SOSYOLOJİ ARAŞTIRMALARI DERGİSİ
JOURNAL OF SOCIOLOGICAL RESEARCH

Geliş Tarihi / Submited: 16.12.2022
Kabul Tarihi / Accepted: 18.04.2023

Cilt / Volume 26 Sayı / Issue 1 (Nisan/2023-April/2023) Araştırma Makalesi / Research Article

ISSN/e-ISSN: 2148-9947

MEASURING SOCIAL CAPITAL FOR TURKEY USING TIME-USE SURVEY DATA

Hande Hacımahmutoğlu[26] & İlknur Yüksel-Kaptanoğlu[27]

Abstract

Social capital is referred as one of the factors that influence the place of an individual, a community, or a nation in a given social universe. Hence, the measurement of social capital is significant to understand the differentiation among these places of individuals. In this study, to comprehend the social capital in Turkey, we aimed to measure the social capital of individuals via constructing a composite index. After scrutinizing the data and the indicators used in the former studies in the literature and comparing them with the official and nationally representative data for Turkey, we saw that 2014-2015 Turkey Time-Use Survey presents the most suitable data and it provides information about the structural aspect of social capital. We conducted a factor analysis and found three factors to construct a social capital index, namely everyday sociability, social network support, and cultural sociability. Our findings revealed that the social capital level for women is lower than men, derived from the very high level of everyday sociability of men, while social network support and cultural sociability of women are higher than men.

Keywords: Social capital index, Time-use survey, factor analysis, composite index, Turkey.

[26] Doktora öğrencisi, Hacettepe Üniversitesi, Nüfus Etütleri Enstitüsü, Sosyal Araştırma Yöntemleri Anabilim Dalı, handehmahmutoglu@gmail.com, ORCID: 0000-0001-9533-1811

[27] Doç. Dr., Hacettepe Üniversitesi, Nüfus Etütleri Enstitüsü, Sosyal Araştırma Yöntemleri Anabilim Dalı, ilknury@hacettepe.edu.tr ORCID: 0000-0001-5969-1238

TÜRKİYE İÇİN SOSYAL SERMAYENİN ZAMAN KULLANIMI ARAŞTIRMASI VERİSİ KULLANARAK ÖLÇÜLMESİ

Öz

Sosyal sermaye, bireylerin, toplumların veya ulusların belirli bir sosyal evrendeki yerlerini etkileyen faktörlerden biri olarak görülmektedir. Nitekim, sosyal sermayenin ölçümü de bireylerin söz konusu yerleri arasındaki farklılaşmanın anlaşılması açısından önem taşımaktadır. Bu çalışmayla, Türkiye'de sosyal sermayenin anlaşılması için, bireylerin sosyal sermayelerinin bir birleşik endeks hesaplanması yoluyla ölçülmesi amaçlanmaktadır. Sosyal sermayenin ölçülmesi konusunda literatürde mevcut çalışmalar ile bu çalışmalarda kullanılan veri ve göstergeler incelenmiş ve Türkiye için ulusal düzeyde temsil kabiliyeti olan resmi verilerle karşılaştırılmış, bunun sonucunda 2014-2015 Türkiye Zaman Kullanımı Araştırmasının bu çalışma açısından en uygun veriyi sağladığı ve söz konusu verinin sosyal sermayenin yapısal yönünün ölçülmesini mümkün kıldığı görülmüştür. Çalışma kapsamında yapılan faktör analizi sonucunda, sosyal sermaye endeksi hesaplamak için, gündelik sosyalleşme, sosyal ağ destekleri ve kültürel sosyalleşme olmak üzere, üç faktör bulunmuştur. Analiz sonuçları kadınların sosyal sermaye düzeylerinin erkeklerinkine göre daha düşük olduğunu, bu durumun erkeklerin gündelik sosyalleşme düzeylerinin kadınlara göre daha yüksek olmasından kaynaklandığını, diğer taraftan kadınların sosyal ağ destekleri ve kültürel sosyalleşme düzeylerinin erkeklere göre daha yüksek olduğunu göstermektedir.

Anahtar Kelimeler: Sosyal sermaye endeksi, Zaman Kullanımı Araştırması, faktör analizi, birleşik endeks, Türkiye.

INTRODUCTION

Social capital, accepted to be one of the forms of capital, is regarded as a source that influences the place of individuals, communities, or nations within the social universe. Nevertheless, Bourdieu asserts that "the social world can be conceived as a multi-dimensional space that can be constructed empirically by discovering the main factors of differentiation which account for the differences observed in a given social universe," and to do so, he suggests discovering the social powers which are efficient in the social universe "in the struggle (or competition) for the appropriation of scarce goods" (Bourdieu, 1987, p. 4). He defines these social powers as the forms of capital, in particular as 'economic capital,' 'cultural capital,' and 'social capital, and additionally 'symbolic capital' (Bourdieu, 1986, 1987).

The importance of social capital for individuals, communities, and nations in both the economic and social areas has been discussed for over a half century. Yet quite a several studies have accumulated on this phenomenon. On the other hand, while its definition does not seem complicated, for instance take Bourdieu's, which defines social capital as "consist[ing] of resources based on connections and group membership"; there is still an ongoing debate on the concept.

Social capital context has been conceptualized in different ways and measured with various forms of data. In our previous study, "Social Capital Concept Revisited," we discussed the concept and its aspects, and summarized the methods used to measure social capital based on the existing literature (Hacımahmutoğlu and Yüksel-Kaptanoğlu, 2021). Regarding the former studies in the literature, social capital can be defined as having three components under two groups, which are a) networks as its structural aspect, and b) trust and norms as its cognitive aspect. The data majorly from 'social surveys', 'value surveys', 'time-use surveys', 'GALLUP World Poll', or specifically tailored surveys were used to measure social capital.

In this second study, to understand the social capital in Turkey to the extent possible via quantitative methods, we aimed to measure the social capital of individuals in Turkey by constructing a composite index using official and nationally representative data. Before the analysis phase of the study, we scrutinized the indicators used in the former studies and decided to construct a composite index employing 2014-2015 Turkey Time-Use Survey (TUS) data. The unit of analysis in this study is determined as individuals, and we took into account the individuals 18 years and over, assuming that it is appropriate to consider social capital as an asset for adults. The composite index constructed using the exploratory factor analysis method revealed three sub-indices: everyday sociability, social network support, and cultural sociability. It is seen that these three sub-indices are related to the 'networks' component of social capital. We analysed the difference in social capital levels for women and men according to demographic and socio-economic factors, such as age, education level, marital status, employment, and technology ownership.

1.FORMER STUDIES OF SOCIAL CAPITAL MEASUREMENT

Methodology and data used in the social capital measurement studies are related to the aspects and components defined in relation to the social capital concept and the level of analysis (Hacimahmutoglu and Yüksel-Kaptanoğlu). The three components that are prevalently taken into consideration in the studies of measurement of social capital are "networks", "trust", and "norms", and prominently studied components are "networks" and "trust". Regarding the level of analysis, it is seen that in the previous studies social capital were analysed either individual or national level.

Some studies consider one aspect of the social capital (Costa and Khan, 2002; Patulny, 2003; Stone and Hughes, 2002; Ruston, 2003) while some others consider two aspects (Brehm and Rahn, 1997; Bullen and Onyx, 2005; ; Beugelsdijk and van Schaik, 2005; McAloney, Stringer and Mallett, 2011;Paxton, 1999). Different from the aspect approach, some researchers analyse social capital through forms of social capital: bonding, bridging, and for some researchers, linking social capital. Within this context, Sabatini (2009) focused on bonding, bridging, and linking social capital as the three types of networks, "to draw a new framework for the measurement of social capital" (p. 429). Weaver et al. (2013) analysed the relationship between social capital and economic well-being, endorsing bonding and bridging social capital as the most critical dimensions. Baş (2019) analysed social capital through bonding and bridging social capital, defining bonding social capital as outward-looking, such as one's contact with a broad range of people, view of oneself as part of a wider group, and diffusing reciprocity with a broader community. He defined bridging social capital as emotional support, access to scarce or limited resources, ability to mobilize solidarity, and out-group antagonism.

Several researchers constructed their own questionnaires for social capital measurement (Bullen and Onyx, 2005; Narayan and Cassidy, 2001; Grootaert and van Bastelaer, 2002; Grootaert et al., 2004; Narayan and Cassidy, 2001). They focused on both structural and cognitive groups of aspects: networks, trust, and norms. Grootaert and van Bastelaer (2002) constructed a social capital index to demonstrate that index building is unsuitable for social capital measurement. However, they concluded that "index usage is not appropriate for their [specific] study," but the usage of a multiplicative index is relevant "if the effects of the indicators are thought to interact" (Hacımahmutoğlu and Yüksel-Kaptanoğlu, 2021, p. 150).

Scrivens and Smith (2013) identified four approaches for the measurement of social capital that the former researchers employed: 'personal relationships' and 'social network support,' that are at the **individual level**; 'civic engagement and 'trust and cooperative norms,' that are at the **collective level**. They have compiled a dataset involving the questions defined as being related to social capital from surveys around the world, classifying each question under one of the four approaches. The data set they structured consists of 1,300 questions from more than 50 national and international surveys.

2.METHODOLOGY

Being a highly complicated social phenomenon, social capital is a good candidate to be measured via a composite index. In this regard, we constructed a composite index to understand social capital for Turkey and conducted a factor analysis as it is a prevalently used method in composite index construction.

We reviewed the former research studies to decide on the data source to use in the study. Therefore, we scrutinized the dataset Scrivens and Smith (2013) used, which involves 1,300 questions from previous studies on the measurement of social capital and compared these questions with the ones used in Turkey's official surveys conducted by the Turkish Statistical Institute (Turkstat). After finding 447 matching questions, we simplified the similar ones, reaching a set of 45 questions, all of which belong to the 2014-2015 Turkey Time Use Study (TUS).

Data source

We used the Turkey TUS 2014-2015 that is composed of '*individual questionnaire*', '*household questionnaire, diaries,'* and '*weekly work-chart'*. Except the last one, which includes the individuals who are 15 years old or over, the other questionnaires collect information from individuals who are 10 years old or over. The total number of households and individuals were 9,073 and 25,109, reached respectively between July 2014 and August 2015. In this survey, the guideline of Harmonised European TUS was taken into account, to ensure the international comparability. Within this context, the

'individuals' dataset consists of information regarding their education, health, technology products the individual owned, social participation, voluntary work, help or service to a person living in another household, employment, unemployment, time-use, and elder care. Diaries provide data related to the amount of time that the respondent allocates within a weekday and a weekend day for the activities related to personal care, employment, education, household and family care, voluntary works and meetings, social life and entertainment, sports and nature activities, hobbies and games, mass media, travel, and undefined time-use, as well as where these activities take place and with whom. In this regard, TUS 2014-2015 provides a good scale of information about individual activities, which might be evaluated as the indicators of social relations of the individuals. This informs us about the individuals' social capital from a structural aspect.

Data Analysis

In data analysis, we constructed a composite index and conducted descriptive analysis regarding the differences between women and men according to age, marital status, education, employment, and technology ownership. The steps of composite index construction are explained below.

Step 1: Variable determination

From the 45 questions we reached scrutinizing the OECD social capital dataset, we obtained 45 variables to use in the analysis (See Annex 1 for the related questions). All the variables that were used in the analysis are from the 'individuals' dataset. Since we considered social capital as an asset for only adults in this study, individuals 18 years old or over were included in the analysis. Therefore, the size of the 'individuals' dataset" was reduced to 21,087 individuals who are 18 years old or older.

Step 2: Factor analysis

Factor analysis is one of the grouping methods that is prevalently used in composite index construction (EIGE, 2017, p. 18). It aims to summarize the data to understand its relations and patterns. To do so, it examines the latent variables that explain the interrelationships among the observed variables via regrouping the observed variables and considering the shared variance among those variables (Costello and Osborne, 2005; UCLA, 2016; Yong and Pearce, 2013).

There are two main techniques for factor analysis: exploratory factor analysis (EFA) and confirmatory factor analysis (CFA). EFA aims "to uncover complex patterns by exploring the dataset and testing predictions," while CFA is used "to confirm hypotheses and uses path analysis diagrams to represent variables and factors" (Yong and Pearce, 2013). In EFA, "no specifications are made [initially] regarding the number of common factors or the pattern of relationships between the common factors and the indicators (i.e., the factor loadings)," so it is often used in the early stages of the research (Brown and Moore, 2013, p. 2). On the other hand, in CFA, the number of factors, the pattern of indicator-factor loadings, and "other parameters such as those bearing on the independence or covariance of the factors and indicator unique variances" are specified in advance (Brown and Moore, 2012, p. 3). Considering these issues, we adapted EFA in our analysis.

Before conducting factor analysis, we tested the collinearity between the variables to check whether collinearity problems exist between the variables (Nardo et al., 2005; OECD/EU/EC-JRC, 2008). The correlation coefficients and the variance inflation factor between the variables were analysed, and we saw no major collinearity problem between the variables since all the correlation coefficients are between 0 and 0.382.

Afterwards, we performed EFA to identify the dimensions of social capital. Initially, 16 linear components (factors) were found by using the 45 variables identified among the OECD dataset questions, and the scores of The Kaiser–Meyer–Olkin (KMO) test and total variance explained (TVE) were seen as 0.792 and 47.262%, respectively. After extraction, three factors were identified, and the scores of KMO and TVE were found as 0.749 and 40.192%, respectively. The variables under the three factors were found to be related to everyday sociability, social network support, and cultural sociability, all of which are linked to networks. The eigenvalue of each variable is greater than one, and factor loadings are higher than 0.3.

Table 1. The Factors and Underlying Variables*; and Frequencies of the Variables

Factors	Variables *	Men	Women
Everyday Sociability	Using social media	40.0	24.4
	Visiting a mall	44.3	38.8
	Visiting café-bar	42.1	19.7
	Going to a movie	10.2	8.0
Social Network Support	Helping for shopping	5.7	4.2
	Helping an adult for transport	5.7	2.8
	Helping for utility payment	4.4	1.0
	Helping for health-related issues	1.3	2.3
	Helping a sick or disabled person	1.0	2.1
Cultural Sociability	Going to a concert	2.3	2.1
	Going to an exhibition	1.3	1.5
	Going to a theatre	1.5	1.6
	Going to a ballet show	0.1	0.1

** Activities performed within the last four weeks.*

While using the term 'everyday sociability' (ES), we were inspired by Narayan and Cassidy (2001)' use of the so-called term referring to questions related to the activities people do such as "visit one another, eat outside the home, shop and play games together" (p. 66). For our second factor, we used the term 'social network support' (SNS) regarding the dimensions used in the previous studies such as Scrivens and Smith (2013) and ONS (2011) for unpaid help provided. Moreover, we defined our third factor as 'cultural sociability' (CS) since the activities such as going to a concert or an exhibition imply sociability related to the cultural area (see Table 1).

Step 3: Normalization

Normalization is needed to make the indicators of the index comparable (OECD/ European Union/EC-JRC, 2008). For normalization, we used the re-scaling method and transformed each variable in

$$I_{qc} = \frac{X_{qc} - \min\left(X_q\right)}{max_c\left(X_q\right) - min_c\left(X_q\right)}$$

where $min_c\left(X_q\right)$ and $max_c\left(X_q\right)$ are the minimum and the maximum value of X_{qc} across all the cases (c). After re-scaling the variables, the values of the normalized variables (I_{qc}) range between zero and one.

Step 4: Weighting

Two different weightings were used for the sub-indices. As the first weighting method, we assigned equal weightings for each sub-index, 0.33, and named the first index "Social Capital Index 1". As the second weighting method, we considered the contribution of each factor to TVE, which is 0.388005 for ES, 0.34464 for SNS, and 0.267531 for CS. We named the second index "Social Capital Index 2" (SCI-2).

The factor analysis results show that the two social capital indices (SCIs) have slight differences. On the other hand, we preferred to consider SCI-2 in our evaluations since the weightings it holds were based on the contribution of each factor to the explained total variance.[28] Therefore, in this section, we elaborate on the results of data analysis considering the SCI-2 for women and men according to some demographic and socio-economic characteristics.

Step 5: Comparing Means

In order to test whether there are differences between the SCI-2 scores, as well as the three sub-indices scores for women and men, we have conducted Mann-Whitney U test (MWU test). The reason to use MWU test is that SCI-2 and sub-indices are not normally distributed variables. And MWU test is a non-parametric test that is employed for independent samples when the dependent variable is not normally distributed. We observed that there are significant differences between the SCI-2 scores, as well as sub-indices scores, for women and men.

3.RESULTS

Regarding the demographic characteristics of the sample population, while 26.5% of men are never married, this rate is 17.2% for women; 42.1% of men are either primary school graduates or have an education level less than primary school, while this rate is 59.3% for women. Regarding socio-economic characteristics of the sample, 68.9% of men are employed while this rate is 26.9% for women, 92.4% of men are cell phone owners whereas for women this is 77.2%, and 33.6% of men are laptop owners while this rate is just 20.3% for women (Table 2).

Table 2: Demographic and Socio-Economic Characteristics of Men and Women

Demographic and Socio-Economic Characteristics		Men	Women
Age Groups	18-24	14.6	14.6
	25-29	11.7	11.3
	30-34	12.3	11.8
	35-39	11.3	10.7
	40-44	10.4	10.1
	45-49	8.9	8.4
	50-54	8.4	8.2
	55-59	6.9	6.7
	60-64	5.3	5.4

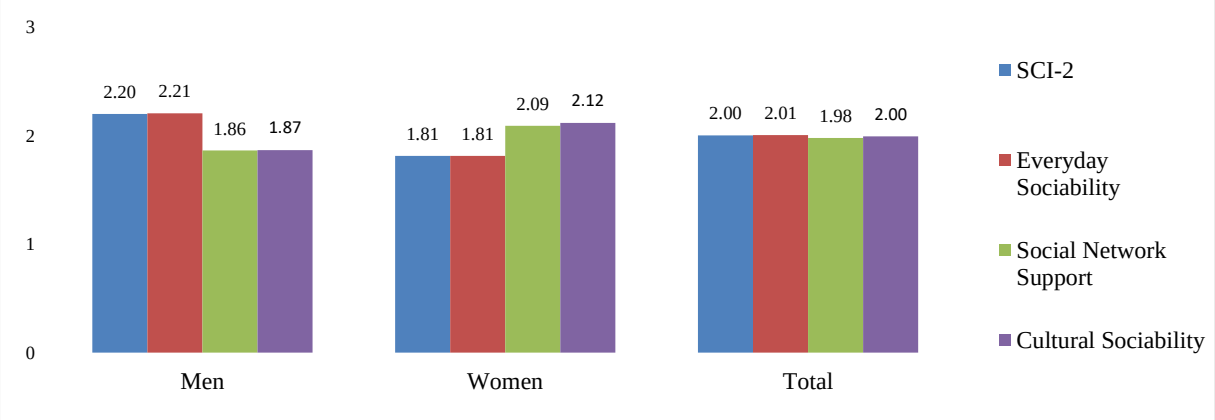
[28] We did the analysis for both SCIs, but presented here the results for SCI-2.

	65 +	10.2	12.8
Marital Status	Never Married	26.5	17.2
	Ever Married	73.5	82.8
Education	Less Than Primary or Primary School Graduate	42.1	59.3
	Primary/Secondary/Vocational Secondary School	17.6	12.5
	High School/Vocational High School	23.2	16.1
	College, University, Master, PhD	17.1	12.2
Employment	Worked last week	68.9	26.9
	Did not Worked last week	31.1	73.1
Technology Ownership	Cell Phone Owner	92.4	77.2
	No Cell Phone	7.6	22.8
	Laptop Owner	33.6	20.3
	No Laptop	66.4	79.7

Considering the frequencies of the variables under the SCI-2, it is seen that men have higher frequency levels for all the variables under ES sub-index and four out of six variables under SNS sub-index. Women have notably higher frequency levels for two out of six SNS variables and slightly higher frequency levels for two out of four CS variables (Table 1). The variables for which men display higher frequencies, such as 'visiting a mall', 'visiting a café-bar', 'going to a movie', 'helping someone other than a household member for shopping', and alike, might imply the higher mobility of men. On the other hand, the two variables that women display notably higher frequencies, which are 'helping someone other than a household member for health issues' and 'helping a sick or disabled person other than a household member', might be in relation to women's traditional roles related to elderly and disabled care in the society.

The SCI-2 score of men is higher than women, deriving from the higher level of ES sub-index (Figure 1). Contrary to ES, women have higher scores for SNS and CS sub-indices.

Figure 1: SCI-2 and Sub-Indices



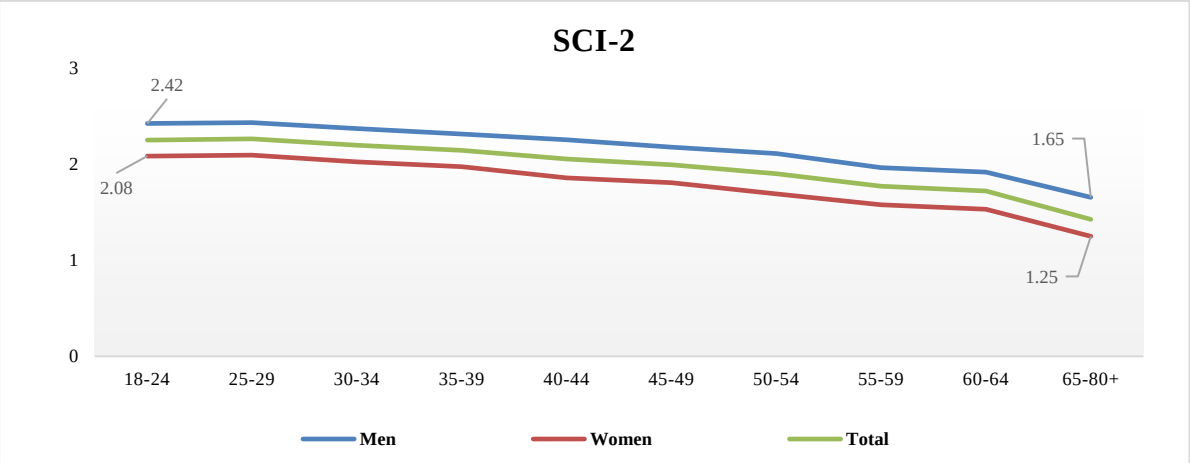
Below we present the differences between women and men regarding their age, marital status, education level, employment, and technology ownership.

Differences based on age

The SCI-2 score decreases while age increases, and the trends are similar for both women and men (Figure 2). The trend in ES sub-index for both women and men reflect the trend in the SCI-2, with

a continuing trend across age groups. Contrary to ES, the SNS sub-index score is higher for women. It increases while age increases, but with a different pace for women and men, except the case for women after the ages of 50-54 where the score slightly decreases. Similar to SNS sub-index, the CS sub-index score is higher for women, and increases while their age increases, in general. But, up to the ages of 30-34 the scores continue to decrease, and afterwards increase almost steadily, with a slightly different pace for women and men. (Annex 2).

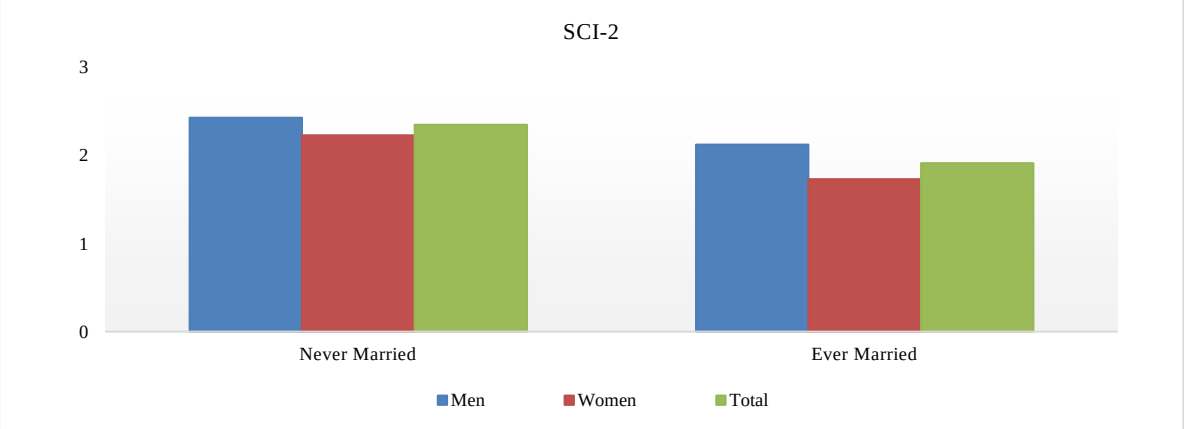
Figure 2: SCI-2 According to Age



Differences based on marital status

Marriage seems to affect social capital adversely, due to negatively affected everyday sociability sub-index, primarily for women. For both women and men, SCI-2 scores are lower for ever-married group, which consists of married, divorced and widowed subgroups (Figure 3).

Figure 3: SCI-2 According to Marital Status

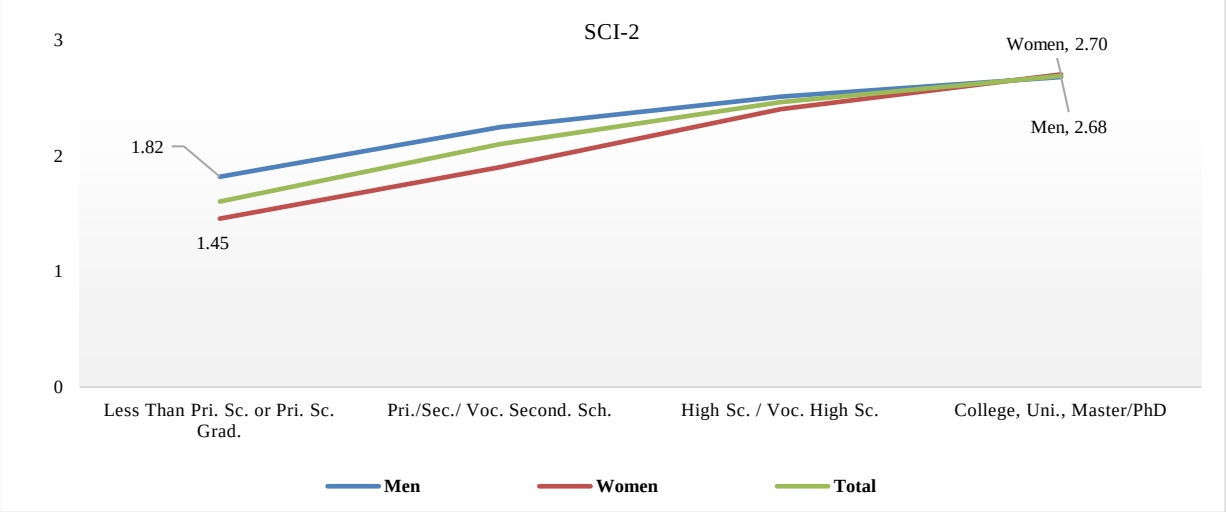


On the other hand, the SNS sub-index scores for ever-married women and men are higher than never-married women and men, men having lower scores for both groups. Regarding the CS sub-index, between never-married and ever-married groups, there is not a notable difference for both women and men, ever-married women and men have slightly higher scores, and men have lower scores. (Annex 2)

Differences based on education level

The SCI-2 scores increase while education level increases, but the pace of increase across education levels differs for women and men (Figure 4). While SCI-2 score for men up to high school education is higher, women catch up with men throughout the higher education levels. At the college or upper levels of education, the SCI-2 score for women is slightly higher than men.

Figure 4: SCI-2 According to Education Level

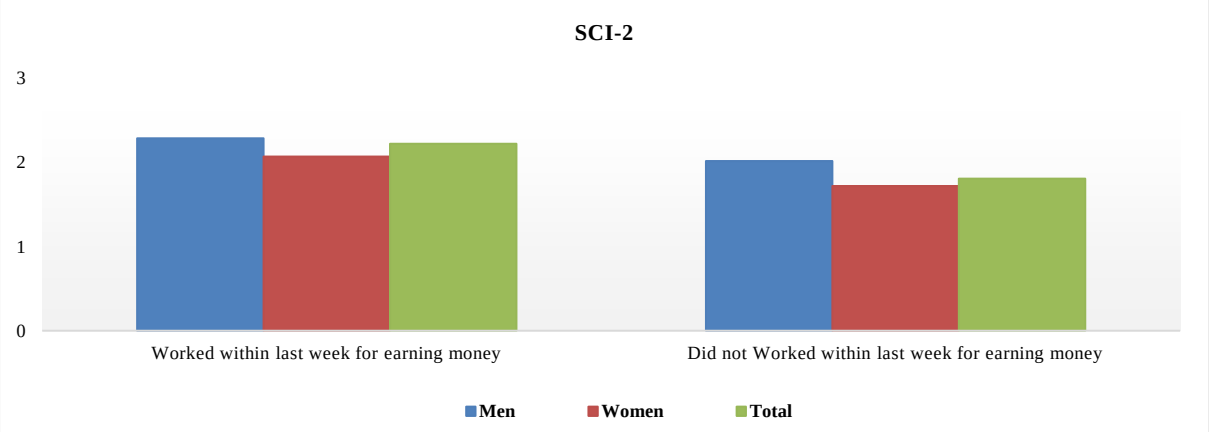


As in the SCI-2 scores, the ES sub-index scores increase while the education level increases for both women and men. This is opposite for the SNS and the CS sub-indices. As the education level increases, the scores of these two sub-indices decrease, and women have higher scores, except for college or higher education level for SNS sub-index. On the other hand, the changes in these two sub-indices are not as steep as the ES sub-index. (Annex 2)

Differences based on employment status

Employment might have a positive effect on social capital, especially for women. Hence, the SCI-2 scores for both women and men who worked last week are higher than the ones who did not work (Figure 5).

Figure 5: SCI-2 and Sub-Indices According to Employment Status



Regarding the ES sub-index, the employed women and men have higher scores. But, contrary to everyday sociability, the SNS and CS sub-indices scores are lower for the employed women and men. (Annex 2)

Differences based on technology ownership

Cell phone and laptop ownership indicators are defined as technology ownership in this study. The two forms of technology ownership appear to positively affect social capital at slightly different paces. Hence, the SCI-2 scores for both technology ownership types are higher than 'non-owners' (Figure 6a and 6b).

Figure 6a: SCI-2 and Sub-Indices According to Cell Phone Ownership

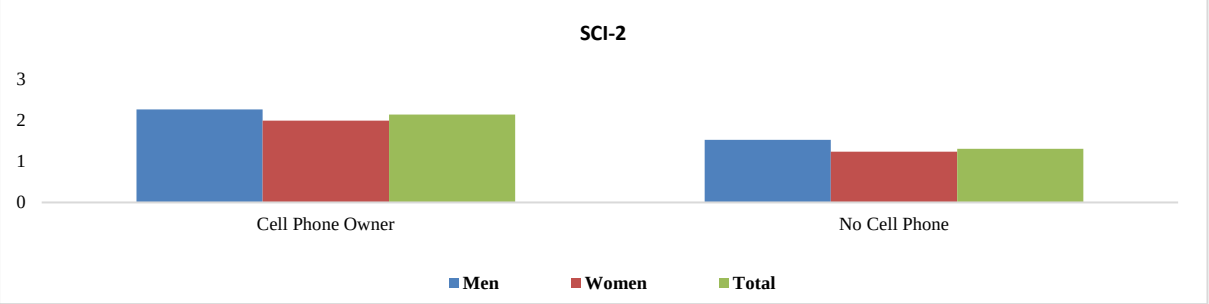
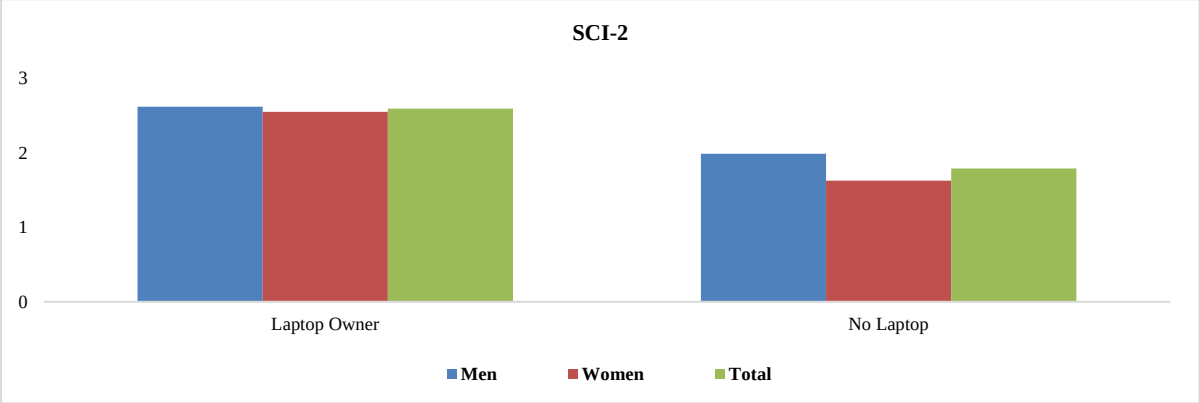


Figure 6b: SCI-2 and Sub-Indices According to Laptop Ownership



Regarding the ES sub-index for both indicators, technology owners have higher scores than non-owners. Regarding the SNS and CS sub-indices, contrary to ES, technology owners have lower scores. (Annex 2)

DISCUSSION

In this study, we measured social capital for the individuals in Turkey by constructing a composite index. We analysed the differences between the social capital levels of women and men and assessed our findings according to their age groups, marital status, education level, employment, and technology ownership. The importance of this study is to analyse social capital in Turkey by using official and nationally representative data. As mentioned before, social capital is a complex phenomenon that, in general consensus, has three components: networks, norms, and trust. However, due to the lack of quantitative data for the trust and the norms components of social capital representing Turkey, we focused on the networks component of social capital in our analysis. This is in line with several former studies which also considered the networks component solely.

As we put forth in our previous study, the former studies on measuring social capital defined and examined social capital differently. Thus, comparing the findings of these studies could not be done straightforwardly. In this section, we discuss the findings of our analysis by comparing our findings with the former studies in which social capital definitions correspond with this study's definition either totally or partially. Then, we assess these findings within the understanding of social capital that this particular literature provides us.

The results of our analysis showed that the average score of SCI-2 is higher for men (Figure 1). ES index has the most decisive influence on SCI-2, SNS index comes next, and the CS index has the lowest influence. Regarding the three sub-indices, we observed that women have a lower average score for the ES index but higher average scores for the SNS and the CS indices. Women's lower SCI-2 score stems mainly from the ES sub-index, which is lower for women.

For both women and men, the groups with higher SCI-2 scores are 18-24 years old, college/university/master/PhD graduate, never married, employed, cell phone and laptop owner. On the other hand the ones with lower scores are 65-80 years old, divorced/widowed, primary school graduate or less, unemployed, have no cell phone or laptop.

When we look at the variables under ES, we see that all variables are related to the activities which might be acted in a mall, one of which is actually 'visiting a mall'. Hence, we think that the fact

that these variables come to the forefront might imply the prevalence of spending time in malls. Indeed, in the current literature, malls are regarded as socialization spaces (Yücel Bourse, 2017). The studies related to the place of malls in social life show that younger people visit the malls more frequently (Dinçer and Dinçer, 2011; Turkan, 2014), which corresponds to our finding related to higher levels of everyday sociability index scores for younger ages (Figure 2).

While several findings of our study correspond to the findings of former studies, there are also highly controversial findings. These differences derive from the diversity of the analysed social capital aspects or components, data scope, sample frame, research place, and such. For instance, our findings strikingly differ from those of Bullen and Onyx (2005), who concluded "social capital is not correlated with demographic variables such as age, gender, etc." for New South Wales. (p. 15) These scholars measure social capital using the data gathered via the questionnaire they developed based on the field study on the five communities of New South Wales, Australia. However, we used Turkey 2014-2015 TUS dataset. Since the frame of the sample, the scope of data, and components of the two studies are different, the differences between our findings are not surprising.

The similarity of our findings to those of the former studies is also complicated. For instance, in his study in the UK, Ruston (2003, p. 10) included visiting friends/relatives, time spent with others on special occasions, and social activities such as going to the cinema as the socialization component of social capital and found that women spend more time for socializing activities than men. Similar to Ruston's finding, Hodgkin (2008, p. 306) found that women's social activities in public spaces, including at a cafe or a restaurant, a social club, a cinema, or a theatre, is higher than men in Australia. Our study included ES and CS components, which have common points with Ruston's and Hodgkin's variables. However, we found that while the ES sub-index is lower for women than men, the CS sub-index is higher for women.

McAloney et al.'s (2011) study in Northern Ireland revealed that women display higher levels of social capital due to their "significantly higher levels of neighbourhood connections, work connections, proactivity, family and friend connections" (p. 120). They explain this as an indicator of women's "greater use of informal and casual networking techniques" and as "a neglected area of community relations processes which tend to largely involve male figures from both communities and exclude women representatives" (p. 120). On the surface, this finding is seen as contradicting ours. However, the statistical analyses we conducted before index calculation using the same data set revealed that women have slightly higher family and friend visit rates.

Ruston (2003) put that helping others is likely to increase with age, and women spend more time helping than men (p. 10). In his study, Patulny (2003) also found a positive relationship between age and volunteering in Australia. These findings are in line with our findings about increasing SNS with increasing age for both women and men, and women's higher score for the SNS sub-index (Annex 2). Costa, et al.'(2022) finding about decreasing "mobility and opportunities to socially interact and form relationships" might also influence the increase in activities related to helping in older ages (p. 2). Correspondingly, helping, which is categorized in the SNS sub-index in this study, and cultural activities, in the CS sub-index, might get even less frequent when an individual works, owns a cell phone or a laptop (Annex 2).

Regarding education, Patulny's (2003) finding about the positive link between higher education and volunteering is in support of our findings. Using various indicators, including 'informal help to others' and 'volunteering,' Van Beuningen and Schmeets (2013) also found that the highly educated

have higher SCI scores in the Netherlands. Their finding about the antagonistic relation between age and index score also correlates with our findings. Regarding employment, Patulny (2003) found that full-time employment displays a negative link with volunteering, which is similar to our finding between employment and SNS (Annex 2).

Former studies have presented notable findings on the features of social capital. For instance, Glaeser et al. (2001) assert that social capital is "highly community-specific" (p. 10), and Hodgkin (2008) found that women have higher scores on informal social participation, which involves visiting family/friends/neighbours (p. 308). However, our dataset does not include data on such issues, and the factor analysis we conducted did not include the relevant variables. In this regard, there are two main issues. First, official data for Turkey does not reveal some textures of social capital. Second, the findings of studies in other countries might not correspond with the patterns in Turkey.

Existing studies on Turkey mostly analyse a specific population segment based on a certain geographic area, an occupation, or another form of specification, while only some of them presents country-wide or cross-country analysis. Several of these studies mention about the differences between women and men related to social capital. For instance, in his study, Erdoğan (2006) focused on trust among the youth and found that types of trust differ for young women and men. Trust for media, army, justice system and police are higher for women, whereas trust for civil society organisations is higher for men. Paksoy and Gül (2019) found that male students display more institutional trust than female students, which is similar to the findings of Toprak and Bozgeyikli (2011). Eşki-Uğuz et al. (2011) point that the network space of the people in Turkey is broad, they generally meet with their relatives and the people from same sex. In his study on the garment manufacturing workers in Batman, Sözbilir (2022) shows that relational social capital levels of the women workers and the married workers are higher than the men workers and the never married workers. On the other hand, Gerşil and Aracı (2011) analysed social capital via trust among the workers and found no significant difference between women and men.

Hence, it is seen that, the measurement studies about social capital in Turkey also display contradicting findings, depending on the sample frame and the analysed aspect or component of social capital, similar to the case among the studies in other countries.

Final Remarks

The differences between the studies for other countries and our study implies that societal and cultural differences might affect the factors that form social capital in diverse ways. On the other hand, we accept the limitations of our data and the methodology we used for interpreting the results. One of these limitations is that this study presents the results for Turkey in general, but the data we employed is not disaggregated in terms of regions and urban-rural classification. However, Turkey is a country with heterogeneous characteristics. Thus, data with urban-rural classification and regional disaggregation would display further insights for Turkey. Second, as Nardo et al. (2005) put it, composite indices cannot evaluate every detail of the relevant concepts but might help to understand the general situation. Nevertheless, we interpret the study's results by taking into consideration the so-called constraint of composite indices. Additionally, in this study, we solely examined a single part of the network's component, namely structural aspect of social capital. Yet, we could not examine this component broadly or observe the trust and norms components, namely cognitive aspect of social capital. Indeed, as mentioned above, there is a lack of official and national data for studying these two aspects.

In conclusion, we believe that a much more comprehensive and detailed study would help to observe all aspects of social capital. Especially a future study with a sample representative at national, regional, and urban-rural levels is crucial to fully understand the social capital of the individuals in Turkey.

Annex 1: Questions from TUS 2014-2015

1. Have you done any voluntary work on behalf of a political group at any time during the last 4 weeks?
2. Are you a member of a non-profit political party?
3. Have you done any voluntary work on behalf of a youth group at any time during the last 4 weeks?
4. Have you done any voluntary work on behalf of an environmental group at any time during the last 4 weeks?
5. Have you done any voluntary work on behalf of a justice/human rights group at any time during the last 4 weeks?
6. Have you done any voluntary work on behalf of a social assistance group at any time during the last 4 weeks?
7. Have you done any voluntary work on behalf of a sports club or association at any time during the last 4 weeks?
8. Have you done any voluntary work on behalf of a religious place at any time during the last 4 weeks?
9. Have you done any voluntary work on behalf of a security or first aid group at any time during the last 4 weeks?
10. Have you done any voluntary work on behalf of a regional solidarity group at any time during the last 4 weeks?
11. Have you done any voluntary work on behalf of an art or hobby group at any time during the last 4 weeks?
12. Have you done any voluntary work on behalf of a vocational solidarity association at any time during the last 4 weeks?
13. Have you done any voluntary work on behalf of an adult education group at any time during the last 4 weeks?
14. Have you done any voluntary work on behalf of a parent-teacher association at any time during the last 4 weeks?
15. Have you done any other voluntary work at any time during the last 4 weeks?
16. Are you a member of a non-profit sports club?
17. Are you a member of a non-profit foundation?
18. Are you a member of a non-profit association?
19. Are you a member of a non-profit trade union?
20. Are you a member of a non-profit professional association or vocational institution?
21. Are you a member of a non-profit cooperative or professional union?
22. Have you visited a relative at any time during the last 4 weeks?
23. Have you gone to a movie at any time during the last 4 weeks?
24. Have you gone to a theatre at any time during the last 4 weeks?
25. Have you gone to a concert at any time during the last 4 weeks?
26. Have you gone to a ballet or opera at any time during the last 4 weeks?
27. Have you gone to an exhibition at any time during the last 4 weeks?
28. Have you gone to an exhibition a charity bazaar, fair, festival etc. at any time during the last 4 weeks?
29. Have you gone to library any time during the last 4 weeks?
30. Have you gone to a sports competition as an audience at any time during the last 4 weeks?
31. Have you visited a friend any time during the last 4 weeks?
32. Have you gone to some other place of entertainment at any time during the last 4 weeks?
33. Have you gone to an internet cafe at any time during the last 4 weeks?
34. Have you spent time in social media at any time during the last 4 weeks?
35. Have you gone to a shopping mall at any time during the last 4 weeks?
36. Have you gone for hiking at any time during the last 4 weeks?
37. Have you gone to a picnic at any time during the last 4 weeks?
38. Have you helped someone who is not a member of your household for transportation at any time during the last 4 weeks?
39. Have you helped someone who is not a member of your household for shopping at any time during the last 4 weeks?
40. Have you helped someone who is not a member of your household for utility payment at any time during the last 4 weeks?
41. Have you helped someone who is not a member of your household for childcare at any time during the last 4 weeks?
42. Have you helped someone who is not a member of your household for sick/elderly/disabled care at any time during the last 4 weeks?
43. Have you helped someone who is not a member of your household for health-related issues at any time during the last 4 weeks?
44. Have you helped someone who is not a member of your household for education at any time during the last 4 weeks?
45. Have you helped someone who is not a member of your household for any other reason at any time during the last 4 weeks?

Annex 2: The Mean SCI-2 and Sub-Indices Scores for Men and Women

Variables		SCI2			Everyday Sociability			Social Network Support			Cultural Sociability		
		M	W	T	M	W	T	M	W	T	M	W	T
Age	18-24	2.42	2.08	2.25	2.47	2.14	2.30	1.51	1.82	1.67	1.83	2.10	1.97
	25-29	2.43	2.09	2.26	2.47	2.12	2.30	1.63	1.91	1.77	1.79	2.00	1.89
	30-34	2.37	2.02	2.20	2.40	2.05	2.23	1.73	2.02	1.87	1.71	1.93	1.82
	35-39	2.31	1.97	2.14	2.33	1.99	2.16	1.86	2.08	1.97	1.70	2.00	1.85
	40-44	2.25	1.85	2.05	2.23	1.82	2.03	1.97	2.21	2.09	1.80	2.09	1.94
	45-49	2.17	1.80	1.99	2.15	1.76	1.96	2.04	2.25	2.15	1.87	2.09	1.98
	50-54	2.11	1.69	1.90	2.06	1.63	1.84	2.06	2.29	2.17	1.91	2.19	2.05
	55-59	1.96	1.58	1.77	1.93	1.53	1.73	2.08	2.28	2.18	2.02	2.21	2.12
	60-64	1.92	1.53	1.72	1.91	1.49	1.70	2.11	2.21	2.16	2.01	2.23	2.12
	65-80+	1.65	1.25	1.42	1.65	1.24	1.42	2.11	2.16	2.14	2.26	2.42	2.35
Marital Status	Never Married	2.42	2.22	2.34	2.47	2.26	2.38	1.54	1.78	1.63	1.84	2.09	1.94
	Ever Married (Married / Divorced / Widow)	2.12	1.73	1.91	2.11	1.72	1.90	1.98	2.16	2.08	1.88	2.12	2.01
Education	Less Than Pri. Sc. or Pri. Sc. Grad.	1.82	1.45	1.60	1.81	1.44	1.59	2.03	2.25	2.16	2.07	2.27	2.19
	Secondary Sch.	2.25	1.90	2.10	2.27	1.94	2.13	1.79	2.11	1.93	1.77	2.06	1.89
	High Sc. / Voc. High Sc.	2.51	2.40	2.46	2.53	2.43	2.49	1.76	1.81	1.78	1.69	1.81	1.74
	College, Uni., Master/PhD	2.68	2.70	2.69	2.69	2.72	2.71	1.68	1.67	1.67	1.72	1.85	1.78
Employment	Worked Last Week	2.28	2.07	2.22	2.29	2.07	2.23	1.84	1.96	1.87	1.80	2.07	1.87
	Did not Worked Last Week	2.02	1.72	1.81	2.02	1.72	1.81	1.91	2.14	2.07	2.03	2.14	2.11
Technology Ownership	Cell Phone Owner	2.26	1.99	2.13	2.26	1.99	2.14	1.85	2.07	1.95	1.83	2.01	1.92
	No Cell Phone	1.52	1.23	1.30	1.52	1.23	1.30	1.98	2.16	2.12	2.30	2.48	2.44
	Laptop Owner	2.62	2.55	2.59	2.64	2.58	2.62	1.70	1.73	1.71	1.66	1.80	1.71
	No Laptop	1.99	1.63	1.79	1.99	1.62	1.78	1.95	2.18	2.08	1.98	2.20	2.10
Total		2.20	1.81	2.00	2.21	1.81	2.01	1.86	2.09	1.98	1.87	2.12	2.00

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