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# Do Assistive Products Enhance or Equalize Opportunities? A Comparison of Capability across Persons with Impairments Using and Not Using Assistive Products and Persons without Impairments in Bangladesh

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**Abstract:** Aiming to compare capability across persons with impairments using and not using assistive products and persons without impairments in Bangladesh for 16 different functionings, we contrast two sets of self-reported cross-sectional data from eight districts of Bangladesh: (i) data from persons with hearing impairment not using hearing aids, persons with hearing impairment using hearing aids and persons without impairments (N = 572); and (ii) data from persons with ambulatory impairment not using manual wheelchairs, persons with ambulatory impairment using manual wheelchairs and persons without impairments (N = 598). Kruskal–Wallis tests were used to compare levels of capability across the three groups in each data set. Results showed that, for all functionings in both data sets, the levels of capability were statistically significantly highest for persons without impairments. Compared to persons with hearing impairment not using hearing aids, persons with hearing impairment using hearing aids scored higher in all functionings, with statistical significance at the .05 level for 12 of them. Persons with ambulatory impairment using manual wheelchairs scored higher than persons with ambulatory impairment not using manual wheelchairs for 11 of the functionings, but none of the comparisons between the two groups were significant at the .05 level. Assistive products—hearing aids more than manual wheelchairs—enhance capabilities but do not fully equalize opportunities between people with and without impairments.

**Keywords:** assistive products; assistive technology; Bangladesh; capability approach; functionings; hearing aids; ICF; participation; wheelchairs

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## 1. Introduction

People with disabilities face numerous barriers to their full inclusion and participation in the life of their communities. They experience disproportionate levels of poverty and lack of access to education, health services and employment and they are underrepresented in decision-making and political participation. Major barriers to inclusion and equal participation include discrimination and stigma, lack of accessibility, lack of access to assistive technology, essential services and rehabilitation and lack of support for independent living [1].

Globally, an estimated 2.5 billion people need assistive products. The purpose of assistive products is often to maintain or improve an individual's functionings or independence. For example, hearing aids are intended to improve hearing while manual wheelchairs are intended to improve ambulation. There is also evidence that assistive products can have positive effects on education, work, health, physical activities and relationships [2,3]. While substantive evidence demonstrates the benefits of people with impairments using

assistive products, less is known about whether the use of assistive products equalizes opportunities—or capabilities—between people with and without impairments.

The concept of capability originates in the work of developmental economist and Nobel laureate Amartya Sen and colleagues [4–6]. The capability approach asserts that the role of society is to deliver people the freedom to achieve wellbeing. Wellbeing is understood in terms of people's capabilities and functionings. Functionings are things a person may value doing or being and "capabilities" refers to the capacity to achieve them. Martha Nussbaum goes further to specify a set of internal capabilities, such as body, mind and character [7]. These internal capabilities along with external factors (such as society and environments) influence whether a person can achieve or realise the functionings they desire or, conversely, find they have a capability 'gap'. For example, a person with lower limb dysfunction may achieve wellbeing because her chosen functionings (attending university) is enabled through the combination of internal capabilities (skill in manual wheelchair use) and external factors (availability of a manual wheelchair, accessible university facilities). A common scenario, however, is one in which a person's internal capabilities are not sufficient to address capability gaps, for instance, a person with hearing impairment who has learned international sign language but whose school does not provide sign language interpreting for classes. The capability approach is a valuable framework for the evaluation and assessment of individual wellbeing, considering the resources, monetary and non-monetary, which contribute to its achievement [8]. Applying the capability approach may contribute to bringing about justice in the way societies allocate resources, including marginalised groups, such as people with a disability [9].

One of the first empirical studies on assistive products, human rights and capability was conducted in Bangladesh. By comparing data from people with impairments using and not using assistive products, it found the use of assistive products to be predictive of the enjoyment of human rights and enhanced capability [10,11]. This study also collected data from people without impairments. These data have so far not been analyzed but represent a valuable opportunity to compare the capabilities of people with and without impairments. Therefore, the objective of this study was to compare capability across people with impairments using and not using assistive products and people without impairments in Bangladesh for a range of functionings. Functionings, according to Sen, may be focal and activity based or broader participations, as defined and valued by people themselves. This study utilises 16 different functionings related to traveling, shopping, cooking, housework, caring, friendships, authorities, strangers, family, studies, work, economy, memberships, recreation, religion and decision making.

## 2. Materials and Methods

Employing a cross-sectional design, this study used an interviewer-administered structured questionnaire to collect quantitative data from eight districts in Bangladesh. The data collection was completed in 2010 and resulted in several publications [10–14], which include descriptions of the method. Therefore, this section is limited to a broad overview of certain aspects of the method while being more detailed about aspects that are unique to this particular study.

### *2.1. Sample*

The sample was derived from a survey in Bangladesh that included people with hearing or ambulatory impairments using hearing aids or manual wheelchairs, respectively, in the 15–55 years age group, who were registered with a non-government organization working for people with disabilities. As far as possible, each user of assistive products was gender and age matched (±5 years, but not below 15 years) with the closest living registered person with the same impairment. To allow for comparisons with people without impairments, a gender- and age-matched (±5 years, but not below 15 years) neighbor without impairments was interviewed for each person with an impairment.

The sample size of the original survey was calculated based on the conservative suggestion that there should be at least ten outcome events per predictor variable in a logistic regression [15]. To allow for at least three predictors when analyzing data from users of assistive products where an event would occur for 20% of them, the survey attempted to achieve 150 respondents using hearing aids and equally many using manual wheelchairs. Therefore, the desired total sample size was 600 for a data set related to hearing and 600 for a data set related to ambulation.

### 2.2. Instrumentation

The structured questionnaire consisted of seven parts: (a) demographics, (b) human rights, (c) economy, (d) participation, (e) disability, (f) environment and (g) assistive technology. All respondents answered parts a–d, while all respondents with impairments answered parts e and f and all respondents using assistive products answered part g. This study is based on a selection of data from parts a and d.

### 2.3. Procedure

The process of developing the questionnaire included the following steps: development in English, translation into Bangla, review, revision, pre-testing, revision, testing and review by interviewers, revision and finalization. An instruction manual was developed for one coordinator and ten interviewers, who were trained for four days to collect data using the questionnaire. The interviews were conducted in the respondents' homes. When the interviewer was unable to communicate with a respondent, data were collected from a proxy.

### 2.4. Variables

This study compares self-reported levels of capability for 16 functionings across three groups in two data sets, see Table 1. The studied functionings correspond to selected categories of activities and participation in the WHO International Classification of functionings, Disability and Health (ICF) [16]. They were selected to represent different ICF chapters (applying knowledge (chapter d1), mobility (d4), domestic life (d6), interpersonal interactions and relationships (d7), major life areas (d8) and community, social and civic life (d9)) but not to be immediate outcomes of hearing aids or manual wheelchairs.

For the first 15 functionings in Table 1, the respondents were asked to rate the extent to which they are free to perform them, which was operationalized by asking the respondents to what extent they have a problem doing them in their current environment. The current environment was defined as where the respondent spends most of the time, such as home, work or school. If applicable, it included assistance from others and the use of assistive products. In accordance with the ICF, the responses were indicated on a five-point Likert-type scale (No problem, Mild problem, Moderate problem, Severe problem, Complete problem) [16]. The respondents could respond 'Not applicable' if a functioning was considered irrelevant to them. For the last functioning, the respondents were asked to rate how often they make decisions about their own lives by responding to a four-point Likert-type scale (Always, Often, Seldom, Never).

### 2.5. Analyses

To compare levels of capability across the groups, given that the dependent variables were measured on ordinal scales, the two data sets were analyzed separately using the non-parametric Kruskal–Wallis Test [17] with significance values adjusted by the Bonferroni corrections for multiple tests in IBM SPSS Statistics version 28.0.1.0 [18]. The effect sizes were calculated using the formula $r = z / \sqrt{N}$ where $z$ = *standardized test statistic* and $N$ = *total number of cases*; 0.1 = small effect, 0.3 = medium effect and 0.5 = large effect [19].

Respondents responding 'Not applicable' to a survey question were excluded from the analysis of that dependent variable. No imputation was performed for missing data

as the reasons for missing data appeared to be at random and unrelated to the dependent variables.

**Table 1.** Variables used in the analyses.

| Independent Variable | Data Set on Hearing | Data Set on Ambulation |
|---|---|---|
| Group | Group 1: Persons with hearing impairment not using hearing aids | Group 1: Persons with ambulatory impairment not using manual wheelchairs |
| | Group 2: Persons with hearing impairment using hearing aids | Group 2: Persons with ambulatory impairment using manual wheelchairs |
| | Group 3: Neighbors | Group 3: Neighbors |
| **Dependent variables** (ICF category) | **Survey question** | |
| | To what extent do you have problem to | |
| Traveling (d470) | use transportation as a passenger to move around? | |
| Shopping (d6200) | buy food items and clothes? | |
| Cooking (d630) | prepare meals? | |
| Housework (d640) | do housework like washing or cleaning? | |
| Caring (d660) | take care of others, for example children or elderly? | |
| Friendships (d7500) | make friends and maintaining friendships? | |
| Authorities (d7400) | interact with persons in authority? | |
| Strangers (d730) | interact with strangers? | |
| Family (d760) | create and maintain family relationships? | |
| Studies (d810-d839) | go to school and study? | |
| Work (d845) | get and keep a job? | |
| Economy (d870) | handle income and payments? | |
| Memberships (d910) | be an active member of clubs or organizations? | |
| Recreation (d920) | participate in recreational and leisure activities such as sports, games, arts and crafts, dance, music, etc.? | |
| Religion (d930) | participate actively in religious activities? | |
| Decisions (d177) | Do you make important decisions about your own life? | |

## 3. Results

### *3.1. Respondent Characteristics*

An overview of the age and sex distribution among the respondents is provided in Table 2. A total of 572 and 598 respondents was included in the data sets on hearing and ambulation, respectively. The respondents in the data set on hearing were slightly younger and more frequently women than those of the data set on ambulation.

**Table 2.** Characteristics of the respondents.

| Characteristic | Data Set on Hearing (N = 572) | | | Data Set on Ambulation (N = 598) | | |
|---|---|---|---|---|---|---|
| | **Group 1** | **Group 2** | **Group 3** | **Group 1** | **Group 2** | **Group 3** |
| Size n | 150 | 138 | 284 | 149 | 150 | 299 |
| Age (years) Mean (SD) | 30.8 ± 11.9 | 26.9 ± 13.7 | 28.9 ± 12.5 | 32.4 ± 12.6 | 32.0 ± 13.3 | 31.9 ± 12.4 |
| Sex (Female) n (%) | 66 (44.0) | 51 (37.0) | 114 (40.1) | 55 (36.9) | 39 (26.0) | 90 (30.1) |

### *3.2. Hearing-Related Comparisons*

For the data set on hearing, Kruskal–Wallis tests revealed statistically significant differences in capability for all 16 functionings across the three groups, see Table 3. For all

functionings, neighbors (Group 3) recorded the highest levels of capability while persons with hearing impairment not using hearing aids (Group 1) recorded the lowest levels of capability. The comparisons between neighbors and persons with hearing impairment not using hearing aids were all statistically significant with medium to large effect sizes. Further, the comparisons between neighbors and persons with hearing impairment using hearing aids were all statistically significant with small to medium effect sizes. With the exception of Cooking, Housework and Studies, the comparisons between persons with hearing impairment using hearing aids and persons with hearing impairment not using hearing aids were all statistically significant with small to medium effect sizes. The comparison for Caring was significant at the .1 level.

**Table 3.** Kruskal–Wallis test with significance values adjusted by the Bonferroni correction for multiple tests for the data set on hearing.

| Dependent Variable | $\chi^{2}$ [a] | Group 1 | Group 2 | Group 3 | Pairwise Comparisons [b] | | |
|---|---|---|---|---|---|---|---|
| | | Mean Rank | Mean Rank | Mean Rank | Gr 3–Gr 2 | Gr 3–Gr 1 | Gr 2–Gr 1 |
| Traveling (N = 566) | 181.0 *** | 391.0 | 314.5 | 213.4 | 101.1 *** (14.0), M | 177.7 *** (13.5), L | 76.5 *** (15.9), S |
| Shopping (N = 571) | 188.4 *** | 399.4 | 321.1 | 208.8 | 112.3 *** (14.7), M | 190.6 *** (14.3), L | 78.3 *** (16.7), S |
| Cooking (N = 572) | 56.9 *** | 336.1 | 323.1 | 242.5 | 80.6 *** (14.5), M | 93.7 *** (14.1), M | 13.0 (16.4), - |
| Housework (N = 571) | 43.1 *** | 333.4 | 304.5 | 252.2 | 52.4 *** (13.3), S | 81.2 *** (13.0), M | 28.9 (15.1), - |
| Caring (N = 509) | 60.4 *** | 304.8 | 273.0 | 221.7 | 51.3 *** (11.7), S | 83.0 *** (11.1), M | 31.8 * (13.3), S |
| Friendships (N = 526) | 253.7 *** | 400.8 | 285.4 | 186.6 | 98.8 *** (14.0), M | 214.2 *** (13.6), L | 115.4 *** (16.1), M |
| Authorities (N = 396) | 178.0 *** | 296.9 | 235.0 | 138.8 | 96.3 *** (12.8), M | 158.1 *** (12.4), L | 61.9 *** (14.9), S |
| Strangers (N = 559) | 291.5 *** | 429.6 | 328.3 | 179.2 | 149.0 *** (15.5), M | 250.4 *** (15.2), L | 101.4 *** (17.7), S |
| Family (N = 548) | 258.8 *** | 412.5 | 303.4 | 190.7 | 112.7 *** (14.3), M | 221.9 *** (14.0), L | 109.2 *** (16.4), S |
| Studies (N = 183) | 59.9 *** | 129.8 | 113.7 | 71.1 | 42.6 *** (6.9), M | 58.6 *** (9.6), M | 16.1 (10.3), - |
| Work (N = 188) | 57.1 *** | 144.3 | 111.8 | 72.5 | 39.3 *** (9.2), M | 71.8 *** (10.1), L | 32.5 ** (11.8), S |
| Economy (N = 456) | 163.8 *** | 335.6 | 249.3 | 164.9 | 84.4 *** (14.7), S | 170.7 *** (13.5), L | 86.3 *** (16.6), S |
| Memberships (N = 304) | 163.8 *** | 238.7 | 185.2 | 106.9 | 78.4 *** (10.8), M | 131.8 *** (10.8), L | 53.4 *** (13.0), S |
| Recreation (N = 421) | 168.6 *** | 325.3 | 233.3 | 156.8 | 76.4 *** (12.7), M | 166.5 *** (13.2), L | 92.1 *** (15.4), M |
| Religion (N = 550) | 250.0 *** | 413.1 | 295.5 | 195.4 | 100.1 *** (14.5), M | 217.8 *** (13.9), L | 117.6 *** (16.5), M |
| Decisions (N = 569) | 98.3 *** | 374.7 | 316.2 | 222.3 | 93.9 *** (16.4), S | 152.5 *** (16.0), M | 58.5 *** (18.6), S |

Notes: * Significant at .1 level; ** Significant at .05 level; *** Significant at .01 level; [a] Degree of freedom = 2; [b] Gr 1 = Group 1; Gr 2 = Group 2; Gr 3 = Group 3; Top values are mean differences between groups and bottom values are standard errors in brackets and effect sizes (S = small; M = medium; L = large).

### *3.3. Ambulation-Related Comparisons*

For the data set on ambulation, Kruskal–Wallis tests also revealed statistically significant differences in capability for all 16 functionings across the three groups, see Table 4. Neighbors (Group 3) recorded the highest levels of capability for all functionings while persons with ambulatory impairment not using manual wheelchairs (Group 1) recorded the lowest levels of capability for 11 of the functionings. The comparisons between neighbors and persons with ambulatory impairment not using manual wheelchairs as well as persons with ambulatory impairment using manual wheelchairs were all statistically significant with medium to large effect sizes. With the exception of Family, the comparisons between persons with ambulatory impairment using manual wheelchairs and persons with ambulatory impairment not using manual wheelchairs were not statistically significant. The comparison for Family was significant at the .1 level with a small effect size.

**Table 4.** Kruskal–Wallis and Bonferroni–Dunn post hoc test statistics for the data set on ambulation.

| Dependent Variable | $\chi^{2}$ [a] | Group 1 | Group 2 | Group 3 | Pairwise Comparisons [b] | | |
|---|---|---|---|---|---|---|---|
| | | Mean Rank | Mean Rank | Mean Rank | Gr 3–Gr 2 | Gr 3–Gr 1 | Gr 2–Gr 1 |
| Traveling (N = 576) | 471.4 *** | 440.1 | 427.2 | 148.4 | 278.8 *** (15.8), L | 281.7 *** (15.6), L | 2.9 (18.3), - |
| Shopping (N = 598) | 334.7 *** | 416.7 | 424.9 | 178.2 | 238.5 *** (16.3), L | 246.7 *** (16.2), L | –8.2 (18.8), - |
| Cooking (N = 598) | 152.4 *** | 381.3 | 383.3 | 216.7 | 164.7 *** (16.5), M | 166.6 *** (16.4), M | –2.0 (19.0), - |
| Housework (N = 598) | 215.0 *** | 397.9 | 395.5 | 202.3 | 193.1 *** (16.2), M | 195.5 *** (16.2), L | 2.4 (18.7), - |
| Caring (N = 467) | 266.8 *** | 336.2 | 346.4 | 152.2 | 184.0 *** (14.4), L | 194.2 *** (14.6), L | –10.2 (17.5), - |
| Friendships (N = 496) | 173.3 *** | 342.5 | 320.8 | 183.7 | 137.1 *** (13.6), M | 158.8 *** (14.1), L | 21.7 (16.6), - |
| Authorities (N = 402) | 145.8 *** | 277.4 | 268.2 | 147.1 | 121.1 *** (13.0), M | 130.4 *** (13.1), L | 9.2 (15.7), - |
| Strangers (N = 558) | 170.3 *** | 373.5 | 349.8 | 204.2 | 145.7 *** (14.9), M | 169.3 *** (15.0), M | 23.7 (17.5), - |
| Family (N = 534) | 191.7 *** | 372.0 | 334.8 | 192.5 | 142.2 *** (14.3), M | 179.5 *** (14.7), L | 37.2 * (17.1), S |
| Studies (N = 151) | 126.8 *** | 121.3 | 114.2 | 45.1 | 69.1 *** (8.5), L | 76.2 *** (7.9), L | 7.1 (9.9), - |
| Work (N = 173) | 73.8 *** | 125.0 | 125.6 | 62.2 | 62.8 *** (9.2), L | 63.4 *** (9.4), L | –0.7 (11.5), - |
| Economy (N = 459) | 118.8 *** | 299.6 | 300.8 | 175.3 | 124.4 *** (14.5), M | 125.5 *** (14.2), M | –1.1 (17.2), - |
| Memberships (N = 281) | 95.6 *** | 193.0 | 179.3 | 101.6 | 77.7 *** (10.4), M | 91.4 *** (11.1), M | 13.7 (12.6), - |
| Recreation (N = 364) | 165.9 *** | 257.7 | 252.3 | 123.2 | 129.2 *** (12.5), L | 134.6 *** (13.0), L | 5.4 (15.2), - |
| Religion (N = 538) | 311.9 *** | 394.7 | 377.1 | 168.4 | 208.8 *** (15.3), L | 226.3 *** (15.2), L | 17.6 (18.1), - |
| Decisions (N = 597) | 96.7 *** | 375.4 | 354.0 | 233.1 | 120.8 *** (16.5), M | 142.3 *** (16.5), M | 21.4 (19.0), - |

Notes: * Significant at .1 level; ** Significant at .05 level; *** Significant at .01 level; [a] Degree of freedom = 2; [b] Gr 1 = Group 1; Gr 2 = Group 2; Gr 3 = Group 3; Top values are mean differences between groups and bottom values are standard errors in brackets and effect sizes (S = small; M = medium; L = large).

## 4. Discussion

This study contrasts life, according to a set of 16 functionings, for people with and without hearing and ambulation impairments across Bangladesh. The analyses provide a unique view of the capability gap for assistive product users matched with peers who do not require assistive products. The findings illuminate some important points for those providing assistive products, those funding assistive technology and other health and education services and duty holders responsible for the delivery of human rights and wellbeing agendas.

One fundamental observation that can be made on the basis of these data is the heterogeneity of life for people with disabilities. By exploring a range of functionings, as well as providing a comparison group of people without impairments, this study demonstrated that people with hearing or ambulatory impairments are not homogeneous communities. This suggests assistive technology provision systems need to be agile in assessing and meeting needs at a granular level, as choices, health conditions and personal and environmental factors are individual in nature [4,16].

Previous studies have reported that assistive products are effective in improving performance in areas for which they are designed, for example, hearing aids for hearing and manual wheelchairs for ambulation. Such positive outcomes were true also for the respondents with impairments in this sample [14]. However, the findings indicate that different types of assistive products support capability differently, particularly in areas for which they were not primarily designed. Hearing aids appear to be beneficial for most of the included functionings. However, manual wheelchairs did not provide much benefit, if any, in several areas of functionings. This finding may call for reconsidering the design of manual wheelchairs beyond mere ambulation in order for them to become facilitators of functionings user values. Ambulation is itself often not an end but a means to achieve other functionings. Therefore, manual wheelchairs need to be more than a means for ambulation—a means for living.

Irrespective of using assistive products, people with impairments faced larger problems than people without impairments in all functionings, which resulted in limited capability. The reality of health disparities as well as economic and social disadvantage for people with disability and their families has been well documented [1,20], as are the multiplicity of barriers, such as rurality, inaccessible education and work and stigma, which exacerbate the capability gap [21,22].

Although assistive products do play a critical role in achieving each of the fundamental rights affirmed in the UN Convention on the Rights for Persons with Disabilities (CRPD) [23,24], this finding is of concern and suggests the need to explore additional measures to ensure equal participation, beyond the provision of assistive products alone. In a wider perspective, it calls for empirically evaluating the combined impact of measures mandated in international policies, such as the CRPD [23], to understand to what extent all human rights and freedoms are fully and equally enjoyed through those measures. All too often—if not always—measures have been evaluated with regard to what extent they enhance capability or performance for people with impairments instead of whether they lead to equal opportunities for people with and without impairments.

The capability approach offers practitioners and researchers to move beyond an output model of analysis (how many people have got an assistive product?) and to an outcome and impact frame (were valued functionings able to be realized? Do capability gaps remain? If so, who is the duty holder to address these shortcomings?). The capability approach enshrines both an individual lens (what matters to the person?) and a societal perspective (what is the role of society in enabling wellbeing?). Based upon data from nearly 1200 people from Bangladesh, this study illustrates a progressive road to realization of valued functionings and achievement of human rights and that assistive products, while vital, often remain a part of the solution.

The findings call assistive product designers to reflect on the impact of assistive products on users beyond primary outcomes. Co-designing assistive products with users may

result in assistive products that enhance rather than inhibit capability across functionings [25,26]. The findings also call duty bearers to ensure that all necessary measures are in place to ensure equal opportunities. Guidance is provided in the WHO and UNICEF Global Report on Assistive Technology [2] and the World Health Assembly Resolution WHA 71.8 Improving access to assistive technology [27]. Strategic actions regarding assistive technology policy, personnel, provision and products are proposed within a universal healthcare framework. These contemporary strategies are rooted in an ICF-based understanding of the assistive technology ecosystem. The capabilities approach is a congruent lens through which to enact these strategies at individual and societal levels to reduce disparities among people with and without impairments.

## 5. Limitations

An inherent limitation of a cross-sectional design is that the temporal link between the outcome and the exposure cannot be determined as they are both examined at the same time. Longitudinal studies are required to determine the effects of assistive products on enhancing capability and equalizing opportunities. Study data were collected in 2010 as part of a PhD thesis. While some years old, the data set remains a valid source of comparison for the analytic purpose stated. The study is based on data from a number of regions of Bangladesh and the nature and limitations of a single country data set can be found in [13]. As the sample was not randomly selected, there was a risk of selection bias. However, in every sampling area, all registered and eligible users of hearing aids and manual wheelchairs were included. Administering a questionnaire can result in systematically biased answers, as responses may be given to satisfy the interviewer. As only data provided by respondents from a single country context are compared, such bias may not significantly affect the results of this study.

The longstanding ICF activity and participation categories were utilized as variables in this study, although the ICF was subject to some critique, including a proposal in 2019 by Mitra and Shakespeare that,

> *Activities and participation need to be replaced or supplemented by a more holistic concept, such as quality of life or wellbeing. Recent advances in approaches that define such alternatives such as Amartya Sen's capability approach should be considered* [28] (p. 338).

This critique is acknowledged; however, the use of ICF categories as variables is defended due to both the international currency of the ICF framework as a part of the World Health Organization Family of International Classifications and the widely accepted use of ICF, beyond any other categorization system available, across the assistive technology research base.

## 6. Conclusions

The capability approach is a valuable framework through which to evaluate individual wellbeing and the range of supports available to fill capability gaps, including assistive products. This study demonstrated that assistive products enhance capabilities but do not fully equalize opportunities between people with and without impairments. Multilevel measures are likely required to deliver on human rights and to assure equality.

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**Institutional Review Board Statement:** The study was conducted in accordance with the Declaration of Helsinki. As a suitable ethical review authority was not available in Bangladesh at the time of collecting the data, the University of Dhaka was consulted, and their ethical research practice was followed.

**Informed Consent Statement:** Potential participants were contacted, informed about the study, and invited to participate. Those who consented were subsequently interviewed. Respondents could refuse to answer any question or discontinue the interview at any time. No incentive for participation was offered. Thus, informed consent was obtained from all subjects involved in the study.

**Data Availability Statement:** The corresponding author can be contacted regarding data.

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