First of all, we used the frequencies of positive reactions to questions about membership, participation and voluntary work. The results for these variables are presented in the last three columns of Table 6.

Next we used cumulative scales for positions and calculated optimal scores with MCA for these ordinal scales. Based on these scores we calculated a fourth index using equal weights for the different organizations. The results for this index are in the column headed MCA.

Then we attempted to make an index using unequal weighting for the different organizations. The results for this index are in the third column.

The second column shows the correlations for the index based on the six organizations for which the position variable had a significant effect on formal participation in all countries.

Finally, we corrected this index for measurement error, as presented in the first column. For this index we clearly got the highest correlations with CJSP, hence we have chosen this index as the best possible.

2.3. Combining Informal and Formal Participation to Measure Social Participation

As a final task, we combine the indices of formal and informal participation in order to create the index for social participation. We defined social participation as the weighted sum of informal and formal participations (Equation 5). The quality of a composite score was evaluated following Saris and Gallhofer (2007). The procedure is presented in Appendix 1. The quality of the composite score of social participation is .73 for the Netherlands, .68 for Great Britain and .82 for Germany. This is slightly higher that for CJSP, which according to Section 2.2.1 is .70 for the Netherlands, .65 for Great Britain and .80 for Germany.

The correlation between the two indicators of social participation is .122 in the Netherlands, .202 in Germany and .155 in Great Britain. These correlations are rather low, indicating that the two concepts are quite different. Given this result, the analysis in the following sections is conducted with the index for social participation and the variables formal and informal participation in the model as this allows us to test whether the two components have a different effect on possible dependent variables and whether the index for social participation really makes sense.

3. RELATIONS WITH OTHER VARIABLES

The aim of this section is to estimate the relationships of social participation with other variables mentioned in the literature. We are primarily interested in the effects of the new index of social participation on social trust and political trust but also in its effects on happiness and political action. Additionally, we aim to see how far the new index of social participation is related with age and education. In our introduction we state that these variables have been connected with social participation. The definition, operationalization and the measurement quality for these variables are discussed in Appendix 2.

We start with the most likely model for the relationships indicated above as a first model. This model is presented in Figure 3. In the model we include the variable social participation (as a latent variable) and also its components – informal and formal participation – because we want to test if all effects of these latter variables go through the variable social participation. If it proves not to be the case, one may wonder whether the variable social participation is the proper variable in this context.

----- **Insert Figure 3 about here** -----

The model was tested taking into account measurement error using Lisrel software. In the first step we checked whether the variable social participation (P) had an effect on the outcome variables (happiness, social trust, political trust and political actions). Testing the model following the Saris et al. (forthcoming) procedure, we found some misspecifications. It proved necessary to include direct effects from formal participation on political action, and from informal participation on happiness for the different countries.

Because the direct effects from informal and formal participation on the dependent variables must be added, and the effects of social participation were not significant, there was no basis for a variable called social participation formed by informal participation and formal participation defined above..

Thus a new model was specified with formal and informal social participation affecting separately the dependent variables. In this way we were able to distinguish in a more comprehensive fashion whether the effects on happiness, social trust, political trust and political activities comes through formal or informal social participation.

This new structural model also assumed that the effects of education and age variables on formal and informal participation may exist. The conceptual model is shown in Figure 4.

----- **Insert Figure 4 about here** -----

The model has been estimated for the Netherlands, Great Britain and Germany. The model was the same for all countries. Testing the model, some misspecifications were detected, suggesting additional effects in the different countries. The complete

results of the estimation of the model can be found in Appendix 3. In Table 7 we present the most relevant results with respect to FP and IP.

----- **Insert Table 7 about here** -----

This table clearly shows the different positions in the model of informal and formal participation. Formal participation has much stronger effects on political action than on happiness, while this order is reversed for informal participation. This holds for all three countries analyzed here.

Education has a much stronger effect on formal participation than on informal participation, while this order is reversed for the variable age. This also holds for all three countries with one exception: the effect of age on informal participation in Great Britain.

Another remarkable general observation from this table is that formal as well as informal participation have no significant effect on the variables social and political trust in the Netherlands and Great Britain, while in Germany a significant effect is found for formal participation on political trust, and for informal participation on social trust.

4. CONCLUSIONS

The main concern of our study was to develop a good quality index for social participation for the ESS. Although the ESS contains a single question to assess social participation with reasonable quality, we continued to look for an alternative based on a distinction between informal and formal participation. Ultimately, it made sense to make this distinction because it was shown that these two variables have rather different relationships with other variables: formal participation is more related with political

action and with education, while informal participation is more related with age and happiness. Given these differences in relationships, we favor the separate indices over the combined index for social participation. The results obtained are also in agreement with findings cited in the literature. The two indices have been shown to be of rather high quality. These estimates are summarized in Table 8.

----- **Insert Table 8 about here** -----

In the context of the research on social capital it is interesting to note that almost no relationship has been found between the participation variables and the trust variables. This is not new. Whiteley (1999) and Freitag (2003) report similar findings respectively for Germany and Switzerland. Although we should mention that we found a small but significant effect in Germany, the difference may be due to correction for measurement errors in our case. As Freitag (2003) argues, this contradicts the ideas of de Tocqueville who held that social participation leads to more trust. However, this relationship has been questioned by others. Paxton (1999) makes the point that one can only speak of social capital if social participation and social trust are high and that there does not have to be a relationship between these two variables. This suggests that participation and trust should be seen as formative indicators of social capital, not as reflective indicators (Blalock 1964; Bollen and Lennox 1991).

Although the indices developed for participation are of good quality, they have some limitations. In the ESS, the measurement is based on the frequency of contact. However, one can argue that frequency of contact is neither a necessary nor a sufficient condition for trust between people. It has been observed that people who do not meet frequently can nevertheless have very strong ties, especially those between family

members, and will probably provide help to each other when necessary. Conversely, people who see each other frequently may not necessarily be willing to help each other. This would suggest that one might consider operationalizing participation by a direct measure of contacts with a high level of trust rather than observing these two concepts separately.

Another limitation of the above-specified measures is that they can only be seen as very weak indicators for bonding and bridging relationships. Informal participation in combination with social trust may be a good indicator for bonding relationships. However, formal participation can only be seen as a very weak indicator for bridging relationships. To measure this concept would require far more detailed network measures, as described by Burt (2007). Whether such measures are possible in large-scale surveys is a question which requires further research.

5. REFERENCES

Baum, F. (2000). Social capital, economic capital and power: further issues for a public health agenda. *Journal of Epidemiological Community Health*, 54, 409-410

Blalock, H.M. (1964). *Causal inferences in non-experimental research*. (Chapel Hill, NC: University of North Carolina Press)

Bollen, K.A. & Lennox, R. (1991). Conventional wisdom on measurement: A structural equation perspective. *Psychological Bulletin*, 110, 305-314

Bourdieu, P. (1986). The forms of capital. (In J.G. Richardson (Ed.), *Handbook of Theory and Research for the Sociology of Education* (pp. 241-258). New York: Greenwood)

Burt, R.S. (2000). The network structure of social capital. (In R. Sutton & B. Staw (Eds.), *Research in Organizational Behavior* (pp. 345-423). Staw: JAI Press, Greenwich)

—. (2007). *Brokerage & Closure: An introduction to Social Capital*. (Oxford: Oxford University Press)

Coleman, J.S. (1990). *Foundations of Social Theory*. (Cambridge, MA: Harvard University Press)

Fitzpatrick, K.M. & LaGory, M. (2002). *Unhealthy Places: The Ecology of Risk in the Urban Landscape*. (New York: Routledge)

Freeman, L.C., Borgatti, S.P., & White, D.R. (1991). Centrality in valued graphs: a measure of betweenness based on network flow. *Social Networks*, 13, 141-154

Freitag, M. (2003). Beyond Tocqueville: The origins of social capital in Switzerland. *European Sociological Review*, 19, 217-232

Fukuyama, F. (1995). *Trust: the Social Virtues and the Creation of Prosperity*. (London: Hamish Hamilton)

Granovetter, M. (1982). The strength of weak ties: a network theory revisited. (In P.V. Marsden & N. Lin (Eds.), *Social Structure and Network Analysis* (pp. 105-130). Newbury Park, CA: Sage)

Grootaert, C., Narayan, D, Nyhan Jones, V., & Woolcock, M. (2004). *Measuring Social Capital. An Integrated Questionnaire*. (Washington, DC: World Bank Series, nº 18)

Guttman, L. (1950). The basis for scalogram analysis. (In S.A. Stouffer et al. (Eds.), *Measurement and Prediction. The American Soldier Vol. IV* (pp. 80-87). New York: Wiley)

Halpern, D. (2005). *Social Capital*. (Cambridge: Polity Press)

Hyyppä, M.T. & Mäkki, J. (2003). Social participation and health in a community rich in stock of social capital. *Health Education Research*, 18, 770-779

Kawachi, I., Bruce P.K., Lochner, K., & Prothrow-Stith, D. (1997). Social capital, income inequality, and mortality. *American Journal of Public Health*, 87, 1491-1498

Knack, S. & Keefer, P. (1997). Does social capital have an economic payoff? Across–country investigation. *Quarterly Journal of Economics*, 112, 1251-1288

Lindström, M. (2000). *Social Participation, Social Capital and Socioeconomic Differences in Health-related Behaviours. An epidemiological study*. (Lund: Lund University)

Lindström, M., Merlo, J., & Östergren, P.O. (2002). Individual and neighbourhood determinants of social participation and social capital: a multilevel analysis of the city of Malmö, Sweden. *Social Science & Medicine*, 54, 1779-1791

Lochner, K., Kawachi, I., & Kennedy, B.P. (1999). Social capital: a guide to its measurement. *Health and Place*, 5, 259-270

Mokken, R.J. (1971). *A Theory and Procedure of Scale Analysis with Applications in Political Research.* (New York, Berlin: Walter de Gruyter, Mouton)

—. (1997). Nonparametric models for dichotomous responses. (In W.J. van der Linden & R.K. Hambleton (Eds.), *Handbook of Modern Response Theory* (pp. 351-362). New York: Springer)

Molenaar, I.W. (1991). A weighted Loevinger H coefficient extending the mokken scaling to multicategory items. *Kwantitatieve methoden*, 37, 97-117

Morales, L. (2007). Participación en las Asociaciones. (In M. Torcal, L. Morales, & S. Pérez Nievas (Eds.), *España: Sociedad y Política en Perspectiva Comparada.*, Valencia: Tirant Lo Blanc)

Newton, K. & Montero, J. (2007). Patterns of political and social participation. (In R. Jowell, C. Roberts, & E. Fitzgerald (Eds.), *Measuring Attitudes Cross-Nationally* (pp. 205-237). London: Sage)

Oberski, D. & Saris, W.E. Forthcoming. Political trust and differences in the quality in Europe

Patulny, R. & Svendsen, G.L.H. (2007). Exploring the social capital grid: Bonding, bridging, qualitative, quantitative. *International Journal of Sociology and Social Policy*, 27, 32-51

Paxton, P. (1999). Is Social Capital declining in the United States? A Multiple indicator assessment. *American Journal of Sociology*, 105, 88-127

Putnam, R. (1995). Bowling Alone: America's Declining Social Capital. *Journal of Democracy*, 6, 65-78

—. (2000). *Bowling Alone: The Collapse and Revival of American Community*. (New York: Simon & Schuster)

Rupasingha, A., Goetz, S.J., & Freshwater, D. (2006). The production of social capital in US counties. *Journal of Socio-Economics*, 35, 83-101

Saris, W.E. & Gallhofer, I. (2007). *Design, Evaluation, and Analysis of questionnaires for Survey Research.* (Hoboken, N.J.: Series in Survey Metholodogy, Wiley)

Saris, W.E., Satorra, A., & van der Veld, W. in press. Testing structural equation models or detection of misspecifications? *Structural Equation Modeling. A Multidisciplinary Journal*

Tocqueville, A.de. (1840, 1969 trans). *Democracy in America*. (New York: Mayer, J.P. Doubleday)

van der Veld, W., Saris, W.E., & Satorra, A. (2008). Judgment Rule Aid for Structural Equation models. Version 1.0.7

van Deth, J.W. (2003). Measuring social capital: orthodoxies and continuing controversies. *International Journal of Social Research Methodology*, 6, 79 – 92.

Whiteley, P. (1999). The origins of Social Capital. (In J.W. van Deth, M. Maraffi, K. Newton, & P. Whiteley, *Social Capital and European Democracy* (pp. 25-44). London: Routledge)

APPENDIX 1: Computation of Composite Score Quality

The quality for a composite score can be obtained following Saris and Gallhofer (2007):

$$\text{Quality of x} = 1 - \left[\frac{\sum_{i=1}^{n} \text{var}(e_i)}{\text{var}(x)} \right] \qquad \text{(A1)}$$

where $var(e_i)$ is the error variance of the observed variable and var(x) is the variance for the composite score.

The variance of the measurement error for the observed variables, used in structural equation models to correct for measurement error, can be computed using the known values from quality and the variance of the observed variable as follows:

$$(1 - quality)\,\text{var}(\text{var}_i) \qquad \text{(A2)}$$

where $var(var_i)$ is the variance of the observable variable.

APPENDIX 2: Operationalization of the dependent variables

Political Activities

The term 'political activities' refers to the extent of active participation in political affairs. More precisely, using the ESS questionnaire we can create a composite score, political activities, which represents a combination of conventional and protest actions. In the ESS this is measured by the sum of the participation in different activities. The only information requested is which actions are involved; frequency of activities is ignored.

Conventional forms of action in terms of political activism are measured by asking if the respondent has:

… contacted a politician, government or local government official
… worn or displayed a campaign badge/sticker
… donated money to a political organisation or group

Protest actions are measured by asking if the respondent has:

… signed a petition
… taken part in a lawful public demonstration
… boycotted certain products
… deliberately bought certain products for political, ethical or environmental reasons
… participated in illegal protest activities

Based on these measures, 'political activities' can be defined as an unweighted summated scale, and operationalized as:

$$PA_j = n_{cj} + n_{pj}$$

where n_{cj} = number of conventional actions

n_{pj} = number of protest actions

For the new variable, Political Actions (PA), the quality can be obtained applying Equation (A1). Quality for PA is equal to .72 in the Netherlands, .64 in Great Britain and .726 in Germany.

Happiness or Subjective Well-being

Happiness is measured in the ESS main questionnaire by the following question:[6] "*Taking all these things together, how happy would you say you are?*"

People are asked to express their opinion on an 11-point scale, from extremely unhappy (0) to extremely happy (10).

The quality for this question was estimated using Survey Quality Predictor (SQP) and the quality is .69 in the Netherlands, .74 in Great Britain and .66 in Germany. This result is used in the measurement part for assessing the quality of each indicator. This means that the error variance for this variables can be known from the equation $(1\text{-}Quality_i)^* variance_i$, where (i) refers to happiness.

Political Trust

ESS evaluates political trust by asking questions related to trust in institutions. The question is: *"…on a score of 0-10 how much do you personally trust each of the institutions. 0 means you do not trust an institution at all, and 10 means you have complete trust."*[7]

The items used are trust in the parliament of the specific country, trust in the legal system, and trust in the police. It is evaluated using an 11-point scale from "no trust at all" to "complete trust".

[6] Question C1 in the ESS1
[7] Questions B7, B8 and B9 in the ESS1

The quality of the measures of political trust were obtained from a previous Multitrait Multimethod (MTMM) studies (Oberski and Saris, forthcoming) and the qualities for trust in the parliament are: .825 in the Netherlands, .765 in Great Britain and .791 in Germany. Qualities for trust in legal systems questions are: .882, .774 and 828 respectively, and qualities for trust in the police are: 921, .828 and .874 respectively.

If we are interested in a unique quality measure for political trust, we can obtain it from a composite score using Equation (A1). Then, the quality estimate for political trust is .939 in the Netherlands, .881 in Great Britain and .912 in Germany. In the model specification, the error variance for his variable can be known from the equation $(1\text{-}Quality_i)^* variance_i$, where (i) is each item.

Social Trust

Social trust in the ESS main questionnaire is measured by three items,[8] which examine to what extent people trust others:

"*Using this card, generally speaking, would you say that most people can be trusted, or that you can't be too careful in dealing with people?* "
"*Do you think that most people would try to take advantage of you if they got the chance, or would they try to be fair?*"
"*Would you say that most of the time people try to be helpful or that they are mostly looking out for themselves?*".

For these questions an 11-point scale was used from "less trusty" to "more trusty".

A measure for quality can also be obtained for the three items for social trust. Firstly we estimated a confirmatory factor analysis with structural equation modelling obtaining the measurement error for the three observed variables. From these estimates quality can be obtained by following Equation (A1). Qualities used for social trust are .740 in the Netherlands, .766 in Great Britain and .717 in Germany.

[8] Questions A8, A9 and A10 in the ESS1

Background variables

In our case, we use two indicators for the 'education' variable and one direct indicator for age. The indicators for education are years of full-time education[9] *(How many years of full-time education have you completed? [To be reported in full-time equivalents, including compulsory/mandatory years of schooling]*) and the highest level of education[10] (*What is the highest level of education you have achieved ?*) with a 5-point scale from 01 No qualifications; 02 CSE grade 2-5/GCSE grades D-G or equivalent; 03 CSE grade 1/O-level/GCSE grades A-C or equivalent; 04 A-level, AS-level or equivalent; 05 Degree/postgraduate qualification or equivalent.

[9] Question F7 in the ESS1
[10] Question F6 in the ESS1

APPENDIX 3. Complete results of the analysis of the model in Figure 5

	The Netherlands		Great Britain		Germany	
	Unstandard	Standard	Unstandard	Standard	Unstandard	Standard
Effects of FP on						
Happiness	.17*	.06	.25*	.05	.80*	.16
Political Actions	.47*	.18	2.03*	.50	.91*	.24
Social Trust	-.02	.00	.07	.01	.48	.10
Political Trust	.00	.00	.14	.02	1.01*	.18
Effects of IP on						
Happiness	.21*	.20	.19*	.14	.18*	.14
Political Actions	.07*	.08	-.03	-.03	.06*	.07
Social Trust	-.02	-.02	.01	.02	.13*	.11
Political Trust	.04	.03	.08	.06	.06	.04
Effects of Education on						
Formal Participation	.02*	.18	.01*	.07	.02*	.18
Informal Participation	.02*	.06	.00	.00	.01	.03
Political Actions	.07*	.31	.02*	.05	.11*	.29
Social Trust	---	---	.06*	.14	---	---
Political Trust	---	---	.05*	.10	---	---
Effects of Age on						
Formal Participation	.00	-.02	.00	-.01	-.01	-.03
Informal Participation	-.14*	-.21	.02	.03	-.24*	-.32
Social Trust	---	---	.17*	.21	---	---
Correlated errors between						
Strust with Ptrust	.01	.00	1.14*	.43	.96*	.38
FP with IP	.06*	.14	.08*	.23	.09*	.23
PolAct with Happy	-.11*	-.09	-.12*	-.06	---	---
Strust with happy	---	---	---	---	.66*	.29
Ptrust with happy	---	---	---	---	.70*	.25
Explained variance						
Happiness	.05		.03		.06	
Political Actions	.17		.25		.18	
Social Trust	.00		.05		.03	
Political Trust	.00		.02		.04	

MEASUREMENT OF SOCIAL PARTICIPATION AND ITS PLACE IN SOCIAL CAPITAL THEORY

ABSTRACT

The concept of social capital has become very popular but its definition and measurement are still rather unclear. We frame our study in one of its components, social participation. In this article we develop an optimal measure for social participation based on the questions asked in the first round of the European Social Survey. Our analyses suggest that a distinction has to be made between informal and formal participation because they relate very differently to other variables such as age, education, political action and happiness. We also found that these two types of participation had hardly any relationship with other important components of the social capital construct, such as social trust and political trust. The latter result does not devalue the validity of the developed indices for informal and formal participation but suggests that participation and trust should be considered formative indicators of social capital.

LIST OF FIGURES

Figure 1. Organizations in questions E1-E12 in the ESS1

The next few questions are about the organisations some people take part in.
For each of the voluntary organisations I will now mention, please use this card to tell me whether any of these things apply to you now or in the last 12 months, and, if so, which.
CODE ALL THAT APPLY FOR EACH ORGANISATION

		None	Member	Participation	Vol. work
E1.	Firstly, a sports club or club for out-door activities?				
E2.	an organisation for cultural or hobby activities?				
E3.	a trade union?				
E4.	a business, professional, or farmers' organisation?				
E5.	a consumer or automobile organisation?				
E6.	an organisation for humanitarian aid, human rights, minorities, or immigrants?				
E7.	an organisation for environmental protection, peace or animal rights?				
E8.	a religious or church organisation?				
E9.	a political party?				
E10.	an organisation for science, education or teachers and parents?				
E11.	a social club, club for the young, the retired/elderly, women, or friendly societies?				
E12.	any other voluntary organisation such as the ones I've just mentioned?				

Figure 2. Specification of Formal participation model for the 12 types of organizations

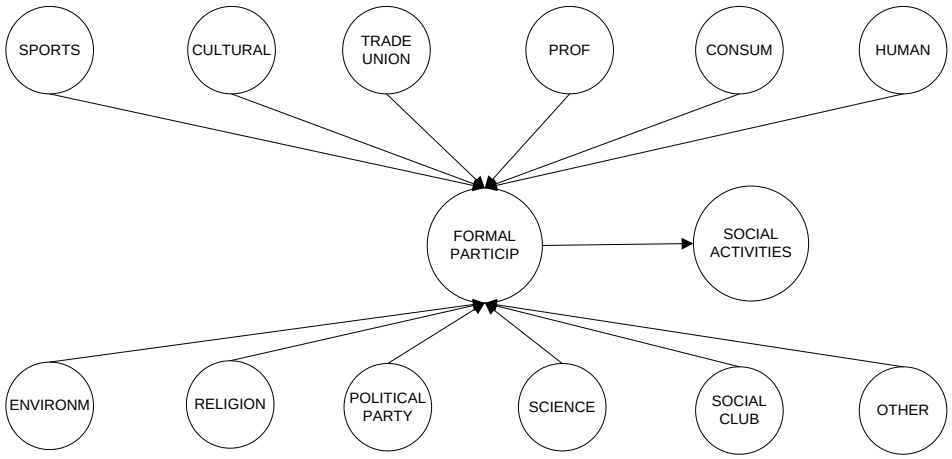

Figure 3. A model indicating the relationships between Social Participation and some other variables

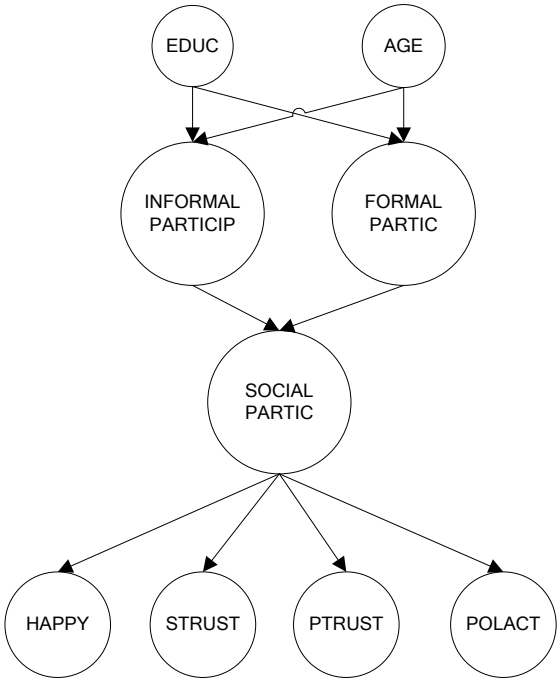

Figure 4. Model composite scores with direct effects from Formal and Informal Participation

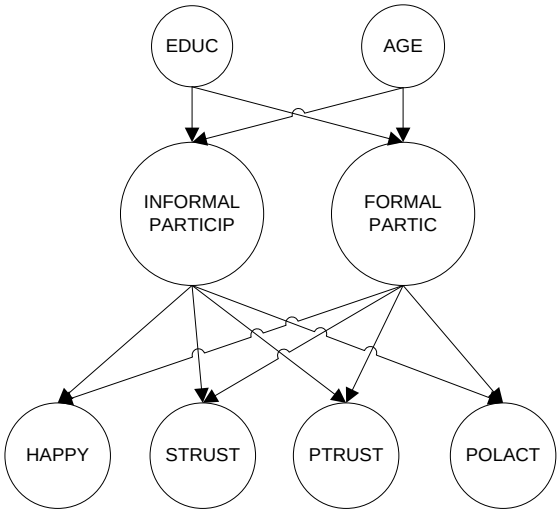

table
Click here to download table: 0908_tables.doc

LIST OF TABLES

Table 1. Percentages for each type of participation in different organizations

	The Netherlands			Great Britain			Germany		
	Mbr	Prt	Vw	Mbr	Prt	Vw	Mbr	Prt	Vw
1.Sports Club	44.3	24.7	12.6	26.1	21.2	5.6	29.6	19.2	10.2
2.Cultural	19.0	11.4	6.4	16.6	16.0	4.8	15.7	13.4	6.9
3.Trade Union	21.9	2.2	0.8	15.0	2.5	0.5	13.9	3.4	1.2
4.Professional	12.9	4.8	1.1	12.7	5.3	1.5	7.9	3.0	1.3
5.Consumer	31.7	1.9	0.4	31.5	2.2	0.2	27.8	1.0	0.2
6.Humanitarian	8.3	1.5	2.6	3.4	2.8	2.1	5.3	2.6	1.7
7.Environmental	20.3	2.1	1.2	6.0	3.2	1.6	5.6	3.2	1.5
8.Religion	26.2	10.0	6.9	14.1	12.6	6.0	17.4	8.1	4.7
9.Political Party	4.8	1.7	0.9	2.9	0.9	0.6	3.1	3.3	2.0
10.Science	9.0	4.7	3.8	6.6	7.4	3.9	5.6	4.3	2.5
11.Social Club	10.6	5.4	3.6	15.8	11.5	4.6	13.2	10.0	4.4
12.Other	11.5	4.2	3.8	4.8	4.2	4.3	6.9	3.5	1.8

Table 2. Expected response patterns for a cumulative scale

Cumulative Scale	**Member**	**Participation**	**Voluntary Work**
0	0	0	0
1	1	0	0
2	1	1	0
3	1	1	1

NOTE.- (0=no; 1=yes).

Table 3. Formal participation: Scale H coefficient and reliabilities.

	Netherlands		**Great Britain**		**Germany**	
	Scale H Coefficient	Reliability	Scale H Coefficient	Reliability	Scale H Coefficient	Reliability
1.Sports Club	.58	.63	.67	.73	.74	.77
2.Cultural	.57	.67	.59	.73	.66	.76
3.Trade Union	.64	.48	.78	.58	.76	.64
4.Professional	.68	.63	.77	.71	.86	.77
5.Consumer	.56	.41	.70	.44	.57	.32
6.Humanitarian	.44	.49	.56	.76	.40	.53
7.Environmental	.43	.39	.59	.65	.47	.58
8.Religion	.75	.74	.77	.84	.74	.75
9.Political Party	.70	.72	.66	.68	.63	.75
10.Science	.52	.66	.55	.70	.62	.75
11.Social Club	.60	.70	.65	.75	.70	.76
12.Other	.60	.70	.50	.71	.74	.75
Composite Reliability		**.85**		**.88**		**.87**

Table 4. Effects of the participations in different voluntary organizations on Formal participation across three countries

	The Netherlands		Great Britain		Germany	
Effects on FP from…	Unstandard	Stand	Unstandard	Stand	Unstandard	Stand
Sports	.31*	.75	.25*	.60	.25*	.60
Cultural	.15*	.33	.15*	.33	.15*	.33
Religion	.05*	.10	.05*	.10	.05	.10
Political party	.05	.05	.37*	.37	.05*	.05
Social Club	.17*	.32	.17*	.32	.17*	.32
Other organizations	.04	.06	.04	.06	.04	.06

* statistical significance at .05 level

Table 5. Means for Formal Participation (6 organizations) of the different age groups

	The Netherlands	Great Britain	Germany
15-20 years	2.20	1.74	2.25
21-30 years	2.28	2.30	1.75
31-40 years	2.23	2.01	1.95
41-50 years	2.26	2.12	2.13
51-65 years	2.81	1.91	2.12
>65 years	2.45	2.07	1.75

Table 6. Correlations between types of formal participation and Comparative Judgment of Social Participation.

	Corrected for errors	Weighted 6 FP	Unweighted Index	MCA	membership	voluntary	participate
Netherlands	.49	.345	.308	.261	.266	.249	.220
Great Britain	.45	.292	.234	.129	.194	.130	.222
Germany	.31	.240	.219	.194	.201	.150	.185

Table 7. The estimates of the most important parameters of the model presented in Figure 5.

	The Netherlands		Great Britain		Germany	
	Unstandard	Standard	Unstandard	Standard	Unstandard	Standard
Effects of FP on						
Happiness	.17*	.06	.25*	.05	.80*	.16
Political Actions	.47*	.18	2.03*	.50	.91*	.24
Social Trust	-.02	.00	.07	.01	.48	.10
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Social Trust	-.02	-.02	.01	.02	.13*	.11
Political Trust	.04	.03	.08	.06	.06	.04
Effects of Education on						
Formal Participation	.02*	.18	.01*	.07	.02*	.18
Informal Participation	.02*	.06	.00	.00	.01	.03
Effects of Age on						
Formal Participation	.00	-.02	.00	-.01	-.01	-.03
Informal Participation	-.14*	-.21	.02	.03	-.24*	-.32

Table 8. The quality of the indices for Informal and formal participation in three different countries where the ESS has taken place.

	Informal Participation	Formal participation
Netherlands	.70	.79
United Kingdom	.65	.68
Germany	.80	.69

NOTE.- The users of the ESS can download the scores of all respondents of these three countries from our website. The scores for the respondents of the other countries can be computed in the same way. This will be done in the near future. One can also derive from these scores on individual level scores on aggregate level. These scores can be used to study the relationships between different variables in the context of the social capital theory on a higher aggregation level.