Conceptualization and measurement of disability in studies on subjective well-being: A critical review and evidence from the Italian Health Interview Survey

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“...the well-being agenda, ..., is grounded in purported evidence that there is no guarantee that increasing wealth, providing education, or eliminating discrimination (i.e., increasing OWB) will make people happier; therefore the agenda advises governments to be more concerned about removing psychological or internal obstacles to SWB than making provision to provide, or removing the social obstacles to enjoying, the resources of OWB”

"... if adaptation inevitably occurs ... it suggest that those who have experienced trauma need no outside intervention such as therapy or support groups because adaptation occurs on its own ... "

Is disability a “scientific concept”?

It is hard to find two studies sharing the same definition of the population with disability

We will discuss whether the concept of "disability", as variously formulated, can be considered a good foundation for scientific research
Is disability an “event”?  

In longitudinal studies disability is defined as an "event" as it could be a divorce or a marriage, the birth of a son, a lottery win, or the death of the spouse...  

But what is the nature of the event that “generates” disability?
... self-identification as disabled?

...a “public certification”?

...the inability to work because of disability?
Labor policies and returning to work

Fig. 1. Odds ratios with 95% confidence interval for return to gainful occupation two years after stroke, by onset calendar year, among the previously employed stroke patients in Denmark. Calendar year 1996 is the reference year.

The limits of this approach:

a) although its actual nature is doubtful disability is emphasized as an event;

b) the generalization of final results may be questionable as it is difficult to argue that the sample selected is "representative" of the disabled population;

c) the adjustment to the disabling condition could be underestimated if a population with disability experiencing social adverse events was selected.
Compared to the limited number of longitudinal population studies on SWB, those based on what we can call a "clinical" perspective are several hundreds.

The “trauma” or “disease” is the crucial event that identifies the target population.

**Disability is conceived as an outcome and not an event**

Significant differences between groups of people and different models of adaptation has been described.
In his work Stensmen suggested that there are important differences between groups of people with SCI. He described the course of individual cases and highlighted at least four models of adaptation:

A - Good coping / Stable;
B - Good coping after initially low QOL;
C - "Unstable coping";
D - Unsatisfactory coping.

Van Leeuwen et al. study: “... showed five distinct trajectories from the start of active rehabilitation to 5 years after discharge: low life satisfaction scores at each time point (27.2%), high life satisfaction at each time point (16.5%), a recovery trajectory (23.3%), a deterioration trajectory (2.4%), and an intermediate life satisfaction trajectory (30.6%) that included less distinctive or variable patterns of life satisfaction”

(van Leewen et al., Trajectories in the course of life satisfaction after spinal cord injury: identification and predictors, Arch Phys Med Rehabil, 2011; 92:207-213)
The adjustment requires significant strength on the part of the person with disability and much effort from people close to him or her and from society.

The majority of cross-sectional population studies suffers from the same problems of disability definition and classification of longitudinal ones, albeit with different accents.
Disability prevalence in censuses data

D. Mont, Measuring Disability Prevalence

Disability prevalence in survey data

D. Mont, Measuring Disability Prevalence

Different approaches taken in generating these prevalence estimates

- Self-identification as disabled.
- Diagnosable conditions.
- Activities of Daily Living (ADL).
- Instrumental Activities of Daily Living (IADL).
- Participation.
The use of the same statistical indicator (GALI) may produce not completely convincing results for international comparison.

Figure 1: Percent of people with disabilities by Member State; 2010 and 2011
As a % of the same age group; age: 16+

Data source: EU-SILC 2010, EU-SILC 2011 & Eurostat.
ICF – Considering "disability“ as a continuum in a multi-dimensional space

Diagram 2.6: ICF – a combination of different vectors of functioning

Fellinghauer and colleagues (2012) have provided an application of ICF conceptual framework based on data from the Swiss Household Survey that can be replicated, with some adjustments, in many other national surveys and does not require screening questions and an a priori definition of “people with disabilities”.

Intersection between OECD and GALI-HIS populations

*HIS - ISTAT 2013 (estimates projected on Italian population)*

![Venn diagram showing the intersection between OECD and GALI-HIS populations.](image)
<table>
<thead>
<tr>
<th>Variable</th>
<th>Severe limitations</th>
<th>Mild/Moderate limitations</th>
<th>No limitations</th>
<th>Disabled</th>
<th>Not disabled</th>
</tr>
</thead>
<tbody>
<tr>
<td>% Prevalence</td>
<td>6.5</td>
<td>16.5</td>
<td>77.0</td>
<td>5.3</td>
<td>94.7</td>
</tr>
<tr>
<td>Mean age</td>
<td>65.49</td>
<td>60.81</td>
<td>38.90</td>
<td>74.04</td>
<td>42.74</td>
</tr>
<tr>
<td>% female</td>
<td>59.0</td>
<td>56.9</td>
<td>40.9</td>
<td>66.0</td>
<td>50.9</td>
</tr>
<tr>
<td>% Employed</td>
<td>9.8</td>
<td>25.0</td>
<td>40.2</td>
<td>3.6</td>
<td>37.4</td>
</tr>
<tr>
<td>% High educ.</td>
<td>3.6</td>
<td>7.3</td>
<td>11.1</td>
<td>2.8</td>
<td>10.4</td>
</tr>
<tr>
<td>Mean Activity limitations</td>
<td>4.44</td>
<td>1.44</td>
<td>0.12</td>
<td>6.11</td>
<td>0.32</td>
</tr>
<tr>
<td>Mean Chronic diseases</td>
<td>3.73</td>
<td>2.70</td>
<td>0.79</td>
<td>3.92</td>
<td>1.16</td>
</tr>
<tr>
<td>% Happy most of time</td>
<td>19.2</td>
<td>33.8</td>
<td>62.1</td>
<td>16.6</td>
<td>55.9</td>
</tr>
</tbody>
</table>
Probability (Marginal Effects) of being in Low or Very low happiness categories  
(Italian Health Interview Survey - 2013)

(Predictors: Age, Gender, Education, Marital status, Education, Income satisfaction, Place of residence, Professional Status, Perceived Health, Pain/ Binomial Probit)


<table>
<thead>
<tr>
<th></th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Count A&amp;P limitations</td>
<td>0.0035 0.00</td>
<td>OECD 0.0427 0.00</td>
<td>Gali 0.0720 0.00</td>
</tr>
<tr>
<td>(range 0-11)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Count Chronic Diseases</td>
<td>0.0144 0.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(range 0-21)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mc Fadden R squared</td>
<td>0.175</td>
<td>0.168</td>
<td>0.170</td>
</tr>
</tbody>
</table>

Number of Observations 104085

HIS - ISTAT 2013
Suggestions for future research

We strongly support the scientific value of ICF conceptual framework considering disability as an “objective” condition, measurable in a multidimensional space.

It looks questionable to consider disability as an “exogenous event" with clearly identified temporal contours, unless the dynamic that generates impairment does not create a clear break in life experience.
Too often disability is caught by a single indicator with the result to obscure the variability of human experiences and conditions of persons with disability.

A complete understanding of the processes of adaptation requires careful consideration and specification of the different disability trajectories.
Clinical studies suggest that SWB is largely influenced by the specific nature of diseases and impairments affecting people.

Disability is associated with a greater risk than the general population to experience negative events.

The identification of the population with disabilities on the basis of a negative social "outcome" only, causes a selection bias and should be avoided.
The “systemic” nature of the adjustment processes, which in literature is often left in the background, would call for a more explicit and convinced consideration, modeling, and measurement.

The SWB of people with disabilities is linked hand in glove with that of their family and relational system.