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QUALITY OF LIFE AMONG TEA PLANTATION WORKERS IN DARJEELING, WEST BENGAL

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Abstract *Tea cultivation is a significant economic activity in the district of Darjeeling, West Bengal, India. However, little attention has been given to the quality of life (QoL) of the tea workers, who are contributing most to this industry. This study aimed to examine the QoL of tea plantation workers in Darjeeling using the World Health Organization Quality of Life assessment questionnaire. A cross-sectional research design consisting of both quantitative and qualitative techniques was employed on 123 study samples aged 18–55 years between May and June 2023 across five tea gardens in district Darjeeling. The study investigated various dimensions of QoL, including physical health, psychological well-being, social relationships and environmental factors. The study found that tea workers in the tea plantation industry of district Darjeeling were not satisfied with their overall health and QoL. The study concluded that the factors studied (physical health, psychological health, social relationships and the environment) could be useful factors to assess the QoL of tea workers. The findings of the study provided valuable insights into the overall well-being of tea workers in Darjeeling and highlighted areas that need improvement.*

Keywords: *Quality of Life, WHOQOL-BREF, Tea Plantation Workers, Darjeeling, West Bengal*

INTRODUCTION

Tea Industry, the Darjeeling and the Darjeeling Tea Plantation Industry

Tea cultivation has been an integral part of West Bengal's agricultural landscape for centuries. The state is renowned for its picturesque tea gardens, which produce some of the finest teas in the world. Also, the tea plantations in West Bengal provide employment opportunities to a large number of workers, contributing significantly to the state's economy. The Darjeeling district is among the regions of West Bengal that produce some of the finest tea in the world. The Darjeeling tea industry has a long and rich history. Tea was first introduced to the region in the mid-19th century by the British, and the first commercial production of Darjeeling tea began in 1856. Tea production in Darjeeling has gained international recognition for its unique flavor and quality. The Darjeeling district is home to around 87 tea gardens situated at high altitudes, ranging from 600 to 2,000 meters above sea level. The total area under tea cultivation in the Darjeeling district is approximately 17,500 hectares. Darjeeling tea is a world-renowned tea variety. Known for its unique flavour and distinct aroma, Darjeeling tea is often referred to as the "Champagne of Teas." Darjeeling tea has received Geographical Indication (GI) status, which means that only tea produced in the Darjeeling district can be labeled and sold as Darjeeling tea. This recognition protects the tea's authenticity and ensures that consumers are getting genuine Darjeeling tea. The tea gardens in Darjeeling produce mainly black, green, white and oolong teas. However, black tea is the most widely produced and consumed variety. It is a highly sought-after and premium tea. The tea industry in Darjeeling generates an average revenue of ₹450 crore annually (Tungekar, 2021). According to the Tea Board of India, 7,010,000 kilograms of Darjeeling tea were produced in 2021; this constitutes about 0.005% of the total 1,343,060,000 kilograms of tea produced in India.

Darjeeling Tea Workers and Their Conditions

However, the reality of the tea workers who toil endlessly in the tea gardens hides behind the picturesque beauty and aroma of freshly brewed tea. The industry's success relies heavily on the labor of tea workers, who are predominantly from marginalised communities and face various socio-economic challenges. Tea workers in Darjeeling are

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predominantly from the local Nepali-speaking community. As per an article published in the Telegraph, the Darjeeling tea industry employs around 55,000 permanent and 15,000 temporary workers (Chhetri, 2023). More than 60% are women, and employment is on a family basis (Paul, 2018). The tea industry in Darjeeling is the second-largest source of employment and income for the people of Darjeeling after tourism (Bhattacharya, n.d.). However, the tea garden workers are paid poorly and have no land rights (Tungekar, 2021). The laborers in the Darjeeling tea industries face issues such as wages, health, education, livelihood, frequent violence and strikes (Lama, 2022). Historically, the labor conditions in the Darjeeling tea industry have been a subject of concern. Issues such as low wages, a lack of proper housing and healthcare facilities and inadequate labor rights have been raised by workers' unions and human rights organisations. Efforts have been made to improve working conditions, but challenges persist. A study conducted in 2018 assessed the socio-economic conditions of tea garden workers in Jalpaiguri District, West Bengal (Gurung & Mukherjee, 2018). According to a report published in 'The Wire', the tea garden workers were facing various issues such, as low wages, a lack of basic amenities like toilets and poor living conditions. Almost 50% of the tea garden workers' do not have toilets and are therefore forced to defecate and urinate in the open. The current labor conditions in India's tea industry are a direct result of a long history of colonialism and repression of aboriginal workers. A report published in 2016 by the International Union of Food Workers and the Right to Food Campaign in India found that tea workers are not receiving adequate living wages, and their working conditions are harsh and physically hazardous. Tea workers in India face problems of child labour, gender discrimination and wage theft.

Quality of Life

There was so much disagreement on how to define and assess quality of life (QoL). Teoli and Bhardwaj (2023) defined "Quality of life (QoL) as a term that refers to the wellbeing of a population or an individual in terms of both positive and negative aspects of their existence at a certain period." According to Jenkinson (2023), the degree to which a person is healthy, comfortable and able to engage in or enjoy life events is referred to as their QoL. The phrase "quality of life" is inherently ambiguous because it can be used to describe both an individual's perception of his or her own existence and the circumstances in which they live. QoL is therefore incredibly subjective. Another person may describe QoL in terms of abilities (such as having the capacity to live a good life in terms of emotional and physical well-being), while another person may define it in terms of wealth or life satisfaction. Wenger et al. (1984) defined QOL as "an individual's perceptions of his or her functioning and well-being in different domains of life." Talmi (2021) defined QoL as the "perceived discrepancy between the reality of what a person has and the concept of what the person wants, needs, or expects." The WHO defined QoL as an individual's perception of their place in life in relation to their objectives, aspirations, standards and worries, as well as the culture and value systems in which they live.

Measuring the Quality of Life

The idea of QoL has changed over time, and several methods are being employed to measure it. The Human Development Index, which incorporates measurements of life expectancy, education and standard of living to quantify the possibilities open to people within a specific culture, is one such method (Kovacevic, 2010). Another method is the WHOQOL (World Health Organization Quality of Life) evaluation, which was developed by the WHOQOL Group. It is a QoL evaluation that tries to be cross-culturally applicable. The four domains of the WHOQOL assessment include environment, social interactions, psychological health and physical health (WHOQOL Group, 1998). The EQ-5D (EuroQol-5 Dimensions), which evaluates five aspects of health-related quality of life (HRQOL) (Yadav, 2019) and the SF-36 (Short Form-36), which evaluates eight domains of HRQOL (Yadav, 2019), are further tools to measure the QoL.

World Health Organization Quality of Life (WHOQOL-BREF)

The World Health Organization (WHO) developed the World Health Organization Quality of Life (WHOQOL), a tool for the evaluation of a multi-dimensional concept including the individual's perception of health status, psychosocial status and other aspects of life (WHOQOL Group, 1998). In an effort to create a QoL evaluation that would be usable across cultures, the WHOQOL Group simultaneously developed the WHOQOL-100 assessment in 15 worldwide field centers. There were 236 QoL items in the WHOQOL's initial pilot edition. 100 items for the WHOQOL-100 were chosen from these data. The WHOQOL-100 includes four broad questions that cover overall QoL and health as well as 24 aspects grouped further into four domains: physical, psychological, social relationships and environment (WHOQOL Group, 1998). The WHOQOL-BREF is a simplified version of the WHOQOL-100 that includes only 26 questions to assess QoL as opposed to the WHOQOL-100's 100 questions, choosing 24 facets from each facet group and two general questions to assess overall QoL and health (Table 1) (WHOQOL Group, 1998).

Table 1: WHOQOL-BREF Domains of Quality of Life

Domain	Facets Incorporated within Domains
1. Physical Health	Pain and discomfort Sleep and rest Energy and fatigue Mobility Activities of daily living Dependence on medicinal substances and medical aids Work capacity
2. Psychological	Positive feelings Thinking, learning, memory and concentration Self-esteem Bodily image and appearance Negative feelings Spirituality/religion/personal beliefs
3. Social Relationships	Personal relationships Social support Sexual activity
4. Environment	Freedom, physical safety and security Home environment Financial resources Health and social care: accessibility and quality Opportunities for acquiring new information and skills Participation in and opportunities for recreation leisure activity Physical environment (pollution,noise,traffic,climate) Transport

Source: World Health Organization.

REVIEW OF THE LITERATURE

Majumder et al. (2023) in their empirical study 'Quality of Life and Associated Determinants among Female Tea Garden Workers of Indigenous Communities in Sub-Himalayan West Bengal, India: A cross-sectional mixed methods, examined the QoL of female tea garden workers in Sub-Himalayan West Bengal and found that these workers have a lower QoL than the general population due to a number of factors, including low wages, poor housing and a lack of access to healthcare.

Anand and Sengupta (2023) in their study on dispute settlement machinery in the tea plantation industry of North Bengal, reported the miserable conditions of tea workers in the tea plantation industry in North Bengal that cause frequent disputes among tea workers and tea management for their rights and provisions in the Plantation Labour Act, 1951.

In her study article, Lama (2022) seeks to draw attention to the precarious situation plantation labourers in Darjeeling find themselves in, as well as their difficulties accessing adequate healthcare and preventing illness in Darjeeling, West Bengal. Additionally, it emphasises the undervalued status of women employees in the tea industry. Social determinants of health, such as means of subsistence, poverty, working conditions, accessibility, availability and affordability of and access to basic services (housing, food security, water, sanitation, etc.), also play a significant and decisive role in the causes of ill health in addition to clinical factors. These, in turn, may have an impact on people's health decisions and contribute to health disparities.

Singh et al. (2022) in their research study to determine HRQOL and its correlates among elderly subjects in the most backward district of India, found that nearly half of the elderly (46.7%) had poor health QoL. The family physicians shall provide preventive and promotional measures to reduce chronic morbidity among the elderly and improve QoL.

Sarkar (2020) through his case study to explore the socio-economic conditions of tea garden workers in Ambootia Tea Estate in Darjeeling, found that tea garden workers in Ambootia face a number of challenges, including low wages, poor housing and a lack of access to education.

Rajbangshi and Nambiar (2020) studied the social determinants of health among women tea plantation workers in Jorhat district, Assam, India. The author found that these women face a number of challenges, including low wages, poor housing and a lack of access to healthcare.

Lodhi et al. (2019) in their research, assessed the QoL among the Pakistani general population and its associated factors by using the World Health Organization's quality of life instrument (WHOQOL-BREF). The authors found that increasing age, having average or lower socioeconomic status and living in rural areas were found to be strong predictors of poorer QoL in all domains, while total social capital score had a positive effect on Pakistani QoL scores.

Mitra (2019) in his scholarly article 'Life of Workers in Tea Gardens of North Bengal: A Study on Food Security Issues, examined the food security of tea workers in North Bengal and found that these workers are often food insecure due to low wages, high food prices and a lack of access to land.

In their article, Gender, Women, and Work in the Tea Plantation: A Case Study of Darjeeling Hills, Gurung and Mukherjee (2018) looked at how women workers are marginalised on various fronts, including the casualisation of the workforce, upward occupational mobility and the political space of trade unions. They also studied the participation of women in the workforce and its impact on their socioeconomic lives.

Roy and Chowdhury (2017) examined the health status and lifestyle of Oraon tea garden labourers in Jalpaiguri district, West Bengal. The study found that Oraon tea garden labourers face a number of health challenges, including high rates of undernutrition, anaemia and respiratory diseases.

In their case study, Sarkar et al. (2016) examined the socioeconomic circumstances of the tea garden women workers in West Bengal's Sub-Himalayan areas. They discovered that these women face numerous everyday challenges and are still lagging behind in terms of socioeconomic position, cultural norms and educational attainment. Because the majority of them are uneducated, they are only working to support their families existence.

Bhowmik (2015) in his study titled "Living Conditions of Tea Plantation Workers," highlighted the miserable condition of tea workers across major tea producing states in India. The author discussed various perspectives on the miserable condition, such as very low wages causing them to live in poverty, death due to starvation, etc. The author pointed out that despite the fact that there are rules governing workers' living conditions, these are broken and the government appears unconcerned.

Ruma and Nath (2014) found that women workers had a higher percentage of illiteracy than men workers despite having access to basic schooling facilities in their case study on the educational vulnerability and risk factors of tea garden workers in Dewan Tea Garden Village in Cachar district of Assam state. The authors also discovered a direct relationship between garden workers' low educational status and their socioeconomic and sociocultural circumstances, as well as their opportunities for employment and living standards, level of nutrition and health, awareness of their rights and responsibilities, lack of motivation and ignorance of government policies and programmes. In order to inspire and support the vulnerable communities of the tea gardens for practical and career-oriented education, the authors suggested that holistic and proactive approaches by the tea garden management and government are also essential. This will enable them to obtain stable employment opportunities outside the boundaries of particular gardens and raise their standard of living.

WHOQOL Group (1998) through their research paper, reported the development of the WHOQOL-BREF, an abbreviated version of the WHOQOL-100 QoL assessment. These data suggest that the WHOQOL-BREF provides a valid and reliable alternative to the assessment of domain profiles using the WHOQOL-100. It is envisaged that the WHOQOL-BREF will be most useful in studies that require a brief assessment of QoL, for example, in large epidemiological studies and clinical trials where QoL is of interest. In addition, the WHOQOL-BREF may be of use to health professionals in the assessment and evaluation of treatment efficacy.

RESEARCH GAP

After reviewing various literatures on QoL and QoL among tea plantation workers, it was discovered that many studies have been conducted on various aspects of QoL separately, such as health issues, personal and social relationships, management negligence, livelihood, working conditions, living conditions, wage problems, frequent disputes, socio-economic problems and so on, faced by tea workers in Darjeeling district, West Bengal. However, inadequate research on the QoL of tea plantation workers has been found, with only one study to assess the QoL of tea workers carried out by Majumder et al. (2023), titled "Quality of Life and Associated Determinants among Female Tea Garden Workers of Indigenous Communities in Sub-Himalayan West Bengal, India: A Cross-Sectional Mixed Methods". Through this study, the author tried to fill the aforementioned research gap, and this research also helped in finding the interrelationship between QoL and different life aspects such as physical health, psychological health, social relationships and the impact of the environment.

CONCEPTUAL FRAMEWORK

Purpose of Study

The purpose of this empirical study is:

- To assess the QOL of tea workers in Darjeeling using the WHOQOL BREF questionnaire,
- To investigate various dimensions of QOL, including physical health, psychological well-being, social relationships and environmental factors.

Hypotheses

Hypothesis - H_{01}: There is no impact of physical health on QoL of tea workers in Darjeeling,

Hypothesis - H_{02}: There is no impact of psychological health on QoL of tea workers in Darjeeling,

Hypothesis - H_{03}: There is no impact of social relationship on QoL of tea workers in Darjeeling,

Hypothesis - H_{04}: There is no impact of environment on QoL of tea workers in Darjeeling.

The Design: Methods and Procedure

A cross-sectional research design consisting of both quantitative and qualitative techniques was employed on 123 study samples aged 18–55 years between May and June 2023 across five tea gardens: Pahargoomiah, Trihana, Gangaram, Lohagarh and Rohini of Darjeeling district, West Bengal (Table 2).

Table 2: Sample Population for Study

Name of Tea Garden	Area (Acres)	Total Popoulation	Tea Workers	Gram Panchayat	Block	Sample Population for Study
Pahargoomiah Tea Garden	1,716	4039	1,500	Ghoshpukur	Phansidewa, Darjeeling	48
Gangaram Tea Garden	377.57	2,793	1,350	Hetmuri	Phansidewa, Darjeeling	34
Trihana Tea Garden	205.18	2.016	1,083	Upper Bagdogra	Naxalbari, Darjeeling	20
Lohagarh Tea Garden	397	2,081	947	Chenga Panighata	Mirik, Darjeeling	7
Rohini Tea Garden	360.77	2752	1161	Gayabari lii	Kurseong, Darjeeling	14
Total Sample						123

Source: https://villageinfo.in; https://www.census2011.co.in

Sampling

A stratified random sampling technique was employed to ensure representation across the various tea gardens in the district. A total of 123 tea workers, both male and female, aged 18–55 years, were chosen from five tea gardens in the Darjeeling district.

Instrumentation

The WHOQOL-BREF questionnaire had been employed for the assessment of the QoL of tea workers. questions using the WHOQOL-BREF questionnaire on a scale of five, where '1' denoted very dissatisfied or not at all' and '5' denoted very satisfied or extreme amount' as asked. The questionnaire (WHOQOL-BREF Bengali) was administered in the native language of the tea workers, and efforts were made to minimise any language or cultural barriers.

Data Collection

The study used both primary and secondary data. For statistical data, secondary sources included articles, research papers, books and websites. Face-to-face interviews with tea plantation workers were conducted between May and June 2023, and questions were asked based on what they perceived and thought over the previous four weeks. Demographic information such as gender, age, tea garden name where they work, salary, number of family members, how many members are working and total family income were asked. To assess the QoL, 26 questions, including questions related to overall QoL and overall physical health, were asked using the WHOQOL-BREF questionnaire in their native language; in this case, Bengali was preferred.

Statistical Analysis

Data analyses were carried out using Eviews Student version 11. Descriptive statistics were used to analyse the data, including mean scores and standard deviations for each domain of QoL. Cronbach's alpha was used to assess the internal consistency of the domains. The variance inflation factor (VIF) was carried out to avoid a correlation between the domains. The principle component method is used to combine the questionnaires for a particular domain to give a score for each domain. The contribution of domains to assessing QoL was assessed using the multiple regression least squares method. Other tests like the Jarque-Bera test for normality, the Breusch-Godfrey Serial Correlation LM test to test the correlation between the residuals, and the heteroskedasticity test to check whether the variance of the error term remains constant across all values of the four domains

RESULTS

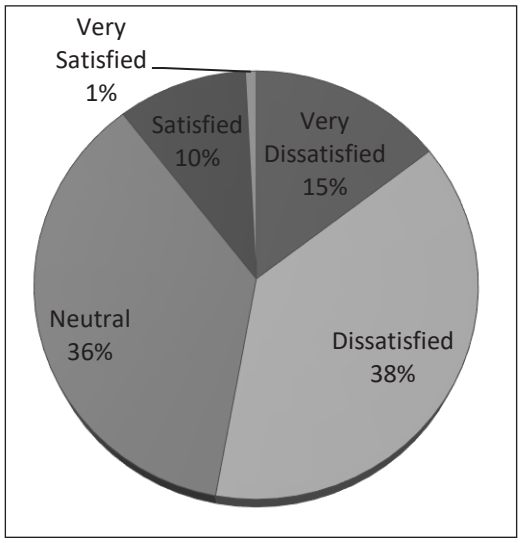
Descriptive Statistics

Table 3: Descriptive Statistics for Sample Population (N=123)

	Mean	Std. Deviation	Minimum	Maximum
Age	38.54	9.144	18	56
Experience	16.33	9.300	1	38
Monthly Wage Amount (in Rs.)	5003.25	715.168	3000	6500
Total Family Members	4.80	1.310	2	9
Working Family Members	2.41	1.166	1	6
Family monthly income (in Rs.)	13902.44	5983.810	4000	30000

Source: Author.

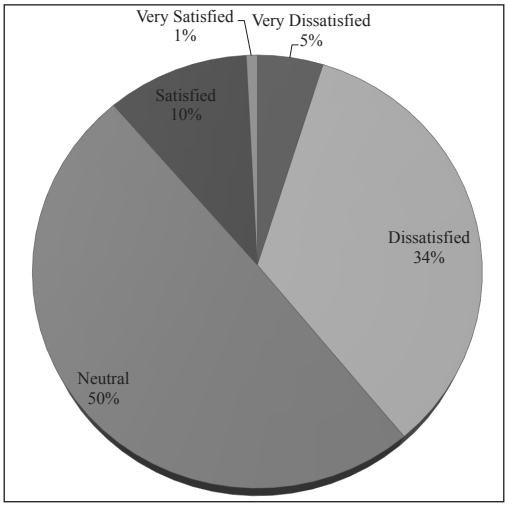
There were 123 participants in the sample, of whom 51.2% were women and 48.8% were men. Among them, 97% were married, 43% had only completed their first year of school, 23.6% had completed their higher education and 35% were illiterate. The sample population's age distribution had a mean of 38.54 and a standard deviation of 9.144. Tea workers' average experience was 16.33, with a standard deviation of 9.30. The sample's average wage for tea workers was Rs. 5003.25, and the variation in wages was found to be Rs. 715.168. According to the study, families on average had 4.80 members, but only 2.41 of those members were employed. Table 3 shows the average family income as Rs. 13902.44.



Source: Survey conducted by Author.

Fig. 1: Satisfaction Level for Quality of Life among Tea Workers

Fig. 1 shows that a major percentage of the studied tea workers were not satisfied with their current QoL.



Source: Survey conducted by author.

Fig. 2: Overall Physical Health Condition of Studied Tea Workers

Fig. 2 shows that the majority of tea workers studied were not happy with their physical health. About 50% were not sure about their physical health condition and failed to judge their overall physical health condition.

Internal Consistency

Table 4: Cronbach Alpha Test Result for the Four Domains

Domain Name	Cronbach Alpha Value
Physical health	0.850
Psychological health	0.799
Social relationship	0.802
Environment	0.879

(Source: Author)

Cronbach alpha values for each of the four domain scores ranged from 0.79 (for domain 2) to 0.879 (for domain 4), demonstrating good internal consistency (see Table 4), and hence all questions were reliable.

Regression Analysis

Table 5: Multivariate Regression Analysis and Variance Inflation Factor (VIF) Result

Dependent Variable: Quality of Life Method Used: Least Square Sample Size: 123					
Variables	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob**	**VIF**
Physical Health	0.138063	0.038847	3.553976	0.0005	2.117301
Psychological Health	0.197639	0.039662	4.983048	0.0000	1.786778
Social Relationship	0.075677	0.037162	2.036415	0.0439	1.110591
Environment	0.076906	0.033495	2.296133	0.0234	1.837647
C	2.422764	0.051714	46.84894	0.0000	NA
R-squared	0.568790	Adjusted R-squared	0.554173	S.E. of regression	0.573540
F-statistics	38.91212	Prob(F-statistics)	0.0000	Durbin-Watson stat.	1.996530
Jarque-Bera	2.827537	Prob.(Jarque-Bera)	0.243225	Heteroskedasticity Test: Breusch-Pagan-Godfrey	F-statistic= 0.525362 Prob- F(4) =0.7173
Breusch-Godfrey Serial Correlation LM Test:		F-Statistic =0.376672 Prob F(2) =0.6870			

Source: Author.

The multiple regression analysis has been carried out using the ordinary least square (OLS) method to study the contribution of domains to assessing QoL. From Table 5, multiple regression analysis predicted that physical health, psychological health, social relationships and environment all have probability values less than 0.05, rejecting the null hypothesis and suggesting that their coefficients were statistically significant at the 5% level. This means that there was evidence to support the claim that these independent variables had a significant impact on QoL. The R-squared value was 0.568790, indicating that the independent variables included in the model explain approximately 56.87% of the variation in QoL. The adjusted R-squared value (0.554173) considers the number of variables and the sample size, providing a slightly more conservative estimate of the model's goodness of fit. The standard error of the regression (S.E. of regression) is the estimate of the average amount by which dependent variable values differ from the predicted values based on the model. Here, the value of the standard error of regression suggests that the error in predicting the QoL based on four domains—physical health, psychological health, social relationships and environment—was about 0.573540. The F-statistic (38.91212) tests the overall significance of the regression model. The probability value (Prob. (F-statistic)) is 0.00000, indicating that the model as a whole was statistically significant. The Durbin-Watson value was 1.996530, which was close to 2, which indicates that there is no significant presence of autocorrelation in the residuals (error terms).

Test for Multicollinearity

Table 5 shows the VIF values for all four independent variables: physical health, psychological health, social relationships and environment. VIF measures the seriousness of multicollinearity in regression analysis and the degree of interrelationship of an independent variable with other independent variables (O'Brien, 2007). There were disagreements over the value of VIF, which represents a substantial degree of multicollinearity. According to Myers (1990), a VIF value equal to or greater than 10 indicates the high severity of multicollinearity, and a VIF value less than 10 indicates no significant multicollinearity problem. However, Hair et al. (2010) suggested that VIF above 5 indicates multicollinearity. The rule of thumb is to consider VIF equal to 5 as the cut-off point. It implies that the multicollinearity problem is not significant if VIF is less than 5.

In this study, VIF equal to 5 was used as the cut-off limit. Table 5 shows that the VIF values for all four independent variables are less than 5, suggesting that there was no multicollinearity between all four variables (physical health, psychological health, social relationships and environment).

Test for Normality

The Jarque-Bera test was used to assess whether the residuals follow a normal distribution. As per Table 5, the Jarque-Bera statistic value was 2.827537, and the associated probability

was 0.243225, which indicates that the residuals did not significantly deviate from a normal distribution at the 5% significance level.

Test for Serial Correlation

The Breusch-Godfrey serial correlation LM test assessed whether there was a significant serial correlation in the residuals. As per Table 5, in the analysis, the F-statistic was 0.376672, and the associated probability (p-value) was 0.6870. Since the p-value was relatively high (greater than 0.05), there was no significant evidence to reject the null hypothesis. Therefore, the test suggests that there is no serial correlation in the residuals at up to 2 lags.

Test for Heteroskedasticity

The Breusch-Pagan-Godfrey test measures heteroskedasticity in the residuals of a regression model. Heteroskedasticity refers to the situation where the variability of the residual's changes across different levels of the independent variables. Table 5 showed that the F-statistic was 0.525362, and the associated probability (p-value) was 0.7173. Since the p-value was quite high (greater than 0.05), there was no significant evidence to reject the null hypothesis. Therefore, there was no heteroskedasticity present in the residuals.

Therefore,

Since, the multiple regression equation (Eq.1):

$$Y = \alpha + \beta_1 X_1 + \quad \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + u$$

(Equation I)

Where, Y was dependent variable, X_1, X_2, X_3 and X_4were independent variables, u was residual or error term, α was constant, $\beta_1, \beta_2, \beta_3$ and β_4 were the coefficient of independent variables X_1, X_2, X_3 and X_4 respectively

And,

Generalising the Equation (Equation I),

Y= QOL (Quality of Life)

α=C

X_1 =Physical Health (PH)

X_2 =Psychological Health (PSH)

X_3 = Social Relationship (S)

=Environment (E)

u =S.E. of regression

After putting the value in Equation I, as per the Table 5, the predictive model was:

QOL=2.422764 + 0.138063(PH) + 0.197639(PSH) + 0.075677(SR) + 0.076906(E) + 0.573540

In conclusion, the model seems to have reasonably good predictive power (as indicated by R-squared), and the included variables (physical health, psychological health, social relationships, environment and C) are statistically significant predictors of QOL.

CONCLUSION

The study found that tea workers in the tea plantation industry of Darjeeling district in West Bengal were not satisfied with their overall health and QoL. The study concluded that the factors studied (physical health, psychological health, social relationships and the environment in which they are living) could be useful factors to assess the QoL of tea workers. The study found that psychological health had a greater impact on the QoL of tea workers than physical health, environment and social relationships. Social relationships had the least impact on the QoL of tea workers in Darjeeling tea plantation because, through the study, it has been found that most of the tea workers have good personal and social relationships with their family members and co-workers. The point was that many tea workers were found to have unsatisfactory relationships with their supervisors or managers, and somewhere this could be a reason for poor psychological health since this causes job dissatisfaction among them and makes them unhappy and unwilling to do their work effectively. And this point should be addressed by the management. The study gave insights into the challenges faced by this vulnerable workforce. The findings underscore the urgent need for interventions and policy reforms to address the identified issues. Improving housing conditions, ensuring fair wages, strengthening occupational health and safety measures, enhancing healthcare accessibility, expanding educational opportunities and fostering social integration are crucial steps towards improving the QoL for tea workers. Furthermore, empowering tea workers through the formation of strong unions or associations can facilitate their advocacy for better rights and working conditions. By addressing these challenges holistically, the tea plantation industry in the Darjeeling district of West Bengal can strive towards a more equitable and sustainable tea industry that prioritises the well-being and dignity of its workers.

Limitations of the Study

There was insufficient prior study in this area. The study only included 123 tea workers from six tea gardens in West Bengal's Darjeeling area. There are around 87 tea gardens in the district of Darjeeling, and it is not possible to conduct a study on all 87 tea gardens in a month. Additionally, because

this study was a cross-sectional data analysis, data collection appeared impossible in such a short span of time. During the field survey, the majority of the tea workers did not cooperate.

There was scope for further study on the QoL of tea workers in the tea plantation industry of West Bengal because very little work had been carried out to assess the QoL of tea workers in India.

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