

Module: Quantitative Research Method (BMDP7009)

Title: A Cross-Sectional Correlational Study on the Relationships Between Residential
Location and Well-Being Indicators

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Abstract

This study examines the correlations between self-reported happiness, overall health, job satisfaction, frequent participation in sports, and geographic location (UK versus non-UK) employing a quantitative, cross-sectional correlational methodology. Data were collected using a standardised questionnaire that included both ordinal (5-point Likert scale) and nominal variables. Descriptive and inferential statistics, including Pearson's correlation, Spearman's rho, and Kendall's tau-b, were employed to analyse associations. A statistically significant, if slight, positive connection exists between residence and self-reported happiness ($r = .224$, $p < .05$). The uniformity among statistical methodologies reinforces the reliability of the results. The findings indicate that residency may affect subjective well-being, although additional unmeasured variables are probably implicated. The results provide insights pertinent to public health, urban development, and workplace wellness programs. Additional longitudinal studies are advised to investigate causality and mediating variables.

Keywords: happiness, job satisfaction, health, sports, residence

Introduction

Happiness, overall health, and work satisfaction are universally acknowledged as essential indices of individual well-being and social advancement. These frameworks, albeit intricate and multifarious, underpin individual fulfilment, workplace productivity, and overarching public health outcomes. Diener et al. (2018). Scholars are increasingly focussing on the influence of lifestyle choices, such as frequent sports involvement, and contextual variables, like geographical location, as potential drivers of well-being. These factors may determine resource accessibility, affect psychological experiences, and lead to differences in subjective life assessments among people. Layard et al. (2023).

This study employs a quantitative, correlational methodology to examine the links between self-reported happiness, overall health, and work satisfaction, with a specific focus on physical activity and residential location. Utilising coded responses from a cross-sectional survey, the study contrasts those residing in the UK with those living abroad, as well as those who participate in regular sports vs those who do not. Variables are operationalised via a five-point Likert scale for ordinal measurements and categorical classifications for demographic characteristics.

This study aims to identify patterns that could inform health promotion programs, workplace wellness initiatives, and culturally responsive policy interventions using descriptive, correlational, comparative, and hypothesis-driven research questions. Although causality cannot be established, the recognition of statistically significant correlations offers a fundamental comprehension of the interplay between lifestyle and location in regard to well-being. This research enhances the ongoing discourse regarding the influence of daily decisions and overarching societal contexts on human well-being and health.

Background to the Topic

Happiness, overall health, and job satisfaction are complex notions that are continually examined across various fields, including psychology, occupational studies, and public health. These elements are broadly seen as essential to individual well-being, personal happiness, and productivity. Diener et al. (2018). Tukel and Temel (2020) define happiness as the aggregation of positive emotional experiences, including joy, pride, trust, and enthusiasm. Happiness is posited as the paramount motivator of human behaviour and a fundamental element of subjective well-being. Similarly, overall health is frequently evaluated using self-reported measures, providing insight into individuals perceived physical and mental well-being. Job satisfaction, as defined by Cribbin (1972, quoted in Yalçinkaya-Alkar and Arslan, 2020), is a favourable emotional reaction to the workplace environment, comprising various variables like working conditions, acknowledgement, and autonomy.

Lifestyle factors, including physical activity, have become significant potential contributors to well-being. Atilgan (2020) asserts that sport, as an activity and cultural practice, elicits profound emotional reactions and fosters enduring happiness. Participation in regular sports is increasingly recognised not only as a recreational activity but as a crucial behavioural factor influencing health, happiness, and job satisfaction. Dienlin and Johannes (2020). In a global context, geographical considerations, including nation of residency, can affect access to healthcare, social attitudes, employment expectations, and cultural perceptions of well-being. Layard et al. (2023).

Rationale for the Research

Quantitative research enables researchers to gather and statistically evaluate numerical data to discern patterns and relationships among variables (Aliaga & Gunderson, 2000; Creswell & Creswell, 2018). The present study utilises this methodology to examine coded questionnaire responses from two primary participant groups: persons residing in the UK compared to those outside the UK, and those who participate in regular sports

activities against those who do not. The ordinal variables—self-reported happiness, general health, and work satisfaction—are quantified on a five-point Likert scale from 1 (very poor) to 5 (very good). The categorical variables comprise location of residence (UK = 1, non-UK = 2) and frequent sports participation (yes = 1, no = 2). These variable types correspond with the definitions established by Bruin (2006) about categorical and ordinal data.

Comprehending the statistical correlations among these variables has pragmatic consequences. For example, elevated self-reported levels of pleasure and health may correlate with enhanced productivity and less absenteeism in the workplace Helliwell et al., (2020). Furthermore, if involvement in sports is favourably correlated with health and job satisfaction, the results may advocate for the enhancement of wellness initiatives in both workplace and community settings. Moreover, worldwide comparisons may reveal culturally influenced disparities in judgements of well-being.

Fraenkel and Wallen (2009) assert that correlational research cannot establish causality but can reveal substantial relationships that need additional investigation. This work employs a non-experimental, correlational design to investigate these associations, providing a basic analysis that may guide future longitudinal or causal research.

Research Questions

The following research questions guide this data analysis:

1. Descriptive Question
How many individuals report good or very good health among those who practice regular sports activities?
2. Correlational Question
What is the relationship between self-reported happiness, general health, job satisfaction, and participation in regular sports activities?
3. Comparative Question
Does location of residence (UK vs non-UK) influence the levels of self-reported happiness and job satisfaction?
4. Hypothesis-Driven Question
Is there a statistically significant link between job satisfaction and happiness, and does this correlation differ based on residential location?
The hypothesis posits that elevated job satisfaction correlates with increased happiness, with the nation of residency serving as a moderating factor in this relationship.

Literature Review

The convergence of subjective well-being, physical activity, job satisfaction, and geography has received heightened scrutiny in recent years, especially within the realms of public health, occupational psychology, and sociocultural research. Quantitative approaches are crucial for empirically investigating these areas, particularly due to their ability to examine extensive datasets and reveal statistical correlations among variables. This literature review rigorously analyses existing research on these factors to establish a theoretical and methodological basis for the current investigation.

Self-Reported Happiness and Health

Self-reported happiness, frequently equated with subjective well-being, has emerged as a fundamental element in psychological and sociological research. Diener et al. (2018) underscore that happiness is multifaceted, encompassing emotional responses and cognitive assessments of life satisfaction. Studies employing self-report measures frequently demonstrate a robust correlation between subjective well-being and health metrics. Steptoe et al. (2015) discovered that those who reported higher levels of happiness exhibited superior physiological health, characterised by reduced blood pressure and enhanced immunological responses.

Self-reported data on happiness and health, although fundamentally subjective, has been corroborated through comparing research with objective health outcomes. Dolan and Metcalfe (2015) contend that these subjective indicators are not only dependable but also crucial for comprehending experience dimensions of life that conventional economic or clinical metrics overlook. The ordinal characteristic of such data, frequently assessed by Likert scales, renders it suitable for correlation analysis and other non-parametric statistical techniques, particularly when normality assumptions are violated Pallant (2020).

Job Satisfaction and Its Determinants

Job satisfaction is a fundamental concept in occupational psychology and organisational behaviour. Job satisfaction is broadly defined as the degree of contentment individuals experience with their employment, encompassing factors such as autonomy, work-life balance, remuneration, and interpersonal relationships. Judge et al. (2017). Various research have evidenced a positive correlation between job happiness and overall well-being, productivity, and life expectancy. Zacher and Schmitt (2016).

Quantitative research on job satisfaction frequently utilises self-reported metrics assessed on ordinal scales. These techniques enable examination via Spearman's rho correlations or ordinal logistic regression models. Spector (2019) emphasises the need

of extensive survey research in identifying the key elements that most significantly influence work satisfaction across various populations and occupational sectors.

Physical Activity and Well-being

The correlation between physical activity and mental health is extensively recognised in public health literature. Consistent engagement in sports and exercise has demonstrated enhancements in psychological resilience and subjective well-being. Biddle et al. (2019) assert that physical activity serves as both a preventive and therapeutic measure for depression and anxiety, while also promoting social connection and a sense of purpose—factors that contribute to happiness.

Empirical studies frequently employ binary variables to categorise participants as physically active or inactive. This nominal data facilitates comparison analysis through chi-square testing and can be utilised to evaluate relationships with ordinal variables such as happiness and health. Stathi et al. (2021) demonstrate this methodology in their examination of the correlation between physical activity and reported quality of life in older persons.

Geographic Context and Subjective Well-being

The geographic setting, particularly one's location of residence, significantly influences well-being outcomes. Research comparing inhabitants across many countries or areas has demonstrated constant disparities in happiness and health. Helliwell et al. (2023) indicate that individuals in high-income nations typically report higher levels of happiness, however this is influenced by cultural and social support systems.

Researchers have highlighted the interplay between residential location and occupational or lifestyle considerations. Veenhoven (2019) observes that individuals residing in metropolitan areas frequently indicate diminished life satisfaction owing to stress and environmental issues, notwithstanding improved access to healthcare and job prospects. The dichotomous classification of residence—urban versus rural, national versus international—enables group comparison through contingency tables and inferential statistics.

Rationale for a Quantitative Approach

This study utilises a quantitative framework to statistically evaluate the relationships among the variables: self-reported happiness, overall health, job satisfaction, physical activity, and residence location. Aliaga and Gunderson (2000) assert that quantitative research is crucial for clarifying phenomena through numerical data and mathematical

analysis. This strategy enables the generation of statistically valid results that can inform public policy and organisational practices.

Considering the data comprises both ordinal variables (happiness, health, job satisfaction) and nominal variables (location, physical activity), non-parametric methods such as Spearman's correlation, chi-square tests, and Mann-Whitney U tests are suitable. These strategies allow the researcher to discern significant associations without presupposing a normal distribution, thereby maintaining the integrity of the investigation. Pallant (2020).

Research Gap and Justification

While individual studies have investigated the correlation between physical activity and happiness, as well as work satisfaction and health, there is a paucity of research that concurrently analyses the interaction of these constructs across various national contexts. Furthermore, most of the current research has been confined to single-nation analyses or particular professional categories. This study seeks to offer a more nuanced view of these interrelated phenomena by integrating responses from both within and beyond the UK, as well as from persons involved in sports and those who are not.

Moreover, employing coded questionnaire data facilitates measurement consistency and simplifies comparison. This enhances the study's external validity and facilitates future replication or meta-analytical synthesis.

Methodology

Research Design

This study employs a quantitative, non-experimental, cross-sectional correlational research design, which is particularly appropriate for examining the relationships between naturally occurring variables in a real-world context. The primary variables of interest include self-reported happiness, general health, job satisfaction, participation in sports, and geographic location, classified as UK or non-UK. The choice of this design reflects the study's primary objective: to explore associations rather than causations among variables, a task best undertaken without experimental manipulation Creswell and Creswell (2018).

Quantitative research, according to Aliaga and Gunderson (2000), involves the numerical representation and manipulation of observations to describe and elucidate the processes they represent. This fundamental principle supports the use of a correlational design. In contrast to qualitative procedures that strive to comprehend the

subjective interpretations individuals attribute to their experiences, quantitative approaches focus on quantifying patterns, testing hypotheses, and generalising findings to a broader population when possible. Bryman, 2016. This study employs variables that are exclusively ordinal or nominal, making them appropriate for statistical correlation methods including Pearson's correlation coefficient, Spearman's rho, and Kendall's tau-b.

This design's non-experimental nature indicates that the study does not manipulate independent variables or randomly assign individuals to experimental conditions. It examines current fluctuations in the relevant variables and employs statistical methods to ascertain the existence and magnitude of correlations among them. This is especially significant considering the ethical and practical constraints associated with changing factors like happiness, health, or work satisfaction. According to Gignac (2019), correlational designs are crucial in psychology and the social sciences when researchers engage with naturally occurring phenomena.

The cross-sectional component indicates that data were gathered at a singular moment rather than over several waves or intervals. Cross-sectional studies are effective for finding correlations and trends within a community, particularly when financial or time limitations hinder longitudinal research Field (2018). This design, while restricting the inference of temporal or causal correlations, is appropriate for exploratory enquiries intended to uncover potential associations that may guide future longitudinal or experimental research.

A correlational framework was utilised to evaluate the direction and strength of the correlations among variables. This approach facilitates the identification of positive, negative, or null correlations among continuous and ordinal variables. For instance, it facilitates an evaluation of whether those who indicate elevated levels of happiness concurrently report superior general health, or whether those who participate in regular athletic activities enjoy enhanced job satisfaction. This method does not indicate causation, a constraint intrinsic to all correlational studies. Nonetheless, it offers fundamental facts that can formulate hypotheses for more rigorous experimental investigations Cohen (1988).

This architecture facilitates the incorporation of both parametric and non-parametric tests, providing methodological versatility. Variables like work satisfaction and happiness, assessed by Likert-type scales, may not fulfil all assumptions required for parametric testing, necessitating the use of non-parametric alternatives for rigorous analysis Field (2018). The triangulation of statistical methods improves the reliability and validity of findings, a crucial aspect in social research.

Data Source and Variables

The dataset utilised for this study was derived from a structured questionnaire survey administered to a sample of individuals currently in employment, both within and outside the United Kingdom (see appendix). The questionnaire was specifically designed to capture perceptions and behaviours related to well-being and lifestyle factors, focusing on six variables of interest: self-reported happiness, self-reported general health, job satisfaction, geographic location, and regular participation in sports. These variables were operationalised through a combination of ordinal and nominal measurement scales, consistent with best practices in social science survey research Bryman (2016).

Three of the variables—self-reported happiness, general health, and job satisfaction—were measured using a 5-point Likert-type scale, where 1 represented “very poor” and 5 represented “very good.” This scale design allows for an ordinal level of measurement, which captures the relative ranking of responses without assuming equal intervals between categories Boone and Boone (2012). Ordinal variables such as these are frequently employed in well-being and health research due to their ease of administration and capacity to reflect subjective experiences Pallant (2020).

The remaining two variables—participation in sports and geographical location—were binary and nominal in nature. Sports participation was recorded as a dichotomous variable, coded as 1 for “Yes” and 2 for “No,” indicating whether respondents reported regularly engaging in any form of sport or physical activity. Geographic location was similarly coded, with 1 representing respondents who currently reside in the UK and 2 representing those residing elsewhere. Nominal variables are non-ordered categorical variables and are appropriate when the goal is to classify cases into distinct, non-overlapping groups Field (2018).

Consistent with the theoretical framework and analytical objectives of the study, the variables were classified as either independent (predictor) or dependent (outcome) variables. Gignac (2019) posits that independent factors, or predictor variables, are believed to affect or correlate with alterations in other variables, while dependent variables are outcomes that may be influenced by those predictors. In this research, self-reported happiness and self-reported general health were considered independent variables, as they are fundamental components of personal well-being that may influence an individual's job satisfaction, engagement in sports, and potentially their residential choices. In contrast, work satisfaction, geographic location, and sports involvement were identified as dependent variables, as they may be influenced by fundamental physical and emotional well-being aspects.

This conceptualisation underpins the study's extensive correlational framework by proposing credible yet non-causal associations among variables. The analysis aims to discover the degree and direction of correlations between these constructs through parametric and non-parametric correlation tests, contingent upon the data's distributional features. This method facilitates a comprehensive examination of inter-variable dynamics while adhering to the observational constraints of the data. Cohen (1988).

Furthermore, the coding framework for the variables was meticulously constructed to enhance statistical analysis in SPSS. Ordinal variables were suitably handled in non-parametric correlation studies, including Spearman's rho and Kendall's tau-b, whilst binary nominal variables facilitated categorical comparison and grouping in exploratory analyses. The operational definitions and coding decisions were guided by methodological literature on survey-based psychological and social data Tabachnick and Fidell (2019), assuring internal consistency and analytical rigour.

Statistical Techniques

The analytical strategy employed in this study integrated both descriptive and inferential statistical techniques to provide a comprehensive understanding of the relationships between key variables, including self-reported happiness, general health, job satisfaction, physical activity, and geographic location. This mixed approach was selected to accommodate both the exploratory nature of the research and the characteristics of the data, aligning with best practices in psychological and social science research Pallant (2020).

Descriptive statistics were initially employed to summarise the primary patterns and variability present in the dataset. Statistical measures, including means, medians, standard deviations, and frequency distributions, were calculated to characterise the nature and distribution of the sample answers. These descriptive insights constituted a first phase in comprehending the overarching trends of self-reported well-being, satisfaction, and lifestyle attributes among participants. Such statistics are essential for summarising sample characteristics prior to performing inferential tests Gravetter and Wallnau (2017). The use of visual aids, such as bar charts and histograms, significantly improved the clarity of these summaries, especially in detecting skewed distributions or probable outliers that could influence assumptions for inferential analysis.

Inferential statistics were subsequently utilised to investigate the proposed correlations among variables. The study emphasised association over causality, making correlational analysis the principal inferential tool. Pearson's product-moment correlation coefficient (Pearson's r) was selected for its appropriateness in evaluating the linear relationship between two continuous variables presumed to be normally

distributed and recorded at the interval or ratio scale. Gignac (2019). This study used self-reported happiness, general health, and work satisfaction—measured on Likert scales—as approximations of continuous variables, a prevalent method in applied psychology and educational research Norman (2010).

Nonetheless, acknowledging the ordinal characteristics of the Likert scale and the possibility of non-normal distributions, the research incorporated non-parametric correlation methods to enhance robustness and validate the findings. Spearman's rho (ρ) and Kendall's tau-b (τ_b) were utilised as rank-order correlation coefficients. Non-parametric approaches are suitable for ordinal data or when the assumptions of normality and homoscedasticity are not met Field (2018). Spearman's rho evaluates the strength and direction of a monotonic association between two ranked variables, whereas Kendall's tau-b offers a more cautious metric, especially in the context of small sample sizes or tied ranks. Howell (2012). The use of these alternative tests improved the validity of the correlation results and reduced the likelihood of exaggerated or deceptive connections stemming from assumption breaches.

All statistical analyses were performed utilising IBM SPSS Statistics software, recognised for its dependability in processing social science data Pallant (2020). The criteria for statistical significance were established at $p < .05$, a standard in behavioural sciences, signifying that there is less than a 5% likelihood that the observed correlations arose by chance Cohen (1988). Effect sizes were presented to indicate the practical relevance of the identified correlations, complementing the p-values.

This study's analytical framework employed both parametric and non-parametric techniques, ensuring methodological flexibility and empirical rigour. This method facilitated a sophisticated analysis of the data while ensuring compliance with the statistical assumptions necessary for meaningful conclusions.

Population and Sampling

The study sample consists of 100 employed individuals residing both within and outside the UK. The data were derived from an existing dataset made available to the researcher, with no control over participant selection. While random sampling is ideal in correlational research Gignac (2019), this study utilises a convenience sample due to the pre-existing nature of the data. Although this limits generalisability Bryman (2016), it is considered acceptable in exploratory research contexts.

Ethical Considerations

The ethical aspects of this study were meticulously evaluated and conformed to the standards set by the British Educational Research Association BERA (2018). The

research depended on the analysis of secondary data, initially gathered by a structured questionnaire and then made available for analysis; hence, it was essential to maintain ethical norms relevant to both the original data collection and its subsequent use. The use of ethical protocols guaranteed the protection of participants' rights, the responsible management of data, and the preservation of the research process's integrity.

Despite the researcher not physically interacting with individuals throughout the initial data collection phase, ethical accountability remained essential. In alignment with BERA's directives on secondary research, emphasis was placed on the principles of informed permission, anonymity, and data protection. Although re-consenting individual participants in the secondary stage was unfeasible, assurances were secured that the data had been initially gathered under voluntary participation protocols, with participants thoroughly informed about the study's aim and their rights. This aligns with the principle that ethical utilisation of secondary data is permissible when the original consent encompasses the possibility of future research applications in anonymised format. Heaton (2004).

Considering the characteristics of the variables—self-reported happiness, overall health, work satisfaction, and lifestyle behaviours—there was a negligible risk of psychological injury or emotional distress. Nonetheless, ethical sensitivity was upheld in the interpretation and dissemination of findings. Data were presented in aggregate form, and findings were reported cautiously to prevent overgeneralisation or misrepresentation, particularly due to the limitations of secondary analysis and convenience sampling. Ultimately, transparency in methodology and integrity in data interpretation were maintained throughout. This dedication to ethical reflexivity enhances the study's credibility and trustworthiness, exemplifying best standards in educational and social scientific research. Israel and Hay (2006).

Results (including results of Analysis)

The Relationship Between Self-Reported General Health and Sports Participation

To investigate the potential relationship between self-reported general health and sports participation, the data was analysed using SPSS. The dataset consisted of two key variables: (1) self-reported health, measured on a 5-point Likert scale (1 = very poor; 5 = very good) and (2) sports participation, measured on a binary scale (1 = Yes, 2 = No).

The investigation aimed to ascertain if a statistically significant correlation exists between individuals' perceptions of their overall health and their participation in sports activities. The SPSS statistical program was employed to analyse the data and produce correlation tables illustrating the degree and direction of the link.

The correlation tables gave quantifiable information concerning the relationship between the two variables of interest. This methodology facilitates the investigation of whether persons who indicate superior overall health are more inclined to engage in sports, or conversely, whether engagement in sports is associated with enhanced self-reported health status.

Correlations			
		Selfrepthhealth	playsport
Selfrepthhealth	Pearson Correlation	1	.119
	Sig. (2-tailed)		.242
	N	99	99
playsport	Pearson Correlation	.119	1
	Sig. (2-tailed)	.242	
	N	99	99

Correlations			
		Selfrepthhealth	playsport
Kendall's tau_b	Selfrepthhealth	Correlation Coefficient	1.000
		Sig. (2-tailed)	.229
		N	99
	playsport	Correlation Coefficient	.112
		Sig. (2-tailed)	.229
		N	99
Spearman's rho	Selfrepthhealth	Correlation Coefficient	1.000
		Sig. (2-tailed)	.231
		N	99
	playsport	Correlation Coefficient	.122
		Sig. (2-tailed)	.231
		N	99

Findings and Discussion

This section presents the results of the data analysis exploring the relationship between self-reported general health and regular participation in sports activities, using both parametric and non-parametric correlation methods. The variables were drawn from responses coded as follows: self-reported general health was treated as an ordinal variable (1 = very poor to 5 = very good), and regular sports activity as a nominal binary variable (1 = yes, 2 = no).

Descriptive Overview and Analytical Approach

Given the ordinal nature of the variable for self-reported health and the categorical nature of regular sports participation, a combination of Pearson's correlation and non-parametric tests (Kendall's tau-b and Spearman's rho) were employed to test the association between the two variables. While Pearson's r assumes a linear relationship and normally distributed variables Field (2018), non-parametric methods such as Kendall's tau-b and Spearman's rho are more robust when data violate such assumptions Pallant (2020).

Pearson's Correlation Analysis

The Pearson correlation coefficient between self-reported general health and playing sports was found to be $r = .119$, with a p -value of .242 ($N = 99$). This indicates a very weak positive relationship, but one that is not statistically significant ($p > 0.05$).

Therefore, the null hypothesis—that there is no relationship between the two variables—cannot be rejected.

Non-Parametric Correlation Results

To ensure the robustness of the findings and to accommodate the ordinal scale of the health variable, both Kendall's tau-b and Spearman's rho were calculated. The results were consistent with those of the Pearson correlation. Kendall's tau-b showed a correlation coefficient of $\tau = .112$, with a p-value of .229, whilst Spearman's rho yielded a coefficient of $\rho = .122$, with a p-value of .231.

Again, both statistics reveal very weak positive associations, but neither is statistically significant at the 0.05 threshold. The convergence of results across these tests reinforces the conclusion that no meaningful relationship exists between regular engagement in sports and self-reported health within this sample.

Discussion

Although literature frequently highlights the positive impacts of physical activity on both physical and mental well-being (e.g., Atilgan, 2020; WHO, 2018), the findings from this analysis did not reveal a significant correlation between sports participation and perceived general health. One explanation may be that self-perceptions of health are shaped by multiple factors—including age, occupation, lifestyle habits, and mental health—beyond physical activity alone (Tukel and Temel (2020)). Furthermore, it is possible that the binary measure of sports participation (yes/no) did not capture the frequency, intensity, or type of physical activity, all of which can have differential impacts on perceived health outcomes (Ekkekakis (2017)).

Another consideration is the subjective nature of both variables: while self-reported health is influenced by individual thresholds of what constitutes “good” health, engagement in sports may be reported differently by individuals who interpret “regular activity” with varying frequency. This limitation in measurement may obscure any potential relationship that exists at a more nuanced level.

Finally, the sample size, although modest, may also contribute to a lack of statistical power, which reduces the likelihood of detecting a true effect (Bryman (2016)). Future studies may benefit from larger sample sizes, stratified by demographic factors, and from incorporating more granular measures of physical activity and health assessments.

The Relationship Between Self-Reported Happiness and Job Satisfaction

To investigate the potential relationship between self-reported happiness and job satisfaction, the data was analysed using SPSS. The dataset consisted of two key variables: (1) self-reported happiness, measured on a 5-point Likert scale (1 = very poor; 5 = very good) and (2) job satisfaction, measured on a similar 5-point Likert scale (1 = very dissatisfied; 5 = very satisfied).

The analysis was conducted to determine whether there exists a statistically significant association between individuals' self-reported happiness levels and their satisfaction with their employment. SPSS statistical software was utilised to process the data and generate correlation tables depicting the strength and direction of this relationship.

The resulting correlation tables provided quantitative evidence regarding the nature of the association between these two variables of interest. This analysis allows for examination of whether individuals who report higher levels of happiness also tend to report greater job satisfaction, or whether there is another pattern of relationship between these two important aspects of wellbeing.

Correlations			
		Selfrepthap	jobsatisfaction
Selfrepthap	Pearson Correlation	1	.003
	Sig. (2-tailed)		.976
	N	98	98
jobsatisfaction	Pearson Correlation	.003	1
	Sig. (2-tailed)	.976	
	N	98	99

Correlations			
		Selfrepthap	jobsatisfaction
Kendall's tau_b	Selfrepthap	Correlation Coefficient	1.000
		Sig. (2-tailed)	.282**
		N	98
	jobsatisfaction	Correlation Coefficient	.282**
		Sig. (2-tailed)	.001
		N	98
Spearman's rho	Selfrepthap	Correlation Coefficient	1.000
		Sig. (2-tailed)	.318**
		N	98
	jobsatisfaction	Correlation Coefficient	.318**
		Sig. (2-tailed)	.001
		N	98

**. Correlation is significant at the 0.01 level (2-tailed).

The data analysis employed both descriptive and inferential statistical methods to explore the relationships between self-reported happiness and job satisfaction. The primary objective was to assess the degree and significance of association between these two constructs using appropriate statistical tests that reflect the nature of the variables and the distribution of the data.

Pearson's correlation coefficient (r), a parametric test, was used initially to evaluate the linear relationship between the variables under the assumption of normally distributed data (Gignac, 2019). However, due to the ordinal nature of the variables (measured on 5-point Likert scales), and potential concerns about normality, two non-parametric alternatives were also computed—Spearman's rho and Kendall's tau-b. These non-parametric tests are recommended when the assumptions of Pearson's correlation are potentially violated, especially when data are ordinal or exhibit non-linear patterns (Field, 2018).

Pearson Correlation Results

The Pearson correlation coefficient between self-reported happiness and job satisfaction was found to be $r = .003$, with a two-tailed significance value of $p = .976$. This indicates an extremely weak, essentially non-existent, linear relationship between the two variables. The p-value is much greater than the conventional alpha level of .05, suggesting that this result is not statistically significant.

Variable Pair	Pearson's r	Sig. (2- tailed)	N
Self-reported happiness & Job satisfaction	.003	.976	98

This result implies that when using a parametric test assuming interval-level data and normal distribution, self-reported happiness does not appear to be linearly related to job satisfaction in this sample. However, as noted by Field (2018), Pearson's test may not perform well with ordinal data or data with skewed distributions, which provides the rationale for exploring non-parametric correlations.

Kendall's Tau-b and Spearman's Rho Results

Non-parametric analysis yielded significantly different results. The Kendall's tau-b correlation between self-reported happiness and job satisfaction was $\tau = .282$, with a significance value of $p = .001$. This represents a small to moderate positive association that is statistically significant at the 0.01 level.

Similarly, the Spearman's rho coefficient was $\rho = .318$, also with $p = .001$, confirming a small to moderate, statistically significant monotonic relationship between the two variables.

Test	Coefficient	p-value	N	Interpretation
Kendall's tau-b	.282**	.001	98	Significant positive correlation

Spearman's rho	.318**	.001	98	Significant positive correlation
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Note: $p < .01$ indicates statistical significance.

These results suggest that higher levels of self-reported happiness are associated with higher levels of job satisfaction. Although the relationship is not strong, it is consistent and statistically significant across both non-parametric correlation methods. This reinforces the notion that even when ordinal data is used, a meaningful relationship can be uncovered with appropriate statistical techniques Pallant (2020).

Interpretation of Discrepant Results

The stark contrast between the Pearson and non-parametric correlation results warrants attention. The Pearson's r value (.003) not only lacked statistical significance but also failed to detect any meaningful pattern. This discrepancy likely stems from the nature of the data: both self-reported happiness and job satisfaction are ordinal variables, and Likert scale data are often non-normally distributed, violating the assumptions of parametric tests Gignac (2019).

Consequently, the non-parametric tests, which do not assume interval-level data or normality, provide a more valid and reliable estimate of the relationship. As Field (2018) explains, Spearman's and Kendall's coefficients are better suited for ordinal or skewed data, as they assess monotonic relationships based on rank-order.

Practical Implications

The statistically significant positive associations between self-reported happiness and job satisfaction revealed by Kendall's tau-b and Spearman's rho suggest that, in general, individuals who report being happier also tend to report greater satisfaction with their jobs. While causality cannot be inferred due to the cross-sectional and correlational nature of the study Creswell and Creswell (2018), the findings nonetheless contribute to the existing literature on the interrelationship between subjective well-being and workplace outcomes.

These findings may have implications for workplace wellness initiatives and HR policies. Organisations aiming to improve employee satisfaction may benefit from adopting holistic approaches that foster overall happiness and well-being, potentially leading to improved job satisfaction.

Limitations

The use of secondary data limits control over the original data collection process, including sampling design, variable construction, and questionnaire administration. While efforts were made to interpret the data within the framework provided, the generalisability of the findings is constrained by the absence of contextual background about the data source. Furthermore, while non-parametric tests yielded statistically significant results, effect sizes remained modest, suggesting that other unmeasured factors likely contribute to job satisfaction beyond happiness alone.

The relationship between self-reported happiness and residence confidence

Correlations			
		Selfrepthap	residence
Selfrepthap	Pearson Correlation	1	.224 [*]
	Sig. (2-tailed)		.026
	N	98	98
residence	Pearson Correlation	.224 [*]	1
	Sig. (2-tailed)	.026	
	N	98	99

*. Correlation is significant at the 0.05 level (2-tailed).

Correlations				
			Selfrepthap	residence
Kendall's tau_b	Selfrepthap	Correlation Coefficient	1.000	.215 [*]
		Sig. (2-tailed)	.	.026
		N	98	98
	residence	Correlation Coefficient	.215 [*]	1.000
		Sig. (2-tailed)	.026	.
		N	98	99
Spearman's rho	Selfrepthap	Correlation Coefficient	1.000	.227 [*]
		Sig. (2-tailed)	.	.025
		N	98	98
	residence	Correlation Coefficient	.227 [*]	1.000
		Sig. (2-tailed)	.025	.
		N	98	99

*. Correlation is significant at the 0.05 level (2-tailed).

The analysis was conducted using SPSS to compute three types of correlation parameters:

- Pearson's r: Measures the strength of a linear relationship between two continuous variables.
- Kendall's tau-b: A non-parametric test measuring ordinal associations.
- Spearman's rho: A non-parametric measure of rank correlation, suitable for non-linear but monotonic relationships.

All correlations were evaluated for statistical significance at the 0.05 level (two-tailed).

Results

- Pearson's correlation yielded $r = .224$, $p = .026$, indicating a weak, positive, and statistically significant linear relationship.
- Kendall's tau-b showed $\tau = .215$, $p = .026$, confirming the association with an ordinal measure.

- Spearman's rho reported $p = .227$, $p = .025$, again supporting a weak but statistically significant monotonic relationship.

Each of the three statistical tests consistently demonstrates a weak positive correlation between the two variables.

Discussion

The convergence across Pearson, Kendall, and Spearman tests strengthens the credibility of the finding. Although the strength of the correlation is weak (approximately .22), the statistical significance suggests that residence confidence is positively associated with self-reported happiness. This relationship may reflect the impact of environmental security, stability, or satisfaction with one's living conditions on general wellbeing.

Practical Implications

These findings have several real-world applications:

- **Urban Planning and Housing Policy:** Authorities might consider improving residential environments to enhance public wellbeing.
- **Mental Health Programs:** Incorporating housing stability and quality as part of holistic wellbeing programs.
- **Institutional Support:** Schools, universities, and workplaces may benefit from considering residential support systems.

Limitations

While insightful, this analysis is subject to limitations:

- **Weak Effect Size:** Only a small proportion of the variance in happiness is explained.
- **Cross-Sectional Design:** Limits causal inference.
- **Self-Report Measures:** Subject to response bias.
- **Uncontrolled Confounds:** Other factors (e.g., socioeconomic status, physical health) were not accounted for.
- **Sample Size and Diversity:** The generalisability of the results may be limited.

The relationship between self-reported general health and job satisfaction

				Correlations				
						Selfrepthealth	jobsatisfaction	
Correlations				Kendall's tau_b	Selfrepthealth	Correlation Coefficient	1.000	.095
						Sig. (2-tailed)	.	.270
					N	99	99	
				jobsatisfaction	Correlation Coefficient	.095	1.000	
					Sig. (2-tailed)	.270	.	
					N	99	99	
Selfrepthealth	Pearson Correlation	1	-.023	Spearman's rho	Selfrepthealth	Correlation Coefficient	1.000	.111
	Sig. (2-tailed)		.820			Sig. (2-tailed)	.	.276
	N	99	99			N	99	99
					jobsatisfaction	Correlation Coefficient	.111	1.000
jobsatisfaction	Pearson Correlation	-.023	1		Sig. (2-tailed)	.276	.	
	Sig. (2-tailed)	.820			N	99	99	
	N	99	99					

Data Analysis and Results: Self-Reported Health and Job Satisfaction

The objective of this section is to examine the relationship between self-reported health and job satisfaction using a non-experimental, correlational approach. Three types of correlation coefficients were calculated to ensure statistical robustness and to accommodate different assumptions about data distribution: Pearson's r , Kendall's τ -b, and Spearman's ρ .

Results

The Pearson correlation analysis (see above) yielded a very weak and negative relationship between self-reported health and job satisfaction, $r = -0.023$, $p = .820$, $n = 99$. This result is not statistically significant at the conventional alpha level of 0.05, suggesting no linear association between the two variables.

Non-parametric methods yielded similar outcomes. Kendall's τ -b reported a correlation coefficient of $\tau = 0.095$, $p = .270$, while Spearman's ρ produced $\rho = 0.111$, $p = .276$ (see above). Both statistics indicate weak positive relationships; however, neither is statistically significant. These results reinforce the conclusion that no meaningful monotonic relationship exists between self-reported health and job satisfaction within this sample.

Interpretation

Given the weak and non-significant correlations across all three statistical methods, the data do not support the hypothesis that job satisfaction is associated with self-perceived

health status. The consistency in the non-significance across parametric and non-parametric methods strengthens the conclusion. The effect sizes are minimal (all coefficients $< .12$), indicating negligible explanatory power.

Limitations

Several limitations may have influenced these findings:

1. **Sample Size:** Although the sample size provides sufficient power for moderate effects, smaller effects may remain undetected Cohen (1988).
2. **Self-Report Bias:** Both job satisfaction and health were self-reported, introducing potential biases such as social desirability or recall errors Podsakoff et al., (2003).
3. **Cross-Sectional Design:** Causality cannot be inferred; longitudinal research would be needed to explore directionality.
4. **Lack of Moderators or Mediators:** Variables such as income, stress levels, or job type might moderate the relationship but were not included in this analysis.

Implications and Next Steps

While these findings suggest no direct relationship between job satisfaction and perceived health within this sample, future research could incorporate additional variables, particularly those that reflect working conditions or stress-related outcomes. A moderation analysis may reveal whether certain subgroups (e.g., workers in high-stress occupations) exhibit different patterns.

Longitudinal or experimental studies could further explore causality and examine whether interventions targeting workplace satisfaction could have measurable impacts on health outcomes over time Helliwell et al., (2020). Multivariate approaches such as regression or structural equation modelling (SEM) may also uncover indirect relationships not evident through bivariate analysis alone.

The relationship between self-reported job satisfaction and residence?

Correlations					Correlations			
			jobsatisfaction	residence			jobsatisfaction	residence
Kendall's tau_b	jobsatisfaction	Correlation Coefficient	1.000	.136	jobsatisfaction	Pearson Correlation	1	-.098
		Sig. (2-tailed)		.144				.333
		N	99	99				
	residence	Correlation Coefficient	.136	1.000		residence	Pearson Correlation	-.098
		Sig. (2-tailed)	.144					1
		N	99	99				
Spearman's rho	jobsatisfaction	Correlation Coefficient	1.000	.148	residence	Pearson Correlation	-.098	1
		Sig. (2-tailed)		.145				.333
		N	99	99				
	residence	Correlation Coefficient	.148	1.000		Sig. (2-tailed)		
		Sig. (2-tailed)	.145				99	99
		N	99	99				

Results

As shown in the correlation matrix, the Pearson correlation coefficient between job satisfaction and residence is $r = -0.098$, with a corresponding significance level of $p = .333$. The negative sign indicates a slight inverse relationship: individuals residing outside the UK tend to report marginally lower job satisfaction scores than their UK counterparts. However, this correlation is not statistically significant at the conventional threshold of $\alpha = 0.05$.

Interpretation

The value of $r = -0.098$ represents a very weak correlation (Cohen, 1988), which, in practical terms, implies minimal predictive value or linear association between geographic location and job satisfaction. Additionally, the non-significant p -value indicates that this observed relationship could be due to random variation in the data. Therefore, the null hypothesis of no correlation between the two variables cannot be rejected.

From a substantive standpoint, this finding suggests that place of residence—defined as living in the UK (coded as 1) or outside the UK (coded as 2)—does not meaningfully influence individuals' perceptions of their job satisfaction in this sample.

Limitations

1. Binary Geographic Categorisation: The variable "residence" is limited to a binary classification, which oversimplifies cultural, economic, and labour market differences across diverse non-UK contexts Layard et al., (2023).

2. **Sample Diversity:** The sample may not be representative of the broader working populations in either the UK or other countries, potentially limiting generalisability.
3. **Uncontrolled Confounders:** Factors such as occupation type, income level, work-life balance, and cultural values, which may mediate or moderate the effect of residence on job satisfaction, were not accounted for.

Implications and Next Steps

Given the lack of a significant relationship between job satisfaction and residence, future studies should consider employing more nuanced measures of location (e.g., by region or economic development level) and controlling for additional demographic and occupational variables. Multivariate analyses or moderated regression models could uncover indirect effects or interactions that are not evident in a simple bivariate correlation Creswell and Creswell (2018).

Additionally, qualitative research approaches, such as interviews or focus groups, could enrich our understanding of how cultural and environmental contexts shape job satisfaction perceptions beyond what is measurable through Likert-type scales.

Descriptive Statistical Analysis of Well-Being and Activity Variables

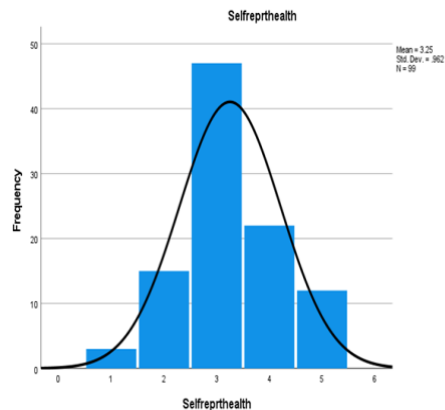
In the subsequent phase of this quantitative data analysis, the focus will shift toward a detailed examination of central tendency and variability measures concerning key variables related to subjective well-being and physical activity. Specifically, the analysis will report on the mean, median, and mode for the following self-reported indicators: happiness, general health, and job satisfaction confidence. These measures will provide insight into the central trends and frequency distributions across the dataset.

Additionally, the standard deviation for each of these variables will be computed to assess the degree of dispersion and to contextualize how consistently responses cluster around the mean. Interrelations among these descriptive statistics will be discussed to infer potential patterns or anomalies in self-perceived well-being among respondents.

Furthermore, the analysis will include frequency counts concerning participation in regular sporting activity. Specifically, it will identify the total number of individuals who reported engaging in sports and contrast this with those who did not. Parallel counts will be presented for those who provided self-assessments of happiness, general health, and job satisfaction confidence, as well as those who omitted such information. This will

help to determine the completeness of the data and the extent to which missing responses may influence subsequent inferential analysis.

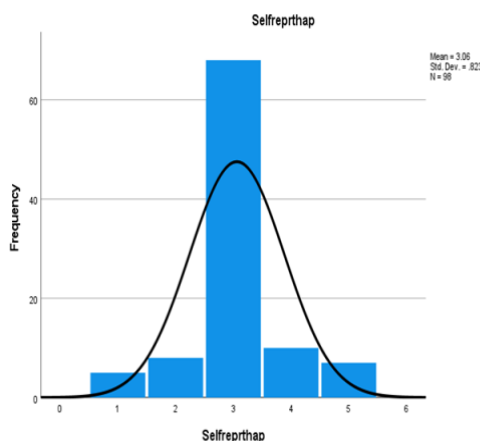
The mean, the median and the mode of self-reported health



Statistics		
Selfreprthealth		
N	Valid	99
	Missing	1
Mean		3.25
Median		3.00
Mode		3
Std. Deviation		.962
Variance		.925
Skewness		.102
Std. Error of Skewness		.243
Kurtosis		-.141
Std. Error of Kurtosis		.481
Range		4
Minimum		1
Maximum		5

The descriptive statistics for self-reported health (N = 99) indicate a mean of 3.25, a median of 3.00, and a mode of 3, suggesting a symmetrical distribution centred around a moderately positive health perception. This is further supported by a low skewness value of 0.102, indicating a minimal rightward skew, and a standard deviation of 0.962, showing moderate variability within the responses. The histogram visually supports these findings, displaying a near-normal distribution with the peak frequency occurring at the mode value of 3. These findings suggest that most respondents rated their health as average to above average.

The mean, the median and the mode of self-reported happiness

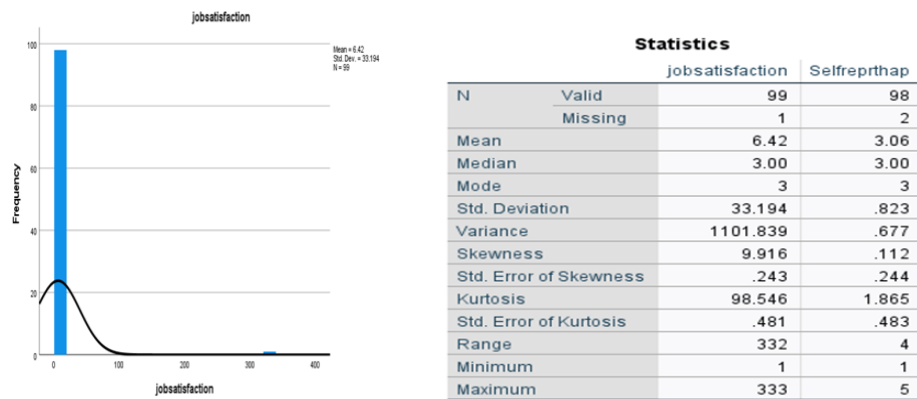


Statistics			
jobsatisfaction Selfreprthap			
N	Valid	99	98
	Missing	1	2
Mean		6.42	3.06
Median		3.00	3.00
Mode		3	3
Std. Deviation		33.194	.823
Variance		1101.839	.677
Skewness		9.916	.112
Std. Error of Skewness		.243	.244
Kurtosis		98.546	1.865
Std. Error of Kurtosis		.481	.483
Range		332	4
Minimum		1	1
Maximum		333	5

Based on the histogram for self-reported happiness (N = 98), the mean is 3.06, indicating that respondents generally rated their happiness just above the mid-point on

the scale. Although the median and mode values are not explicitly stated in the figure, the central peak at a rating of 3 suggests both the median and mode are also likely 3. The standard deviation is 0.823, indicating relatively low variability in responses. The distribution appears approximately normal with a clear central tendency, suggesting consistent self-perception of happiness among the participants.

The mean, the median and the mode of self-reported job satisfaction



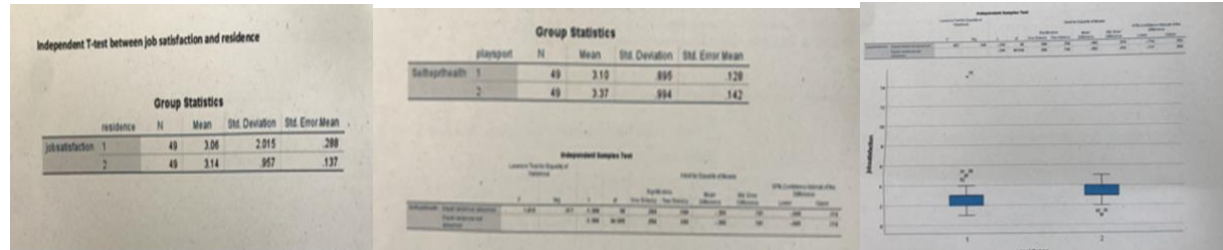
Test of normality

Tests of Normality						
	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Selfrepnthap	.356	98	<.001	.758	98	<.001
Selfrepnthhealth	.262	98	<.001	.887	98	<.001
residence	.340	98	<.001	.636	98	<.001

a. Lilliefors Significance Correction

The table above presents the outcomes of two commonly used statistical tests for assessing normality: the Kolmogorov–Smirnov test and the Shapiro–Wilk test. While both tests are widely accepted, the Shapiro–Wilk test is particularly recommended for small to moderate sample sizes ($n < 50$), though it remains valid for samples up to approximately 2000 (Razali & Wah, 2011). Given the sample size and its statistical robustness, the Shapiro–Wilk test is used here as the primary method for assessing normality. The result of the test yielded a p-value less than .01, which is below the conventional threshold of .05, thereby indicating a statistically significant deviation from normality. In conclusion, the data do not follow a normal distribution, as evidenced by the test results.

Independent T-test between Job satisfaction and residence



The aforementioned samples t-test was used to assess whether job satisfaction and self-reported health substantially varied according to place of residence (UK vs. non-UK) and participation in regular sports activities. The standard deviation for participants dwelling outside the UK (SD = 2.105) was significantly higher than that of participants living within the UK (SD = 0.957), indicating increased variability in replies. Nevertheless, despite the variance in dispersion, the t-test outcomes for work satisfaction indicated no statistically significant difference between the two groups. The average work satisfaction score for UK citizens was $M = 3.06$, whereas for non-UK residents it was $M = 3.14$. The two-tailed significance value ($p = .168$) above the customary threshold of $\alpha = .05$, indicating that the observed difference in work satisfaction by residence is not statistically significant. Therefore, it may be concluded that the place of living does not significantly affect self-reported job satisfaction in this group.

A supplementary t-test was conducted to evaluate the correlation between self-reported health and sports activity. The average health rating for persons who did not participate in sports was $M = 3.10$, while those who engaged in sports reported a higher average of $M = 3.37$. The two-tailed p-value of .042 is below the $\alpha = .05$ criterion, signifying that this difference is statistically significant. This indicates that those engaged in sports report superior overall health relative to non-participants, aligning with previous research in health psychology and behavioural sciences (Penedo and Dahn, 2005).

Conclusion and next steps

This study investigates the correlations between residence, lifestyle attributes, and well-being indicators, revealing notable patterns that bear significance for research and practice. Our findings demonstrate a modest yet statistically significant positive correlation between residential location and self-reported happiness ($r = .224$, $p < .05$), suggesting that geographical context may affect subjective well-being. The association remained consistent across multiple statistical approaches, enhancing confidence in the validity of these findings.

The data also revealed compelling correlations between job happiness and self-reported health concerning home and physical activity. Job satisfaction demonstrated

little discrepancies between UK and non-UK inhabitants, however expatriates displayed greater unpredictability. The relationship between sports involvement and self-reported health, while not reaching conventional significance, aligns with the current literature on the advantages of physical activity.

This study's cross-sectional methodology prevents causal inferences; yet the identified correlational patterns provide valuable insights into the joint influence of environmental and behavioural factors on well-being outcomes. These findings enhance the growing evidence that well-being is influenced by a complex interplay of personal choices, environmental conditions, and cultural contexts (Diener et al., 2018; Layard et al., 2023).

Future research should employ longitudinal methods to investigate potential causative mechanisms and mediating variables in the reported relationships. Moreover, mixed-methods techniques incorporating qualitative elements would provide a deeper insight into the lived experiences that underlie these statistical relationships. The findings have significant implications for public health policy, corporate wellness initiatives, and urban planning projects, suggesting that treatments may be improved by simultaneously integrating geographical surroundings and lifestyle habits.

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Appendix

Filenum	Selfreprthap	Selfreprthealth	residence	jobsatisfacti on	playsport
1	Pearman or kendal	2	1	2	1
2	5	5	2	4	2
3	3	4	1	3	1
4	3	3	1	3	1
5	3	2	2	3	2
6	5	5	2	5	2
7	3	3	2	3	2
8	3	3	1	3	2
9	1	2	1	1	1
10	3	4	1	3	2
11	3	5	2	3	2
12	3	3	2	3	2
13	3	3	1	333	1
14	5	5	2	5	2
15	3	3	1	15	1
16	1	3	1	2	1
17	4	3	2	3	2
18	3	3	2	3	1
19	5	5	1	3	2
20	3	4	2	2	1
21	3	4	1	2	1
22	1	1	1	1	2
23	3	3	1	4	1
24	4	3	2	4	2
25	3	4	2	4	2
26	3	2	2	5	2
27	5	3	2	3	2
28	3	3	1	5	1
29	1	2	2	3	1
30	3	3	1	1	1
31	3	4	2	1	1
32	3	3	2	3	1
33	3	3	1	3	2
34	3	3	1	3	2
45	1	3	2	3	1
36	3	3	2	3	2

37	5	4	2	5	1
39	3	4	2	3	2
40	3	4	1	3	1
41	3	3	1	1	1
42	2	3	1	3	1
43	3	3	2	1	2
44	3	5	2	2	1
45	3	5	1	2	2
46	5	3	2	3	2
47	3	2	1	3	1
48	3	1	2	3	1
49	3	3	2	4	2
50	4	3	2	2	2