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Subjective Well-Being Index for Person with Visual Impairment across Five Regions in Malaysia

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Abstract

This study creates a Subjective Well-Being (SWB) Index specifically for person with visual impairments (PVI) in Malaysia, a group that has not been studied much in terms of well-being. While SWB encompasses life satisfaction, emotional responses, and psychological well-being, existing research has primarily focused on the general population, with limited measures specifically for PVI. This study fills that gap by evaluating SWB across eight key domains (independence, social relationships, psychological health, physical health, environment, religiosity, self-belief, and culture) based on survey data from 145 visually impaired individuals across five Malaysian regions (Northern, Southern, Eastern, Central, and Borneo). The results show that religiosity (*M* = 9.27, *SD*= 1.12) and self-belief (*M* = 7.83, *SD*=1.47) are the most highly rated areas, while culture (*M* = 6.04, *SD*=1.98) and environment (*M* = 6.32, *SD*=1.87) are the least highly rated. The Southern region had the highest overall SWB, which could mean that local policies or community support systems are helping people feel better. The findings emphasise the need for targeted interventions to improve cultural inclusion and environmental accessibility for PVI in Malaysia.

Keywords: Subjective Well-Being, Visual Impairment, Quality of Life, SWB Index, Malaysia, Demographic Factors

Introduction

Subjective Well-Being (SWB) is a critical psychological construct that reflects individuals' overall assessment of their quality of life, incorporating life satisfaction, emotional experiences, and psychological functioning (Diener, 2000). Over the past few decades,

extensive research has examined the factors influencing SWB, including socioeconomic status, health, employment, and social relationships (Diener et al., 2018; Helliwell et al., 2020). However, there remains a significant research gap in understanding SWB among individuals with disabilities particularly individuals with visual impairment (PVI).

Visual impairment is one of the most prevalent disabilities worldwide, affecting approximately 43 million people (World Health Organization, 2019). Ministry of Health Malaysia and institute-based eye health data indicate that the prevalence of blindness in Malaysia among adults aged 50 years and above was approximately 1.2% in the 2014 National Eye Survey, with a substantial burden of visual impairment driven by treatable causes such as cataract and diabetic retinopathy (Ophthalmology Service & Institute for Public Health, Ministry of Health Malaysia, 2014). Recent regional assessments continue to demonstrate persistent patterns of visual impairment among older adults, underscoring the need for enhanced early detection and intervention services to address age-related eye diseases (Salowi et al., 2024).

Studies have shown that PVI experience reduced independence, lower life satisfaction, and a higher prevalence of depression and anxiety compared to the general population (Brunes et al., 2019; Choi et al., 2018). Furthermore, accessibility issues, social stigma, and environmental barriers exacerbate disparities in quality of life and well-being for PVI (Golledge, 2019).

Despite growing recognition of quality of life issues among PVI, Malaysia lacks a standardised SWB measure that captures the population's unique challenges and experiences. Existing SWB measures, such as the Satisfaction with Life Scale (SWLS) (Diener et al., 1985) and the World Happiness Index (Helliwell et al., 2020) are primarily designed for the general population and may not fully capture disability specific well-being factors such as independence, self-belief, and accessibility-related stressors (Verdugo et al., 2012).

This study seeks to bridge this gap by developing a Subjective Well-Being Index (SWB Index) specifically for visually impaired individuals in Malaysia. The study assesses eight well-being domains:

1. Independence
- The ability to perform daily activities without excessive reliance on others.
2. Social Relationships
- The strength and quality of personal and community connections.
3. Psychological Health
- Emotional resilience, stress levels, and coping mechanisms.
4. Physical Health
- Perceived overall physical well-being.
5. Environment
- Accessibility and physical surroundings affecting daily life.
6. Religiosity
- The role of faith, spirituality, and religious practices in well-being.
7. Self-Belief
- Self-confidence and perceived ability to overcome challenges.
8. Culture

- Participation in cultural and social activities.

By evaluating these domains across five Malaysian regions (Northern, Southern, Eastern, Central, and Borneo), the study aims to identify regional disparities in SWB and provide evidence-based recommendations for policymakers, rehabilitation professionals, and disability advocates to enhance the well-being of visually impaired individuals.

Literature Review

Concept of Subjective Well-Being (SWB)

SWB has been extensively studied in psychology and social sciences as a multidimensional construct encompassing cognitive and affective components (Diener et al., 2018). Cognitive well-being refers to life satisfaction and goal fulfilment, while affective well-being is associated with positive and negative emotional experiences (Helliwell et al., 2020). Current studies identify several primary predictors of subjective well-being (SWB), such as income, health, social connections, and cultural background (Diener et al., 2018). However, in the context of disability and visual impairment, these predictors must be reassessed to include barriers related to accessibility, self-sufficiency, and adaptation to vision loss (Schneider et al., 2020).

SWB among Persons with Visual Impairment (PVI)

Studies consistently show that PVI report lower levels of life satisfaction and greater psychological distress than the general population (Brunes et al., 2019). Vision loss affects employment opportunities, mobility, social participation, and independence, leading to higher risks of depression, anxiety, and social isolation (Choi et al., 2018; Hersh, 2019).

Social and Psychological Challenges

Social integration is one of the biggest determinants of well-being for PVI. Limited mobility and reliance on assistive technologies often reduce social participation, making it harder for individuals to form relationships, access employment, or engage in recreational activities (Golledge, 2019). Psychologically, vision impairment has been linked to reduced self-esteem, negative self-perception, and feelings of helplessness, particularly among individuals who experience late-onset blindness (Schneider et al., 2020). However, strong social support networks and positive self-belief have been shown to reduce psychological distress and improve overall well-being (Molinari et al. 2015).

Role of Religiosity and Self-Belief

Religiosity plays a significant role in the well-being of many visually impaired individuals. Religious practices and spiritual beliefs provide emotional support, a sense of purpose, and a coping mechanism for people who are dealing with disability (Koenig, 2018). Similarly, self-belief and self-efficacy contribute to higher independence and life satisfaction. Individuals who perceive themselves as capable of overcoming challenges report greater resilience, stronger problem-solving abilities, and reduced psychological distress (Schneider et al., 2020).

Regional Differences in Well-Being

Previous studies highlight that regional and environmental factors significantly impact SWB outcomes for individuals with disabilities. Urban areas frequently offer superior accessibility, healthcare, and employment prospects, resulting in elevated SWB scores relative to rural

regions (Helliwell et al., 2020). In Malaysia, disparities in infrastructure, disability support services, and economic conditions may contribute to variations in well-being across regions. Studies on disability inclusion suggest that regions with stronger social welfare programmes, community engagement, and disability-friendly policies tend to have higher well-being scores. This study will investigate whether similar regional differences exist for visually impaired individuals in Malaysia and identify specific areas for policy improvements to enhance well-being across different communities.

Methods

Participants

This study recruited a total of 145 visually impaired individuals from five major regions of Malaysia: Northern, Southern, Eastern, Central, and Borneo. Participants were identified through collaboration with disability organisations, social welfare departments, and community networks supporting individuals with visual impairments (PVI). Eligibility criteria included:

A confirmed diagnosis of visual impairment (moderate to severe) based on medical or social welfare documentation.
Malaysian residency in one of the five study regions.
Age 18 and above, ensuring participants were capable of providing informed consent.
Cognitive ability to complete a structured survey, either independently or with assistance.
To ensure a representative understanding of PVI well-being in Malaysia, recruitment efforts focused on a diverse sample that included people of various ages, educational backgrounds, and socioeconomic statuses and all participants provided informed consent before participation.

Measurement and Data Collection

Data were collected through structured, interviewer-administered surveys conducted in face-to-face interviews, phone calls, and online forms (for those with assistive technology access). The questionnaire was developed in both Malay and English and was pilot-tested with a small subset of visually impaired individuals to assess clarity, relevance, and accessibility.

Subjective Well-Being Index (SWB Index)

The SWB Index in this study was designed to comprehensively measure subjective well-being across eight core domains, each representing a crucial aspect of life for visually impaired individuals:

1. Independence – The ability to perform daily tasks without excessive reliance on others.
2. Social Relationships – The strength and quality of interpersonal connections and community engagement.
3. Psychological Health – Emotional resilience, stress management, and overall mental well-being.
4. Physical Health – Perceived general health, mobility, and fitness levels.
5. Environment – Accessibility of physical surroundings, including transportation, infrastructure, and assistive technology.
6. Religiosity – The role of faith, spirituality, and religious practices in well-being.
7. Self-Belief – Personal confidence, motivation, and self-efficacy in overcoming challenges.
8. Culture – Engagement in cultural, social, and recreational activities.

Each domain was measured using a 1–10 Likert scale, where 1 = extremely dissatisfied and 10 = extremely satisfied.

SWB Index Scoring and Categorization

The overall SWB Index score was computed as the average of the mean scores across all eight domains, providing a comprehensive measure of subjective well-being among visually impaired individuals. Based on prior research by Diener et al. (2018) and Helliwell et al. (2020) well-being levels were classified into three categories. Individuals with scores ranging from 0 to 4.49 were categorised as having low well-being, indicating significant distress and challenges in multiple life domains. Those scoring between 4.5 and 7.49 fell within the moderate well-being category, reflecting a balanced state of well-being with areas for improvement. Participants with scores between 7.5 and 10 were considered to have high well-being, suggesting strong life satisfaction and positive experiences across domains. In addition to computing these well-being levels, regional comparisons were conducted to examine differences in SWB Index scores across the five regions, allowing for a better understanding of geographical variations in subjective well-being.

Data Analysis

Data analysis was conducted using SPSS Version 28 applying a range of statistical methods to ensure comprehensive results for the Subjective Well-Being Index (SWB Index). Descriptive statistics, including mean scores, standard deviations, and frequency distributions, were calculated for all eight SWB domains to summarise overall trends in well-being among participants. To assess regional differences in SWB scores, a one-way analysis of variance (ANOVA) was performed, allowing for the identification of statistically significant variations across the five study regions. In cases where ANOVA results indicated significant differences, post-hoc Bonferroni tests were conducted to determine which specific regions differed in SWB levels, ensuring rigorous pairwise comparisons while controlling for Type I error.

Findings

Overall SWB Scores

Table 1 presents the mean (*M*) and standard deviation (*SD*) of SWB scores for each domain. The highest-rated domains were religiosity (*M* = 9.27, *SD* = 1.12) and self-belief (*M* = 7.83, *SD* = 1.47), while the lowest-rated domains were culture (*M* = 6.04, *SD* = 1.98) and environment (*M* = 6.32, *SD* = 1.87).

Table 1
Descriptive Statistics for Subjective Well-Being Domains (N = 145)

SWB Domain	M	SD	Min	Max	Category
Religiosity	9.27	1.12	6.0	10.0	High
Self-Belief	7.83	1.47	4.5	10.0	High
Independence	7.28	1.65	3.2	9.8	Moderate
Social Relationships	7.28	1.54	3.5	9.6	Moderate
Psychological Health	6.78	1.89	2.5	9.2	Moderate
Physical Health	7.49	1.72	3.0	9.5	Moderate
Culture	6.04	1.98	2.0	9.0	Moderate
Environment	6.32	1.87	2.3	8.7	Moderate

SWB categories: Low (0–4.49), Moderate (4.5–7.49), High (7.5–10).

Regional Differences in SWB

To examine regional disparities, a one-way ANOVA test was conducted to compare SWB scores across the five regions (Northern, Southern, Eastern, Central, and Borneo). The results indicate a statistically significant difference in overall SWB scores across regions, F (4, 140) = 3.87, p = .005, suggesting regional factors influence subjective well-being among visually impaired individuals. Table 2 reveals the regional mean SWB scores.

Table 2
Mean SWB Scores by Region

Region	*M*	*SD*	95% CI (Lower–Upper)
Northern	6.91	1.58	6.40 – 7.42
Southern	**7.89**	1.42	7.41 – 8.36
Eastern	7.02	1.55	6.52 – 7.53
Central	6.78	1.61	6.24 – 7.32
Borneo	6.47	1.67	5.94 – 7.00

Note. CI = confidence interval at 95%; the Southern region had the highest SWB scores.

The Southern region reported the highest SWB (M = 7.89, SD = 1.42), significantly higher than Borneo (M = 6.47, SD = 1.67) (p < .05, post-hoc Bonferroni test). This suggests better infrastructure, social support, or policy interventions in the Southern region contribute to higher well-being among visually impaired individuals.

Discussions

The findings of this study provide a nuanced understanding of subjective well-being (SWB) among persons with visual impairment (PVI) in Malaysia, highlighting both strengths and areas necessitating targeted interventions.

High-Scoring Domains: Religiosity and Self-Belief

The high scores in religiosity (M = 9.27) and self-belief (M = 7.83) indicate that these domains serve as key psychological buffers for PVI. Religiosity has been linked to better coping mechanisms, greater social support, and increased life satisfaction among individuals with disabilities (Koenig, 2018). Religious activities often provide a sense of purpose, structured social interactions, and emotional comfort, which contribute to overall well-being (Ai et al., 2014).

Self-belief on the other hand reflects personal resilience and adaptive capabilities, which are crucial for navigating daily life with visual impairment. Research suggests that higher self-efficacy in PVI is associated with greater independence and social integration (Schneider et al., 2020). Given these findings, mental health and rehabilitation programmes should incorporate spiritual well-being and self-confidence enhancement strategies to support PVI effectively.

Low-Scoring Domains: Culture and Environment

The low scores in culture (M = 6.04) and environment (M = 6.32) highlight significant barriers to social inclusion and accessibility. Cultural participation is often limited due to mobility restrictions, lack of accessible infrastructure, and social stigma (Hersh, 2019). Similarly, environmental challenges such as poorly designed public spaces, inadequate assistive

technologies, and transportation difficulties contribute to reduced mobility and lower well-being (Golledge, 2019). These findings align with prior studies emphasising the need for accessible urban planning and inclusive social to enhance PVI's quality of life (Brunes et al., 2019). Policymakers should focus on improving accessibility in public spaces, enhancing digital inclusion, and promoting cultural participation programmes specifically tailored for PVI.

Regional Differences and Implications

The Southern region reported the highest overall SWB scores, suggesting that local policies, community support systems, and access to resources may play a critical role in well-being. Regional disparities in PVI well-being have been observed globally, with urban areas generally offering better access to assistive services, healthcare, and employment opportunities compared to rural settings (Helliwell et al., 2020). Addressing these disparities requires a multi-level intervention strategy that focuses on strengthening disability-inclusive policies at both regional and national levels. Enhancing community engagement programmes is crucial, as fostering social participation and peer support networks can contribute to a greater sense of connectedness among visually impaired individuals. Additionally**,** infrastructure improvements should be prioritised to ensure that public spaces, digital resources, and transportation systems are fully accessible. By leveraging the strengths found in religiosity and self-belief while addressing the challenges in cultural inclusion and environmental accessibility**,** targeted interventions can significantly improve subjective well-being and overall quality of life for visually impaired individuals in Malaysia.

Conclusion

This study developed a Subjective Well-Being Index specifically for visually impaired individuals (PVI) in Malaysia**,** identifying key domains influencing their well-being**.** While religiosity and self-belief emerged as strong protective factors**,** cultural and environmental barriers remain critical areas for intervention. The findings emphasise the need for inclusive policy development, community-driven support programmes, and enhanced accessibility in public spaces**.** Future research should explore longitudinal trends in SWB and evaluate the effectiveness of targeted interventions for PVI.

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