

Measuring Women's Contribution in Care Economy: Constructing Survey Based Indexed Questionnaire

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ABSTRACT

Aims of the study: The objective of the current article is to construct a survey-based questionnaire pertaining to women's contribution to the care economy from a quantitative perspective. It is the first attempt in Pakistan to use perceptual and likert scales to measure and cover the major domains of unpaid care work, namely reproductive, child, domestic, elderly, and care of persons with special needs.

Methodology: In this article, the index-based questionnaire that was used to calculate the value of women's contributions to the care economy was constructed using five steps. The first step was to develop questions; the second step was to evaluate the content of the questions, phrase sentences, and response format. The third step involved seeing the sequence and layout, while the fourth step was to conduct a consultative workshop to get feedback from key stakeholders. The fifth and last step was to do a purposeful pilot study with 28 respondents, analyze its results through Cronbach's Alpha value, and finalize the tool for future scenarios.

Findings: Based on the study results, a reliability analysis of all the domains was forwarded for further data collection. The Cronbach's alpha value for reproductive care exhibits 0.99, followed by child care at 0.88 and domestic care at 0.69; elderly and special needs care revealed higher validity at 1.00, respectively.

Conclusion: The study concluded from the inferences that the construction of index variables is an addition to the existing body of knowledge in general while achieving SDG 5 in particular with the corroboration of measuring unpaid care work in monetary terms.

Keywords: Care Economy, Structured Questionnaire, Reliability, Unpaid Domestic Work, Validity, Women's Contribution to Care Work.

Introduction

Measurement is an essential concept in the sciences in general, while in the social sciences in particular, it is used to fill the lacunae in a workable and sound manner. Assessing the quality of any research measurement is a crucial aspect. There are two methods that are used to assess measurement in the social sciences, namely validity and reliability. As witnessed, Nachmias (1975) stated that validity is a

Article History

Received:
April 26, 2023

Revised:
June 25, 2023

Accepted:
June 27, 2023

Published:
June 30, 2023

measurement tool to respond to accuracy, whereas reliability shows the consistency of items, items/ indicators/ statements under observation.

In the realm of economics, a profound oversight has persisted – the pivotal role that women play in the domain of household labor, an arena often disdained as unproductive and detached from financial gains (Singh & Pattanaik, 2020; Vyas, 2021). Remarkably, neither on a national nor an international scale, explicitly or implicitly, does recognition surface for the immense contribution of unpaid domestic work undertaken by women. Intriguingly, this unheralded facet of domestic chores, which enables men to rejuvenate after a day's work, has far-reaching effects, benefiting both families and the broader capitalist economy at the macro and micro levels (Ferrant et al., 2014; Stuart, 2014).

Moreover, the intricacies of labor force statistics and national income accounts, designed primarily to amass data on economic activity's magnitude and shifts across time, have been a breeding ground for assessment complications (Dorji et al., 2020). In the realm of capitalist economies, the market has perennially held the reins of economic activity. Parallel to labor force participation's delineation, which hinges on its link to the market or execution of tasks for "pay or profit," is the incorporation of output into national accounts (Klein, 2021). The fact that women perform the great bulk of household work without being paid is a fundamental issue for developed nations in general and developing nations in particular (Crisologo, 2022). Thus, dysfunction prompted global organizations championing women's advancement to delve into studies spotlighting the productivity of women's work, with a particular focus on areas where their labor is consistently undervalued: (a) subsistence production, (b) unpaid informal employment, (c) home production and associated responsibilities, and (d) voluntary work.

Even within the context of Pakistan's Labor Force Survey (LFS) for 2020–21 and the national income accounts, women's labor contributions remain untallied, echoing the prevailing scenario. This conceptual discrepancy mirrors the undervaluation inherent in gauging effort against remuneration or profit. The LFS defines the working population as individuals aged 10 and above, encompassing those employed, unemployed, or not in the labor force, provided they engage in activities that involve service provision or goods production for pay or profit, as well as those contributing to family enterprises or farms.

Pakistan, with a population numbering 207.68 million, showcases a gender distribution of 106.3 million men and 101.3 million women (Pakistan Bureau of Statistics, 2017). A comparison with the senior citizen cohort, those aged 65 and above (constituting 3.4%), reveals that the majority falls within the young segment (ages 0–14, at 40%). Within the context of the LFS (2022), it was reported that 18.8% of the population comprises individuals aged 15 to 24, representing the second-largest demographic, an anticipated working population of 159.83 million individuals (10 years and above), primarily concentrated within the age group of 10 to 44; over 60% of this working populace falls within the ages of 10 to 34, thereby categorizing all women aged 10 and above as integral components of the labor force, respectively.

Significance of the Study

In its quest to capture these intricacies, this study embarks upon an exploration of the pervasive yet unacknowledged roles that women perform within the economy's fabric. Through the prism of economic assessment, it unearths the underlying forces that contribute to the invisibility of women's domestic labor and endeavors to elucidate the ramifications of this hidden disparity on economic indices and the broader socio-economic landscape. Moreover, achieving gender equality through a vivid valuation of unpaid care and domestic work at national and international levels was the tumbling issue, and achieving SDG 5 is the order of the day. Thus, keeping in view the above stock of literature, the present study is designed to explore the care economy through an index-based approach using measurable terms, i.e., Cronbach's Alpha test.

Material and Methods

This section consists of the operationalization of the care economy index with its major domains, namely reproductive care, childcare, domestic care, elderly care, and care of persons with special needs, as well as research design and implementation.

Operationalization of Care Economy Index

The Care Economy Index measures the contribution of women's work at the household level initially with four core domains that were based on existing literature, namely child care, domestic care, elderly care, and the care of persons with special needs, and one additional domain, i.e., reproductive care, based on field interviews with pregnant women, is listed below with their concerned subdomains.

The child care domain is further categorized into rearing of children, nurturing of children, and social and moral training of the children, with an amalgamation of 22 indicators.

The elderly care domain embraces physical, medical, social, and spiritual care, along with measuring through 20 indicators.

The domestic care domain includes cleaning the house, preparing food and serving meals/guests, washing and ironing clothes, paying household bills, shopping, collecting household supplies, and caring for livestock. In addition, 19 items were followed to assess perceptions through time spent on daily activities, respectively.

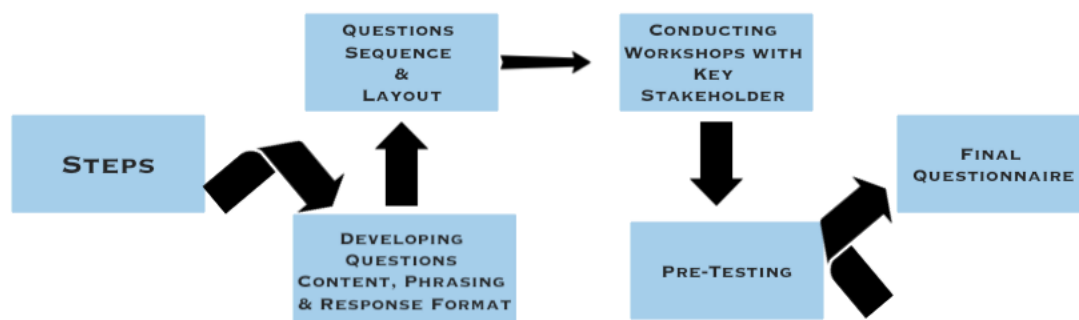
The care of people with special needs involves physical and medical care with corroboration of 15 attributes as pinpointed in Table 1, respectively.

Reproductive care comprises medical checkups, personal care, dealing with and managing the physical and mental effects of pregnancy, and getting help with daily routine work. Moreover, to measure reproductive care, 12 items were constructed based on field visits to the gynecology centers, and participants' observations of the pregnant women and their experiences were captured in this section.

Research Design

A quantitative research approach is used in the present study. All the study participants were purposefully selected from communities in the inner city of Rawalpindi and Rehmatabad, a congested area of Rawalpindi. A sample size of 28 participants was selected for the primary information regarding the said variables, which is scrutinized and finalized in this article. All the tool construction was planned, followed by the following 5 steps. [See Fig. 1]

Fig 1: Steps taken into Considerations in this Article



Results and Discussion

In this section, all the steps mentioned above in Fig. 1 were implemented theoretically and statistically to reach the desired outcome of the index of the final questionnaire. The questionnaire is comprised of subsections, namely reproductive care, childcare, domestic care, elderly care, and care of people with special needs. Moreover, all these domains were assessed and measured through days and time spent on average in 24 hours, with corroboration of economic value determination. All the step-wise interpretations are listed below.

Step I: Developing question content, phrasing, and response format

In this step, we develop the questions retrieved from various secondary, participatory, or primary sources. There are four types of questionnaire design namely matrix, contingency, closed-ended, and open-ended. However, the present study was limited to a structured questionnaire or closed-ended questions along with contingency questions. In addition, various national and international index-based questionnaire tools regarding gender dynamics in the purview of institutional perspectives were drawn into the desired results, i.e., women's unpaid care work and their contribution to the care economy.

Step II: Questions sequence and layout Format

After careful consideration and review of the questions, some irrelevant and replicated questions were removed, and some were modified and merged into one another to abolish the inconsistency among the said domains. In this section, the initial domain has been taken into account. Secondly, by giving sequence and subsection categorization within each domain, Table 1 further highlights the major characteristics of the domains, subdomains, and total indicators/ attributes, or statements, respectively.

Table 1. Characteristics of Variable, sub sections and total indicators

S. No	Variable Name	Sub Sections	Total Indictors
1	Reproductive care	Medical Check up Personal Care Dealing & Management of Physical & mental effects of Pregnancy Getting help in daily routine work	12
2	Child care	Rearing of children Nurturing of children Social/ moral training of children	20
3	Domestic care	Cleaning of the house Preparing foods & Serving meals/ guests Washing & Ironing cloths Payment of household bills Household shopping Collection of household supplies Livestock's care	19
4	Elderly care	Physical care Medical care Social/ spiritual care	20
5	Care of people with special needs	Physical care Medical care	15

Step IV: Conducting consultative workshops with key stakeholders

A consultative workshop was held in 2023 at Fatima Jinnah Women University Rawalpindi with key stakeholders, namely government officials, persons from non-governmental organizations, community members, students, and faculty members from different universities in Pakistan. The stakeholders reviewed the overall questionnaire, critically addressed it, and reached a sound conclusion pertaining to data collection. However, some questions that were irrelevant to reproductive care specifically were removed, and some were indulged with one another. Lastly, after reaching consensus among all the stakeholders, the questionnaire was put forward for the next phase of data collection through a pilot survey in the respective universe/ study area.

Step V: Pilot-Testing of the questionnaire

A total of 28 respondents with regards to both genders (male and female) were selected purposefully to fill out the structured questionnaire. A maximum of 50 minutes was taken while pinpointing the responses from the participants regarding the study dynamics, which is a time-consuming process and led to one of the limitations of the current study. After careful screening, the data was coded into Statistical Packages for Social Sciences (26 versions) for further analysis. Cronbach's alpha (1951) test was recorded to show the reliability of each index and its major domain through the following formula.

$$\text{Cronbach's alpha. } \alpha = \frac{N \cdot \bar{C}}{(\bar{V} + (N-1) \cdot \bar{C})} \dots\dots\dots \text{Equation 1}$$

Where

N is the number of components (items or test lets),

\bar{V} is the average variance and

\bar{C} is the average of all covariance's between the components

While applying the reliability analysis through application of SPSS software following reliability analysis of each variable were drawn. (See table 2).

Table 2: Showing the each domain and its Cronbach's Alpha Value

Variable Name	Items	N	Cronbach's Alpha Value
Reproductive care	12	28	0.99
Child care	22	28	0.85
Domestic care	19	28	0.69
Elderly care	20	28	1.00
Special need care	15	28	1.00

Final Questionnaire

Finally, the questionnaire is ready for further processing as per the reliability and validity of the said domains through statistical inferences. As witnessed by Felder and Spurlin (2005), if the value is greater than 0.8, then the index is considered to be highly reliable. However, in the social sciences, values up to 0.6 are acceptable, as recommended by Sachmias (1975).

Conclusion

The present study was designed to measure the care economy in terms of five domains namely reproductive care, child care, domestic care, care of the elderly, and care of people with special needs. A pretesting analysis was carried out on 28 respondents to test the reliability and validity of the questions/statements. The study found that the highest validity was 1.00 for elderly care and special needs care, with a moderate validity of 0.69 for domestic care. Thus, it could be attributed to such findings that the said questionnaire is suitable for all sorts of statistical inferences in current and future scenarios regarding measuring women's contribution to the care economy in general and in five domains or interventions in particular. Thus, the questionnaire is used for policy documents pertaining to the inculcation of the census or any other national and international survey. Lastly, the construction of such variables properly addressed the SDG 5 agenda to ensure the well-being of women in all walks of life and gender equality on sustainable grounds.

Acknowledgments

All the authors acknowledge and are thankful to Oxfam-Pakistan for taking on such a sort of project pertaining to women's empowerment in the purview of the institutional lens. Moreover, the authors are also thankful to the esteemed editor, anonymous reviewers, the data collection team, the data entry team, and above all, the participants for making this study possible for publication.


Conflict of Interest


Authors declared no conflict of interest.

Funding Source


This article is funded by Oxfam-Pakistan under Grant Project Cycle-4.

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References

- Crisologo, R. (2022). *APEC Policy Support Unit Unpaid Care and Domestic Work: Counting the Costs*. https://www.apec.org/docs/default-source/publications/2022/3/unpaidcare-and-domestic-work-counting-the-costs/222_psu_unpaid-care-and-domestic-work.pdf?sfvrsn=cac93c7c_2
- Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika*, 16(3), 297-334. <https://link.springer.com/article/10.1007/BF02310555>
- Dorji, C., Mercer-Blackman, V., Hampel-Milagrosa, A., & Suh, J. (2020). Valuing Unpaid Care Work in Bhutan. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.3785080>
- Felder, R. M., & Spurlin, J. (2005). Applications, reliability and validity of the index of learning styles. *International journal of engineering education*, 21(1), 103-112.
- Ferrant, G., Pesando, L. M., & Nowacka, K. (2014). Unpaid Care Work: The missing link in the analysis of gender gaps in labour outcomes. *Boulogne Billancourt: OECD Development Center*.

https://repositorio.cepal.org/bitstream/handle/11362/36619/S2014006_en.pdf?sequence=1&isAllowed=y

- Klein, E. (2021). Unpaid care, welfare conditionality and expropriation. *Gender, Work & Organization*, 28(4). <https://doi.org/10.1111/gwao.12679>
- Nachmias, C. (1975). Determinants of educational choice: some alternative models. *The Sociological Quarterly*, 16(3), 333-344.
- Pakistan Bureau of Statistics. (2017). *Brief on Census -2017 Pakistan Bureau of Statistics*. <https://www.pbs.gov.pk/content/brief-census-2017#:~:text=According%20to%20the%20final%20results>
- Pakistan Bureau of Statistics. (2022). *Pakistan Labor force survey 2020-21 Government of Pakistan Ministry of Planning, Development & Special Initiatives Pakistan Bureau of Statistics*. https://www.pbs.gov.pk/sites/default/files/labour_force/publications/lfs2020_21/LFS2020-21_Report.pdf
- Singh, P., & Pattanaik, F. (2020). Unfolding unpaid domestic work in India: women's constraints, choices, and career. *Palgrave Communications*, 6(1). <https://doi.org/10.1057/s41599-020-0488-2>
- Stuart, S. (2014). *Situation of unpaid work and gender in the Caribbean: The measurement of unpaid work through time-use studies*.
- Vyas, N. (2021). Undermining the Role of Women in the Economy: The Interplay Between Paid Work and Unpaid Care Work in India. *Industrial Law Journal*, 51(4). <https://doi.org/10.1093/indlaw/dwab035>

Appendix

Fatima Jinnah Women University

Measuring Women's Contribution in Care Economy

Care economy included all those activities that people perform on daily basis and mostly these are performed at homes that include **domestic chores** such as cleaning up a house, shopping groceries which are not paid as well as taking **Care of other persons like infants and elderly**. Also care economy refers to the paid and unpaid labor and services that support caregiving in all its forms. Care work encompasses **direct activities such as feeding a baby** or nursing an ill person, and **indirect care activities** such as cooking and cleaning (WEF, 2022).

DEMOGRAPHIC INFORMATION

1. Location of the participant _____
2. Sex of the participant _____
3. Age of the participant (years) _____
4. Marital status _____
5. Employment status
A). Employed B). Unemployed C). Self-employed
6. Education of the participant (years) _____
7. Monthly household income _____
8. Type of household earners:
 - a). Dual income _____
 - b). Single male income _____
 - c). Single female income _____
9. Monthly household expenses _____
10. Total number of children _____
- 11.

Serial Number of Children	Age of the children	Serial Number of Children	Age of the children
1		6	
2		7	
3		8	
4		9	
5		10	

12. Total number of elderly persons at home _____

Serial Number of Elders	Age of the elder person	Serial Number of Elders	Age of the elder person
1		3	
2		4	

13. Total time spent in 24 hours on an average on domestic and care work _____

14. How you rate your feeling while consuming the time on these activities?

1. Fresh 2. Better 3. Fine 4. Fatigued 5. Drained

Reproductive Care

Please record how frequently you engaged in the self-care activities during pregnancy and rate your feelings on scale of 1-5 and 1 as Fresh and 5 as Drained. Also share economic value in terms of expenses occurred on each of these activities.

S#	Reproductive self-care activities	Days of use on an average		Time of use on an average		1-Fresh 2-better 3-Fine 4-Fatigued 5-Drained	Economic Value (Expenses)
		Days	F	Minutes	Hrs.		
	Medical Check ups						
1	Going for initial check-up						
2	Going for regular check-ups						
2.1	First Trimester						
2.2	Second Trimester						
2.3	Third trimester						
3	Travelling for check-ups						
	Personal care						
4	Taking medication & Supplement						
6	Taking extra diet						
12	Time for rest						
	Dealing & management of physical and mental effects of pregnancy						
5	Dealing with missed or forget medication						

7	Dealing with morning sickness						
8	Dealing with mood swings						
9	Dealing with physical effects of pregnancy (call traditional birth attendant)						
10	Dealing with mental effects of pregnancy (like stress, anxiety and playing for children and go for walk etc).						
Getting help in daily routine work							
11	Getting help in daily routine work (Changing clothes, shoes, lifting bags						

Child Care

I will ask you as main care giver about care activities of your child/children under 5 years. Please indicate all of the activities that apply to the child care and time use on an average against each activity. As well rate your feelings on scale of 1-5 and 1 as Fresh and 5 as Drained. Also share economic value in terms of expenses occurred on each of these activities.

S#	Child Care Activities	Days of use on an average		Time of use on an average		1-Fresh 2-better 3-Fine 4-Fatigued 5-Drained	Economic Value (Expenses)
		Days	F	Mints	Hrs.		
	Rearing of Children						
1	Cleaning laundry, organizing house						
2	Helping enter/exit the bathroom						
3	Clean feeders and other essentials						
4	Holding child/children						
5	Changing Dipper						
6	Toilet training						
7	Help in clean and dress after toilet use						
8	Going to hospital together, Picking up prescription						
9	Help taking the right dosage of medication						

	at set times						
	Nurturing of the Children						
1	Help put on/take off clothes						
2	Help in brushing teeth						
3	Help in washing hands						
4	Help in bathing or shower						
5	Helping child move around						
6	Help in eating or drinking						
7	Prepare child food						
	Social/ Moral Training of the Children						
1	Having a conversation or playing indoors (including reading books)						
2	Watching TV or other media together						
3	Taking a walk (including outdoor playgrounds)						
4	Help with transportation (using public transportation, giving a ride in the car, commuting to/from daycare/school, etc.)						
5	Teaching, training and instruction to the child						
6	Accompanying children to places: school, tuitions, etc						

Elderly Care

I will ask about the elderly person (above 65 years) you're taking care of as the main caregiver. Please indicate all of the activities that apply to the elderly person's situation and time use on an average against each activity. As well rate your feelings on the scale of 1-5 and 1 as Fresh and 5 as Drained. Also share economic value in terms of expenses occurred on each of these activities.

1. What is your relationship with the elderly person you're currently taking care of as the main caregiver? _____

S#	Elderly Care Activities	Days of use on an average		Time of use on an average		1-Fresh 2-better 3-Fine 4-Fatigued 5-Drained	Economic Value (Expenses)
		Days	F	Minutes	hours		
	Physical Care						

1	Help put on/take off clothes						
2	Help in washing their face						
3	Help in brushing their teeth,						
4	Help in washing their hands						
5	Help enter/exit the bathroom,						
6	Help in clean and dress after toilet use						
7	Help bathe or shower						
8	Help eat or drink						
9	Change posture in bed or chair						
10	Help move around indoors						
11	Housework (cleaning, laundry, organizing things)						
	Medical Care						
1	Help taking the right dosage of medication						
2	Going to the hospital together						
3	Travel to get their medicine						
4	Travel for check-ups						
	Social/ Spiritual Care						
1	Help in reading books/newspapers						
2	Watching media together						
3	Help with transportation						
4	Helping with prayers						
5	Socializing them with other people						

Domestic Care

I will ask about your family you're taking care of as the main caregiver. Please indicate all of the activities that apply to the household work and time use on an average against each activity as well as rate your feelings on the scale of 1-5 and 1 as Fresh and 5 as Drained. Also share economic value in terms of expenses occurred on each of these activities.

		Days of use on an average	Time of use on an average	1-Fresh	Economic
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S#	Domestic Care Activities	Days	F	Minutes	hours	2-better 3-Fine 4-Fatigued 5-Drained	Value (Expenses)
	Cleaning of the house						
1	Cleaning of the house						
8	Washing utensils						
	Preparing foods & serving meals/guests						
2	Making breakfast						
4	Preparing lunch						
5	Preparing dinner						
6	Serving meal						
7	Serving guest						
	Washing & Ironing clothes						
9	Washing and drying clothes						
10	Ironing						
11	Mending of clothes						
	Payments of household bills						
12	Paying bills						
	Shopping						
3	Buying groceries						
13	Shopping household supplies/appliances						
14	Personal shopping						
18	Travel related to household maintenance, and shopping						
	Collection of Household supplies						
15	Fuel collection (i.e. gas cylinders/ wood etc.)						

16	Fetching water (Filter or Tube well)						
	Livestock Care						
17	Taking care of livestock/pets						

Care for the People with Special Needs

People with special needs include Disable, sick, and medically ill. I will ask about the people with special needs you're taking care of as the main caregiver in last 6 months. Please indicate all of the activities that apply to people with special needs and time use on an average against each activity. As well rate your feelings on the scale of 1-5 and 1 as Fresh and 5 as Drained. Also share economic value in terms of expenses occurred on each of these activities.

2. What is your relationship with the person with special need you have taken or taking care of as the main caregiver? _____

S#	People with special needs activities	Days of use on an average		Time of use on an average		Economic Value (Expenses)	1-Fresh 2-better 3-Fine 4-Fatigued 5-Drained
		Days	F	Minutes	hours		
	Physical Care						
1	Help put on/take off clothes						
2	Help in washing their face						
3	Help in brushing their teeth,						
4	Help in washing their hands						
5	Help enter/exit the bathroom,						
6	Help in clean and dress after toilet use						
7	Help bathe or shower						
8	Help eat or drink						
9	Change posture in bed or chair						

10	Help move around indoors						
11	Housework (cleaning, laundry, organizing clothes and other things)						
	Medical Care						
1	Help taking the right dosage of medication						
2	Going to the hospital together						
3	Travel to get their medicine						
4	Travel for check-ups						