



Do the effects of disadvantage reduce or deepen over lifetime? INEQUALITIES in SELF RATED HEALTH and DISABILITY in the TURKISH population

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Background



- ▶ Health in old age is greatly determined by the patterns of living, exposure and opportunities throughout life.
- ▶ The extent and nature of health inequalities change over the life course.
- ▶ The claim that inequalities are greatest in middle age and weaker at older populations is debated.

Social construction of the society

- ▶ The elderly face a physical and mental decline which has social and economic consequences.
- ▶ This burden of aging may be diminished or worsened by the social construction of the society.
- ▶ This construction brings upon constraints or opportunities. A problematic or problem-free ageing depends on the continuation, deepening or reducing of inequalities from earlier periods of life.

INDIVIDUAL



**HEALTH
BURDEN**

SOCIETY



The “family” changed

- ▶ In the modernization process, the family changed as a consequence of rapid industrialization and urbanization.
- ▶ By “development”, the burden of care for the elderly shifted from families to the state or other formal organizations.

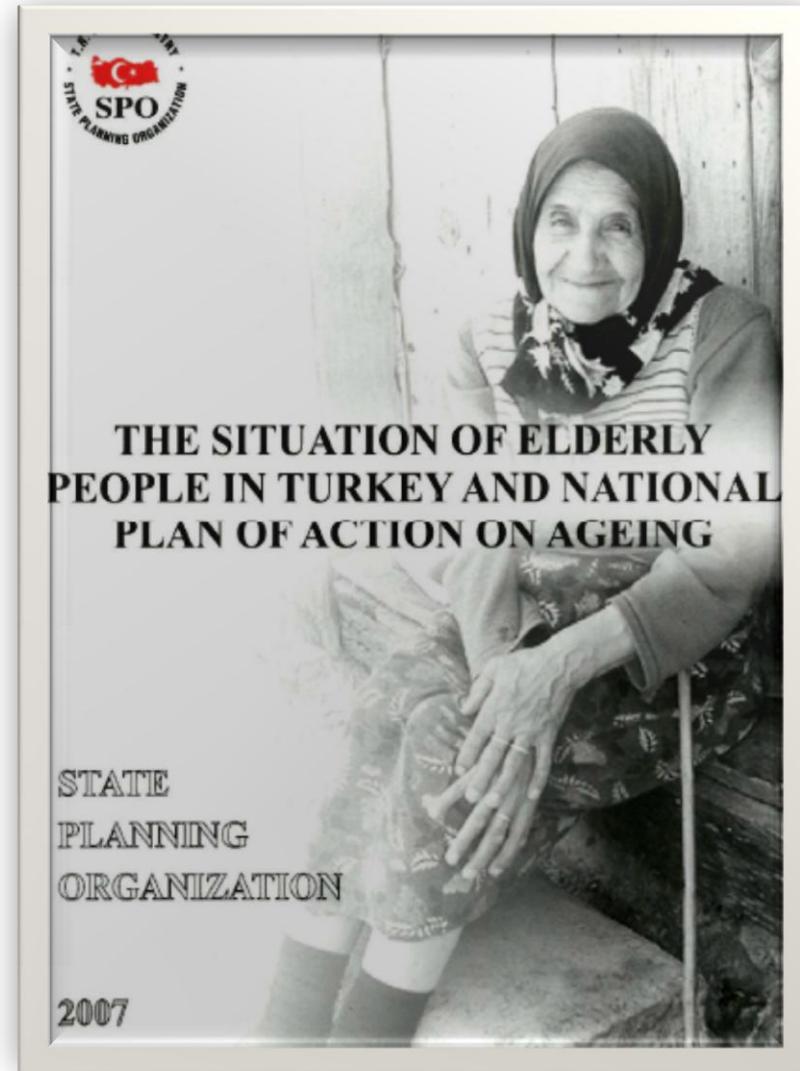


The same for developing countries?

- ▶ For developing countries while the concept of family was subject to change, these economies lacked sufficient support for the elderly or the family.
- ▶ Older people were caught between the forces of the economy and the changing family structures.



- ▶ 16 million elderly in 2050 – aging an alarming issue in Turkey,
 - problems about sufficient data
 - low research interest on health inequalities.
- ▶ *“the attachment between family members is still strong in Turkey.”*



Are they really protected from the effects of inequalities?

- ▶ If this is the situation; the elderly may be expected to be protected socially although they lack state based welfare protection.
- ▶ Thus this paper aims to test the hypothesis that;
 1. The elderly in Turkey are protected from the effects of inequalities (education, wealth, urban/rural residence and region), considering their health and disability status.
 2. The health inequalities in elderly population in Turkey are as large as they are in the middle-aged population.

Objectives

- ▶ To define the
 - regional,
 - educational,
 - wealth and
 - Urban/rural inequalities for
- ▶ **self rated health** and **disability** among young and old populations in Turkey.

Method

- ▶ The official data of 2002 World Health Survey
 - Household face-to-face survey
 - Individual and household questionnaires
 - 10791 adults above the age of 20
- ▶ ***Self Rated Health***: perception of their health
 - ranging from “very good” to “very bad”
 - Dichotomized as: Very bad/bad *vs.* Moderate/good/very good
- ▶ ***Disability***. inabilitys in five areas (mobility, self care, cognition, interpersonal activities, vision) within the last 30 days were used.
 - 1 to 5(1:none, 5: extreme) were added to define the Disability score.
Dichotomized: 1-20 and below *vs.* 21 and above

- ▶ **Residence:** Urban/rural
- ▶ **Five Regions** of Turkey : West, Mediterranean, Middle, Black Sea and East.
- ▶ **Education:** years of education: 0-4, 5-7, 8-10 and 11+ years
- ▶ **Wealth:** Household assets(Eleven wealth items):8-11 (highest), 6-7 (second highest), 5 (middle), 4 (second lowest) and 0-3 (lowest).

- ▶ Multilevel logistic regression was used to estimate differences for these the two dependent variables (**SELF RATED HEALTH** and **DISABILITY**)
- ▶ according to residence, region, education and wealth.
- ▶ Younger and older age groups (<50 and ≥ 50) and two sexes.

Results

- ▶ In the elderly population, an **increased effect of education** and a **decreased effect of wealth** were seen when compared with the inequalities in the younger groups.
- ▶ Urban/rural differences did not exist.
- ▶ Regional differences arose for women especially for the East, Black Sea and Middle.



DISABILITY MEN

| | Men (Below 50 Years) | | | | | | Men (Above 50 years) | | | | | | |
|------------------|----------------------|---------------|------------|--------|----------------|--------|----------------------|--------|---------------|--------|-----------|----------------|--|
| | N | Age control § | | | Full control § | | | N | Age control § | | | Full control § | |
| | | OR | 95% CI | OR | OR | 95% CI | OR | 95% CI | OR | 95% CI | OR | | |
| Residence | | | | | | | | | | | | | |
| Urban | 1494 | 1,00 | - | 1,00 | - | 1,00 | 801 | 1,00 | - | 1,00 | - | 1,00 | |
| Rural | 1532 | 1,11 | 0,81-1,54 | 1,077 | 0,78-1,50 | 1,077 | 796 | 1,27* | 1,01-160 | 1,20 | 0,94-1,53 | 1,20 | |
| Region | | | | | | | | | | | | | |
| West | 923 | 1,00 | - | - | - | - | 504 | 1,00 | - | 1,00 | - | 1,00 | |
| Med | 375 | 0,62 | 0,31-1,25 | 0,56 | 0,28-1,14 | 0,56 | 237 | 0,89 | 0,61-1,32 | 0,77 | 0,51-1,15 | 0,77 | |
| Middle | 449 | 1,27 | 0,75-2,14 | 1,09 | 0,64-1,85 | 1,09 | 244 | 1,54* | 1,08-2,20 | 1,23 | 0,84-1,79 | 1,23 | |
| Black | 367 | 0,97 | 0,53-1,79 | 0,98 | 0,53-1,82 | 0,98 | 201 | 1,06 | 0,71-1,59 | 0,92 | 0,61-1,40 | 0,92 | |
| East | 912 | 1,96** | 1,31-2,93 | 1,40 | 0,91-2,15 | 1,40 | 411 | 1,63* | 1,20-2,21 | 1,17 | 0,85-1,61 | 1,17 | |
| Education | | | | | | | | | | | | | |
| 8+ | 1479 | 1,00 | - | 1,00 | - | 1,00 | 381 | 1,00 | - | 1,00 | - | 1,00 | |
| 5-7 years | 1377 | 2,90** | 1,95-4,32 | 2,34** | 1,52-3,58 | 2,34** | 823 | 2,67** | 1,84-3,88 | 2,12** | 1,43-3,14 | 2,12** | |
| 0-4 years | 170 | 7,01** | 4,08-12,03 | 4,38** | 2,39-8,03 | 4,38** | 393 | 5,40** | 3,63-9,03 | 3,52** | 2,29-5,40 | 3,52** | |
| Wealth | | | | | | | | | | | | | |
| Highest wealth | 749 | 1,00 | - | 1,00 | - | 1,00 | 276 | 1,00 | - | 1,00 | - | 1,00 | |
| Second Highest | 1162 | 1,24 | 0,73-2,11 | ,956 | 0,55-1,65 | ,956 | 578 | 1,58* | 1,03-2,42 | 1,27 | 0,82-1,95 | 1,27 | |
| Middle | 408 | 2,67** | 1,51-4,72 | 1,803 | 0,99-3,27 | 1,803 | 321 | 2,21** | 1,41-3,46 | 1,61* | 1,00-2,58 | 1,61* | |
| Second Lowest | 283 | 3,45** | 1,88-6,35 | 1,934* | 1,01-3,71 | 1,934* | 172 | 3,57** | 2,19-5,82 | 2,24* | 1,33-3,76 | 2,24* | |
| Lowest | 424 | 4,20** | 2,47-7,15 | 1,882* | 1,03-3,45 | 1,882* | 249 | 5,10** | 3,24-8,01 | 2,81** | 1,72-4,59 | 2,81** | |

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DISABILITY WOMEN



Women (Below 50 Years)

Women (Above 50 years)

| | N | Age control \$ | | | Full control \$ | | | N | Age control \$ | | | Full control \$ | | |
|------------------|------|----------------|-----------|--------|-----------------|--------|-----------|------|----------------|------------|--------|-----------------|--------|------------|
| | | OR | 95% CI | OR | OR | OR | OR | | OR | 95% CI | OR | OR | OR | OR |
| Residence | | | | | | | | | | | | | | |
| Urban | 2148 | 1,00 | - | 1,00 | - | 1,00 | - | 912 | 1,00 | - | 1,00 | - | 1,00 | - |
| Rural | 2241 | 1,06 | ,89-1,26 | 1,042 | 0,87-1,24 | 1,042 | 0,87-1,24 | 867 | 1,14 | ,94-1,38 | 1,20 | 0,98-1,47 | 1,20 | 0,98-1,47 |
| Region | | | | | | | | | | | | | | |
| West | 1432 | 1,00 | - | 1,00 | - | 1,00 | - | 598 | 1,00 | - | 1,00 | - | 1,00 | - |
| Med | 533 | ,608* | 0,43-0,85 | 0,61* | 0,43-0,85 | 0,61* | 0,43-0,85 | 270 | ,97 | ,72-1,32 | 0,86 | 0,63-1,18 | 0,86 | 0,63-1,18 |
| Middle | 725 | 1,12 | ,87-1,44 | 0,99 | 0,76-1,29 | 0,99 | 0,76-1,29 | 251 | 1,58* | 1,16-2,15 | 1,38 | 0,99-1,91 | 1,38 | 0,99-1,91 |
| Black | 503 | ,94 | ,69-1,27 | 0,88 | 0,65-1,21 | 0,88 | 0,65-1,21 | 226 | 1,51* | 1,10-2,08 | 1,15 | 0,83-1,61 | 1,15 | 0,83-1,61 |
| East | 1196 | 1,40* | 1,13-1,74 | 0,97 | 0,77-1,23 | 0,97 | 0,77-1,23 | 434 | 1,70** | 1,31-2,20 | 1,23 | 0,93-1,62 | 1,23 | 0,93-1,62 |
| Education | | | | | | | | | | | | | | |
| 8+ | 1268 | 1,00 | - | 1,00 | - | 1,00 | - | 175 | 1,00 | - | 1,00 | - | 1,00 | - |
| 5-7 years | 2272 | 2,37** | 1,83-3,08 | 2,035* | 1,55-2,67 | 2,035* | 1,55-2,67 | 540 | 4,34** | 2,71-6,95 | 4,01** | 2,49-6,48 | 4,01** | 2,49-6,48 |
| 0-4 years | 849 | 5,14** | 3,89-6,80 | 3,643* | 2,66-4,99 | 3,643* | 2,66-4,99 | 1064 | 8,47** | 5,40-13,30 | 6,93** | 4,31-11,15 | 6,93** | 4,31-11,15 |
| Wealth | | | | | | | | | | | | | | |
| Highest wealth | 1080 | 1,00 | - | 1,00 | - | 1,00 | - | 223 | 1,00 | - | 1,00 | - | 1,00 | - |
| Second Highest | 1724 | 1,77** | 1,37-2,29 | 1,37* | 1,05-1,79 | 1,37* | 1,05-1,79 | 581 | 1,56* | 1,12-2,19 | 1,164 | 0,81-1,67 | 1,164 | 0,81-1,67 |
| Middle | 633 | 2,28** | 1,68-3,10 | 1,51* | 1,09-2,08 | 1,51* | 1,09-2,08 | 418 | 1,82** | 1,28-2,59 | 1,131 | 0,77-1,66 | 1,131 | 0,77-1,66 |
| Second Lowest | 392 | 3,15** | 2,26-4,38 | 1,90** | 1,33-2,70 | 1,90** | 1,33-2,70 | 215 | 2,39** | 1,60-3,58 | 1,315 | 0,83-2,04 | 1,315 | 0,83-2,04 |
| Lowest | 557 | 3,69** | 2,74-4,97 | 1,95** | 1,39-2,73 | 1,95** | 1,39-2,73 | 342 | 3,26* | 2,24-4,72 | 1,66* | 1,10-2,50 | 1,66* | 1,10-2,50 |

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| | | Men (Below 50 Years) | | | | Men (Above 50 years) | | | |
|------------------|--|----------------------|--------------------------|---------------------------|---------|--------------------------|---------------------------|------------|--------|
| | | N | Age control [§] | Full control [§] | N | Age control [§] | Full control [§] | | |
| | | | OR | 95% CI | | OR | 95% CI | | |
| Residence | | | | | | | | | |
| Urban | | 1532 | 1,00 | - | 1,00 | - | 1,00 | - | 1,00 |
| Rural | | 1494 | 1,12 | 0,78-1,59 | 1,084 | ,755 | 1,21 | 0,87-1,67 | 1,11 |
| Region | | | | | | | | | |
| West | | 923 | 1,00 | - | 1,00 | 1,00 | 1,00 | - | 1,00 |
| Med | | 375 | 0,95 | 0,48-1,87 | ,839 | 0,42-1,67 | 1,20 | 0,70-2,06 | 1,04 |
| Middle | | 449 | 1,120 | 0,61-2,05 | ,827 | 0,45-1,54 | 1,67* | 1,02-2,74 | 1,27 |
| Black | | 367 | 0,81 | 0,39-1,67 | ,746 | 0,36-1,56 | 0,94 | 0,51-1,72 | 0,81 |
| East | | 912 | 2,06* | 1,32-3,22 | 1,207 | 0,75-1,94 | 1,51 | 0,98-2,34 | 1,04 |
| Education | | | | | | | | | |
| 8+ | | 1479 | 1,00 | - | 1,00 | - | 1,00 | - | 1,00 |
| 5-7 years | | 1377 | 2,45 | 1,60-3,75 | 1,43 | 0,90-2,25 | 3,82** | 1,95-7,46 | 3,36** |
| 0-4 years | | 170 | 5,99* | 3,35-10,69 | 2,29* | 1,20-4,40 | 124** | 3,64-14,10 | 5,04** |
| Wealth | | | | | | | | | |
| Highest wealth | | 749 | 1,00 | - | 1,00 | - | 1,00 | - | 1,00 |
| Second Highest | | 1162 | 2,87* | 1,32-6,24 | 2,529* | 1,15-5,57 | 1,01 | 0,55-1,86 | 0,74 |
| Middle | | 408 | 4,78** | 2,07-11,02 | 3,943* | 1,68-9,28 | 1,33 | 0,70-2,53 | 0,87 |
| Second Lowest | | 283 | 11,18** | 4,97-25,16 | 8,503** | 3,63-19,92 | 1,74* | 1,42-5,28 | 1,56 |
| Lowest | | 424 | 11,54** | 5,35-24,85 | 7,461** | 3,24-17,19 | 3,90** | 2,14-7,10 | 1,99* |



Self rated health WO

Women (Below 50 Years)

Women (Above 50 years)

| | N | Age control § | | Full control § | | N | Age control § | | Full control § | |
|------------------|------|---------------|------------|----------------|-----------|------|---------------|------------|----------------|-----------|
| | | OR | 95% CI | OR | 95% CI | | OR | 95% CI | OR | 95% CI |
| Residence | | | | | | | | | | |
| Urban | 2148 | 1,00 | - | 1,00 | - | 868 | 1,00 | - | 1,00 | - |
| Rural | 2240 | 1,28* | 1,04-1,57 | 1,26* | 1,02-1,56 | 912 | 1,03 | 0,82-1,30 | 1,05 | 0,83-1,34 |
| Region | | | | | | | | | | |
| West | 1432 | 1,00 | - | 1,00 | - | 598 | 1,00 | - | 1,00 | - |
| Med | 533 | ,523 | 0,33-0,83 | 0,49* | 0,31-0,79 | 270 | 1,09 | 0,72-1,65 | 0,91 | 0,60-1,40 |
| Middle | 724 | 1,467 | 1,09-1,98 | 1,24 | ,91-1,69 | 252 | 1,98** | 1,36-2,89 | 1,69* | 1,15-2,50 |
| Black | 503 | ,798 | 0,53-1,20 | ,71 | 0,47-1,07 | 226 | 1,95* | 1,32-2,86 | 1,53* | 1,03-2,28 |
| East | 1196 | 1,695 | 1,31-2,20 | 1,05 | 0,79-1,39 | 434 | 2,76** | 2,02-3,78 | 2,06** | 1,48-2,85 |
| Education | | | | | | | | | | |
| 8+ | 1267 | 1,00 | - | 1,00 | - | 175 | 1,00 | - | 1,00 | - |
| 5-7 years | 2272 | 2,19** | 1,58-3,02 | 1,59* | 1,14-2,23 | 541 | 2,52* | 1,27-5,02 | 2,04* | 1,01-4,12 |
| 0-4 years | 849 | 5,35** | 3,81-7,60 | 2,63** | 1,79-3,87 | 1064 | 5,70** | 2,96-10,98 | 3,52** | 1,77-6,99 |
| Wealth | | | | | | | | | | |
| Highest wealth | 1079 | 1,00 | - | 1,00 | - | 223 | 1,00 | - | 1,00 | - |
| Second Highest | 1724 | 2,16** | 1,50-3,09 | 1,76* | 1,21-2,55 | 582 | 1,76* | 1,07-2,87 | 1,42 | 0,85-2,36 |
| Middle | 633 | 3,08** | 2,04-4,63 | 2,22** | 1,45-3,41 | 418 | 1,69* | 1,01-2,82 | 1,17 | 0,58-1,93 |
| Second Lowest | 392 | 4,75** | 3,11-7,34 | 3,14** | 2,00-4,93 | 215 | 3,96** | 2,33-6,72 | 2,44* | 1,40-4,27 |
| Lowest | 557 | 6,89** | 4,71-10,08 | 4,06** | 2,65-6,22 | 342 | 3,60** | 2,18-5,95 | 2,09* | 1,22-3,56 |

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Conclusion

- ▶ Self Rated Health and Disability in Turkey bare educational and wealth inequalities.
- ▶ At older ages, the effect of **education** increases and the effect of **wealth** is reduced.
- ▶ For elderly women, **Regional** inequalities are added to the picture.
- ▶ Preventive cultural practices or state policies are not strong enough to overcome the burden that socioeconomic inequalities bring to the elderly. Infact **HEALTH INEQUALITIES DEEPEN WITH AGE IN TURKEY**.