Cultural Participation and Extra Disability and Health Costs of Syrian Migrants in Turkey

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Abstract

Purpose: The effects of disability are well recognised by the social security systems worldwide. This study aims to examine the disability and health-related costs of Syrian migrants in Turkey using the standard of living (*SoL*) approach.

Design/Methodology: The empirical analysis relies on primary data collected from 1,067 Syrian migrants in Turkey, and we apply the ordered Probit model. The *SoL* is operationalized by frequency of attendance to a Turkish theatrical play or movie, inviting Turkish friends for food and attending a theatrical play or movie with Turkish friends.

Findings: The findings show that health problems and disability are negatively related to the frequency of participation in socio-cultural activities. Moreover, employed, wealthier and educated Syrian migrants participate more frequently in the social and cultural activities explored.

Practical Implications: The results show that the costs range between 9-38 per cent, which translates in monetary values between 3,700-10,700 Turkish Liras (TL) per annum or between 530-1,530 US Dollars (USD) expressed in 2020 values. These findings highlight the significant cost and burden that disability and health problems may put in migrant households.

Social Implications: Policies encouraging immigrants to participate in socio-cultural events, particularly those with disabilities and health issues, may promote their integration into the host society's social and cultural values. Furthermore, policies improving employment opportunities, income, and educational attainment of Syrian migrants may enhance their participation in socio-cultural activities.

Originality: This is the first study exploring the disability and health costs of migrants related to integration and participation in cultural activities.

Keywords: Disability and Health Costs; Mental Health; Standard of Living Approach; Syrian Migrants; Socio-Cultural participation

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1. Introduction

Depending on the type and disability severity, households with disabled members and those having health issues incur a significant additional financial burden. Social security systems offer health benefits that are context-specific, should be adjusted for the severity of the disability and the health issue, and are designed to compensate individual short- and long-term costs. Disability and its complex relationships to poverty and well-being have received considerable attention (World Health Organization and World Bank, 2011). References to disability and health in various aspects of the Sustainable Development Goals, notably on inequality, highlight this case.

To achieve and sustain a decent standard of living, individuals who live in households with people with impairments and poor health conditions must designate supplementary resources to those living in non-disabled households. Thus, the existence of a disabled household member has significant implications for poverty. Extra out-of-pocket expenditures for medication, health care services, support with everyday tasks and disability-specific aid equipment are examples of direct costs linked with disability. Direct costs differ from indirect costs, which include foregone economic activities, such as employment, where a household member may reduce the working hours or change the type of work to mitigate and cope with the needs required for the caring of disabled family members.

Three main approaches are used to measure disability and health-related costs, in particular, the direct survey approach (DSA), the expenditure diary approach (EDA), and the standard of living (SoL) approach. The DSA approach derives the economic costs of disability by directly asking the individuals with a disability how much they are willing to spend on specific items associated with the impairment status. The implicit counterfactual is the same individual's expenditures, assuming they did not have a disability. This is an inexpensive and straightforward approach, but one major limitation is that if persons with disabilities are uninformed of specific goods or services that could help them perform more fully in society, they will be overlooked. As a result, is difficult for respondents to report their actual expenditures on needs because the answers often rely on hypothetical expenditures without any recent experience in a non-disability environment, which can further lead to misleading estimates (Berthoud et a., 1993; Mitra *et al.*, 2017).

EDA explicitly evaluates expenses for people with disabilities or poor health conditions and compares them against the expenditures of people without disabilities, with the differential implied as disability or health-related costs. Because they offer a precise measurement of expenditures

connected to persons with disabilities compared to similar expenditures for a sample of people without disabilities, akin to a case-control study, these approaches can improve on some of the measurement concerns left unresolved by DSAs. Using this approach, it is possible to determine where impaired people are most likely to incur additional costs (Stowell and Day, 1983; Berthoud et a., 1993; Jones and O'Donnell, 1995; Martin and White, 1998; Thompson *et al.*, 1998; Wilkinson-Meyers *et al.*, 2010; Mitra *et al.*, 2017).

The third approach is the Standard of Living (SoL), which is based on the question of how much more money a person with a disability would have to spend on all activities to reach the same level of well-being as a person without a disability. The *SoL* method does not require any measurement of expenditure, and it is an indirect way of identifying changes in the relationship between income and well-being, which is referred to as *SoL*. It can be measured in different ways (Mitra *et al.*, 2017), such as material deprivation and asset ownership, ability to face financial burden and housing costs, or life satisfaction, and it is assumed to have a positive relationship with income (Berthoud et a., 1993; Cullinan *et al.*, 2011; Morciano *et al.*, 2015; Decancq and Schokkaert, 2016; Mitra *et al.*, 2017; Ozdamar *et al.*, 2020).

Extra disability and health-related costs are calculated as the additional income needed to maintain the same standard of living as a non-disabled or healthy person, with other sources of variation controlled for using regression analysis. Costs are estimated in aggregate and can be used to account for differences in cost levels due to confounding factors, including the severity of disability and health conditions, life cycle, and household composition (Berthoud et a., 1993; Zaidi and Burchardt, 2005; Cullinan *et al.,* 2011, Morciano *et al.*, 2015; Decancq and Schokkaert, 2016; Mitra *et al.*, 2017; Ozdamar *et al.*, 2020; Giovanis *et al.*, 2022).

2. Socio-Cultural Participation and Disability Costs

The Convention on the Rights of Persons with Disabilities requires governments to ensure all persons with disabilities and health problems can enjoy cultural activities. The aim is to provide access to places for cultural performances, such as galleries, cinemas, and theatres, and grant access to museums, historical sites and monuments of national cultural importance (UN General Assembly, 2007). We aim to estimate the disability and health-related costs of Syrian migrants in Turkey operationalised by participation in socio-cultural activities and identify the inequalities between the disabled and non-disabled. Migrants may face a range of institutional barriers, not only in socio-

cultural activities, such as arts, theatre and cinema, but also in education, health care and the labour market. However, participation in socio-cultural activities may serve as a point of contact among natives, migrants and newcomers, and mainstream institutions. Once these links establish participation in socio-cultural activities can be used to overcome further hurdles to access and encourage integration. The motivation of the study, which is to explore the disability and health costs in terms of socio-cultural participation, lies in the evidence of previous studies. In particular, these types of interactions may promote integration and improve the well-being of migrants, such as happiness, life satisfaction and psychological well-being (Tubadji *et al.*, 2015; Clini *et al.*, 2019; Giovanis, 2021).

Therefore, by estimating these costs, we can identify the inequalities and provide insights into the design of policies that support disabled migrants and those with poor health conditions who face difficulties in accessing socio-cultural activities. Thus, different from earlier studies, we employ the *SoL* approach, where we proxy for the *SoL* using participation in various socio-cultural activities described in the next section. Following the theory of cultural capital and the research by Bourdieu (1984, 1986), we will control for education level, while income is already included in the empirical analysis to estimate disability and health-related costs. Bourdieu argues that wealthier, educated, and people who belong to higher social status tend to participate more frequently in cultural activities, such as visits to museums and attending theatrical plays. This praxis aims to reproduce their social structure and cultural and economic wealth (Bourdieu, 1984, 1986).

However, we should highlight that apart from potential language barriers and limited economic integration faced by Syrian migrants in Turkey or the bounded willingness of Syrian migrants to participate actively, the infrastructure provided may create inequalities and strengthen cultural segregation. According to the European Centre for Cultural Accessibility, cultural funding worldwide does not provide opportunities for participation in cultural activities for millions of older adults with health problems (European Blind Union, 2012). Moreover, funding for prestigious new museums and major extensions offers extremely poor accessibility to people with learning or sensory disabilities even though have invested tens of billions (European Centre for Cultural Accessibility, 2012). Therefore, apart from potential inequalities in the socio-cultural participation between natives and migrants, inequalities can also be identified between disabled and non-disabled migrants.

3. Materials and Methods

3.1 Data

We use a unique data set covering Syrian migrants in Turkey. The survey was conducted by "HIPOTEZ Research and Consultancy," a prominent and reputable Istanbul-based research and consulting firm. Since the company has previously conducted nationally representative surveys in those provinces where Syrians are mostly populated, we preferred to work with this company to implement our survey. The survey was conducted in six provinces with the highest share of the Syrian population. These are: Adana, Gaziantep, Hatay, Mardin, Mersin and Şanlıurfa. We chose the provinces based on information from Turkey's Directorate General of Migration Management (DGMM) (https://en.goc.gov.tr/). Based on the 2021 June data of DGMM, the Syrian population in Hatay, Gaziantep, Şanlıurfa, Mersin, Adana, and Mardin is 26.32%, 21.59%, 20.10%, 12.45%, 11.32%, and 10.51%, respectively. These provinces have the highest Syrian refugee inflows as a share of their population.

The sample of the study is representative of the populations in these provinces. Face-to-face interviews were the primary technique of survey implementation and data collection, where the sample framework was based on the Turkish Statistical Institute (TURKSTAT). As a sample size, 1,067 Syrian citizens were interviewed. The sample size relied on a two-stage sampling. In the first stage, the sampling was stratified by gender, age and a proportional allocation at the province level, and in the second stage, a random sampling from each stratum was chosen.

The recruitment of the participants relied on 1,500 residential addresses randomly provided by TURKSTAT in "HIPOTEZ Research and Consultancy", which are constructed based on the two-stage sampling mentioned above. The surveys were conducted with one individual from each household. The method was door-to-door, where the surveyors visited the respondents at home using the list of the random residential addresses mentioned above. The benefit of this method is that it gathers information among individuals who could be unable to respond through telephone, postal surveys, internet or is difficult to reach a specific location, such as a kiosk in a community centre or grocery store. The answers were recorded on tablets. The aim of having a list of 1,500 addresses was to ensure the sample size would reach 1,067 in the case a participant was absent.

The HIPOTEZ company has requested consent from the participants, which was accordingly granted (For more details, see http://hipotezarastirma.com/). The survey fieldwork began on October 30, 2020, and the field data collection was completed on November 25, 2020. The field application of the study involved one supervisor, eight surveyors, three interpreters, and one field coordinator.

Within the scope of the project, 30 per cent of the data and answers were double-checked over the phone. During the field application, 25 per cent of the interviewers were accompanied. The structure of the questionnaire is divided into three sections: demographics, socio-economic situation, and the year of arrival in Turkey; household and personal income, and socio-cultural awareness, participation, and integration.

We should highlight that the questions and participation in the socio-cultural activities refer to the period before the COVID-19 pandemic. Thus, we do not include the impact of the pandemic crisis on socio-cultural participation since it had an impact on income and employment loss and potentially on living standards and socio-cultural participation. Furthermore, the interviews were conducted during a period when the measures and COVID-19 lockdowns were lifted until they came back into force in late December 2020. Regarding the language of the surveys, the interviews were conducted in Turkish, depending on the respondents' language proficiency, and in Arabic for those who had difficulties understanding and replied in Turkish. In particular, 29.65 per cent replied in the Arabic language and the rest of them were in Turkish. The research team has received support from Turkish academics and interpreters who have confirmed the translation and the validity of the answers provided.

3.2 Methodology

We use the *SoL* approach to identify and quantify the disability and health costs related to the household's welfare and well-being. This approach is used to examine the reduction in *SoL* that disabled people experience as a result of their income. In other words, this approach suggests that the standard of living for both the disabled individual and the household will deteriorate because of the expenditures allocated to disability and health-related expenses. Thus, disabled people can enjoy the same *SoL*, but they require a higher income for that. In Figure 1, we illustrate the theoretical framework of the *SoL* approach (Berthoud et a., 1993; Zaidi and Burchardt, 2005), where S_0 represents the disability *SoL* at income level Y_0 is represented by the curve of the disabled households (D). S_1^D is the *SoL* of households with disabled members, which is equal to S_0^{ND} and denotes the *SoL* of households with non-disabled members (ND) in point B and how much is necessary to spend to *equivalise* the *SoL* of the two types of households, represented by income Y_1 and curve *ND*. Hence, for the households with disabled members to enjoy the same level of *SoL* a higher income Y_1 is needed. Figure 1 tells us that *SoL* rises with income for all households, but for disabled households,

the same income Y_0 results in lower *SoL* at point *C*. Conversely, the same level of *SoL* can be achieved by disabled households if they have a higher income. Therefore, income Y_1 in Figure 1 translates into the same *SoL* levels as income Y_0 for non-disabled households, and the difference of Y_1-Y_0 or the distance AB gives an estimate of the additional costs of disability (Berthoud et a., 1993; Zaidi and Burchardt, 2005; Mitra *et al.*, 2017).

(Insert Figure 1)

The underlying assumption of *SoL* adopted in this paper is that disabled people and households may experience a lower standard of living than non-disabled households with the same income level, resulting from the diversion and allocation of scarce monetary sources to goods and services that are required due to disability. The regression model is:

$$SOL_i = b_1 D_i + b_2 \log(y)_i + b' \mathbf{X} + e_i \tag{1}$$

Where *SoL* denotes the standard of living outcomes, which are the socio-cultural activities for individual *i*, described in the previous section. *D* shows the disability or health status, log(y) is the natural logarithm of the annual household income, and $\mathbf{X}$ is a vector of the control variables presented in the data section. The extra cost of disability is given by the ratio b_1/b_2, which can be also illustrated in Figure 1. The coefficient b_1 is given by the distance between S_0^{ND} and S_0^{D}. Coefficient b_2 shows the slope or the relation of the difference S_0^{ND} and S_0^{D} over the distance $Y_0 Y_1$ or AB. Thus, defining distance as *dist*, we have the following relation:

$$\frac{b_1}{b_2} = \frac{dist(S_0^{ND} S_0^{D})}{(dist(S_0^{ND} S_0^{D}) / dist(Y_0 Y_1))} = dist(Y_0 Y_1) \tag{2}$$

Then to estimate the average disability or health-related costs, we will multiply the ratio (2) by the average household income. As we demonstrated in the data section, we will apply the Ordered Probit model since we have ordered outcomes, which is the frequency of participation in socio-cultural activities. The results derived from the ordered Logit model, and in particular, the marginal effects required to estimate the disability costs, are very similar to those found by the Probit model. Therefore, because of space limitations, we do not report the Logit estimates.

4. Empirical Results

4.1 Summary Statistics

Following previous studies, we collected data on participation in social and cultural activities, including cinema, theatre, and visiting museums and historical sites (Lynch and Allan, 2007; Bodo *et al.*, 2009; Giovanis, 2021). In panel A of Table 1, we report the socio-cultural participation outcomes. The first question is "How often do you visit a museum, public library, historical monument, park or site in Turkey". The second variable is "How often do you invite your Turkish friends to your house for food or drink?". Both questions answer the following six items: *Never*; *Once a year*; *Twice a year*; *Many Times per year but not monthly*; *Monthly*; *At least once a week*.

The other three variables refer to the frequency of participation in a Turkish theatrical play or attending the cinema to watch a Turkish movie. The questions are: "In general, how many times did you attend a theatre to watch a Turkish play?", "How many times did you attend a cinema to watch a Turkish movie?" and "How many times did you go out for a concert, movie, or theatre with Turkish friends?", which refer to their arrival in Turkey, and they answer to the following six items: *Never*; *Only once*; *2-3 times*; *4-5 times*; *6-7 time*; and *8, or more times*, taking values between 0-5.

We should highlight that while there are categories in the socio-cultural participation variables, we report their average, standard deviation as well as minimum and maximum values treating them as continuous variables. However, in the empirical analysis, as we discuss in the next section, we treat them as ordered variables. In most cases, we observe a low frequency of participation. For instance, the frequency of visiting a museum in Turkey or whether the respondent has attended a Turkish theatrical play or movie, ranging between 0 and 1, indicating that the vast majority has either never participated or the participation is very rare. The frequency of inviting Turkish friends to the respondent's home is higher at twice a year on average.

In panel B, we report the summary statistics for the health variables employed to estimate the disability costs. The first variable is the presence of limitations in daily activities due to health problems and it takes three values; 1 for no limitations, 2 for some limited activities and 3 for very limited activities. The second health indicator is the general health status which is an ordered variable measured between 1 (excellent health status) and 5 (very poor health). The average value is almost 2, which shows that on average, the health status of the respondents is good. The last two variables are binary, taking a value of 1 whether the respondents have a physical or mental problem and 0

otherwise. Thus, as we described the binary socio-cultural participation outcomes, the average value shows the proportion of the respondents who report a health problem. Hence, the average value for the physical health problem is 0.1637, and it shows that 16.37 per cent of the sample suffers from a physical health problem, and the remaining 83.63 per cent has not reported any physical health problem. Similarly, 4.6 per cent of the sample suffers from a mental health problem.

In panel C, we report the summary statistics for the continuous and ordered control variables, while in panel D, we present the proportions for the categorical variables. The average age is 34, while the average household income is 28,158. Almost 48 per cent of the sample are males, and the remaining 52 per cent are females, which along with the average age, the distribution is representative of the Syrian population in Turkey (Caro, 2020). The average number of years of residence in Turkey is almost six, and the maximum length of residence is ten years which is around the beginning of the civil war in Syria in 2011, and the refugee crisis followed. Another control variable employed in the empirical work is the proficiency level of the respondent's Turkish language. In particular, we create an index using the fitted values from the principal component analysis on three variables; writing, reading and listening level. These variables take five values between 0 and 4, and in particular, the answers are: not at all; poor; fair; good, and excellent. In Table 1, we observe that the average writing and reading level of the respondents is either no knowledge or poor, while the average level of listening to Turkish is poor or fair. We do not report the index to construct from those variables as the average values derived from this process are always close to zero and the summary statistics do not reveal further information since positive and higher values indicate high levels of language proficiency, while negative values show low language proficiency levels.

The majority of Syrians are married with a religious ceremony at 34.90 per cent and 41.37 per cent is a civil marriage. We emphasize in our sample the marriage classification since in Turkey only civil marriage is recognized. Singles comprise 15.59 per cent of the sample 2.75 of the respondents are divorced or separated, and 5.39 are widowed. The last control variable reported in Table 1 is the education level. We observe that roughly 12 per cent of the sample is illiterate, and 6.3 per cent are literate, but they have not completed an educational attainment level. In the majority, respondents have completed primary or secondary school respectively at 26.76 and 26.28 per cent, followed by high school attainment at 18.82 per cent. Finally, 9.90 per cent has completed a higher education degree that involves an undergraduate or postgraduate degree.

(Insert Table 1)

4.2 Regression Estimates

In Table 2, we report the Ordered Probit estimates for the frequency of visiting a museum, public library, historical monument, park or sites in Turkey. We should notice that we present the full estimates, including the control variables, for the existence of limitations due to health problems. However, for the rest of the disability and health variables, we do not report the estimates since the concluding remarks remain the same and because it is out of the current study's scope. In the first column, the first health variable is the disability measured by the existence of limitations due to health problems. As we mentioned earlier, it takes three values, 1 for no limitations, 2 for some limited activities and 3 for very limited activities. Regressions drop the reference category, which is the first (no limitations), and they estimate the coefficients for the other two categories. Thus, the results should be interpreted as those with some limitations, and respondents with many limitations in daily activities participate less frequently in socio-cultural events. The ratio of the disability-health cost is 18 per cent of the annual household income. This finding translates into monetary values equal to 3,300 Turkish Lira (TL) per annum, and it implies that these households require an additional income of 3,300 TL to reach or equivalise the *SoL* levels with the non-disabled households, which is the reference category of no limitations. The average exchange rate of 1 USD in 2020 was 7 TL. Using this value, the disability-health costs reach 470 USD. However, the disability costs for the second category, which is those with some limitations, are non-significant, implying that these households do not present differences in the *SoL* and more specifically in terms of visits to a museum, public library, and other historical sites in Turkey. Therefore, in this case, we define the non-significance as n.s.

Regarding the control variables, the regression results derived from the Ordered Probit model show that females, those married in a religious ceremony, and older people are less likely to visit a museum or a historical monument in Turkey. These findings are consistent with previous studies (Giovanis, 2021; Bertacchini et al., 2022). In particular, married people and females may face time constraints due to household chores and childcare, common in patriarchal households, such as Syrian migrants, reducing the time available for leisure and participation in socio-cultural activities.

On the contrary, more educated people, and in particular, those who have completed a secondary, high school or higher education level, employed, and those with a higher income, report a higher frequency of participation in the specific cultural activity. This is explained by the cultural capital

theory (Bourdieu, 1984, 1986), and our findings are consistent with previous studies (Giovanis, 2021; Giovanis and Akdede, 2021). More specifically, wealthier and educated people aim to identify peers belonging to higher social classes, reproduce their economic and cultural rights, and participate more often in socio-cultural activities (Bourdieu, 1984, 1986), especially in activities related to attendance at the cinema and theatrical plays. Furthermore, education shapes cultural participation, while economic resources, such as employment and income affect the intensity and frequency of participation (Yaish and Katz-Gerro, 2012; Bertacchini et al., 2022).

The length of residence, Turkish language proficiency and the feeling of belonging to Turkey are all positively related to the frequency of visiting a museum, public library, historical monument, park or site in Turkey and are significant at the 1 per cent level. The literature shows that proficiency in the natives' language and years of residence are positively related to the migrants' adaptation to the social and cultural values of the destination country (Giovanis, 2021; Bertacchini et al., 2022).

Similarly, for the second measure of health problems, which is the general health status, the reference category is excellent status. We find significant coefficients for the three categories of fair health, poor health and very poor health, but not for those who report a good health status. Therefore, the results show no difference in the *SoL* levels and disability costs between those with excellent and good health status. For this reason, we report in the first column of the general health status regression the disability costs for the last three categories.

Syrian migrants who reported fair health status, face significant health costs at 17 per cent of the annual household income, which in monetary value reach 5,080 TL or 725 USD. Respondents with poor and very poor health status report significantly lower frequency of visiting museums, historical monuments and parks in Turkey, respectively, at 23.5 and 25 per cent. These costs translate into monetary values equal to 7,000 TL and 7,150 TL or 1,000 and 1,020 USD per annum. When we consider the physical health problems, the costs reach 16 per cent of the household income, equivalent to 4,500 TL or 645 USD, while we find no significant relationship between mental heal problems and the frequency of participation in this specific socio-cultural activity.

In particular, in the last two rows of Table 2, we present the ratio of the disability-health costs for the physical and mental health problems regressions. As we have described earlier, both variables take a value of 1 for those with physical or mental health problems and 0 otherwise, implying no health problems were reported. In the physical health regression, we found the disability costs equal to 4,500 TL, showing that this is the additional amount required for disabled households to reach the

same level of *SoL*, which is visits to museums and historical sites. Since there is no difference in the *SoL* level between households with a member having a mental health problem and non-disabled households, we define the disability costs as n.s., implying non-significance.

(Insert Table 2)

In Table 3, we report the regression estimates for the remaining socio-cultural activities explored. In panel A, we find insignificant costs, except for those with many limitations in daily activities, reaching 13.2 per cent, which is 3,730 TL or 535 USD per annum. We should highlight that we do not report the rows of the disability and health costs in Table 3 since these are insignificant, to reduce the space. The results show that the frequency of inviting Turkish friends to the house for food or drink is not prevented by health issues. Nevertheless, the physical health question may include respondents with some limitations and those with many limitations in daily activities. Since we find an insignificant coefficient of the respondents with minor or some limitations, we may obtain an insignificant coefficient of the health status and physical health variables as well. For instance, in Table 1, we have shown that almost 16 per cent of the respondents have reported a physical health problem, while those with many limitations in daily activities due to health problems comprise almost 4 per cent of the sample. The concluding remarks derived from the estimated coefficients for the control variables remain the same as those reported in Table 2.

We should notice that in the last four rows of panel A in Table 2, we report the disability-health costs ratio and the monetary values only for the disability regression in column 1. The reason is that the estimated coefficients in the other three regressions, which is the general health status regression and the physical and mental health problems regressions are insignificant. Therefore, the disability costs are also insignificant.

In panel B, we report the estimates for the frequency of attending a Turkish theatrical play. The findings show significant disability costs for those with some limitations in daily activities at 15.5 per cent, equivalent to 4,100 TL or 585 USD per annum. The results are almost double for Syrian migrants with many limitations, at 28 per cent, which reaches 7,900 TL or 1,130 USD. This amount is close to the costs faced by those who reported a very poor health status at 7,250 TL or 1,035. While we find insignificant costs for those with physical health problems, mental health issues are a considerable obstacle to participation in the specific socio-cultural activity, reaching 35 per cent of the household income. In monetary values, the costs are equal to 9,850 TL or 1,405 USD per annum.

In Panel C of Table 3, we present the estimates for the frequency of Syrian migrants' attendance at the cinema to watch a Turkish movie. The costs for mental health problems are similar to those found in panel B, reaching 10,700 TL or 1,530 USD per annum and 10,440 TL or 1,500 USD for those with many limitations in daily activities due to health problems. The last socio-cultural activity explored is the frequency of going out to a concert, movie, or theatre with a Turkish friend. The estimates, in panel D, regarding the limitations due to health problems and general health status are similar to the participation in a Turkish theatrical play or movie. Regarding physical health, the costs are almost 20 per cent of those found in panels B and C, reaching 2,420 TL or 358 USD per annum.

(Insert Table 3)

5. Discussion

The study has emphasized the barriers disabled migrants and people with poor health conditions face in participation in socio-cultural activities. Moreover, the findings highlight the significant costs people with impairments may face to reach the same standard of living levels, expressed by socio-cultural participation, as people without disabilities and with no health problems. To the best of our knowledge, there is no study investigating the disability costs considering migrants, as previous studies consider the total population and do not decompose the analysis by ethnic and racial background. Another contribution of this study is the exploration of disability and health-related costs that vary across the type of disability, physical and mental, and vary across severity.

Furthermore, the standard of living (*SoL*) index is a poverty measure based on material deprivation and financial burden, while in our study, the *SoL* is operationalized by participation in various social and cultural activities. Nevertheless, our findings are consistent with these studies as they found that disability and health problems are negatively related to living standards and a considerable amount of income is required to equivalise the *SoL* of disabled households with the living standards of non-disabled households. In particular, we found that the disability costs range between 3,700-10,700 Turkish Liras (TL) per annum, equivalently at 530-1,530 US Dollars (USD). These costs depend on the disability and health costs measures, and the socio-cultural activity explored.

Even though previous studies use different *SoL* outcomes and do not explore migrants, as mentioned before, they find similar concluding remarks. More specifically, the study by Ozdamar *et*

al. (2020) estimates the health-related costs equal to $2,600 in Turkey. Morciano *et al*. (2015) found in the UK the disability costs are equal to $8,800 per annum, while Cullinan *et al.* (2011) estimated the annual disability costs at $7,200 in Ireland. Zaidi and Burchardt (2005), estimated the disability costs in the UK for low, middle and severe degrees of disability respectively at $2,500, $6,000 and $10,000 per annum. In a recent study, Giovanis et al. (2022) explored people with brain injury in Italy and found that disability costs may reach $21,000 per annum. Nevertheless, this study aimed to estimate the disability and health-related costs in terms of accessibility and participation in socio-cultural activities. These costs show the amount of money Syrian-disabled migrants need to reach the same levels of socio-cultural participation and integration with their non-disabled counterparts. This finding explains the lower disability costs found in our study since socio-cultural participation is a part of living standards or the material deprivation indices employed in the above-mentioned studies. However, as we highlighted earlier, migrants' participation in socio-cultural activities can encourage integration into the host society's cultural and social values and promote social inclusion. This highlights the significance of exploring the health-related costs and the barriers to disabled migrants in socio-cultural participation.

Overall, the results show that disabled people participate less frequently in social and cultural activities. The first explanation of this finding is that persons with impairments are more likely to have limited employment opportunities and lower earning potential, leading to limitations in socio-cultural participation. This is particularly the case where activities are associated with extra costs, such as attendance at the cinema and theatre. Participation is further exacerbated by medical, transportation and other expenses related to disability, which depend on the disability severity (Cullinan et al., 2011; Morciano et al., 2015; Giovanis et al., 2022) Therefore, other members of the family also allocate their income to these special needs that reduce further the living standards and setting more barriers in the participation of social and cultural activities.

The second explanation can be physical barriers and inaccessible content, such as a lack of visual cues for navigation that may exclude people with visual impairments or cues that include only audio provisions that may exclude people with hearing impairments (Guffey, 2015). Furthermore, people with disabilities perceive that stigma is sometimes more difficult to overcome than physical impairments (Ludwig, 2012), including negative attitudes from staff (Mesquita and Carneiro, 2016). Negative perceptions can be further exacerbated against migrants with impairments, as the Syrian migrants explored in this study. In line with these findings, other studies highlight the possible discrimination in the workplace and employment recruitment against disabled people. This

discrimination further deteriorates employment and income opportunities reducing living standards and, thus, potentially limiting participation in social and cultural activities.

According to the World Report on Disability (World Health Organization and World Bank, 2011), people with disabilities and poor health conditions experience various difficulties and barriers in the education, health, and employment domains. Therefore, new inclusive policies must be implemented to counterbalance this situation. The analysis of the exclusion phenomena and disability costs in this study and previous studies is confined to pointing out that particular social groups are underrepresented at times, such as Syrian migrants in Turkey. However, a more thorough examination of why this occurs, as well as the factors that lead to social exclusion, not only those related to poverty, is required. To put it another way, we need to delve deeper into the belief systems and social norms that fuel processes of exclusion.

However, the methods and analysis are not without limitations. First, the empirical analysis relies on cross-sectional data control, implying that we cannot implement a fixed-effects model, and thus, we do not control for the omitted-variable bias and unobserved heterogeneity. Furthermore, we do not include the time dimension, so we cannot track the same person through time as we can with panel data. Second, the findings should be interpreted with caution, as they only demonstrate correlations and cannot be used to establish causality. Third, the location of Syrian migrants may not be random since they relocated to provinces of Turkey that share common borders with Syria[2].

Policies encouraging participation in socio-cultural events may help immigrants integrate into the social norms of the host societies, especially those with impairments and health problems. The findings show that apart from education and income, other significant factors of socio-cultural participation include language proficiency, length of residence and the feeling of belonging to Turkey. Policies should include investments in social inclusion and integration since integration is a multi-faceted and multigenerational process, by nature a long-term process, and potentially costly for people with poor health conditions. This may further improve the subjective well-being of both natives and migrants with additional positive effects on productivity and development (Graham *et al.*, 2004; Wright *et al.,* 2007; Peterson *et al*., 2011; Oswald *et al.,* 2015).

Following the discussion so far, the study has various research implications. First, future studies need to use longitudinal datasets in future applications with rich information on migrants' backgrounds in Turkey and other countries worldwide to examine the disability and health-related

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[2] In the next 3-4 years, we aim to conduct the second wave of the survey, contacting the same people, allowing us to create a panel dataset, and exploring the dynamics of socio-cultural participation and health-related costs.

costs in terms of socio-cultural participation. Second, due to the small sample used in the empirical work and because of space limitations, future studies may extend the analysis across gender, age, and education, as well as across professional classes. An important research implication derived from the results of this study, which are consistent with the findings derived from previous studies, is that standard of living of disabled households is significantly lower than for non-disabled households (Zaidi and Burchardt, 2005; Cullinan et al., 2011; Morciano et al., 2015; Giovanis et al., 2022). This finding has significant research and policy implications for the measurement of poverty.

Moreover, the implications apply to Syrian-disabled migrants who may face additional barriers, not only because of their disability and health status but also because of their migrant status. Also, poverty measured based solely on income will underestimate the needs of migrant households affected by disability. Using the SoL approach and adjusting household data for disability may provide more robust estimates of poverty and the barriers to socio-cultural participation. Thus, while we focus only on the Syrian migrants in Turkey, an investigation into other countries hosting a significant number of Syrian migrants, such as Jordan, Lebanon, Iraq, Egypt and European countries, should be carried out. Nevertheless, is one of the first studies that explores not only the disability costs in a developing country, but also focusses on Syrian migrants.

Another significant aspect is that surveys should record more precise information on disability status. Examples include the EQ-5D, which assesses the health-related quality of life expressed by self-care, mobility, usual daily activities, pain-discomfort and anxiety-depression (EuroQol Group, 1990; Brooks, 1996). Another measure is the SF-12 indicator, which comprises twelve questions measuring eight health domains to assess mental and physical health (Ware *et al.*, 1996; Chariyalertsak *et al.*, 2011). Lastly, while we explored the inter-household costs, future studies may extend the analysis by investigating and estimating the intra-household costs and identifying the inequalities within the households.

Declarations

References

Bertacchini, E., Venturini, A. and Zotti, R. (2022), "Drivers of cultural participation of immigrants: evidence from an Italian survey", *Journal of Cultural Economics*, Vol. 46 No. 1, pp. 57-100.

Berthoud, R., Lakey, J. and McKay, S. (1993), *The economic problems of disabled people*, Policy Studies Institute, London, UK.

Bjørnshagen, V. and Ugreninov, E. (2021), "Disability disadvantage: experimental evidence of hiring discrimination against wheelchair users", *European Sociological Review*, Vol. 37 No. 5, pp. 818-833.

Bodo, S., Gibbs, K, and San, M. (2009), "Museums as places for intercultural dialogue: selected practices from Europe. Network of European Museum Organisations", Available at https://www.ne-mo.org/fileadmin/Dateien/public/service/Handbook_MAPforID_EN.pdf, MAP for ID group. [Accessed on 13 January, 2021].

Bourdieu, P. (1984), *Distinction. a Social Critique of the Judgement of Taste*. London: Routledge, UK.

Bourdieu P. (1986), "The forms of capital", Richardson, J. (Ed.), *Handbook of Theory and Research for the Sociology of Education*. Greenwood, New York, USA.

Brooks, R (1996), "Euroqol: the current state of play", *Health Policy*, Vol. 37 No. 1, pp. 53-72.

Caro, L. P. (2020), "Syrian Refugees in the Turkish Labour Market. ILO Office in Turkey", February, 9, 2020. Available at https://www.ilo.org/wcmsp5/groups/public/---europe/---ro-geneva/---ilo-ankara/documents/publication/wcms_738602.pdf [Accessed on 17 January, 2021].

Chariyalertsak, S., Wansom, T., Kawichai, S., Ruangyuttikarna, C., Kemerer, V.F. and Wu, A.W. (2011), "Reliability and validity of Thai versions of the MOS-HIV and SF-12 quality of life questionnaires in people living with HIV/AIDS", *Health and Quality of Life Outcomes*, Vol. 9 No. 1, pp. 1-9.

Clini, C., Thomson, L. J. and Chatterjee, H. J. (2019), "Assessing the impact of artistic and cultural activities on the health and well-being of forcibly displaced people using participatory action research", *BMJ Open*. Vol. 9 No. 2, e025465.

Cullinan, J., Gannon, B. and Lyons, S. (2011), "Estimating the extra cost of living for people with disabilities", *Health Economics*, Vol. 20 No. 5, pp. 582-599.

Decancq, K. and Schokkaert, E. (2016), "Beyond GDP: Using equivalent incomes to measure well-being in Europe", *Social Indicators Research*, Vol. 126 No. 1, pp. 21-55.

European Blind Union (2012), "EBU Access to Culture Survey 2012: Mapping current levels of accessibility to cultural venues and activities in Europe", European Blind Union (EBU)",

Summary Report, Paris, France, Available at http://www.kulttuuriakaikille.fi/doc/research_and_reports/SUMMARY-REPORT-OF-THE-EBU-Access-to-Culture-Survey-2012-and-EBU-call-for-action.pdf [Accessed on 12 February, 2022].

European Centre for Cultural Accessibility (2012), "Discrimination in Access to Culture against People with a Disability and Older People in Need of Care", Case Study: France – May 2012 Study Report. European Centre for Cultural Accessibility (ECCA). Paris, France, Ehttps://www.cemaforre.asso.fr/downloads/autonomic_2012/peac_ecca/ECCA_discrim_EN.pdf. [Accessed on 17 December, 2021].

EuroQol Group (1990), "Euroqol- a new facility for the measurement of health-related quality of life", *Health Policy*, Vol. 16 No. 3, pp. 199-203.

Giovanis, E. (2021), "Participation in socio-cultural activities and subjective well-being of natives and migrants: evidence from Germany and the UK", *International Review of Economics*, Vol. 68, No. 4, pp. 423-463.

Giovanis, E. and Akdede, S. H. (2021), "Integration Policies in Spain and Sweden: Do They Matter for Migrants' Economic Integration and Socio-Cultural Participation?" *Sage Open*, Vol. 11 No. 4, pp. 1-16.

Giovanis, E., Menon, M. and Perali, F. (2022), "Disability specific equivalence scales: a case–control approach applied to the cost of acquired brain injuries", *International Journal of Health Economics and Management*, 1-30. Vol. ahead-of-print No. ahead-of-print, https://doi.org/10.1007/s10754-022-09332-x.

Graham, C., Eggers, A. and Sandip, S. (2004), "Does happiness pay? An exploration based on panel data from Russia", *Journal of Economic Behavior and Organization*, Vol. 55 No. 3, pp. 319-342.

Guffey, E. (2015), "The Disabling Art Museum", *Journal of Visual Culture*, Vol. 14 No 1, pp. 61-73.

Jones, A. and O'Donnell O. (1995) "Equivalence scales and the costs of disability*". Journal of Public Economics*, Vol. 56 No. 2, pp. 273-289.

Ludwig, E. (2012), "Stigma in the arts: How perceptual barriers influence individuals' with disabilities participation in arts organizations", *The Journal of Arts Management, Law, and Society*, Vol. 42 No. 3, pp. 141-151.

Lynch, H. and Allan, J. (2007), "Target Practice? Using the Arts for Social Inclusion", *International Journal of Education & the Arts*, Vol. 8 No. 12, pp. 1-21.

Martin, J, and White, A. (1998), "*The financial circumstances of disabled adults living in private households*", HMSO: London, UK.

Mesquita, S. and Carneiro, M. J. (2016), "Accessibility of European museums to visitors with visual impairments", *Disability & Society*, Vol. 31 No. 3, pp. 373-388.

Mitra, S., Palmer, M., Kim, H., Mont, D. and Groce, N. (2017), "Extra costs of living with a disability: A review and agenda for research", *Disability and Health Journal*. Vol. 10 No. 4, pp. 475-484.

Morciano, M., Hancock, R. and Pudney, S. (2015), "Disability Costs and Equivalence Scales in the Older Population in Great Britain", *Review of Income and Wealth*, Vol. 61 No. 3, pp. 494-514.

Oswald, A.J, Proto, E. and Sgroi, D. (2015), "Happiness and productivity", *Journal of Labor Economics*, Vol. 33 No. 4, pp. 789-822.

Ozdamar, O., Giovanis, E. and Samuk S. (2020), "Household disability costs and living standards in Turkey: evidence from a health reform", *International Journal of Social Economics*, Vol. 48 No. 2, pp, 318-333.

Peterson, S. J., Luthans, F., Avolio, B.J, Walumbwa, F.O. and Zhang, Z. (2011), "Psychological capital and employee performance: A latent growth modeling approach", *Personnel Psychology*, Vol. 64 No. 2, pp. 427-450.

Stowell, R. and Day, F. (1983), "Tell me what you want and i'll get it for you- a study of shopping when disabled", The Disablement Income Group Charitable Trust. London, UK.

Thompson, P., Buckle, J. and Lavery, M. (1998), "Being disabled costs more than they said", Disablement Income Group. Charitable Trust. London, UK.

Tubadji, A., Osoba, B. J. and Nijkamp, P. (2015), "Culture-based development in the USA: culture as a factor for economic welfare and social well-being at a county level", *Journal of Cultural Economics*. Vol. 39 No. 3, pp. 277-303.

UN General Assembly (2007), "Convention on the Rights of Persons with Disabilities", Resolution Adopted by the General Assembly, 24 January 2007, A/RES/61/106, available at: https://www.refworld.org/docid/45f973632.html [accessed on 7 May 2021].

Ware, Jr, J E, Kosinski, M. and Keller, S.D. (1996), "A 12-Item Short-Form Health Survey: construction of scales and preliminary tests of reliability and validity", *Medical Care*, Vol. 34 No. 3, pp. 220-233.

Wilkinson-Meyers, L., Brown, P., McNeill, R., Patston, P., Dylan, S. and Baker, R. (2010), "Estimating the additional cost of disability: beyond budget standards", *Social Science & Medicine*, Vol. 71 No. 10, pp. 1882-1889.

World Bank and World Health Organization (2011), "World Report on Disability", World Health Organization, Geneva, https://www.who.int/disabilities/world_report/2011/report.pdf.

Wright, T.A., Cropanzano, R and Bonnett, D.G. (2007). "The moderating role of employee positive well-being on the relation between job satisfaction and job performance", *Journal of Occupational Health Psychology*, Vol. 12 No. 2, pp. 93-104.

Yaish, M. and Katz-Gerro, T. (2012). Disentangling 'cultural capital': The consequences of cultural and economic resources for taste and participation. *European Sociological Review*, Vol. 28 No. 2, pp. 169-185.

Zaidi, A. and Burchardt, T. (2005), "Comparing Incomes when Needs Differ: Equivalization for the Extra Costs of Disability in the U.K.", *Review of Income and Wealth*, Vol. 51 No. 1, pp. 89-114.

Standard of Living (SoL)

Non-Disabled Households (ND)

Disabled Households (D)

$S_1^D = S_0^{ND}$

A   B

C

S_0^D

Household Income

Y_0 Y_1
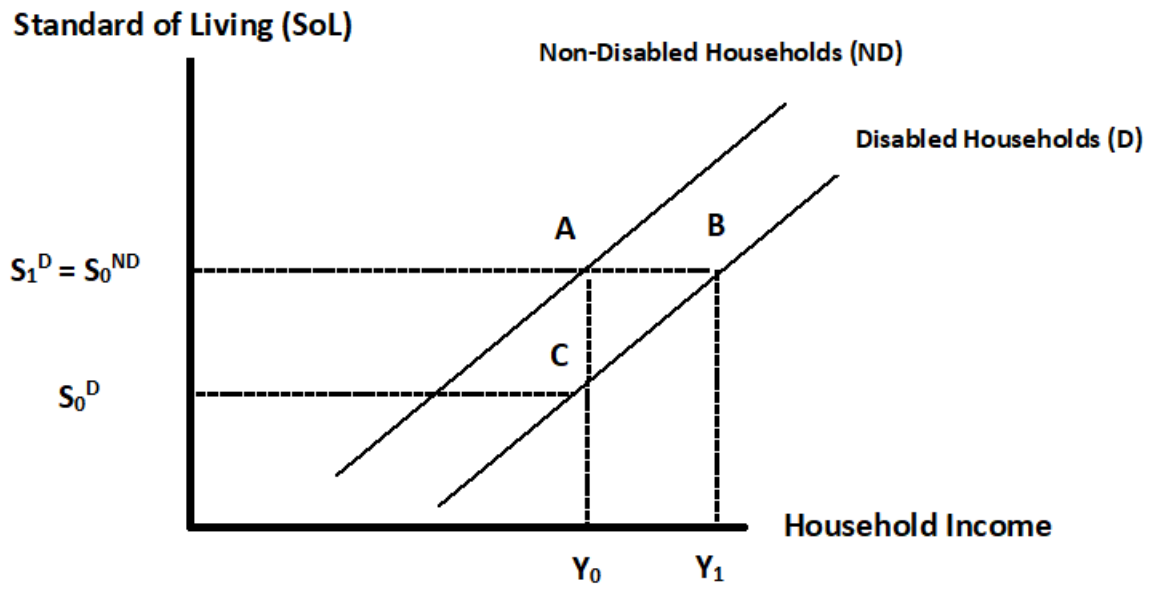
Fig 1. The standard of living approach

Table 1. Summary Statistics

Panel A: Socio-Cultural Participation				
	Average	Standard Deviation	Minimum	Maximum
Frequency of visiting a museum, public library, historical monument, park or sites in Turkey	0.6566	1.1238	0	5
Frequency of inviting Turkish friends to house for food or drink	1.5032	1.9965	0	5
Frequency of attending a theatre to watch a Turkish play	0.0851	0.4592	0	5
Frequency of attending a cinema to watch a Turkish movie	0.2282	0.7718	0	5
Frequency of going out for a concert, movie, or theatre with Turkish friends	0.0944	0.4870	0	5
Panel B: Health Variables				
Existence of limitations due to health problems	Proportion	Number of Participants		
Yes, very limited	4.12	43		
Yes, limited	7.76	83		
No	88.12	941		
	Average	Standard Deviation	Minimum	Maximum
General Health Status	1.9990	0.9660	1	5
Existence of Physical Health Problem (Yes)	0.1637	0.3702	0	1
Existence of Mental Health Problem (Yes)	0.0460	0.2097	0	1
Panel C: Continuous and Ordered Control Variables				
	Average	Standard Deviation	Minimum	Maximum
Age	34.406	12.481	18	70
Annual Household Income	28,158.4	16,790.93	1,800	160,000
Years of residence in Turkey	5.9794	2.0016	0	10
I feel like I belong to Turkey	3.1215	0.8515	0	4
Level of writing Turkish	0.5088	0.9629	0	4
Level of reading Turkish	0.5656	1.001	0	4
Level of listening Turkish	1.4303	1.2325	0	4
Panel D: Categorical Control Variables				
Gender		**Education**		
Male	48.24	Illiterate	11.96	
Female	51.76	Not illiterate but no diploma	6.28	
Marital Status		Primary school	26.76	
Single	15.59	Secondary school	26.28	
Married-Civil	41.37	High school	18.82	
Married -Religious	34.90	Higher Education	9.90	
Separated-Divorced	2.75	**Employed-Working**		
Widowed	5.39	Yes	38.17	
		No	61.83	

Table 2. Ordered Probit Regression Estimates for frequency of visiting a museum, public library, historical monument, park or sites in Turkey

Variables	Estimated Coefficients of the Disability Regression	Variables	Estimated Coefficients of the Disability Regression
Existence of limitations due to health problems (Reference Category-No)		Turkish Language Proficiency	0.1637*** (0.0435)
Existence of limitations due to health problems (Yes limited)	-0.0330 (0.1614)	**Education Level (Reference Category-Illiterate)**	
Existence of limitations due to health problems (Yes, very limited)	-0.2435** (0.1143)	Not illiterate but no diploma	-0.1998 (0.1868)
Annual Household Income	0.1769** (0.0866)	Primary school	0.2212 (0.1533)
Gender (Female)	-0.2812*** (0.0891)	Secondary school	0.2958** (0.1474)
Age	-0.0112** (0.0046)	High school	0.3226** (0.1490)
Marital Status (Reference Category-Singles)		Higher Education	0.6864* (0.3574)
Married-Civil	-0.0013 (0.1003)	No. Observations	1,020
Married -Religious	-0.4324*** (0.1385)	Wald Chi-Square Test	241.31 [0.000]
Separated-Divorced	0.0980 (0.2769)	Disability-Health Costs Ratio (Yes Limited)	n.s.
Widowed	0.2319 (0.2735)	Disability-Health Costs Monetary Values (Yes limited)	n.s.
Working (Yes)	0.2382** (0.1039)	Disability-Health Costs Ratio (Yes, very Limited)	18%
Years of residence in Turkey	0.0995*** (0.0222)	Disability-Health Costs Monetary Values (Yes, very limited)	3,300 TL
I feel like I belong to Turkey	0.1858*** (0.0532)		

Table 2 (Cont.) Ordered Probit Regression Estimates for frequency of visiting a museum, public library, historical monument, park or sites in Turkey

Variables	Estimated Coefficients of the General Health Status Regression	Estimated Coefficients of the Physical Health Problems Regression	Estimated Coefficients of the Mental Health Problems Regression
General Health Status (Reference category Excellent)			
General Health Status (Good)	-0.4372 (0.2986)		
General Health Status (Fair)	-0.3482* (0.1905)		
General Health Status (Poor)	-0.4641*** (0.1613)		
General Health Status (Very Poor)	-0.4799*** (0.1005)		
Existence of Physical Health Problem (Yes)		-0.2360* (0.1389)	
Existence of Mental Health Problem (Yes)			-0.0491 (0.1744)
Annual Household Income	0.1712** (0.0882)	0.1633* (0.0875)	0.1679** (0.0877)
No. Observations	1,067	1,067	1,067
Wald Chi-Square Test	161.51 [0.000]	150.05 [0.000]	150.39 [0.000]
Health Status Costs Ratio (Good)	n.s.		
Health Costs Monetary Values (Good)	n.s.		
Health Status Costs Ratio (Fair)	17%		
Health Costs Monetary Values (Fair)	5,080 TL		
Health Status Costs Ratio (Poor)	23.5%		
Health Costs Monetary Values (Poor)	7,000 TL		
Health Status Costs Ratio (Very Poor)	25.0%		
Health Costs Monetary Values (Very Poor)	7,150 TL		
Disability-Health Costs Ratio		16.0%	n.s.
Disability-Health Costs Monetary Values		4,500 TL	n.s.

Robust standard errors within the parentheses, p-values within the brackets, n.s. denotes non-significance.

Statistical tests include the *t-statistic* for testing the significance of the regression coefficients and the *Wald Chi-Square test* for testing whether the regression model is significant.

***, ** and * indicate significance respectively at the 1%, 5% and 10% level.

Table 3. Ordered Probit Regression Estimates for Participation in Socio-Cultural Activities

Panel A: Frequency of inviting Turkish friends to house for food or drink				
Variables	**Disability Regression**	**General Health Status Regression**	**Physical Health Problems Regression**	**Mental Health Problems Regression**
Existence of limitations due to health problems (Yes limited)	-0.2655 (0.1989)			
Existence of limitations due to health problems (Yes, very limited)	-0.2881* (0.1618)			
General Health Status (Good)		-0.0019 (0.0938)		
General Health Status (Fair)		-0.0528 (0.1428)		
General Health Status (Poor)		-0.1787 (0.2098)		
General Health Status (Very Poor)		-0.1607 (0.3885)		
Existence of Physical Health Problem (Yes)			-0.0169 (0.1084)	
Existence of Mental Health Problem (Yes)				-0.2945 (0.2255)
Annual Household Income	0.2072** (0.0826)	0.1977** (0.0831)	0.1901** (0.0828)	0.1991** (0.0830)
No. Observations	1,067	1,067	1,067	1,067
Wald Chi-Square Test	244.43 [0.000]	238.41 [0.000]	235.75 [0.000]	235.88 [0.000]
Disability-Health Costs Ratio (Yes, limited)	n.s.			
Disability-Health Costs Monetary Values (Yes, limited)	n.s.			
Disability-Health Costs Ratio (Yes, very limited)	13.2%			
Disability-Health Costs Monetary Values (Yes, very limited)	3,730 TL			
Panel B: Frequency of attending a theatre to watch a Turkish play				
Variables	**Disability Regression**	**General Health Status Regression**	**Physical Health Problems Regression**	**Mental Health Problems Regression**
Existence of limitations due to health problems (Yes limited)	-0.5357** (0.2578)			
Existence of limitations due to health problems (Yes, very limited)	-4.1751*** (0.3603)			
General Health Status (Good)		-0.1779 (0.3156)		
General Health Status (Fair)		-0.2715 (0.1694)		
General Health Status (Poor)		-0.4923 (0.3634)		
General Health Status (Very Poor)		-3.8999*** (02498)		
Existence of Physical Health Problem (Yes)			-0.2548 (0.2160)	
Existence of Mental Health Problem (Yes)				-0.6133*** (0.2101)
Annual Household Income	0.3893** (0.1744)	0.4009** (0.1727)	0.3707** (0.1702)	0.3803** (0.1719)
No. Observations	1,067	1,067	1,067	1,067
Wald Chi-Square Test	1,492.33 [0.000]	1,428.31 [0.000]	998.94 [0.000]	1,139.32 [0.000]
Disability-Health Costs Ratio (Yes, limited)	14.5%			
Disability-Health Costs Monetary Values (Yes, limited)	4,100 TL			
Disability-Health Costs Ratio (Yes, very limited)	28.0%			
Disability-Health Costs Monetary Values (Yes, very limited)	5,140 TL			
Health Status Costs Ratio (Very Poor)		25.5%		
Health Costs Monetary Values (Very Poor)		7,290 TL		
Disability-Health Costs Ratio			n.s.	35.0%
Disability-Health Costs Monetary Values			n.s.	9,850 TL

Table 3 (Cont.) Ordered Probit Regression Estimates for Participation in Socio-Cultural Activities

Panel C: Frequency of attending a cinema to watch a Turkish movie				
	Disability Regression	**General Health Status Regression**	**Physical Health Problems Regression**	**Mental Health Problems Regression**
Existence of limitations due to health problems (Yes limited)	-0.0144 (0.2511)			
Existence of limitations due to health problems (Yes, very limited)	-4.1361*** (0.1795)			
General Health Status (Good)		-0.0552 (0.1206)		
General Health Status (Fair)		-0.2810 (0.4014)		
General Health Status (Poor)		-0.3255 (0.2755)		
General Health Status (Very Poor)		-0.6057* (0.3142)		
Existence of Physical Health Problem (Yes)			-0.1041 (0.0955)	
Existence of Mental Health Problem (Yes)				-0.4948** (0.2469)
Annual Household Income	0.1641* (0.0867)	0.1809* (0.0942)	0.1823* (0.0951)	0.1796** (0.0929)
No. Observations	1,067	1,067	1,067	1,067
Wald Chi-Square Test	1,986.81 [0.000]	485.26 [0.000]	241.31 [0.000]	379.25 [0.000]
Disability-Health Costs Ratio (Yes, very limited)	40.5%			
Disability-Health Costs Monetary Values (Yes, very limited)	7,500 TL			
Health Status Costs Ratio (Very Poor)		23.0%		
Health Costs Monetary Values (Very Poor)		6,600 TL		
Disability-Health Costs Ratio			n.s.	38.0%
Disability-Health Costs Monetary Values			n.s.	10,700 TL
Panel D: Frequency of going out for a concert, movie, or theatre with Turkish friends				
	Disability Regression	**General Health Status Regression**	**Physical Health Problems Regression**	**Mental Health Problems Regression**
Existence of limitations due to health problems (Yes limited)	-3.9377*** (0.3501)			
Existence of limitations due to health problems (Yes, very limited)	-4.1473*** (0.2342)			
General Health Status (Good)		-0.1011 (0.1814)		
General Health Status (Fair)		-0.3495 (0.3870)		
General Health Status (Poor)		-4.1329*** (0.2561)		
General Health Status (Very Poor)		-4.8855*** (0.3468)		
Existence of Physical Health Problem (Yes)			-0.1857* (0.0966)	
Existence of Mental Health Problem (Yes)				-0.2471* (0.1281)
Annual Household Income	0.3624** (0.1791)	0.3581** (0.1689)	0.3648** (0.1752)	0.3696** (0.1745)
No. Observations	1,067	1,067	1,067	1,067
Wald Chi-Square Test	1,638.48 [0.000]	1,543.28 [0.000]	1,487.93 [0.000]	1,401.06 [0.000]
Disability-Health Costs Ratio (Yes, limited)	14.0%			
Disability-Health Costs Monetary Values (Yes, limited)	3,950 TL			
Disability-Health Costs Ratio (Yes, very limited)	21.8%			
Disability-Health Costs Monetary Values (Yes, very limited)	4,000 TL			
Health Status Costs Ratio (Poor)		11.0%		
Health Costs Monetary Values (Poor)		3,280 TL		
Health Status Costs Ratio (Very Poor)		36.5%		
Health Costs Monetary Values (Very Poor)		10,440 TL		
Disability-Health Costs Ratio			9.0%	n.s.
Disability-Health Costs Monetary Values			2,530 TL	n.s.

Robust standard errors within the parentheses, p-values within the brackets, n.s. denotes non-significance. Statistical tests include the *t-statistic* for testing the significance of the regression coefficients and the *Wald Chi-Square test* for testing whether the regression model is significant.
***, ** and * indicate significance respectively at the 1%, 5% and 10% level.