Research Article

Assessing Quality of Life of the Visually Disabled People in Sri Lanka using the Seven Domains of Personal Wellbeing

M.D.R.K. Jayathilaka[1*], V. Dunuwila[1], D.S.C. Attale[2], H.S.H. De Seram[2], D. R. Sudusinghe[2], H.A.P.I. Abeyrathna[2], T. Suraweera[1], S. Thelijjagoda[1]

ruwan.j@sliit.lk

[1]Department of Information Management, SLIIT Business School, Sri Lanka Institute of Information Technology, New Kandy Road, Malabe, Sri Lanka.
[2]Department of Business Management, SLIIT Business School, Sri Lanka Institute of Information Technology, New Kandy Road, Malabe, Sri Lanka

Abstract

Quality of life (QoL) of the disabled is of interest to social researchers, though in general, it is a concept somewhat overlooked by many nations including Sri Lanka. This study examines the extent to which the seven domains of the Personal Wellbeing Index (PWI) impact the QoL of people with visual disabilities in Sri Lanka. The PWI comprises of seven social indicators viz, standard of living, achievements in life, community connectedness, close relationships, health, safety and future security. The sample of visually disabled population for this study was obtained from, Hambanthota District, in Southern Sri Lanka, as it records the highest rate of vision impairment in the country. Data collection was performed through a tailored questionnaire and thereafter analysed to determine relationships between the above mentioned seven domains and QoL. Demographic factors such as age and gender were also examined. Results conclude that majority of visually disabled individuals, especially those in the 40-59 age group are satisfied with the seven PWI social indicators examined. However, the domain of future security remains a significant concern, while females appear to be dissatisfied in terms of close relationships, achievements in life and standard of living, in addition, community connectedness and achievements in life domains need to be addressed by the policymakers to sustain QoL among VIandB in Sri Lanka.

Keywords*: Blind, Personal Wellbeing Index, Quality of Life, Visually Impaired*

1. Introduction

The meaning of the term 'Quality of Life' (QoL) vary among people and within societies. QoL is an argumentative complex construct often measured differently by various researchers using diverse dimensions. However, most researchers agree that QoL is a multi-dimensional construct that denotes the lifestyle of a specific individual. According to the Department of Census and Statistics, there are almost 1

million people with visual disabilities in Sri Lanka (Department of Census and Statistics [DCS], 2012). It is no doubt that the lifestyle of a person with visual disabilities may differ with people who 'see the world with their own eyes'. Furthermore, persons with visual disabilities invariably encounter specific challenges unlike people who can 'see'. Hence, a study on the QoL of persons with visual impairments and blindness (VIandB) is of special significance, particularly taking into consideration the international conventions of rights of the disabled.

According to the world population statistical indicators, about 7.8 billion people are suffering from some form of disability (Worldometer, 2020). The number of visually impaired persons in the world was estimated to be 285 million by 2010. Elaborating further on the visually disabled population, 39 million are found to be totally blind (Mario, 2010). Concerning the situation in Sri Lanka, a considerable proportion (4.76%) of the total 21 million population suffer from visual impairment in this island nation (DCS, 2012). Given that the empowerment of all communities in a country irrespective of their physiological limitations is a national responsibility, improving lifestyle of persons with visual disabilities is a challenging task (Stevelink et al., 2015). Thus, research on QoL of these visually impaired and blind people in this South Asian country is essential to reduce inequalities among the population, as indicated in the United Nation's sustainable development goals.

The increasing number of research articles on VIandB in the western world, provides ample evidence that developed countries pay more attention regarding the wellbeing of the visually impaired in contrast to the developing countries. However, examining published literature, it can be observed that there is a dearth of socio-economic studies targeting the visually disabled people in Sri Lanka, though this community represents a substantial group in the country.

There is a close relationship between the overall human QoL and personal wellbeing. QoL is described as a function of how far the human needs are met and the extent to which individuals or groups are satisfied with the level of meeting them (Costanza et al., 2007). Considering the above, the PWI has been used as an indicative measure of QoL in many studies in a wide range of countries, where examination of seven domains describing PWI in a study of QoL of a particular group of population is justifiable.

The main purpose of this study is to identify how seven domains of PWI affect the visually disabled people's QoL. The seven domains of the PWI includes: standard of

living, achievements in life, community connectedness, close relationships, health, safety and future security. This research differs from previous studies in many respects. Firstly, this study focusses on a group of visually disabled persons in Sri Lanka, a developing country in South Asian region, in which similar studies are very rare. Secondly, assessing the QoL of visually disabled is somewhat a debatable area of study with respect to applicability of measures. Although, most developed countries have invested in measuring QoL of their citizens including their disabled population, no standard methods are applied to measure QoL of visually disabled people. Therefore, the objective of this study is to explore how seven domains of the PWI affects the QoL of persons with visual disabilities. QoL The present study would fill this knowledge gap with respect to satisfaction level of visually disabled people under the seven domains indicated above. Finally, this study will help prospective researchers to broaden their scope of study.

The rest of this article is organised as follows. Section 2 explains literature review among seven domains, along with underlying concepts and theories of personal wellbeing and QoL. Section 3 presents data and methodology. Section 4 assesses test results and Section 5 presents the final conclusion.

2. Literature Review

As discussed above despite the widespread use of QoL in research, practice and policy development, there is limited consensus on characterisation as well as operationalisation of this construct. The World Health Organization (WHO) defines QoL "as an individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns" (WHO, 1998, p. 3). Similarly, according to Barcaccia (2013), QoL relates to life satisfaction, including many aspects of life, from physical health, family, education, employment, wealth, safety, security to freedom, religious beliefs and the environment.

According to Post (2014), Dijkers's model is a classic example of a comprehensive QoL model that addresses various approaches to QoL measurement, subjective to social indicators such as well-being, achievements and utility. It is one of the earliest models that integrated an objective and subjective approach to QoL measurement, The objective view of Dijkers model focused on societal standards and priorities, objective evaluations, and life achievements while the the subjective view focused on individual expectations, priorities, subjective evaluation and reactions. However,

this model lacks inclusion of personal and environmental factors as described in the International Classification of Functioning, Disability and Health (WHO, 2002). Meanwhile, Sen (1985) defines a 'Functions' and 'Capabilities' approach for assessment of QoL. 'Functions' relate to the status of individuals, whether they are well-fed and literate, while 'capabilities' relate to a person's autonomy in engaging with opportunities.

Thus, it is evident that scholars have introduced several theoretical frameworks for QoL each with their own conceptualisations as indicated in table 1. It was further identified that majority of previous studies related to assessment of QoL involved domains and indicators in its measurement. According to Schalock and Verdugo (2002), domains are the set of factors composing personal well-being while indicators are domain specific perceptions, behaviours, or conditions that reflect a person's well-being. Table 1 depicts a list of domains used by researchers for QoL assessment.

It is evident from literature that domains such as physical, material, social and emotional well-being were more commonly used in QoL assessment while domains such as productivity, spirituality, rights, achievements and safety were used less often.

The study conducted by Henchoz et al. (2015), on domains important to QoL of older people from two Swiss regions indicates that, people in modern countries expect to live longer. This research showed that older people have managed to live 65- 85 years in the past, and if we are to optimise the living conditions and QoL of the elderly, they will be able to live more years. Thus, improving the measurement of QoL and determining its related factors are quite important.

Table 1: Domains used in the QoL and references

Author	Domains used for QoL assessment
Felce and Perry (1995)	Material well-being; Physical well-being; Emotional well-being; Social well-being; Development and activity
The Whoqol Group (1998)	Physical Health; Psychological well-being; Level of independence; Social relations; Environment Spirituality; Religion, Personal beliefs

Cummins et al. (1997)	Material well-being; Physical well-being; Emotional well-being; Intimacy; Community; Safety; Productivity
Schalock and Verdugo (2002)	Emotional well-being; Interpersonal relations; Material well-being; Personal development; Physical well-being; Self-determination; Social inclusion; Rights
Vuletić et al. (2016)	Standard of living; Health; Life achievements; Personal relationships; Personal safety; Community connectedness; Future security

Source: Compiled by authors

At present, with a growing number of research studies, QoL is increasingly becoming popular. Research data for the Henchoz et al. (2015) were obtained from two main sources. First, set of data was based on the Lausanne 65 + population group. The analysis to evaluate age-related deficiency in old age commenced in 2004. Two samples were selected at random from the population living in the city of Lausanne (the capital of the Canton of Vaud). The 2004 registration included 1,564 subjects introduced among the years 1934 and 1938, and the 2009 registration included 1,486 subjects born between 1939 and 1943 (Henchoz et al., 2015). In this study, seven areas were considered important in determining the QoL. Twenty-eight important items were suggested; where the seven domains were identified through factor analysis which were similar in both exploration and verification samples. Significant correlations were observed between areas of importance, socio-economic and demographic health status. For a large majority of older persons, certain areas of QoL, such as being healthy, independent and feeling safe, seemed to be more important than the rest. This study also confirmed that health, social and economic status of individuals were the significant determinants of QoL, whereas the respondents' demographic background had no effect on their QoL.

A study by Evans and Huxley (2009) on QoL among the general population indicates that the literature on QoL has substantially increased in the 20th century. A search strategy plotted for through five major databases (Medline, EMBASE, Psychinfo, IBSS, and SSCI) indicated that a majority of the papers reported domain specific and 'general' QoL data collected through random samples from regional or national populations. Slight differences in results were reported in certain studies, mainly due

to the use of different measures, indicators of QoL, or perhaps due to the differences between samples.

The study by Logsdon et al. (2002), which is on QoL evaluation for older individuals with cognitive disability indicated that treatments for affected individuals with Alzheimer's disease and related dementia have been recorded over the past ten years, targeting a number of objectives, including improving memory. The subjects included 177 patients and caregiver pairs who met the criteria from the National Institute of Neurological and Communication Diseases. In this research, 177 patients were interviewed out of which 155 patients were able to complete the Quality of Life in Alzheimer's disease (QoL-AD) interview, while 22 could not adequately understand to provide any meaningful responses. The basic differences between patients who can complete QoL-AD and those who may not be associated with perception and functional status. There was no difference in caregiver assessments of QoL for people who can and cannot complete QoL-AD. This finding is somewhat surprising, because people who were unable to complete QoL-AD were still evaluated based on caregiver assessments. As a result, these assessments were found to be more cognitive, functional, and behavioural and respondents were having hearing impairment. However, the symptoms of depression, which are strongly related to QoL, was comparable in people who could and could not complete QoL-AD. It is likely that when caregivers formulate their QOL ratings, they take into account a variety of factors and their perceptions of the patient's mood, which is a critical component of their QoL ranking.

The studies undertaken by Chou et al. (2011) in Taiwan on health status, social support, and QoL of caregivers of adults with profound intellectual and multiple disabilities indicated that they have the strongest need for support and are most dependent on services. Participants of this survey were primary family caregivers for adults living with their primary caregiver in Hsinchu (a city in Taiwan). Adult family caregivers were provided an ID card containing 28 items representing four domains: Physical, psychological and social relationships, and environment. The study revealed that if the family caregivers of the adults with profound intellectual and multiple disabilities (PIMD) had better education, the more likely they were for a higher level of formal social support. This means, the more educated the caregivers are, they are better in accessing social services information and possibly have better links with social networks. These results indicate that among the caregivers of families with low socio-economic status, the groups became the most vulnerable;

also, such groups comparatively need higher support in terms of their healthcare, quality of material life and access to support systems.

The study which conducted by Cummins et al. (1997) on initial evaluation of the comprehensive Quality of Life Scale-intellectual disability indicates that the challenge of devising a valid measure of QoL has not been met. One reason is lack of agreement regarding construct definitions. This deficiency and theoretical limitation encouraged massive proliferation of tools that aim to measure the QoL in one form or another. However, this is not supported by sufficient data in terms of reliability and validity, to allow judgment adequacy of psychological measurement. This results in a situation where standards can be designed and one result of this is standardisation, mainly within this subgroup of the population. The method is that QoL comparisons cannot be made directly with the population of a given year. This carries an implicit danger that QoL will be measured on a criterion that is highly subjective unacceptable to other people in society for people with intellectual disability.

Despite being acknowledged as the most dominant functional disability in the country (Silva et al., 2008), there seem to be a significant gap in Sri Lankan research regarding this community. Majority of the published studies have focused only on a particular aspect of disability, while many of them are related to social, medical, and economic issues. Published literature reveals only two studies (Murthy et al., 2018; Nanayakkara, 2009) done in Sri Lanka to investigate QoL of persons with VIandB. However, both the studies have had their own limitations as they have only explored vision specific QoL, which merely examines the medical aspect of a life of quality and not QoL in general. Thus, it is evident that there have been no studies done in Sri Lanka to examine how persons with VIandB, in general, manage their Quality of Life.

3. Material and Methods

3.1 Data

Data for the study was collected using purposive sampling technique from the Hambanthota district in the form of telephone interviews. The major reason for the data collection to be aimed at Hambanthota was mainly because this district records the highest rate of vision impairment among both genders (Silva et al., 2008), in the country. The study consists of 64 participants, 34 blind and 30 visually impaired. Accordingly, the questionnaire focused on the impact of seven domains impacting

QoL on the visually disabled. Along with the seven domains, the questionnaire also focused on demographics such as age and gender. The questionnaire was developed based on the study conducted by Vuletić et al. (2016) on the QoL in blind and partially sighted people and evidence from Robert (2013) was taken into account as well. The questionniare includes eight questions to cover the seven domains along with the QoL. Satisfaction levels of respondants were recorded in a five point Likert Scale where 1 represents 'Not at all' and 5 denotes 'Extremely satisfied'. Pertaining to data collection, the questionnaire was read over the phone to all participants by the authors of the study.

3.2 Conceptualisation

The main purpose of this study is to identify how seven domains of the PWI effect on visually disabled people's QoL in Sri Lanka. The conceptualisation framework of this study shows the impact of seven domains: Future security, safety, Health, Achievement in life, Close relationship, Community connectedness and Standard of living on QoL of the visually disabled. The above conceptualisation framework in Figure 1 was developed with special reference to a reputed journal article, the study which was carried out in Croatia which is "QoL in visually impaired and partially sighted people" (Vuletić et al., 2016).

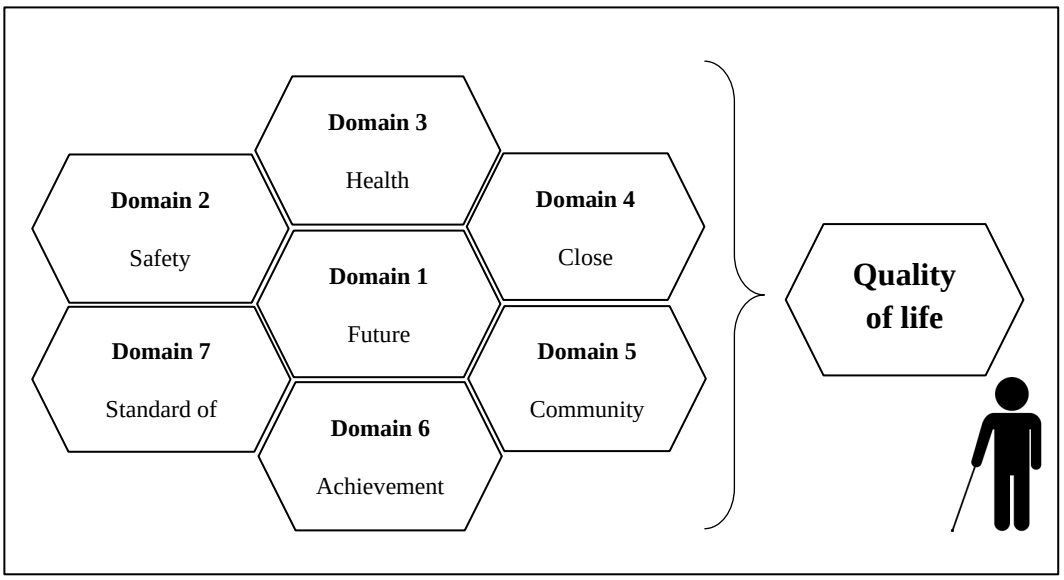

Figure 1: Conceptual framework
Source: Based on authors creation (and PWI).

3.3 Analytical tool

The analysis was performed using the SPSS statistical software towards accomplishing the proposed research objectives. Results are based on the descriptive measures of the data set. Basically, the results derived indicate relationships between the seven domains and demographic factors such as age and gender. The sample was segregated into three age groups (20-39, 40-59, 60-80 years) to aid analyse satisfaction levels of respondents along with the seven domains. Mainly, the analysis was performed based on ages considering aging and gender.

Measures of frequencies help to identify visually disabled people's satisfaction among seven domains as a count and it is transformed into percentage. Results and discussions are shown using percentages. Percentages are generated by responses given, i.e. number of satisfaction levels are divided by total number of satisfaction levels multiplied by hundred.

3. Results and Discussion

The result and discussion section mainly focusses on effect of how seven domains on visually disabled peoples' QoL. In addition, helps to identify how vision status effect on visually disabled people's demographic characteristics statistically. Measures of frequency statistical method is frequently used to identification of this study.

According to Table 2, among the 64 participants interviewed, 34 were blind and 30 visually impaired. The percentage of males in the sample were found to be 58.82% while the percentage of females in the sample was 41.18%.

Most of the visually disabled people in the sample tend to be older, where majority were between the ages of 40 to 59 years. Accordingly, blind people between the ages of 40-59 constitute 50% of the total sample. Moreover, the visually impaired individuals between age group of 40-59 carry 63.33% of the total visually impaired individuals in the sample (Table 2).

Most of the visually impaired in the sample were married, which is 76.66% while majority (41.18%) of the blind population were single (Table 2). Most of the blind and visually impaired individuals were GCE O/L qualified.

Among the 64 interviewed, 35.29% of blind people are satisfied with the first domain which is future security and 26.67% among the visually impaired people are not satisfied with their future security. According to study results, 33.33% visually impaired people's satisfaction level are neutral level for safety but 47.06% blind people are satisfied with their existing safety. Most of the visually disabled people are very satisfied with their health status. A majority of 44.12% of the blind individuals are satisfied with their achievements, while 40.00% of the visually impaired are very satisfied with their achievements. In rest of the domains, which are: close relationship, community connectedness and standard of living, satisfaction levels of visually disabled people, are mostly inclined towards the status of 'satisfactory'.

Table 2: Demographic characteristics of visually disabled people

	Frequency (%)	
	Blind n = 34	V. Impaired n = 30
Gender		
Male	58.82	80.00
Female	41.18	20.00
Age		
20-39	29.41	16.67
40-59	50.00	63.33
60-80	29.59	20.00
Marital Status		
Single	41.18	20.00
Married	58.82	76.66
Divorced	00.00	03.33
Education Level		
No schooling	05.88	10.00
Primary (1 - 5)	11.76	13.33
Secondary (6 - 10)	23.53	20.00
Passed GCE O/L	32.35	33.33
Passed GCE A/L	05.88	00.00
Tertiary (degree or above)	05.88	16.67
Vocational	11.76	06.67
Other	02.94	00.00

Source: Authors' calculation based on primary data.

Table 3: Satisfaction level of seven domains among visually disabled people (n = 64)

Domains	Vision Status	Frequency %				
		V. dissatisfied	Dissatisfied	Neutral	Satisfied	V. satisfied
Future Security	Blind	17.65	11.76	26.47	35.29	08.83
	V. Impaired	26.67	03.33	33.33	23.33	13.34
Safety	Blind	00.00	05.88	11.76	47.07	35.29
	V. Impaired	00.00	03.33	23.33	30.00	43.34
Health	Blind	00.00	05.88	05.88	38.24	50.00
	V. Impaired	00.00	00.00	13.33	40.00	46.67
Achievements in Life	Blind	02.94	02.94	14.71	44.12	35.29
	V. Impaired	00.00	10.00	16.67	33.33	40.00
Close Relationships	Blind	00.00	00.00	02.94	44.12	52.94
	V. Impaired	00.00	03.33	10.00	43.33	43.34
Community Connectedness	Blind	00.00	11.76	02.94	47.06	38.24
	V. Impaired	00.00	00.00	20.00	46.67	33.33
Standard of Living	Blind	02.94	00.00	17.65	44.12	35.29
	V. Impaired	00.00	06.67	23.33	36.67	33.33

Source: Authors' calculation based on the primary data.

Table 4 indicates that most blind people between the ages of 20-39 were neutral and somewhat satisfied with their future security. It is respectively 30% in each neutral and satisfied level of satisfaction out of the blind population. Furthermore, those who were aged 20-39 consisting 10% of the total blind population, were very dissatisfied with their future security. Between ages of 20-39, 40% of VI people were satisfied with their future security. With regard to age, most blind people between the ages of 40-59 were very satisfied with their future security which is 35.29% of blind population. Between the ages of 40-59, 31.58% out of VI population were neutral with their future security and 21.05% VI people were very dissatisfied with their future security. Most blind people between the ages of 60-80 were very dissatisfied with their future security. It shows that 42.86% out of blind population between the ages of 60-80 and most of the VI people between ages 60-80 are neutrally satisfied with their future security. Table 4 illustrates that the level of satisfaction with their future security decreases with the age of blind people whereas most of the visually disabled peoples are neutral with their future security. Similar findings were presented by Vuletić et al. (2016) where both groups; blind and the partially sighted were least happy about their future security.

Table 4: Satisfaction level of future security domain according to the age of visually disabled people (n = 64)

Future Security	Frequency %					
Age	20-39		40-59		60-80	
Vision Status	Blind	V. Impaired	Blind	V. Impaired	Blind	V. Impaired
Very dissatisfied	10.00	20.00	11.76	21.05	42.86	33.33
Dissatisfied	20.00	00.00	05.88	05.26	14.29	00.00
Neutral	30.00	40.00	35.29	31.58	14.29	50.00
Satisfied	30.00	40.00	35.29	21.05	28.57	16.67
Very satisfied	10.00	00.00	11.76	21.05	00.00	00.00
Total	100.00	100.00	100.00	100.00	100.00	100.00

Source: Authors' calculation based on the primary data

Table 5 shows that 60.00% of the blind people between the ages of 20-39 are satisfied with their safety while 10.00% are dissatisfied. Between ages of 20-39, 40% of VI population were very satisfied with their safety. Regarding age, most blind people 47.06% of 40-59 are very satisfied with their safety between the ages of 40-59, 47.37% out of VI people were extremely satisfied with their safety. Most blind people between the ages of 60-80 are satisfied with their safety representing 28.57% while 14.29% were dissatisfied with their safety in blind population. Most of the VI people between ages of 60-80 were satisfied with their safety, account for 50% of the blind population. Accordingly, Table 5 statistics show that visually disabled individuals between 20-39 are dissatisfied with their safety. Findings of this study confirm those in a research conducted by Vuletić et al. (2016). As noted previously (under Table 4 -future security) similar findings explain where the partially sighted were most satisfied with their sense of safety compared to the blind.

Table 5: Satisfaction level of safety domain according to the age of visually disabled people (n = 64)

Safety	Frequency %					
Age	20-39		40-59		60-80	
Vision Status	Blind	V. Impaired	Blind	V. Impaired	Blind	V. Impaired
Very dissatisfied	00.00	00.00	00.00	00.00	00.00	00.00
Dissatisfied	10.00	20.00	00.00	00.00	14.29	00.00
Neutral	20.00	00.00	11.76	26.32	14.29	16.67
Satisfied	60.00	40.00	41.18	26.32	28.57	50.00

Safety	Frequency %					
Age	20-39		40-59		60-80	
Vision Status	Blind	V. Impaired	Blind	V. Impaired	Blind	V. Impaired
Very satisfied	10.00	40.00	47.06	47.37	00.00	33.33
Total	100.00	100.00	100.00	100.00	100.00	100.00

Source: Authors' calculation based on the primary data.

Table 6 indicates the level of health domain and satisfaction levels among visually disabled people. A majority of 60% of the blind individuals between ages of 20-39 are satisfied with their health. Between the ages of 20-39, 40.00% of VI were very satisfied with their health. In terms of age, most blind people between the ages of 40-59 are very satisfied with their health and it represents 58.82% out of the blind population. Between the ages of 40-59, 57.89% of VI people were satisfied with their health. Most blind people (71.43%) between the ages of 60-80 were very satisfied with their health representing while 28.57% out of blind population are not satisfied with their health. In the same age group, the VI people (8.33%) were satisfied with their health as well. Table 6 statistics show that the level of satisfaction with their health status decreases with the age of some blind people and most of the visually disabled people are satisfied with their health. As noted previously, Vuletić et al. (2016) also indicate that the partially sighted have better satisfaction on their health compared to the blind.

Table 6: Satisfaction level of health domain according to the age of visually disabled people (n = 64)

Health	Frequency %					
Age	20-39		40-59		60-80	
Vision Status	Blind	V. Impaired	Blind	V. Impaired	Blind	V. Impaired
Very dissatisfied	00.00	00.00	00.00	00.00	00.00	00.00
Dissatisfied	00.00	00.00	00.00	00.00	28.57	00.00
Neutral	20.00	20.00	00.00	10.53	00.00	02.78
Satisfied	60.00	40.00	41.18	31.58	00.00	08.33
Very satisfied	20.00	40.00	58.82	57.89	71.43	05.56
Total	100.00	100.00	100.00	100.00	100.00	100.00

Source: Authors' calculation based on the primary data

Table 7 illustrates statistical results about the satisfaction levels of respondents with the close relationships that they have. As per the results of the satisfaction levels of close relationships domain, majority of 60% of the blind and 80% of the visually

impaired people were satisfied in the 20-39 age group. Pertaining to ages of 40-59, 58.82% blind and 47.37% visually impaired people out of the total sample were very satisfied with the close relationships they have. Accordingly, in ages of 60-80, 57.14% were satisfied with the close relationships that they have while 50% out of the total visually impaired sample population were very satisfied with their relationships. Thus, it demonstrates that middle aged (40-59) visually disabled people maintain close relationships better than people who are in ages of 20-39 and 60-80. Hence, it signifies that satisfaction levels with close relationships of visually disabled people, gradually increase with the age. Further, results demonstrate that the blind individuals were satisfied with their close relationships compared to the visually impaired. Vuletić et al. (2016) presented similar findings in their publication which indicated that blind individuals were the most satisfied with their close relationships compared to the partially sighted.

Table 7: Satisfaction level of close relationship domain according to the age of visually disabled people (n = 64)

Close relationship	Frequency %					
Age	20-39		40-59		60-80	
Vision Status	Blind	V. Impaired	Blind	V. Impaired	Blind	V. Impaired
Very dissatisfied	00.00	00.00	00.00	00.00	00.00	00.00
Dissatisfied	00.00	00.00	00.00	05.26	00.00	00.00
Neutral	00.00	00.00	05.88	10.53	00.00	16.67
Satisfied	60.00	80.00	35.29	36.84	57.14	33.33
Very satisfied	40.00	20.00	58.82	47.37	42.86	50.00
Total	100.00	100.00	100.00	100.00	100.00	100.00

Source: Authors' calculation based on the primary data.

In accordance with results, Table 8 depicts the satisfaction level with the community connectedness of visually disabled people. Considering the ages of 20-39 out of the total sample 60% of the blind were satisfied with their connections among the community while 40% of the VI were satisfied with their interconnectedness with the community. With pertaining to the ages of 40-59 majority of the blind and VI people were satisfied which are respectively 64.71% of blind population and 47.37% of VI population. Furthermore, in ages of 60-80, most of the blind people were very satisfied and it represents 71.43% while 50% of VI people were satisfied with their connections among the community. Hence, Table 8 demonstrates that the blind and VI people who are in ages of 40-59 sustain their interconnectedness with the

community which is further signified by findings of Vuletić et al. (2016) (where the partially sighted were more satisfied with their community connectedness compared to the blind).

Table 8: Satisfaction level of community connectedness domain according to the age of visually disabled people (n = 64)

Community Connectedness	Frequency %					
Age	20-39		40-59		60-80	
Vision Status	Blind	V. Impaired	Blind	V. Impaired	Blind	V. Impaired
Very dissatisfied	00.00	00.00	00.00	00.00	00.00	00.00
Dissatisfied	20.00	00.00	05.88	00.00	14.29	00.00
Neutral	10.00	40.00	00.00	15.79	00.00	33.33
Satisfied	60.00	40.00	64.71	47.37	14.29	50.00
Very satisfied	10.00	20.00	29.41	36.84	71.43	16.67
Total	100.00	100.00	100.00	100.00	100.00	100.00

Source: Authors' calculation based on the primary data

With respect to the results of Table 9, it is evident that the majority of 70% of the blind individuals between the ages of 20-39 were satisfied with their achievements in life while only 40% of the VI in that age category were very satisfied. In the age group of 40-59, most of the blind (41.18%) and VI (52.63%) people were very satisfied with the achievements they accomplished in their lives. Furthermore, in ages 60-80, the highest number of respondents were satisfied with their achievements with 42.86% blind and 50% VI, respectively. Thus, it can be derived from Table 9 that the majority of respondents who are very satisfied with accomplishments are those who are middle aged (40-59). While results of this analysis indicate that the blind were more satisfied with their achievements, findings of Vuletić et al. (2016) indicate that the partially sighted were more satisfied with their achievements.

Table 9: Satisfaction level of achievement in life domain according to the age of visually disabled people (n = 64)

Achievement in Life	Frequency %					
Age	20-39		40-59		60-80	
Vision Status	Blind	V. Impaired	Blind	V. Impaired	Blind	V. Impaired
Very dissatisfied	00.00	00.00	05.88	00.00	00.00	00.00
Dissatisfied	10.00	00.00	00.00	05.26	00.00	16.67
Neutral	10.00	40.00	17.65	10.53	28.57	00.00
Satisfied	70.00	20.00	35.29	31.58	42.86	50.00
Very satisfied	10.00	40.00	41.18	52.63	28.57	33.33
Total	100.00	100.00	100.00	100.00	100.00	100.00

Source: Authors' calculation based on the primary data

According to the standard of living domain, majority of the blind people between the ages of 20-39 are satisfied with their standard of living, representing 60% of the total blind population, while 10% of the blind population were extremely dissatisfied with their standard of living. Meanwhile, between the ages of 20-39, 80.00% of VI people were satisfied with their standard of living. Most blind people between the ages of 40-59 are very satisfied with their standard of living and it's about 52.94% of the blind population. Between the ages of 40-59, 36.84% VI people were extremely satisfied with their standard of living. Most blind people between the ages of 60-80 are very satisfied with their standard of living while 28.57% of blind people were neutral with their standard of living and 50% of the VI people between ages of 60-80 were satisfied with their standard of living as well. This table statistically shows that the levels of satisfaction with their standard of living decreases with the age of some blind people and most of the visually disabled peoples are satisfied with their health. According to the findings of Vuletić et al. (2016) the partially sighted show better satisfaction with standard of living while those who were provided with a psychosocial rehabilitation program were least happy with their standard of living. This outcome can be explained by the fact that psychosocial rehabilitation cannot improve one's standard of living and that if someone is not happy with their standard, this sentiment will not change after rehabilitation.

Table 10: Satisfaction level of standard of living domain according to the age of visually disabled people (n = 64)

Standard of Living	Frequency %					
Age	20-39		40-59		60-80	
Vision Status	Blind	V. Impaired	Blind	V. Impaired	Blind	V. Impaired
Very dissatisfied	10.00	00.00	00.00	00.00	00.00	00.00
Dissatisfied	00.00	00.00	00.00	00.00	00.00	16.67
Neutral	30.00	00.00	05.88	26.32	28.57	16.67
Satisfied	60.00	80.00	41.18	36.84	14.29	16.67
Very satisfied	00.00	20.00	52.94	36.84	57.14	50.00
Total	100.00	100.00	100.00	100.00	100.00	100.00

Source: Authors' calculation based on the primary data

Figure 2 shows the satisfaction levels of the visually disabled peoples in the seven domains between their genders. Their satisfaction level is represented by a Likert scale of 1 – 5. Respectively 1 = very dissatisfied, 2 = dissatisfied, 3 = neutral, 4 = satisfied and 5 = very satisfied. According to the responses for the future security domain, 84.62% of males are very dissatisfied from the total number of very dissatisfied people among future security. 62.50% male people are very satisfied with their future security along with 37.50% female are very satisfied with future security as well. Most of the male people have a neutral feeling with their safety, it is 81.82% and most of the female people are satisfied with their safety and it represent 35.71%. 83.87% of the males are very satisfied with their health while 66.67% female are in neutral satisfaction level with their health. According to these responses for the close relationship domain, none of the respondents were very dissatisfied. But 75.00% male are neutral with their close relationships. Only females seem to be dissatisfied with their close relationships. There are less number of males dissatisfied with their community connectedness, which is 25.00% from the total dissatisfied population for the domain community connectedness. A very less number of females are very satisfied with their community connectedness, which is 25% from the total very satisfied population for the domain community connectedness. Most of the males are satisfied with their achievements in life and their standard of living amounting to 79.17% and 76.00% respectively. According to the above graph, males show better satisfaction in each domain compared to the females which is further signified by Lee et al. (2020) where male older adults reported a better QoL than female older adults.

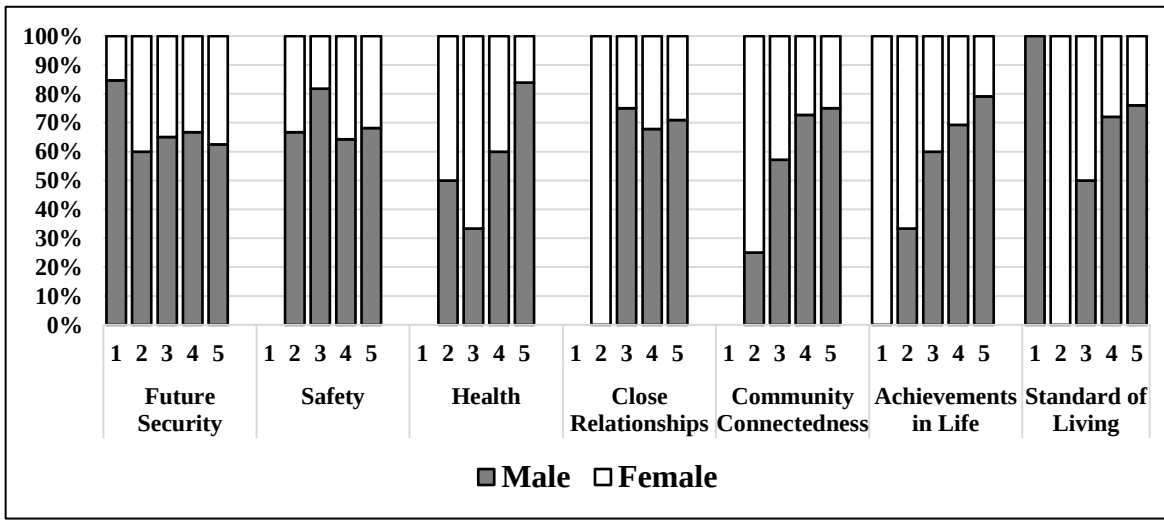

Figure 2: Satisfaction on the seven domains of QoL by gender (n = 64)

Source: Authors' calculation based on the primary data.

5. Conclusion

Among the sample of 64 visually disabled persons, 34 (53.13%) persons are totally blind and the rest (46.88%) is visually impaired, in varied levels. Most of the visually disabled people tend to be older, where majority were between the ages of 40 to 59 years. Furthermore, the satisfaction level of seven domains were measured using the Likert scale (1-5), where 1 represents 'very dissatisfied' and 5, 'very satisfied'. Considering the seven domains along with responses, majority of the sample population were satisfied with their standard of living, achievements in life, community connectedness, close relationships, health, safety and future security.

Remarkably, some highlights on satisfaction levels of VIandB people are as follows:

- Dissatisfaction is evident in domains of future of security domain (approximately 30% each in blind and VI people), community connectedness (11.76% among blind) and achievements in life, (10% among VI) ;
- Gender wise, females appear to be dissatisfied in terms of close relationships, achievements in life and standard of living.
- The age group 40-59 is satisfied with close relationships, interconnectedness with the community, accomplishment and standard of living.

Key findings of seven domains are summarised below.

- Among total responses, age was segregated into three main categories, i.e. 20-39, 40-59 and 60-80. Most blind people were satisfied with their health representing 06 (60.00%) people out of the total blind population in the ages of 20-39.
- Accordingly, most blind people between ages of 40-59 are very satisfied with their standard of living amounting to 52.94% while 07 out of 19 VI people (36.84%) are extremely satisfied with their standard of living.
- Furthermore, 04 blind (57.14%) people were satisfied with the close relationships they have, while 03 visually impaired people (50%) were very satisfied with their relationships, in ages of 60-80.
- In terms of community connectedness, in ages of 20-39, the majority 70% of the blind were satisfied while majority of the VI were very satisfied depicting 02 (40%) out of the total VI. Pertaining to ages of 40-59 majority of the blind

and VI people were satisfied which amounted to 11 blind people (64.71%) and 09 (47.37%) VI people.

- With regard to achievement in life domain, most blind people between ages of 60-80 are very dissatisfied with their future security i.e. 03 out of 07 blind peoples amounting to 42.86% of the total blind population and 50% of the VI people.
- Accordingly, in standard of living domain, a majority (60%) the blind people between the ages of 20-39 are satisfied with their safety while 01 blind person dissatisfied with their standard of living (10%).

5.1 Policy implications

Conducting this study can assist in the formulation and fine tuning of policies, with a special focus on 'social inclusion'. In doing so, it is expected that policy making support visually disabled people to feel that they are not marginalised, not isolated or rather 'left out' in the society. Through this study, it provides a wide focus for policymakers, regulatory institutions and authorities including stakeholders to identify the satisfaction level of visually disabled people on selected perspectives. In other words, QoL of VIandB people will be identified in terms of significant factors in a broader scale including Health, Standard of living, Community connectedness and Close relationship, Achievement in life, Future security and Safety.

It is recommended that policymakers address domains of dissatisfaction pertaining to VIandB such as future of security, community connectedness and achievements in life. It should be highlighted that females (being dissatisfied in terms of close relationships, achievements in life and standard of living), need to be given priority for social and financial inclusion, i.e. access to health benefits, women empowerment for VIandB etc.

An important fact for policymakers is that to uplifting QoL of VIandB need to be supported by proper infrastructure and programmes in place, resource allocations and expertise. In this setting, community-based programmes, relationship building along with ongoing activities with regular people, safe and reliable transport service, designated spaces in stations and within bus, railway, and sidewalks in roads in good condition for safe mobility of VIandB have been effective in developing countries. Overall, much expertise and weight should be placed for 'keeping up spirits' of VIandB and recognising them as part of citizens capable of making a valuable contribution to the country. QoL for VIB people need to be ongoing, hence not a

one-off programme and a uniform solution do not fit for domains and age groups under concern. Due monitoring and evaluations are essential in this regard. Improving resilience and community groups for connectedness of VIandB are a must for synergies. Especially in pandemic times such as the coronavirus (COVID-19), QoL of VIandB are severely affected as their mobility, social life and livelihoods are disrupted. IT related apps can be feasible in enabling VIandB people maintain their connectedness during disasters.

Improving QoL of the visually disabled people is generally a debatable topic that tends to conclude with no action to mitigate this condition. Many developed countries seem to measure QoL of their citizens, including the disabled population. However, in developing countries like Sri Lanka, there is no acceptable way to measure the QoL of people, including the visually disabled. Conducting this study in the Sri Lankan context helps policymakers to perceive QoL in a fresh perspective rather than merely carrying out procedures, therefore, to identify how visually disabled individuals perceive QoL. Seven domains were applied to the Sri Lankan context by conducting this research study as well.

5.2 Recommendations

Aspirations and needs of people change over time. Thus, visually impaired people are no exception. It can be recommended that outcomes of this study, can incorporate findings unique in a local context to establish a PWI for Sri Lanka. This PWI, as a yardstick to measure QoL can be updated to be realistic and reliable. Consequently, this PWI can then be one of yardsticks to measure living standards of the visually disabled in Sri Lanka. Also, continuous research on the QoL of the people should be conducted in the context of Sri Lanka will help to identify how mindsets and expectations of VIandB people (about life and their perspectives) evolve over time. In these circumstances, it can be assumed that policymaking, social safety nets, community and relationship building and empowerment support provided by the government need to be adaptable accordingly. In other words, adaptable policies are also effective and accomplish a country's desired objectives such as wellbeing of citizens.

Many developed countries use a number of relevant tools to measure the QoL of their people. A developing country like Sri Lanka should use an acceptable tool to measure the QoL of the people. There are numerous studies conducted on behalf of visually disabled people conducted by developed and developing countries in the

global context. But in the Sri Lankan context, less attention has been paid to visually disabled people. By conducting research targeting visually disabled people may enable the community to identify their perspectives as well. It was identified in the study that majority of visually disabled people are not satisfied with their future security which is common to the visually disabled population in other countries as per findings of (Vuletić et al., 2016). Identifying the causes of dissatisfaction and addressing them can help improve QoL of visually disabled people in the long run.

Qualitative and in-depth studies can be considered in future on a case-by-case basis covering total 25 districts representing Sri Lanka. This would assist to provide insights on prevailing social issues and as a result, government can minimise similar issues in future, with a proactive approach.

5.3 Limitations

One main limitation of this study is the limited sample size of 64 individuals from the one administrative district out of 25 in the country, which was mainly due to the difficulty in accessing persons with VIandB due to the unavailability of up-to-date records of the disabled population. The study focused only on the age and gender of the visually disabled. Thus, future researchers could expand to focus on other socio-demographic characteristics such as location and occupational status and also to have a larger sample from different geographical locations in the country.

6. Acknowledgments

Authors acknowledge the contributions of following institutions and people involved. This is an outcome of research project on ‘Quality of Life and Employability potential of Persons with Visual Impairment and Blindness in Sri Lanka’ of Business School of the Sri Lanka Institute of Information Technology, Colombo Sri Lanka. This project is supported by the World Bank funded Accelerating Higher Education Expansion and Development (AHEAD) programme implemented through the Ministry of Higher Education and the University Grants Commission (UGC) of Sri Lanka, which is coordinated by the Operations Monitoring and Support Team (OMST) of the Ministry. The authors also would like to thank Ms. Gayendri Karunarathne for proof-reading and editing this manuscript.

References

Barcaccia, B., (2013). Quality of life: Everyone wants it, but what is it? *Forbes/Education.*

Chou, Y. C., Chiao, C. and Fu, L. Y., (2011). Health status, social support, and quality of life among family carers of adults with profound intellectual and multiple disabilities (PIMD) in *Taiwan. Journal of Intellectual and Developmental Disability*, 36**,** 73-9.
DOI:10.3109/13668250.2010.529803

Costanza, R., Fisher, B., Ali, S., Beer, C., Bond, L., Boumans, R., Danigelis, N. L., Dickinson, J., Elliott, C. and Farley, J., (2007). Quality of life: An approach integrating opportunities, human needs, and subjective well-being. *Ecological economics,* 61**,** 267-276.

Cummins, R. A., Mccabe, M. P., Romeo, Y., Reid, S. and Waters, L., (1997). An initial evaluation of the comprehensive quality of life scale--intellectual disability. *International Journal of Disability, Development and Education,* 44**,** 7-19.

Department of Census and Statistics., (2012). *Characteristics of the Disabled Persons Census of Population and Housing.*

Evans, S. and Huxley, P., (2009). Studies of quality of life in the general population. *International Review of Psychiatry,* 14**,** 203-211.
DOI:10.1080/09540260220145028

Felce, D. and Perry, J., (1995). Quality of life: Its definition and measurement. *Research in developmental disabilities,* 16**,** 51-74.

Henchoz, Y., Meylan, L., Goy, R., Guessous, I., Bula, C., Demont, M., Rodondi, N. and Santos-Eggimann, B., (2015). Domains of importance to the quality of life of older people from two Swiss regions. *Age Ageing,* 44**,** 979-85.
DOI:10.1093/ageing/afv130

Lee, K. H., Xu, H. and Wu, B., (2020). Gender differences in quality of life among community-dwelling older adults in low-and middle-income countries: results from the Study on global AGEing and adult health (SAGE). *BMC public health,* 20**,** 114.

Logsdon, R. G., Gibbons, L. E., Mccurry, S. M. and Teri, L., (2002). Assessing Quality of Life in Older Adults With Cognitive Impairment. *Psychosomatic Medicine Journal,* 64**,** 510–519.
DOI:0033-3174/02/6403-0510

Nanayakkara S. D., (2009). Vision-related quality of life among elders with cataract in Sri Lanka: findings from a study in Gampaha District. *Asia-Pacific journal of public health*, 21(3), 303–311. DOI:10.1177/1010539509336010

Mario, S. P., (2010). Global Data on Visual Impairments. World Health Organization.

Murthy, G.V.S., Schmidt, E., Gilbert, C., Edussuriya, K., and Pant, H.B., (2018). Impact of blindness, visual impairment, and cataract surgery on quality of life and visual functioning among adults aged 40 years and above in Sri Lanka. *Ceylon Medical Journal*, 63(5), 26–32. DOI:10.4038/cmj.v63i5.8739

Post, M.W.M., (2014). efinitions of Quality of Life: What Has Happened and How to Move On. Topics in Spinal Cord Injury Rehabilitation/Summer. 20**,** 167–180.

Robert, A.C. 2013. *Personal Wellbeing Index – Adult.* Deakin University.
Schalock, R. L. and Verdugo, M. A. 2002. *Handbook on quality of life for human service practitioners*, American Association on Mental Retardation Washington, DC.

Sen, A., (1985). Well-being, agency and freedom: The Dewey lectures 1984. *The journal of philosophy,* 82**,** 169-221.

Silva, W. I., Amarabandu, W. P. and Gunasekara H. R., (2008). *Disability amongst the elderly in Sri Lanka: Research Studies Series*, Colombo: Institute for Health Policy.

Stevelink, S.A.M., Malcolm, E.M. and Fear, N.T., (2015). Visual impairment, coping strategies and impact on daily life: a qualitative study among working-age UK ex-service personnel. *BMC Public Health* 15, 1118. DOI:10.1186/s12889-015-2455-1

The Whoqol Group., (1998). The World Health Organization quality of life assessment (WHOQOL): development and general psychometric properties. *Social science and medicine,* 46**,** 1569-1585.

Vuletić, G., Šarlija, T. and Benjak, T., (2016). Quality of life in blind and partially sighted people. *Journal of Applied Health Sciences,* 2**,** 101-112. DOI:10.24141/1/2/2/3

Worldometer., (2020). *Current World Population* [Online]. Available from: https://www.worldometers.info/world-population/#:~:text=The%20current%20world%20population%20is,currently%20living)%20of%20the%20world
[Accessed 2020 October 17].

World Health Organization., (1998). *WHOQOL User Manual* (p. 2). [Online]. World Health Organization. Available from: https://apps.who.int/iris/handle/10665/77932 [Accessed 2020 May 04].

World Health Organization., (2002). *Towards a Common Language for Functioning, Disability and Health ICF*. [Online]. Available from: https://cdn.who.int/media/docs/default-source/classification/icf/icfbeginnersguide.pdf?sfvrsn=eead63d3_4
[Accessed 2020 September 25].