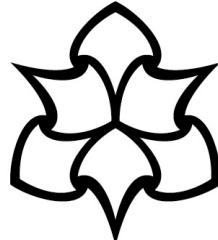




Q-Step



**Manchester
Metropolitan
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Factors Contributing to Adolescent Wellbeing: A Comprehensive Investigation

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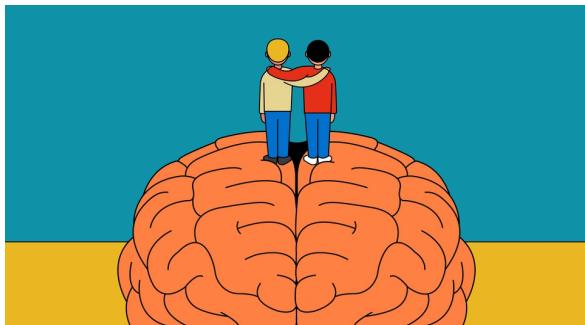
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Adolescence as a Critical Time in Life

The period of adolescence is a crucial stage in human development. This review of research on adolescent development highlights the importance of this stage in shaping future outcomes. Adolescence is marked by significant physical, cognitive, emotional, and social changes (Patton et al., 2016).



These changes create opportunities for growth and development, but also increase the risk for negative outcomes. Research has demonstrated that the quality of relationships with parents, peers, and other important adults, as well as engagement in positive activities, can

promote positive outcomes in adolescence and beyond (Shoshani and Steinmetz, 2014). Furthermore, brain development during adolescence is ongoing and sensitive to experience, with implications for decision-making, emotion regulation, and risk-taking behaviours (Dahl et al., 2018).

The study collected data from 478 students aged 11-17 who completed a pre- and post-programme questionnaire administered by the Dame Kelly Holmes Trust, which included Short Warwick Edinburgh Mental Health Wellbeing Scale (SWEMBS) and Stirling Children's Wellbeing Scale (SCWBS) for different age groups, as well as demographic questions and self-assessment statements. The study used an objective interpretative approach and a pre-post intervention design to investigate the influence of several factors affecting adolescent wellbeing. The study has limitations such as self-reported questionnaires, a non-random sample, and a limited number of variables. Despite this, the data and techniques employed offer valuable insights about the wellbeing of underprivileged youth. The impact of neighbourhood deprivation on adolescent well-being was explored in a recent study, revealing that communication skills, satisfaction with oneself, and feeling part of the local community were negatively affected by living in more deprived areas. However, the majority of participants reported positive self-perceptions and excitement about their futures, highlighting their resilience and potential. Gender differences were also identified, with males generally scoring higher than females in self-assessment and well-being scales. These disparities are consistent with previous research indicating that females are more susceptible to depression symptoms than boys, and that girls place a higher value on emotional reactions and social support. The study concludes that the increased emotional and social challenges faced by youth in early adolescence may explain the observed gender differences in well-being in the younger age group, whereas the lack of significant gender differences in well-being in the 14-17 age group may be due to a drop in subjective well-being in both genders.

1. Introduction

The fundamental research issue addressed in this study is: what factors influence adolescent well-being, and how may these factors be effectively addressed to promote positive outcomes for this population? In particular, this analysis will centre on information gathered from the Dame Kelly Holmes Trust's 2021 and 2022 programmes, which unique initiatives harness the power of sports and physical exercise to provide young people facing disadvantage with a wide range of skills, including relationship building, self-esteem enhancement, and improved focus and concentration. DKHT's programmes also teach youth teamwork, communication, and goal-setting through physical activity. Over the past decade, the Trust has worked with over 100,000 youth in cooperation with schools, community groups, and youth organisations. This study seeks to find effective methods for enhancing teenage health and wellbeing by analysing the relevant literature, with a focus on the considerable physical, cognitive, and social changes that occur during this developmental period (Patton et al., 2016).

With approximately 1.2 billion adolescents worldwide (16% of the global population) (The Lancet Child & Adolescent Health, 2019), this age group represents the largest generation in history. However, despite the increase in the teenage population due to advances in healthcare (Sawyer et al., 2012), many teenagers face barriers in accessing healthcare and information, leading to various health concerns, including those related to mental health, drug abuse, obesity, and chronic medical conditions, which can have long-term consequences on their well-being (Sawyer et al., 2012).

Most countries' healthcare systems focus on infants or adults, but adolescents' unique health and developmental needs require proactive and anticipatory healthcare delivery (The Lancet Child & Adolescent Health, 2019), which can also have lifelong impacts on individuals and the economic future of a country (Sawyer et al., 2012). Improving adolescent health has been shown to yield a tenfold return on investment, both in terms of health and economic benefits (The Lancet Child & Adolescent Health, 2019). Therefore exploring factors that influence adolescent

wellbeing is critical in identifying effective strategies to promote adolescent health and prevent long-term negative consequences.

During adolescence, the brain undergoes critical development that shapes one's adult capacities (Patton et al., 2016). Research indicates that 74% of adult-onset mental illnesses begin before the age of 24 (Kessler et al., 2007), and a large proportion of individuals who suffer from mental health issues report symptoms starting in their youth (Crenna-Jennings, 2021). However, despite this, only a small fraction (8.75%) of NHS funds for mental health are allocated to children and youth, emphasising the need for increased investment in this area. Adolescents face, therefore, significant unmet demand for mental health services due to underfunding in research, prevention, and effective treatment (House of Commons Education and Health and Social Services Committees, 2018; Crenna-Jennings, 2021). The need for mechanisms in place to promote the well-being of teenagers was further emphasised by the direct and indirect consequences of the coronavirus pandemic and reactions to it (Ross et al., 2020).

Therefore, it is crucial to address the factors that impact adolescent well-being, both physical and mental, and develop effective healthcare delivery systems that meet their unique needs. Failure to do so will result in long-term negative consequences on the well-being of individuals and the economic future of a country.

The review of literature provides an overview of the various discourses surrounding the concept of well-being. It explains that well-being is a multidimensional concept that includes physical, mental, social, spiritual, environmental, and occupational wellness. It discusses a variety of interventions aimed at improving adolescent well-being, including cognitive-behavioural therapy and mindfulness-based therapies. The difficulties in measuring wellbeing are also discussed, given that it is a complex and subjective concept with varying definitions depending on context and culture. The review concludes with an examination of subjective well-being, which includes a broad range of factors that may affect an individual's wellbeing.

The research project adopts an objective interpretative approach and uses pre-post intervention study to investigate the influence of several factors affecting adolescent

wellbeing. The data was gathered by the Dame Kelly Holmes Trust. Their questionnaire included questions from the Short Warwick Edinburgh Mental Health Wellbeing Scale (SWEMBS) and The Stirling Children's Wellbeing Scale (SCWBS), as well as questions about age, gender, and self-assessment statements. The multiple linear regression method was used for this study.

2. Literature review

2.1. Exploring wellbeing

To gain a greater understanding of what the notion of well-being actually means, it is vital to recognize that there are numerous discourses surrounding the concept of well-being, with different fields of study presenting distinct perspectives.

The roots of discussions about wellbeing can be found in philosophy, where thinkers such as Plato, Aristotle, Hobbes, and Bentham have each provided their own unique interpretations of what constitutes a happy life (Fromm, 2013; Annas, 2011; Lloyd & Sreedhar, 2002; Crisp, 2015). Meanwhile, medical discourses on well-being have focused on the physiological mechanisms underlying well-being, contributing to the development of interventions to improve it (Davidson & McEwen, 2012).

To evaluate these interventions and better understand what contributes to well-being, researchers have developed various outcomes and indicators, including life satisfaction, happiness, and positive affect (Diener et al., 2015). They are used in a variety of areas to measure progress, evaluate the efficacy of interventions, and influence decision-making. By measuring these outcomes, researchers can gain insight into how to improve well-being and identify the factors that contribute to it.

Some of the interventions designed to boost adolescent wellbeing include the cognitive-behavioral therapy (CBT), which is a frequent form of intervention that has been shown to be beneficial in lowering depressive and anxious symptoms in adolescents (Weisz et al., 2017), and mindfulness-based therapies - another form of intervention that has been demonstrated to help teenagers better manage their emotions and reduce stress (Tan and Martin, 2013). Adolescent mental health can also be improved through family-based interventions (Feldman et al., 2018), especially those that include parents and place an emphasis on communication and problem-solving skills, and positive psychology programmes and other school-based interventions to boost their happiness (Shoshani and Steinmetz, 2014).

Large-scale implementation of these procedures, however, might be difficult due to a lack of consistent financing and a lack of collaboration between different parties such as schools, families, and mental health experts (Littel, et al., 2005).

2.2. Mental wellbeing

Wellbeing is a multifaceted concept that includes various dimensions, such as physical, mental, social, spiritual, environmental, and occupational wellness, as defined by the World Health Organization (World Health Organization, 1948). By studying these various factors, researchers and practitioners are able to develop specific programmes for enhancing overall well-being and happiness. For example, the Dame Kelly Holmes Trust provides a range of initiatives which employ sport and physical exercise to promote the well-being and mental health of disadvantaged adolescents. These activities were established based on research into the relationship between physical exercise and mental health, as well as research into the unique needs of disadvantaged young people.

Although mental well-being is difficult to define precisely, research on adult well-being suggests that it is closely related to psychological and functional well-being (Melendez-Torres, 2019). However, hedonic well-being, which is related to emotions and life satisfaction, can also be a factor. Mental wellness has become a priority in school health promotion and education as well as health policy. Yet, there is still much to learn about mental well-being, especially during childhood and adolescence (Melendez-Torres, 2019).

Studies have shown that robust psychological functioning, such as life satisfaction and purpose, predicts physical health, regardless of mental health issues such as depression (Park et al., 2023). To assess mental well-being, both subjective and objective indicators should be considered. Subjective indicators emphasise personal experiences and individual fulfilment, such as finding meaning in life or feeling happy. However, objective indicators, such as access to mental health care and support, safe and affordable housing, and freedom from discrimination, also play a critical role (Ross et al., 2020). A critical approach requires considering both subjective and objective indicators, as well as social and structural factors that can affect mental health outcomes.

2.3. Subjective well-being

Using DKHT data, this study focuses mostly on subjective aspects of wellbeing. The concept of "subjective well-being" (SWB) refers to an umbrella term that encompasses a wide range of factors, like age and gender, that might influence an individual's overall well-being (Stiglic and Viner, 2019; Dahl, 2004). By focusing on mental well-being overall, many variables that contribute to total well-being would be overlooked. Including multiple wellbeing measures and demographic variables can therefore improve study validity and comprehensiveness (Diener, 2006).

Theories and Measurements

Measuring any aspect of wellbeing can be challenging due to its subjective nature and multiple definitions. According to Diener et al. (2010), wellbeing is the "overall evaluation of one's life," including life satisfaction, emotional state, and basic needs like food, shelter, and safety. However, wellbeing is a complex concept that can mean different things to different people and cultures. Subjective wellbeing is equally complex as it involves an individual's assessment of their own feelings, life satisfaction, and overall sense of happiness (Diener et al., 2018). Measuring this kind of wellbeing is also challenging due to its subjectivity and the numerous factors that influence it. People's subjective experiences and assessments of their own lives can vary greatly, even within the same cultural or social setting. Factors such as income, social support, personality qualities, and cultural beliefs might affect people's subjective assessments of their life (Diener et al., 2018), as much as life events, health, and personal aspirations can also affect people's self-evaluations (Headey et al., 2010).

The absence of a common definition or conceptual framework further complicates efforts to quantify subjective aspects of well-being. Many academics and academic fields, however, view subjective well-being as a multifaceted construct that includes both hedonic (emotional) and eudaimonic (purposeful) dimensions, where each may place more emphasis on one or the other (Ross et al., 2020).

The hedonic theory of well-being (Ryan & Deci, 2001) holds that experiencing happiness and pleasure is the ultimate goal of living. This theory bases SWB on positive emotions like joy, contentment, and satisfaction. Diener et al.'s (1985) Satisfaction with Life Scale (SWLS) is the most widespread tool for measuring SWB on the basis of hedonic theory.

On the other hand, according to the eudaimonic theory (Ryan & Deci, 2001), one's wellbeing can be increased by taking part in activities that further one's personal values and goals. This SWB theory emphasises personal growth, self-actualization,

and personal potential fulfilment. The Psychological Well-Being Scale (PWB), created by Ryff and Keyes (1995), is one popular eudaimonic-based measurement tool example.

Academics have created many instruments to assess various aspects of subjective well-being, such as happiness, life satisfaction, positive emotions, engagement, meaning, social support, and accomplishment (Forgeard et al., 2011). As evidenced in the Short Warwick-Edinburgh Mental Well-being Scale and the Stirling Children's Well-being Scale, both used in this study, these instruments integrate components of both hedonic and eudaimonic theories of well-being. The Stirling scale emphasises subjective components of well-being while also including eudaimonic characteristics of well-being such as autonomy, life purpose, and positive connections. Similarly, SWEMWBS includes questions about feeling well, connecting with people, personal development, and discovering one's life purpose (Tennant et al., 2007; Stewart-Brown et al., 2009). Non-traditional methodologies, such as the Day Reconstruction Method and the Experience Sampling Method, are also commonly utilised to assess subjective well-being (Forgeard et al., 2011).

However, each of these tools has its own drawbacks, including memory biases, social desirability bias, and a lack of alternative metrics (Tennant et al., 2007). Due to its many meanings and conceptualizations, subjective wellbeing proves therefore to be challenging to measure scientifically.

2.4. Factors

Age and gender

Physical and mental changes occur quickly during adolescence, and so do shifts in social and cultural settings. Puberty involves brain changes that cause physical

growth, metabolic changes, changes in sleep and circadian control, and sexual maturation (Dahl et al., 2018). It has been discovered that age and mental health have a U-shaped relationship (Ng Fat et al., 2016), as children who enter adolescence deal with new difficulties and rising social and family-related demands. Additionally, they might become more prone to crises and emotional stress (Ronen et al., 2016).

For instance, cultural pressures for males to be tough and repress emotions might worsen male mental health concerns, and the hegemonic idea that girls are fragile and boys are strong and independent maintains gender norms and disparities (Blum et al., 2017). Gelhaar et al. (2007) found that when compared to males, females place a higher value on emotional responses and social support when dealing with a stressful situation. Emotional events may also have a greater impact on older adolescents, according to research by Gelhaar et al. (2007). Reschly et al. (2008) discovered that teenage girls show more emotions, both positive and negative, and talk about their concerns and anxieties more than boys. Finally, Eiffge-Krenke (2013) reported that women tend to withdraw more and find stressors to be up to four times more challenging for them than men.

Research has also shown that social isolation, lack of positive peer interactions, bullying, and rejection are all factors that can lead to depression in adolescence. On the other hand, having supportive peer interactions can help prevent mental health issues and enhance resilience(Orben et al., 2020). Teenage girls were found to be more likely than teenage boys to experience such depressive symptoms, including self-harm (Morgan et al., 2017; Geulayov et al., 2018), and self-harm rates among British females aged 13 to 16 increased significantly between 2011 and 2014 (Morgan et al., 2017). Therefore, it's crucial to take into account how adolescents' capacity for subjective well-being is affected by such developmental aspects including age and gender (Ronen et al., 2016).

Several research studies in the past have failed to find a connection between age (Clarke et al., 2011; Smith et al., 2017), gender (Clarke et al., 2011; Smith et al., 2017; Tennant et al., 2007) and mental wellbeing. However, a considerable number of studies have shown a link between such characteristics and SWB. According to a study by Tennant et al. (2007), those between the ages of 16 and 24 had higher

levels of mental well-being. On the other hand, Casas et al. (2012), Tomyn and Cummins (2011), Liu et al. (2015) and Singh et al. (2015) discovered that SWB levels gradually declined from early to late adolescence. The effects of this decrease in wellbeing as teens get older are shown by the links between mental health, satisfaction at school, and subjective wellbeing. Those difficulties with mental health have been linked to academic performance and social development issues. It has also been suggested that older adolescents may struggle to cope in early adulthood as they strive for independence, sometimes without enough support.

When it comes to gender, studies made by Tomyn and Cummins (2011), Singh et al. (2015), Tomyn et al, (2013a) and Tomyn et al. (2014) revealed that both genders demonstrated an age-related drop in SWB from early to mid-adolescence. Tennant et al. (2007) and Tomyn et al. (2014) also noticed that men had significantly higher WEMWBS scores than women. In their studies males were shown to have greater levels of personal safety and accomplishment in life, which contributed to an increase in overall wellbeing. However, Tomyn and Cumins (2013b) discovered that female adolescents had much stronger SWB than their male contemporaries. In their study, women also scored higher on the "Community" and "Future" items.

Physical activity

Physical activity has been demonstrated to significantly reduce depression levels and have an impact on one's subjective well-being (Teychenne et al., 2008; Mammen and Faulkner, 2013; Eime et al., 2013). Evidence suggests that even minimal amounts of physical activity can protect against future depression (Teychenne et al., 2008; Mammen and Faulkner, 2013). Some researchers claim however, that physical activity's antidepressant benefits are specific to females and that there is no statistically significant association among men (Wang et al., 2011; Mikkelsen et al., 2010).

Most observational studies show that intensive physical exercise is more significantly associated with reduced depression risk than low-intensity physical activity. Furthermore, it has been discovered that physical exercise in the context of leisure time has a larger inverse connection with depression than activity in other contexts

(Mammen and Faulkner, 2013). Eime et al. (2013) argues however that sports participation is viewed as more beneficial to children and teenagers' mental and social health than other forms of recreational physical activity. He also emphasises that particularly beneficial to health are team sports.

Examples of mechanisms by which exercise might reduce depressive symptoms include changes in central monoamine functioning and increases in endorphin production. Physical activity may also impact wellbeing by boosting self-esteem, self-efficacy, and social interaction. It is possible that physiological and psychological mechanisms operate concurrently (Mikkelsen et al., 2010).

Deprivation

A neighbourhood's level of deprivation is another factor that can be used to assess the well-being of adolescents. It has been found that rural teenagers are more family-oriented, lonely, and have smaller peer groups than urban adolescents (Singh et al., 2015). These findings can be linked to the rural area's structure. In comparison to metropolitan regions, social stability, integration, supporting interpersonal networks, and consensus on moral and political problems are more prevalent in rural communities (Sing et al., 2015). Studies have shown that after adjusting for relevant personal and familial factors, neighbourhood determinants accounted for an average of 10% of the remaining variance in health outcomes (Sellström and Bremberg, 2006). Access to material and institutional resources, psychosocial pathways, and social norms are only a few examples of models that attempt to explain the correlation between neighbourhood characteristics and children's and adolescents' health outcomes. Vyncke et al. (2013) claims that parental qualities such as social support and parenting practices are important in reducing the impact of neighbourhood characteristics on youth outcomes. In his research, he also highlights how the interaction of socioeconomic determinants at the family and neighbourhood levels is crucial for youth health effects. Additionally, it is believed that neighbourhood social environment, rather than economic disadvantage or disorder, is a factor in residents' mental health and well-being. According to Visser et al. (2021), there may be an increase in the already present imbalance in youth mental

health as a result of recent societal shifts like the decline of middle-class neighbourhoods.

3.1. Research objectives

Young people nowadays confront a variety of issues that can have an influence on their physical, emotional, and mental health, and it is crucial to recognize the variables that contribute to their wellbeing. Understanding the significance of social and cultural factors in shaping the meanings people give to their experiences is central to this investigation, which adopts an objective interpretative approach (Denzin & Lincoln, 2017). Using a pre-post intervention study, in order to investigate how variables change over time (Parker et al., 2017), this research project will investigate the influence of several factors affecting adolescent wellbeing.

3.2. Materials and methods

3.1. Data

The data was gathered by the Dame Kelly Holmes Trust, a UK charity created in 2008 by Olympic gold winner Dame Kelly Holmes. Her programmes combine sports and physical exercise to help young people experiencing disadvantage acquire a variety of abilities, such as relationship building, self-esteem improvement, and learning to concentrate. Young people are encouraged to create and achieve goals, build resilience, and acquire confidence in their skills with the help and mentoring of professional athlete mentors. The charity has a history of enhancing the lives of the young people with whom it works, assisting them in overcoming obstacles and reaching their full potential. The trust has helped over 2,500 young people in the UK and has a proven track record of effectiveness (Dame Kelly Holmes Trust, n.d.).

The data for this study was collected using a pre- and post-programme questionnaire administered by the Dame Kelly Holmes Trust (DKHT). The questionnaire included questions from the Short Warwick Edinburgh Mental Health Wellbeing Scale (SWEMBS) for participants aged 14-17 and the Stirling Children's Wellbeing Scale (SCWBS) for those aged 11-13. In addition, the questionnaire included demographic questions such as age, gender and name of school/academy the participant attends, amount of physical activity in a week, as well as questions on self-assessment statements related to communication skills, self-satisfaction, community involvement, and excitement about the future. The questionnaire was identical for both age groups, except for the wellbeing scales.

3.2. Limitations

Sampling from existing data sources comes with its benefits and drawbacks. The ability to obtain large amounts of data at little cost while also gaining valuable insights from real-world experiences is a major benefit. However, it is essential to bear in mind the data's limitations, including the lack of control during data collecting, or that data could have been collected for a different objective (Johnston, 2014). Additionally this study's data was collected by the Dame Kelly Holmes Trust, whose mission is to support young people who are disadvantaged or at danger of marginalisation, which may restrict the generalizability of the results. Data acquired using self-reported questionnaires may also be biased due to the subjective nature of the information provided by participants, who may reply in a way they believe to be socially acceptable or who may not correctly recollect or reflect their experiences. There is also the possibility that the variables used in the study, such as physical activity and self-assessed well-being, did not adequately capture the complexity of objective well-being, which is influenced by a wide range of biological, social, and environmental factors.

Finally, the study's sample size may not be representative of the population, and the restricted number of variables may not give an adequate understanding of the factors affecting teenage well-being.

Despite these drawbacks, the data and techniques employed in this study offer insightful information about the wellbeing of underprivileged youth. The study's validity is increased by the representation of real-world experiences in the data, and the use of validated measuring techniques to assess well-being. Additionally, the thorough data cleaning and analysis techniques used boost the study's validity. The findings of this study might assist in the development of programmes tailored to the unique difficulties faced by disadvantaged adolescents, ultimately improving their overall wellbeing.

3.3. Questionnaire

Quantitative data was collected from students attending 33 schools in 18 different cities across England, Wales, and Jersey. A subset of 478 students were asked to fill out a questionnaire before and after taking part in the Dame Kelly Holmes Trust programme in 2021 and 2022. Participants ranged in age from 11 to 13 for those completing the The Stirling Children's Wellbeing Scale (SCWBS) and 14 to 17 for those completing the Short Warwick Edinburgh Mental Health Wellbeing scale (SWEMWBS). Participants who did not respond to the final questionnaire ($n = 117$) or did not complete the entire programme were still included in the overall wellbeing assessment. The total number of students who completed the programme and returned the questionnaires was 361.

The questionnaire included questions from SWEMBS, SCWBS, questions about age, gender, and the following questions: "How many days in the last week have you done 30 minutes or more of physical activity?", "How many days in the last week have you done 60 minutes or more of physical activity?", "Which school/academy do you go to?". Participants were also asked to rank how strongly they agreed or disagreed with 24 statements about themselves (strongly agree, agree, neither, disagree, strongly disagree). For the purpose of this study, only four of the following statements were included: "I'm good at communicating with other people", "On the

whole, I am satisfied with myself", "I feel part of my local community", " I am excited about my future". The selection of these four statements was based on their potential to provide insight into the impact of the Dame Kelly Holmes Trust programmes on teenage wellbeing and their relevance to the research question. For instance, the question about communicating with other people relates to relationship building, which is a key component of the Dame Kelly Holmes Trust programme. "On the whole, I am satisfied with myself" is related to self-esteem improvement, where "I feel part of my local community" refers to the program's sense of community and social support. It is also a useful metric for assessing the impact of neighbourhood deprivation on adolescent well-being, as it enables an understanding of teenagers' social connectedness and sense of belonging within their communities. The statement "I am excited about my future" was used as an indicator of an optimistic attitude on life, which is relevant to the study topic of finding factors that affect teenage wellbeing since optimism and hope for the future are positively correlated with wellbeing in adolescence (Shoshani & Steinmetz, 2014).

3.3. Measures

Mental Well-Being Scales

The PANAS scale, SWLS, SPWB, SDHS, and WHO-5 are a few examples of instruments that assess several elements of well-being, including affective-emotional, cognitive-evaluative, eudaimonic, and overall well-being. These measurements however, often focus on negative mental health symptoms like sadness and anxiety rather than positive ones like resilience and wellbeing (Tennant et al., 2007). Such assessments may also overlook vital categories like interpersonal connections and self-acceptance and not adequately reflect the complex nature of wellbeing. For the purpose of this study, two wellbeing scales are being used: SWEMWBS for those aged 14 to 17 and SCWBS for those aged 11 to 13.

Warwick-Edinburgh Mental Well-Being Scale

The Warwick-Edinburgh Mental Well-Being Scale (WEMWBS), intends to expand on earlier measures by capturing a broad notion of well-being, and is a brief, self-report questionnaire designed for use in community-wide studies of participants affective-emotional, cognitive-evaluative, and psychological functioning dimensions (Ng Fat et al., 2016). The scale's emphasis on the positive is meant to assist programmes to promote mental health and get rid of ceiling effects in population samples (Clarke et al., 2011). The WEMWBS was based on the Affectometer 2 scale, which addressed both eudaimonic and hedonic elements of mental health with 20 statements and adjectives. However, the Affectometer 2 has shortcomings, such as very high internal consistency and the possibility of bias regarding social desirability, and it was also overly lengthy to be utilised as a population-level survey measure (Ng Fat et al., 2016). In response, WEMWBS was created in 2007 to help build a foundation of evidence for public mental health (Tennant et al., 2007). The WEMWBS includes 14 positive items that assess mental wellness, which is defined as "feeling good and functioning well" (Ryan and Deci, 2001). It examines eudaimonic (social ties and purpose) and hedonic (happiness) well-being. According to validation studies, the majority of scale scores are related to one component (Tennant et al., 2007).

Short Warwick-Edinburgh Mental Well-Being Scale

In 2009, the Rasch measurement model was implemented to create a condensed version (seven items) of the scale (SWEMWBS), which is being used in this research. To enhance the model fit, five items were removed from the baseline 14-item WEMWBS, and two items were removed to decrease local item dependency (Shah, 2021). SWEMWBS emphasises therefore psychological functioning over subjective feelings. However, because of its improved scaling features and lower participant load, it has become the instrument of choice for multiple analyses and has been widely adopted by practitioners and researchers in the UK and beyond (Ng Fat et al., 2016). The overall score on the seven components that make up the SWEMWBS ranges from 7 to 35. Using a 5-point Likert scale ('none of the time',

'rarely', 'some of the time', 'often', 'all of the time') respondents are asked to rate how often each statement applies to them over the past two weeks. By adding the scores for each component, given equal weights, the overall SWEMWBS score is calculated. Therefore, a higher SWEMWBS score indicates a higher level of mental well-being (Koushede et al., 2019).

Those between the ages of 13 and 74 have been successfully tested using this scale. However, no data support the use of WEMWBS in children under the age of 11. Consequently, WEMWBS shouldn't be utilised on younger people under this age (warwick.ac.uk, n.d.).

Stirling Children Well-Being Scale

Liddle and Greg (2015) argue that existing well-being assessments however, frequently do not apply well to children and may place more emphasis on mental illness than general well-being. As a result, there is an unmistakable need for a metric that focuses on increasing children's well-being and can adequately analyse the effectiveness of interventions and initiatives in this area. Therefore, for younger people between the ages of eight and thirteen, it is suggested for the Stirling Children's Wellbeing Scale to be used (warwick.ac.uk, n.d.). The Stirling Children's Well-being Scale (SCWBS), developed by the Stirling Council Educational Psychology Service, aims to measure the emotional and psychological well-being (PWB) of children between the ages of eight and fifteen (Liddle and Greg, 2015).

The SCWBS, like the WEMWBS, assesses positive aspects of well-being and also contains a three-item social desirability subscale to detect participants who may be answering in a socially desired manner rather than giving truthful responses. These items however were removed from this study because they do not assess children's well-being (Liddle and Carter, 2015). The remaining 12 questions are split between two dimensions measuring different aspects of well-being: (1) positive emotional state, which includes six SWB questions; and (2) positive outlook, which includes six PWB items.

The sum of the item scores within each subscale provides a rough approximation of the level of well-being for each SCWBS dimension. When added together, these factors indicate a person's level of positive emotional or psychological well-being. Each scale has a minimum of 6 and a maximum of 30 points. Finally, a well-being score between 12 and 60 is calculated by summing together the scores on each item in the SCWBS (Devcich et al., 2017).

3.4. Methods

Univariate Analysis

For each scale variable, Measures of Central Tendency were computed. Age variables required cleaning and some of the values were put into missing. For categorical scores, frequencies and percentages were calculated. When asked about their gender, a few participants selected "I describe myself in another way" or "prefer not to say." These responses were recorded as missing due to the small sample size ($n=24$) and inability to reliably determine the gender of these respondents. The four selected self-assessment statements ('I am good at communicating with other people', 'On the whole I am satisfied with myself', 'I feel part of my local community', 'I am excited about my future') needed to be transformed due to the values not entered in the correct order. They were then recoded in the order of 1 equaling 'strongly disagree' to 5 equaling 'strongly agree'.

Due to self-reporting, errors were discovered in the school/academy names provided by participants, prompting a data cleansing process to standardise the names for consistency and accuracy. After standardising school/academy names, their post-codes were found digitally. Using 2019 data from deprivation index websites, the extent of deprivation in each location was determined (Devcich et al., 2017; wimd.gov.wales, n.d.). On a scale from 1 to 10, each school or academy location was assigned a deprivation score, with 1 representing the most deprived area and 10 representing the least deprived. The dataset was updated with this information as a new variable.

Using Cronbach's alpha, the internal consistency of the WEMWBS and SCWBS was evaluated. The total score for both scales was then computed.

Bivariate Analysis

Crosstabs and chi-square tests were used to determine the presence and strength of associations between the variables.

For the categorical and scale variables the parametric assumptions were tested. The normality and homogeneity of variances were examined using Q-Q plots and Levene's test. Later, a t-test was performed to compare the means of the two groups on the scale variables.

A Q-Q plot and a Scatter plot were used to determine if the data was approximately normal and whether linearity and homoscedasticity were attained. Spearman's rho test was used to examine the relationship between the scale variables and to determine the strength and direction of that relationship.

Regression

The primary statistical analytic approach used in this study was multivariate linear regression. The assumptions of linearity and homoscedasticity were evaluated for each of the variables to assure the validity of the results.

Due to the fact that the dataset included age-specific versions of the well-being measures (SWEMWBS, SCWBS), two models were constructed for the regression analysis. The first model used SWEMWBS as the dependent variable, whereas the second used SCWBS. The independent variables in both models remained the same. Parametric assumptions like linearity, homoscedasticity, and multicollinearity were to be assessed before performing the multivariate linear regression analysis. This was done to ensure that the results of the analysis were reliable.

To ensure the stability and reliability of the parameter estimates, bootstrapping was performed before running the multivariate analysis, and some variables were removed from both models prior to conducting the final multivariate linear regression.

4. Results

Descriptive summary

Out of the initial 478 students who participated in the programme and completed the questionnaire, a subset of 361 students successfully completed the programme in its entirety and went on to complete a follow-up questionnaire. The sample was representative of schools and underlying adolescent populations, with roughly equal proportions of boys and girls (404 girls and 411 boys). Teenagers had completed around 3.6 and 2.9 days of 30 or 60 minute physical activity, respectively.

In terms of self-perception, participants generally felt good about themselves. The majority of respondents (57.3%) agreed or strongly agreed with the statement "I'm good at communicating with other people," while only 15.7% disagreed or strongly disagreed. A similar pattern emerged for the statement "On the whole, I am satisfied with myself," with 51.3% reporting positive answers. This statement received, however, a significant proportion of "neither" responses (30%), indicating a lack of clear consensus. As many as 68.6% of participants are genuinely excited about their futures. 22.8% answered 'neither' and 8.6% answered negatively, making it the question with the most positive responses of the four ordinal variables studied. When asked whether or not they felt like they were a part of their local community, half of the participants provided positive responses (50.7%). On the other hand, as much as 34.1% of people answered "neither."

Cronbach's alpha for WEMWBS was 0.843, while for SCWBS it was 0.984, as shown in Table 1. It indicates desirable levels that are significantly higher than the recommended lower limit of 0.7.

Scale	Chronbach's Alpha Baed on Standardized Items	Are there any items that improve the score if deleted?	Are there any items with a weak or low correlation
SWEMWBS	0.843	No	No
SCWBS	0.985	No	No

Table 1.

Bivariate analysis

Gender and 4 self-assessment statements:

The chi-square test findings showed that there were no cells with an expected count of fewer than five, indicating that the test assumptions were met. Furthermore, the relationship between the variables was statistically significant ($p < .001$), suggesting that there was an association between gender and the four self-assessment statements. The analysis of crosstabs revealed that males scored higher on all of these statements than females. The results are presented in Tables 2-5 and Charts 1-4.

On the whole, I am satisfied with myself	Female	Male	Total
Strongly disagree	8.40%	3.60%	6.00%
Disagree	15.60%	9.20%	12.40%
Neither	33.20%	25.80%	29.40%
Agree	29.20%	46.20%	38%
Strongly agree	13.60%	15%	14.40%

Table 2.

I'm good at communicating with other people	Female	Male	Total
Strongly disagree	6.20%	3.40%	4.80%
Disagree	15.10%	6.30%	10.70%
Neither	27.00%	26.80%	26.90%
Agree	37.40%	46.50%	42%
Strongly agree	14.40%	17%	15.70%

Table 3.

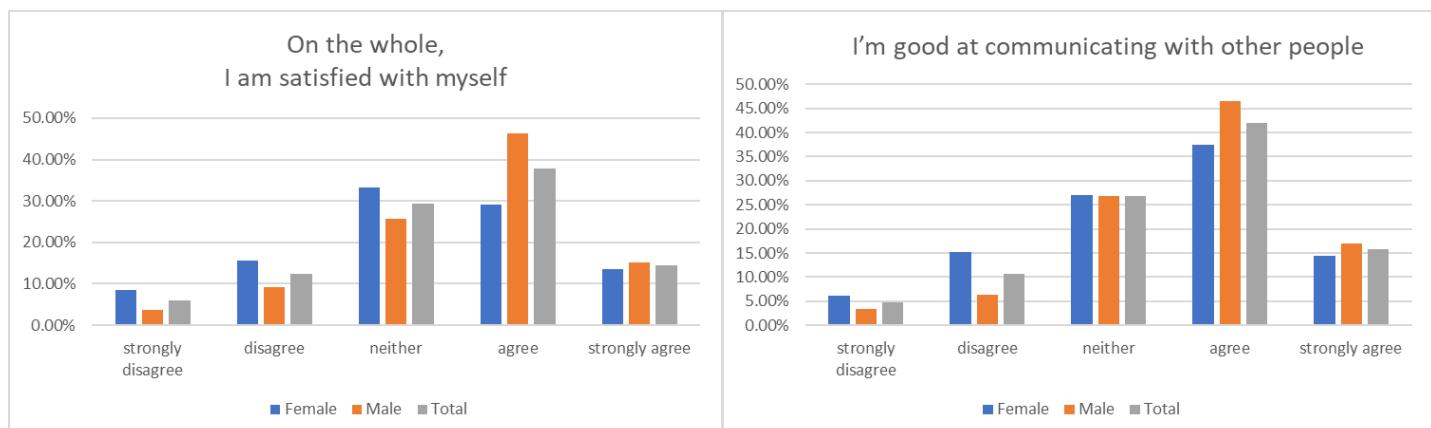


Chart 1.

Chart 2.

I am excited about my future	Female	Male	Total
Strongly disagree	3.00%	3.20%	3.10%
Disagree	7.40%	3.90%	5.60%
Neither	19.80%	24.30%	22.10%
Agree	35.90%	37.50%	37%
Strongly agree	33.90%	31%	32.50%

Table 4.

I feel part of my local community	Female	Male	Total
Strongly disagree	4.70%	5.80%	5.30%
Disagree	12.60%	6.30%	9.40%
Neither	34.90%	33.10%	34.00%
Agree	37.90%	43.30%	41%
Strongly agree	9.90%	11%	10.70%

Table 5.

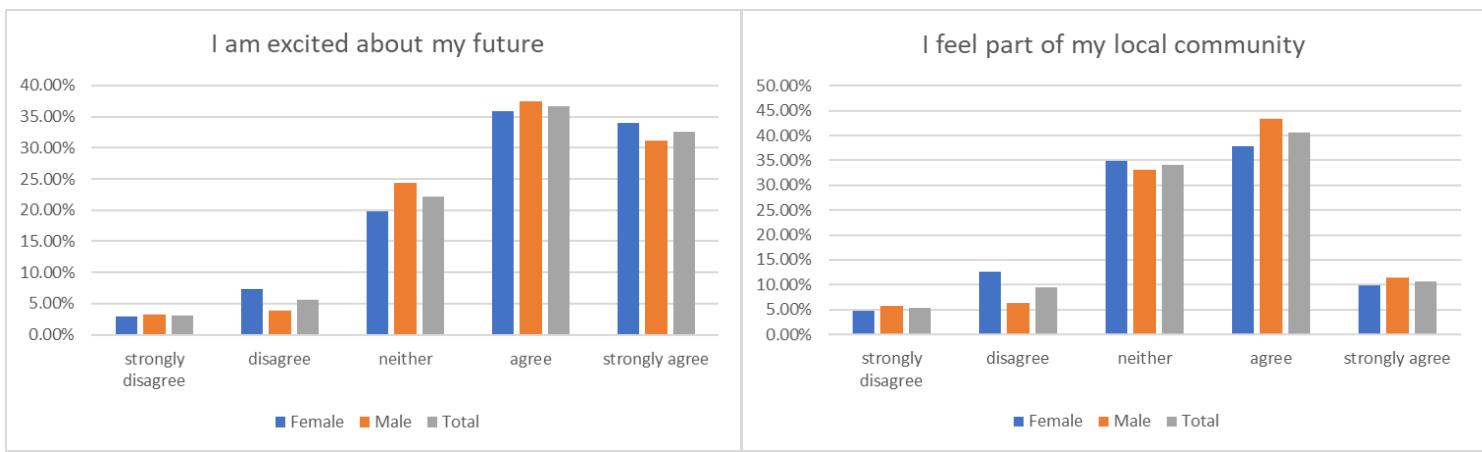


Chart 3

Chart 4.

Deprivation and 4 self-assessment statements:

The relationship between deprivation levels and four self-assessment items was also investigated. An examination of Q-Q Plots revealed that the data was approximately normal. Levene's test indicated that most of the variables were homogenous, with the exception of 'I am excited about my future,' which was heterogeneous ($p=.014$) and failed to meet parametric assumptions.

Anova was therefore used as a Parametric test for deprivation with communication, satisfaction with oneself and feeling part of a local community. Result of the F-test [$F(8, 784) = 2.182, p = .027$; $F(8, 784) = 4.676, p < .001$; $F(8, 784) = 3.453, p < .001$ respectively] are statistically significant. Findings from the study suggest that adolescent communication skills, satisfaction with oneself and feeling part of the local community differ by the effects of neighbourhood deprivation levels.

Post-hoc tests revealed significant differences in satisfaction with oneself and feeling a part of the local community across various levels of deprivation. Significant differences in self-satisfaction suggest that those living in the 50% most deprived areas (Mean = 3.093) have a greater satisfaction with themselves than those living in the 30% most deprived areas (Mean = 3.567) ($p=.030$). There were also significant differences between the 10% (Mean=4.061) of those in least deprived, scoring highest scores, and all other deprivation levels, as presented in table 6 and chart 5.

On the whole, I'm satisfied with myself	Mean
10% most deprived areas	3.2923
20% most deprived areas	3.1071
30% most deprived areas	3.5668
40% most deprived areas	3.5167
50% most deprived areas	3.0933
50% least deprived areas	3.2685
30% least deprived areas	3.1087
20% least deprived areas	3.6557
10% least deprived areas	4.0606

Table 6.

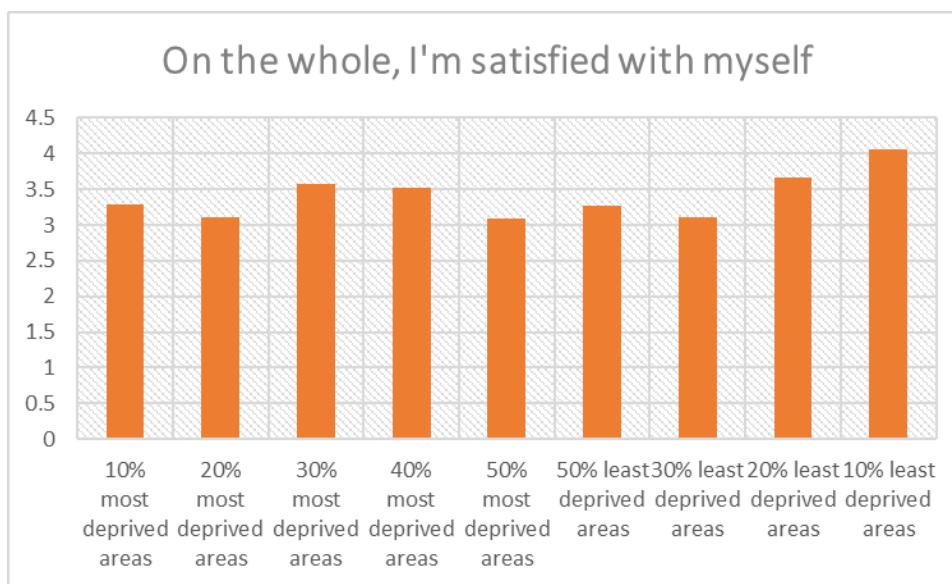


Chart 5.

Significant differences in feeling a part of the local community were found between the 30% (Mean=3.588) and 50% most (Mean= 3.107) ($p=.009$) deprived areas; between the 50% most and 10% least deprived areas (Mean=3.758) ($p=.037$); and between the 30% least and 10% least deprived areas ($p=.048$) (Table 7, Graph 6).

I feel part of my local community	Mean
10% most deprived areas	3.3795
20% most deprived areas	3.2857
30% most deprived areas	3.5882
40% most deprived areas	3.35
50% most deprived areas	3.1067
50% least deprived areas	3.4907
30% least deprived areas	3.0652
20% least deprived areas	3.2131
10% least deprived areas	3.7576

Table 7.

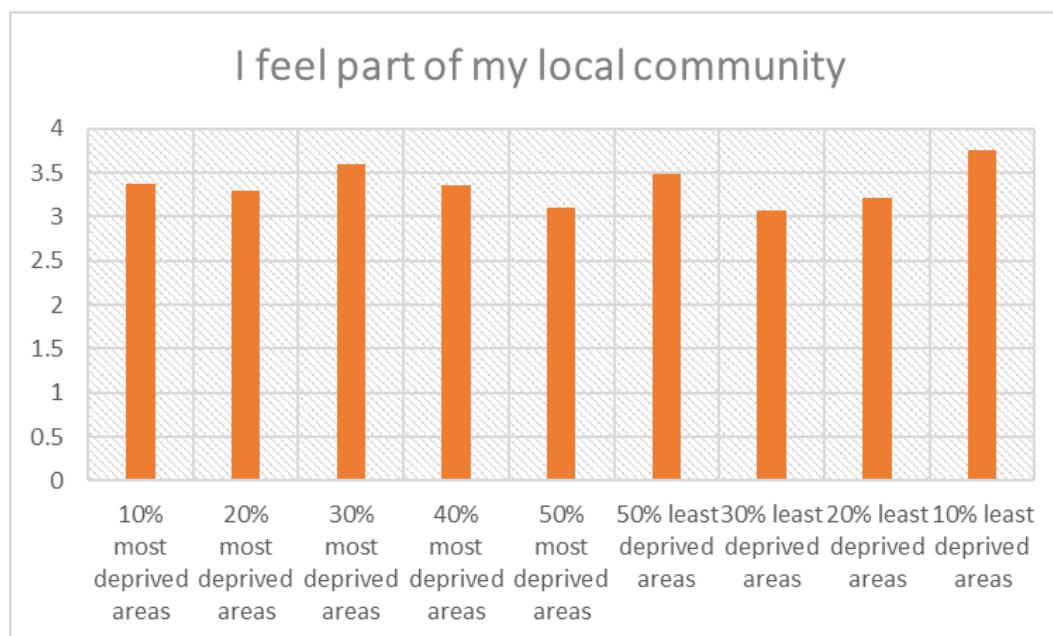


Chart 6.

Kruskal-Wallis test for deprivation levels and excitement about the future yielded no significant results.

According to the findings, there is no significant relationship between deprivation levels, being excited about the future and feeling good at communicating with other people.

Wellbeing scales:

Prior to further analysis, the data was examined to determine if they met parametric assumptions. An evaluation of Q-Q Plots revealed that the data was approximately normal. Levene's test ($p = 0.864$ for SWEMWBS and $p=0.88$ for SCWBS) showed that the data was homogeneous; therefore, the data met parametric assumptions, and a parametric test was therefore chosen for further analysis of these data.

Result of t-test (Mean Male = 22.16; Mean Female = 23.98 ; $t = -2.92$; df. = 300; $p = .004$, for SWEMWBS; and Mean Male = 41.75; Mean Female = 37.15 ; $t = -6.14$; df. = 511; $p <.001$, for SCWBS) is statistically significant at 0.05 level. We therefore reject the NH1. This study provides sufficient evidence to support the evidence that the well-being of British adolescents differs by gender.

An evaluation of Q-Q Plots for the correlational analysis showed that the data was approximately normal. The scatter plot revealed however that the data was heteroscedastic; as a result, the data did not meet parametric assumptions and needed to be further analysed using a non-parametric test. The results of the Spearman's rho ($p <.001$) indicates a statistically significant medium association between the SCWBS and amount of days people have done 30 ($\rho = 0.31$;) or 60 ($\rho=0.29$) minutes or more of physical activity. Similar results were obtained for SWEMWBS ($p=.001$; $\rho = 0.35$ for 30 minutes or more; $\rho = 0.34$ for 60 minutes or more). The null hypothesis 3 is therefore rejected. The findings of this study suggest that amount of physical exercise in a week is significantly related to increased wellbeing score.

4.1. Regression:

Parametric assumptions

The findings indicate that the linearity and homoscedasticity assumptions for the multivariate linear regression model were met, indicating that the model is an appropriate fit for the data. High correlations ($r = 0.813$ for SCWBS; $r=0.790$ for

SWEMWBS) between 'days in the last week you have done 30' and '60 minutes or more of physical activity' suggest possible collinearity, in both models, in the data. When testing for multicollinearity, the variable with the highest VIF (3.108 - SCWBS; 2.964 - SWEMWBS) is the number of days per week with 60 minutes or more of physical activity, but it is not larger than 10, therefore it is within tolerance. That same variable's tolerance statistic was 0.322 for the Stirling Scale and 0.337 for the SWEMWBS model, which is not less than 0.1 and hence acceptable. As a result, the average VIF was 1.646 and 1.653 , which is only slightly higher than 1. The same method was used to derive a mean Tolerance; this yields a value of 0.715 and 0.685, for SCWBS and SWEMWBS respectively, and for the mean Tolerance Statistic, which is more than 0.2. Based on this data, it appears that multicollinearity is not present. Collinearity diagnostics also show that there is no multicollinearity in the data because the lowest possible value of Eigenvalue (0.001) contains only one variable with a high number (age = 0.97 for SCWBS; age = 99 for SWEMWBS).

Bootstrap:

The findings of the multivariate linear regression models were validated using a bootstrap analysis. For Model 1, age, deprivation status, how many days in the last week have you done 60 minutes or more of physical activity, I'm good at communicating with other people, and feeling a part of the local community were excluded due to their non-significant contribution to the model. As a result, we fail to reject NH2, NH3, NH4, NH5 and NH7. The consistency of the remaining variables' coefficients across bootstrap samples demonstrates the model's reliability and stability.

In Model 2, factors such as age, deprivation status, how many days in the last week have you done 30 minutes or more of physical activity, and how many days in the last week have you done 60 minutes or more of physical activity were excluded. Therefore, we do not have sufficient evidence to reject NH2, NH3, and NH4.

Multivariate Linear Regression:

Since the two scale dependent variables in this study (SWEMWBS and SCWBS) include relationships with several independent factors, multivariate linear regression was selected as the suitable statistical analysis approach.

The significance level was attained in both models ($p<001$). This was examined alongside the F-statistic, which in this instance is $F=52.07$ for Model 1 and $F=138.65$ for Model 2. The significance is apparent in both models, therefore we can reject the NH1 and conclude that both models fit. The adjusted R Square also shows that in Model 1, 41.2% of the variance in adolescent wellbeing can be accounted for by gender, being good at communicating with other people, the amount of days in the last week people have done 30 minutes or more of physical activity, satisfaction with oneself, feeling a part of the local community and excitement about the future. In Model 2, however, 57.8% of the variance in adolescent well-being can be explained by gender, being good at communicating with other people, satisfaction with oneself, feeling a part of the local community and being excited about the future.

MODEL 1	B (Exp)	Sig.
Constant	8.405	<.001
Gender (base line = Female)	0.95	0.064
30 min physical exercise	0.666	<.001
Satisfaction with oneself	2.248	<.002
Excitement about the future	0.772	0.006

Table 8.



Chart 7.

MODEL 2	B (Exp)	Sig.
Constant	7.29	<.001
Gender (base line = Female)	2.116	<.001
Good at communication	0.768	0.009
Satisfaction with oneself	3.651	<.001
Excitement about the future	1.843	<.001
Part of the local community	1.554	<.001

Table 9.



Chart 8.

4.2. Summary of findings:

- A total of 478 students participated in the program and completed the questionnaire, out of which 361 students successfully completed the program and the follow-up questionnaire. The sample was representative of schools and underlying adolescent populations, with roughly equal proportions of boys and girls.
- There was an association between gender and the four self-assessment statements ($p < .001$). The analysis of crosstabs revealed that males scored higher on all of these statements than females.
- The well-being of British adolescents varies by gender. The t-test results for SWEMWBS and SCWBS were statistically significant at the 0.05 level ($p = .004$ and $p = .001$, respectively), and the null hypothesis was rejected.
- Correlational analysis: The Spearman's rho test showed a statistically significant medium association between the SCWBS and SWEMWBS well-being scores and the amount of physical activity participants did in a week.
- In the SWEMWBS model, 41.2% of the variance in adolescent wellbeing can be accounted for by gender, being good at communicating with other people, the amount of days in the last week people have done 30 minutes or more of physical activity, satisfaction with oneself, feeling a part of the local community and excitement about the future.
- In the SCWBS model 57.9% of the variance in adolescent well-being can be explained by gender, the amount of days in the last week people have done 30 minutes or more of physical activity, being good at communicating with other people, satisfaction with oneself, feeling a part of the local community and being excited about the future.

5. Discussion

The purpose of this investigation is to determine what aspects of life have an effect on adolescents' wellbeing. The research looked at information from 478 students across the UK, aged 11 to 17.

The research population's wellbeing was evaluated using the Stirling Children's Well Being Scale (SCWBS) for those aged 11 to 13 and the Short Warwick-Edinburgh Mental Well-being Scale (WEMWBS) for teenagers aged 14 to 17. Both the SCWBS and SWEMWBS measures incorporate elements of the hedonic and eudaimonic theories of well-being and have been proven to be effective in the target age groups (Tennant et al., 2007; Stewart-Brown et al., 2009).

This study sheds light on the connection between teenage physical activity, self-perception, and levels of wellbeing in the United Kingdom. With approximately equal proportions of boys and girls, the sample was representative of the institutions and underlying adolescent populations. The vast majority of participants made it through the whole programme and answered the follow-up survey.

The majority of participants had favourable opinions of their communication abilities (51.3%) and overall self-satisfaction (51.3% indicated positive responses). On the latter statement, however, there was less agreement, as 30% of respondents chose "neither". Only half of respondents (50.7%) felt a sense of community belonging, while the majority (68.6%) expressed excitement about the future. The most "neither" responses (34.1%) came in response to the question on community belonging.

Although the results suggest that the majority of participants have a favourable view of themselves and are optimistic about the future, a sizable minority either disagreed with or gave "neither" answers to statements measuring self-satisfaction and belonging to a community. Based on gender and deprivation levels, the study discovered that there were significant differences in these self-assessment statements with men scoring higher than women on each of them. There were also

notable differences in satisfaction with oneself and feeling a part of the local community across various levels of deprivation.

These inequalities could be explained by a number of factors. They are consistent with prior studies indicating that females are more prone than males to develop depressive symptoms (Morgan et al., 2017; Geulayov et al., 2018). A lack of healthy peer connections, bullying, and stresses can all play a role (Orben et al., 2020). Girls' lower ratings on these self-assessment items may be attributable to the possibility that these events have a negative impact on how the girls view themselves and their place in the community.

It is also probable that the tendency for girls to place a larger importance on emotional responses and social support (Gelhaar et al., 2007) contributes to their responses to the self-assessment statements, especially the one about communication abilities. Females may be more inclined to value communication as a form of emotional expression and seeking assistance (Reschly et al., 2008), even if they do not necessarily evaluate their communication abilities as highly as boys. Furthermore, their responses on the self-assess statements may be influenced by the fact that girls are more likely than boys to open up about their worries and fears, as well as being up to four times more likely to withdraw and experience negative health effects as a result of stress than males (Eiffge-Krenke, 2013).

These gender disparities were also evident in the results of the Stirling Children's Wellbeing Scale, where men between the ages of 11 and 13 scored higher than girls. However, among adolescents aged 14–17, no such effect was visible in SWEMWBS scores; this discrepancy may be due to a number of factors.

As children enter adolescence, they face new challenges and increased social and family-related demands, and research has found that these factors have a U-shaped relationship with age and mental health (Ng Fat et al., 2016). This may put their health at risk by increasing their vulnerability to crises and mental stress (Ronan et al., 2016). Therefore, the increased emotional and social challenges youth face in early adolescence may account for the observed gender differences in wellbeing in the younger age group. This may explain why there was a considerable gender gap

in wellbeing among young teenagers but not necessarily among older adolescents, who may have developed stronger coping skills.

Another possible explanation for the lack of a gender gap in the older age group is that studies (Tomyn and Cummins, 2011; Singh et al., 2015; Tomyn et al., 2013a; and Tomyn et al., 2014) have shown that subjective well-being declines with age for both genders from early to mid-adolescence. As a result, the absence of substantial gender differences in wellbeing in the 14-17 age group seen in the current study may be attributable to the drop in subjective well-being in both genders. Gender disparities may have also been influenced by the varied wellbeing metrics employed for the two age groups. For instance, whereas SWEMWBS assesses broader dimensions of wellbeing like positive affect, satisfaction, and functioning (Ng Fat et al., 2016), the Stirling Children's Wellbeing Scale focuses on more specific components of wellbeing including emotional, social, and behavioural wellness (Liddle and Greg, 2015).

The results also show that people from different socioeconomic backgrounds report significantly different degrees of self-satisfaction and feeling a part of the local community. Those in the bottom 50% of the least deprived neighbourhoods reported higher level scores than those in the bottom 30%. Participants living in the 10% least deprived areas also indicated higher levels of self-satisfaction and community attachment. As a result, less deprived neighbourhoods may have higher levels of self-satisfaction and a sense of belonging to the local community.

These findings are consistent with earlier studies highlighting the role of neighbourhood characteristics and the social environment in affecting teenage wellbeing. Singh et al. (2015) discovered, for example, that rural teenagers, who may have stronger familial ties and smaller peer groups, may have distinct social structures than their urban counterparts. Social support and parental practices have also been proven to be essential in decreasing the impact of neighbourhood factors on youth outcomes (Vyncke et al., 2013).

However, it is important to note that the study had a limited sample size of only 75 participants from the 50% most deprived areas, in comparison to 187 participants

from the 30% most deprived areas. It's possible that estimations of the differences between the two groups are biased because of this discrepancy in the sample size. As such, the findings should be interpreted with caution, and further research with larger and more diverse samples is necessary to confirm and generalise these results.

It's also worth mentioning that the study used two measures of adolescent wellbeing, the SWEMWBS and the SCWBS, and neither indicated any significant differences based on deprivation level. There was also no relationship found between deprivation and excitement about the future or feeling good at communicating with others. This may indicate that the factors influencing adolescent well-being are more nuanced than plain deprivation levels. Adolescents' wellbeing may be determined more by their social context and the encouragement they receive from their parents. This may indicate that the elements affecting adolescents' happiness are more nuanced than just their amount of material hardship. Perhaps more influential in determining adolescent well-being are other variables, such as social context and parental involvement. It's also possible that the study's instruments weren't adequate to detect specifics in adolescent wellbeing and deprivation.

According to the study's outcomes, both teenagers aged 11 to 13 and those aged 14 to 17 benefit significantly from being satisfied with oneself and excitement about the future. The research also reveals that gender, interpersonal communication skills, and feeling a part of the community are important factors in the wellbeing of 11–13-year-old adolescents; while 30 minutes or more of physical exercise is vital for the older ones.

It is interesting to note that physical exercise was significant only in the older age group. There are a few reasons why that might be. First, compared to younger adolescents, older teenagers may be able to exercise at a higher intensity, resulting in even greater physiological changes that enhance mood and lower depression risk (Mammen and Faulkner, 2013). In addition, team sports may give older adolescents the chance to interact with others and create a feeling of identity and belonging, all of

which can be beneficial for their mental health (Eime et al., 2013). Older adolescents may also have a stronger need for social engagement, because as they enter adulthood, they may be under more stress and pressure, which makes physical activity a more crucial coping mechanism for them.

The results of the study also indicate that self-satisfaction and optimism about the future are significant contributors to teenage well-being, regardless of the age of the adolescent. This is consistent with earlier studies showing that mental health concerns like depression have little impact on predicting indicators of psychological well-being like life satisfaction and purpose (Park et al., 2023). Younger teenagers' well-being was also shown to be significantly influenced by feeling part of the community and having effective interpersonal communication skills, which may be connected to their needs for social support and validation at this developmental stage. In contrast, elements like autonomy, social support, and academic accomplishment may become more important for the older age group (14-17).

6. Reflective discussion

Reflecting on my experience performing dissertation research while on placement at the Dame Kelly Holmes Trust, I found the experience to be both challenging and rewarding.

During the placement my primary objective was to investigate what factors could potentially impact adolescent well-being, but I also wished to bring up a new variable that the Trust, which as a charity with limited resources, may not have examined - neighbourhood deprivation levels and how they impacted adolescent wellbeing. This idea occurred to me while I was studying the 'Space, Place and Crime' unit in my final year of university, which emphasised how the environment and location influence people's behaviour.

Throughout the course of my research, I realised the significance of a critical approach to the literature review. Initially, I was eager to collect as much data as possible on the topic, but I quickly realised that this approach was overwhelming and disorganised. I learned through experimentation to be selective in my reading, focusing on necessary sources that provided an exhaustive overview of the topic while also highlighting literature gaps. This allowed me to formulate a more focused research question and narrow my analysis to the most pertinent aspects of the literature.

I also discovered the significance of maintaining a clear and structured system for organising my research materials. At times, I had difficulty keeping track of the numerous sources I had accumulated, resulting in confusion and lost time. To address this issue, I devised a system for organising my notes and citations, which enabled me to quickly locate important information and monitor my research progress.

In retrospect, I would have begun my investigation by concentrating on the central, 'obvious' aspects of the topic, rather than becoming distracted by additional topics. In addition, I would have more frequent meetings with my supervisor to ensure that I avoid wasting an excessive amount of time on something that I cannot use in my final research. In addition, I would enhance my time management to ensure that I am productive and have sufficient rest time.

Overall, conducting research for my dissertation has been a beneficial learning experience, allowing me to acquire valuable research skills and a critical approach to literature review. I also learned the significance of seeking feedback and direction from my dissertation supervisor and peers, which helped me remain on course and produce a dissertation of high quality.

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8. Appendices

8.1. Documents

- Risk Assessment:



Manchester
Metropolitan
University

MMU Q-Step: Placement Risk Assessment

Name of Student: Ewa Fojcik

Dates: 14/10/2022

Name of Provider Organisation: Dame Kelly Holmes Trust

Location

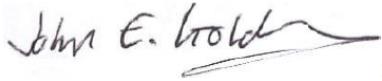
Description of risks (related to environment, activity and processes)	Initial risk level			Action to be taken to reduce risk:	Reduces risk to...		
	P.	S.	R.		P.	S.	R.
Sitting down for too long	3	2	7	Stand up and stretch	2	1	4
Risk of eye strain from computers	3	3	3	Take regular breaks and do not exceed hours of screen time	2	2	6
No internet signal	3	3	3	Work from the library	2	2	2

P = Probability; S = Severity; R. – Risk Level; see over page for scoring.

Signed

For Dame Kelly Holmes Trust:  Name: Ali Watson (Insights and Impact Manager) Date: 16/11/2022

Student  NameEwa.....Date 21/10/2022

Tutor  Name Prof. John E. Goldring Date 24/10/2022

Scoring of risk levels**Probability (score 1-3)**

1. An event may occur at some time
2. An event will probably occur in many circumstances
3. An event is expected to occur in most circumstances

Severity (score 1-3)

1. Slight
2. Moderate
3. Extreme

Risk Level acceptability

Low (1-3) - Actions assigned low priority, but risk management actions identified above must be maintained. No additional risk management actions required unless they require low input of time, money & effort.

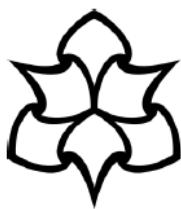
Medium (4-6)- Consideration should be given to whether risks can be lowered, where applicable to a reasonable level, but the costs of additional risk reduction measures should be taken into account. The risk reduction measures should be implemented within a defined time period (to be shown on risk assessment action section). Risk management actions must be maintained, particularly if the risk levels are associated with harmful consequences and measures should be in place to check that risk management actions are performed.

High (7-8) – Significant efforts to reduce the risk required. Risk reduction measures must be implemented urgently within a defined time period. Depending on the risk it may be necessary to consider suspending or restricting the activity, or to apply interim risk control measures until risk management actions have been completed. Considerable resources (time, money & effort) may have to be applied; therefore an assessment must be made as to whether these resources are available to reduce the risk to an acceptable or reasonable level. If the risk management actions are successfully implemented and the activity is to go ahead, arrangements must be made to ensure that risk management actions are maintained, especially if the risk levels are associated with extremely or very harmful consequences for those involved.

Very high (8-9) – Unacceptable level of risk. Substantial risk control improvements required to reduce risk to a reasonable level. The activity should be halted until risk controls are in place to reduce the risk to an acceptable level. If it is not possible to reduce the risk, the activity must cease.

Note: Where the risk is associated with harmful consequences, further assessment is necessary to increase confidence in the likelihood of harm.

- Memorandum of understanding:



**Manchester
Metropolitan**
University



2022-23

Q-STEP PROJECT MEMORANDUM OF UNDERSTANDING

The aim of the Q-Step project is to promote a step-change in undergraduate quantitative social science training across the UK, encouraging the development of new and exciting ways of teaching that will attract and enthuse a new generation of social science graduates. There are 15 Q-Step Centres across the UK, based at different universities, including Manchester Metropolitan. One of Manchester Met's approaches to promote the step-change in undergraduate quantitative social science training is the Q-Step in the Community programme where students conduct data analysis and primary research for partner organisations; gaining real world experience of quantitative research and developing a range of important career ready skills.

The organisation has agreed to allow the student to work at its premises on a placement as part of the Q-Step Project and the student's undergraduate degree. The student's attendance will be for a specific number of hours based on the requirements of the organisation. We will inform you of the course requirements and the course objectives and will agree the attendance requirements with you. The Q-Step team must ensure that research conducted within your organisation provides adequate opportunities for the student's learning outcomes to be achieved, and that this opportunity meets academic guidelines and the relevant policies of the University. Equally, the organisation will want to ensure that it is receiving the maximum benefit of enthusiastic and capable students. Most importantly, the Q-Step team must ensure that the research conducted within your organisation offers a safe and secure environment for the student. A member of the Q-Step team will monitor, at regular intervals, the Student's progress whilst they are conducting research within your organisation. This may include on-site visits on reasonable notice.

We expect that the organisation will require students to abide by its policies, procedures and codes of practice including those relating to disciplinary rules and health and safety, and will provide copies and an appropriate induction to the student.

The student will provide the organisation with a report of the outcomes upon completion of the project.

This form describes the placement arrangement between Manchester Metropolitan University's Q-step project and the organisation:

Student's name & contact details:

Ewa Fojcik

20099312@stu.mmu.ac.uk

Contact within organisation & contact details:

Daniel Neath

danieln@damekellyholmestrust.org

Q-Step tutor & contact details:

Dr Simon Massey

s.massey@mmu.ac.uk

Brief outline of project

Research and analysis of secondary data, provided by the Dame Kelly Holmes Trust, on the impact this project had before, during and after the covid on young people and the influence of online and offline activities on their wellbeing.

A. (STUDENT'S NAME).....Ewa Fojcik

agrees to:

1. Conduct the specified piece of research at the organisation named above for the minimum number of hours specified (please specify number of hours agreed, this is typically 140 hours spread over the first and second term, which equals one day a week).
2. Produce/submit a report for the organisation based on the work done by the end of April 2023.
3. Use reasonable endeavours to meet all agreed deadlines for project work (both interim and final).
4. Abide by confidentiality and data protection agreements provided by the Q-Step project or Manchester Met. At all times, safeguard and protect the confidentiality of the data of the Organisation and Q-Step Project.
5. Securely store, password-protect, and back up all data and material provided or collected for your Q-Step project in accordance with the directions given to you by your Q-Step tutor. Data **must not be** stored on any portable storage devices.
6. Inform your Q-Step tutor and the above-named organisation at the earliest opportunity if there are any circumstances which may hinder the progress of the project.
7. Attend all scheduled meetings held by the Q-Step project and your Q-Step supervisor.
8. Attend all training sessions identified as necessary for your Q-Step project.
9. Treat all individuals fairly and not discriminate on the basis of (for example) age, ethnic or racial origin, gender, sexual orientation, social background, religion, disability.
10. Allow Manchester Met. to disclose to the organisation details of any disability from which you suffer which may require reasonable adjustments being made to the placement.

- Ethics form:

START HERE - Basic Information

This form must be completed for all student projects.

Before you proceed

Some activities inherently involve increased risks or approval by external regulatory bodies, so a proportional ethics review is not recommended and a full ethical review may be required.

These may include:

- i. Approval from an external regulatory body (including, but not limited to: NHS (HRA), HMPPS etc.);
- ii. Misleading participants;
- iii. Research without the participants' consent;
- iv. Clinical procedures with participants;
- v. The ingestion or administration of any substance to participants by any means of delivery;
- vi. The use of novel techniques, even where apparently non-invasive, whose safety may be open to question;
- vii. The use of ionising radiation or exposure to radioactive materials;
- viii. Engaging in, witnessing, or monitoring criminal activity;
- ix. Engaging with, or accessing terrorism related materials;
- x. A requirement for security clearance to access participants, data or materials;
- xi. Physical or psychological risk to the participants or researcher;
- xii. The project activity takes place in a country outside of the UK for which there is currently an active travel warning issued by the authorities (see info button);
- xiii. Animals, animal tissue, new or existing human tissue, or biological toxins and agents;
- xiv. The sharing of participant personal data with a third party, regardless of the form under which the data is presented.

If any of these activities are fundamental to your project, please contact your supervisor to determine if a full application is required.

This form must be completed for each research project which you undertake at the University. It must be approved by your supervisor (where relevant) PRIOR to the start of any data collection.

In completing this form, please consult the University's [Research Ethics and Governance standards](#).

A1a Please confirm that you will abide by the University's Research Ethics and Governance standards in relation to this project.

- Yes
 No

A1b Data Protection

The University is responsible for complying with the UK General Data Protection Regulation whenever personal data is processed. Under the Data Protection Policy, all staff and students have a responsibility to comply with the regulation in their day-to-day activities. The first step you can take to understand these responsibilities is to review the [Data Protection in Research guidance pages](#) and complete the University's Mandatory Data Protection Training. Student training is available through Moodle (in the 'Skills Online' section – [please follow this link](#)). To make sure your knowledge is up to date, all staff and students must complete the training every two years. If you have any issues in accessing the data protection training or have any questions about the training, please contact dataprotection@mmu.ac.uk.

Have you reviewed the Data Protection guidance pages and completed the Data Protection Training in the last two years?

- Yes
 No

A2 Are you submitting this application as a learning experience, for a unit which already has ethical approval? (please confirm with your supervisor)

- Yes
 No

A3 Student details

Title	First Name	Surname
<input type="text"/>	Ewa Katarzyna	Fojcik

Email

A3.1 Manchester Metropolitan University ID number**A4 Supervisor**

Title	First Name	Surname
<input type="text" value="Dr."/>	John	Goldring

Faculty

Telephone

Email

A5 Which Faculty is responsible for the project?

Arts and Humanities

A6 Course title

Criminology with Quantitative Methods

A7 Project title

Factors Contributing to Adolescent Wellbeing: A Comprehensive Investigation

A8 What is the proposed start date of your project?

01/11/2022

A9 When do you expect to complete your project?

02/05/2023

A10 Please describe the overall aims of your project (3-4 sentences). Research questions should also be included here.

Research and analysis of secondary data, provided by the Dame Kelly Holmes Trust, on the impact this project had on young people and the influence of online and offline activities on their wellbeing.

A11 Please describe the research activity

These aims will be fulfilled through secondary data analysis of the dataset provided by DHT. Variables relevant to the research questions will be selected and cleaned/managed, univariate analysis will be conducted to describe the data and explore whether the sample is representative of the broader population, bivariate analysis will then be used to explore the relationship between each socio-demographic measure (gender, age, deprivation).

A12 Please provide details of the participants you intend to involve (please include information relating to the number involved and their demographics; the inclusion and exclusion criteria)

Because this is using secondary data collecting via the Dame Kelly Holmes Trust, there are no research participants in this project.

A13 Please upload your project protocol

Documents					
Type	Document Name	File Name	Version Date	Version	Size
Project Protocol	Protocol	Protocol.pdf	02/05/2023	1	78.7 KB

Project Activity

B1 Are there any Health and Safety risks to the researcher and/or participants?

- Yes
 No

B2 Please select any of the following which apply to your project

- Aspects involving human participants (including, but not limited to interviews, questionnaires, images, artefacts and social media data)
 Aspects that the researcher or participants could find embarrassing or emotionally upsetting
 Aspects that include culturally sensitive issues (e.g. age, gender, ethnicity etc.)
 Aspects involving vulnerable groups (e.g. prisoners, pregnant women, children, elderly or disabled people, people experiencing mental health problems, victims of crime etc.), but does not require special approval from external bodies (NHS, security clearance, etc.)
 Project activity which will take place in a country outside of the UK
 None of the above

B2.4 Is this project being undertaken as part of a larger research study for which a Manchester Metropolitan application for ethical approval has already been granted or submitted?

- Yes
 No

Data

F1 How and where will data and documentation be stored?

The data will be stored on a password protected laptop.

F2 Will you be using personal data? Personal data is anything that can be used to identify a living individual, directly or indirectly. Pseudonymised data is still personal data.

- Yes
 No

F2.1 Will the data include the use of sensitive 'special category' data (data revealing racial or ethnic origin, political opinions, religious or philosophical beliefs, trade union membership, genetic or biometric data or data concerning health, sex life or sexual orientation) or criminal offence data?

- Yes
 No

F2.2 Please list the types of personal data (and special category data where relevant) that will be processed (e.g. names, contact details, medical information, photographs, ethnicity, religion, gender etc.)

Gender, age, school/academy names

F2.2b Will you be collecting personal data using an online application service provider to assist you with your research?

These are services online, which assist you in taking surveys, or working collaboratively with other researchers or participants such as Survey Monkey, Qualtrics, Zoom or Padlet. Further information on application service providers is available [here](#).

- Yes
 No

F2.3 Does the project that you are conducting include any of the following (please tick all that apply):

Please contact dataprotection@mmu.ac.uk if you are not sure if any of the options apply to your research project.

- Large Scale processing of sensitive special category data or data of a highly personal nature
- Processing of data relating to criminal convictions and offences
- Processing of data concerning vulnerable individuals
- Systematic monitoring of a publicly accessible place on a large scale
- Processing involving the use of innovative technologies, or the novel application of existing technologies (such as Artificial Intelligence, Internet of Things (IoT), or location tracking)
- Processing of biometric or genetic data
- Matching or combining data sets from more than one source
- The processing of personal data which could result in a risk of harm to the data subject in the event of a security breach
- The processing of personal data without providing a privacy notice or participant information sheet directly to the individual
- None of the above

F2.4 Will you be sharing personal data or special category (sensitive) personal data with external sources, or receiving it from an external partner or organisation(s)?

- Yes
 No

F2.5 Will you be transferring personal data from Manchester Met to a country outside of the European Economic Area (which includes all countries in the EU, as well as Iceland, Liechtenstein and Norway)?

- Yes
 No

F2.6 Will the personal data be destroyed after the project is completed?

- Yes
 No

F2.6.1 Please describe how and when the data will be destroyed, and who will be responsible for completing this

I will delete the data from the password protected laptop at the end of the project.

F2.7 How long will identifiable personal data be stored after the project has ended?

Less than 3 months

F2.8 How will you ensure the above retention period is implemented?

I have written a reminder in my diary for the end of the three month period to make sure the data has been deleted by then.

F2.9 Will data stored electronically be encrypted?

Password protection alone is not sufficient for identifiable data. Information on encryption and advice on information security is available from IT Services <https://www2.mmu.ac.uk/isdsl/information-security/> via infosecurity@mmu.ac.uk or the IT service desk.

- Yes
 No

F2.9.1 Please give details as to why this data will not be encrypted, and how it will be held securely?

The data is not identifiable. It will be stored on a password protected computer, which is secure enough for the data.

Insurance

F3 Does your project involve:

- Pregnant persons as participants with procedures other than blood samples being taken from them? (see info button)
- Children aged five or under with procedures other than blood samples being taken from them? (see info button)
- Activities being undertaken by the lead investigator or any other member of the study team in a country outside of the UK as indicated in the info button? If 'Yes', please refer to the 'Travel Insurance' guidance on the info button
- Working with Hepatitis, Human T-Cell Lymphotropic Virus Type iii (HTLV iii), or Lymphadenopathy Associated Virus (LAV) or the mutants, derivatives or variations thereof or Acquired Immune Deficiency Syndrome (AIDS) or any syndrome or condition of a similar kind?
- Working with Transmissible Spongiform Encephalopathy (TSE), Creutzfeldt-Jakob Disease (CJD), variant Creutzfeldt-Jakob Disease (vCJD) or new variant Creutzfeldt-Jakob Disease (nvCJD)?
- Working in hazardous areas or high risk countries? (see info button)
- Working with hazardous substances outside of a controlled environment?
- Working with persons with a history of violence, substance abuse or a criminal record?
- None of the above

Additional Information

G1 Do you have any additional information or comments which have not been covered in this form?

- Yes
 No

G2 Do you have any additional documentation which you want to upload?

- Yes
 No

Signatures

H1 I confirm that all information in this application is accurate and true. I will not start this project until I have received Ethical Approval.

- I confirm

H2 Please notify your supervisor that this application is complete and ready to be submitted by clicking "Request" below. Do not begin your project until you have received confirmation from your supervisor - it is your responsibility to ensure that they do this.

H3 Have you been instructed by your supervisor to request a second signature for this application?

- Yes
 No

H4 By signing this application you are confirming that all details included in the form have been completed accurately and truthfully. You are also confirming that you will comply with all relevant UK data protection laws, and that that research data generated by the project will be securely archived in line with requirements specified by the University, unless specific legal, contractual, ethical or regulatory requirements apply.

Signed: This form was signed by Ewa Katarzyna Fojcik (EWA.K.FOJCIK@stu.mmu.ac.uk) on 02/05/2023 14:21

8.2. Research Questions

RQ1: Model fit: Whether the model containing gender, age, amount of physical activity in a week, neighborhood deprivation status and self-assessment statements ('I am good at communicating with other people', 'On the whole I am satisfied with myself', 'I feel part of my local community', 'I am excited about my future') significantly predicts the likelihood of improvement on adolescent wellbeing.

RQ2: How much influence does gender, age, amount of physical activity in a week,, neighborhood deprivation status, feeling good at communicating with other people, being satisfied with oneself, feeling a part of the local community and being excited about the future have on adolescent wellbeing?

8.3. Hypotheses

The Model

- NHmodel: The model containing gender, age, amount of physical activity in a week, neighborhood deprivation status, questions about feeling good at communicating with other people, being satisfied with oneself, feeling a part of the local community and being excited about the future is not significantly different from the one that does not include these variables

- RHmodel: The model containing gender, age, amount of physical activity in a week, neighborhood deprivation status, questions about feeling good at communicating with other people, being satisfied with oneself, feeling a part of the local community and being excited about the future is significantly different from the one that does not include these variables

Influence of the Variables

- Influence of gender:

NH1: Controlling the influence of age, amount of physical activity in a week, neighborhood deprivation status, feeling good at communicating with other people, being satisfied with oneself, feeling a part of the local community and being excited about the future, the likelihood of improvement on adolescent wellbeing does not vary significantly by gender.

RH1: Controlling the influence of age, amount of physical activity in a week, neighborhood deprivation status, feeling good at communicating with other people, being satisfied with oneself, feeling a part of the local community and being excited about the future, the likelihood of improvement on adolescent wellbeing does vary significantly by gender.

- Influence of age:

NH2: Controlling the influence of gender, amount of physical activity in a week, neighborhood deprivation status, feeling good at communicating with other people, being satisfied with oneself, feeling a part of the local community and being excited about the future, the likelihood of improvement on adolescent wellbeing does not vary significantly by age.

RH2: Controlling the influence of gender, amount of physical activity in a week, neighborhood deprivation status, feeling good at communicating with

other people, being satisfied with oneself, feeling a part of the local community and being excited about the future, the likelihood of improvement on adolescent wellbeing does vary significantly by age.

- Influence of the amount of physical activity in a week:

NH3: Controlling the influence of age, gender, neighborhood deprivation status, feeling good at communicating with other people, being satisfied with oneself, feeling a part of the local community and being excited about the future, the likelihood of improvement on adolescent wellbeing does not vary significantly by the amount of physical activity in a week.

RH3: Controlling the influence of age, gender, neighborhood deprivation status, feeling good at communicating with other people, being satisfied with oneself, feeling a part of the local community and being excited about the future, the likelihood of improvement on adolescent wellbeing does vary significantly by the amount of physical activity in a week.

- Influence of neighborhood deprivation status:

NH4: Controlling the influence of gender, age, amount of physical activity in a week, feeling good at communicating with other people, being satisfied with oneself, feeling a part of the local community and being excited about the future, the likelihood of improvement on adolescent wellbeing does not vary significantly by neighborhood deprivation status.

RH4: Controlling the influence of gender, age, amount of physical activity in a week, feeling good at communicating with other people, being satisfied with oneself, feeling a part of the local community and being excited about the future, the likelihood of improvement on adolescent wellbeing does vary significantly by neighborhood deprivation status.

- Influence of feeling good at communicating with other people:

NH5: Controlling the influence of gender, age, amount of physical activity in a week, neighborhood deprivation status, being satisfied with oneself, feeling a part of the local community and being excited about the future, the likelihood of improvement on adolescent wellbeing does not vary significantly by feeling good at communicating with other people.

RH5: Controlling the influence of gender, age, amount of physical activity in a week, neighborhood deprivation status, being satisfied with oneself, feeling a part of the local community and being excited about the future, the likelihood of improvement on adolescent wellbeing does vary significantly by feeling good at communicating with other people.

- Influence of being satisfied with oneself:

NH6: Controlling the influence of gender, age, amount of physical activity in a week, neighborhood deprivation status, feeling good at communicating with other people, feeling a part of the local community and being excited about the future, the likelihood of improvement on adolescent wellbeing does not vary significantly by being satisfied with oneself.

RH6: Controlling the influence of gender, age, amount of physical activity in a week, neighborhood deprivation status, feeling good at communicating with other people, feeling a part of the local community and being excited about the future, the likelihood of improvement on adolescent wellbeing does vary significantly by being satisfied with oneself.

- Influence of feeling a part of the local community

NH7: Controlling the influence of gender, age, amount of physical activity in a week, neighborhood deprivation status, feeling good at communicating with other people, being satisfied with oneself and being excited about the future, the likelihood of improvement on adolescent wellbeing does not vary significantly by feeling the part of local community.

RH7: Controlling the influence of gender, age, amount of physical activity in a week, neighborhood deprivation status, feeling good at communicating with other people, being satisfied with oneself and being excited about the future, the likelihood of improvement on adolescent wellbeing does vary significantly by feeling a part of the local community.

- Influence of being excited about the future:

NH7: Controlling the influence of gender, age, amount of physical activity in a week, neighborhood deprivation status, feeling good at communicating with other people, being satisfied with oneself and feeling a part of the local community, the likelihood of improvement on adolescent wellbeing does not vary significantly by being excited about the future.

RH7: Controlling the influence of gender, age, amount of physical activity in a week, neighborhood deprivation status, feeling good at communicating with other people, being satisfied with oneself and feeling a part of the local community, the likelihood of improvement on adolescent wellbeing does vary significantly by being excited about the future.

8.4. Influence of IVs on the DVs:

Model 1 - SWEMWBS DV

The gender variable shows a significantly larger B value (.950) compared to the standard error, indicating a positive effect. However, since we lack statistical significance ($p=0.64$), we can conclude that there is no relationship between gender and adolescent well-being and therefore fail to reject the null hypothesis 2 (NH2).

The regression coefficient ($B = .666; p < .001$) indicates a statistically positive relationship between the amount of days people have done 30 minutes or more of physical activity and adolescent wellbeing. Controlling the influence of gender,

satisfaction with oneself, and being excited about the future, an increase in days when people have done 30 minutes or more of physical activity is associated with an increase of 0.666 in respondents' total wellbeing scores. We can therefore reject NH3.

The regression coefficient ($B = 2.248$; $p < .001$) indicates a statistically positive relationship between being satisfied with oneself and adolescent wellbeing. Controlling the influence of gender, amount of physical activity in a week, and being excited about the future, those who are more satisfied with themselves are associated with an increase of 2.248 in respondents' total wellbeing scores. We can therefore reject NH6.

The regression coefficient ($B = 0.772$; $p = .006$) indicates a statistically positive relationship between being excited about the future and adolescent wellbeing. Controlling the influence of gender, amount of physical activity in a week, and satisfaction with oneself, those who are more excited about the future are associated with an increase of 0.772 in respondents' total wellbeing scores. We can therefore reject NH7.

Model 2 - SCWBS

The regression coefficient ($B = 2.116$; $p < .001$) indicates a statistically positive relationship between gender and adolescent wellbeing. Controlling the influence of the amount of physical activity in a week, being good at communicating with other people, satisfaction with oneself, feeling a part of the local community and being excited about the future, males are associated with an increase of 2.116 in respondents' total wellbeing scores. We can therefore reject NH1.

The regression coefficient ($B = 0.768$; $p = .009$) indicates a statistically positive relationship between being good at communicating with other people and adolescent wellbeing. Controlling the influence of the amount of gender, physical activity in a week, satisfaction with oneself, feeling a part of the local community and being excited about the future, those who are better at communicating with other people

are associated with an increase of 0.768 in respondents' total wellbeing scores. We can therefore reject NH5.

The regression coefficient ($B = 3.651$; $p < .001$) indicates a statistically positive relationship between feeling satisfied with oneself and adolescent wellbeing. Controlling the influence of gender, the amount of physical activity in a week, being good at communicating with other people, feeling a part of the local community and being excited about the future, those who are more satisfied with themselves are associated with an increase of 3.651 in respondents' total wellbeing scores. We can therefore reject NH6.

The regression coefficient ($B = 1.554$; $p < .001$) indicates a statistically positive relationship between feeling a part of the local community and adolescent wellbeing. Controlling the influence of gender, the amount of physical activity in a week, being good at communicating with other people, satisfaction with oneself and being excited about the future, those who feel part of their local community are associated with an increase of 1.554 in respondents' total wellbeing scores. We can therefore reject NH7.

The regression coefficient ($B = 1.843$; $p < .001$) indicates a statistically positive relationship between being excited about the future and adolescent wellbeing. Controlling the influence of gender, the amount of physical activity in a week, being good at communicating with other people, satisfaction with oneself, and feeling a part of the local community, those who are more excited about the future are associated with an increase of 1.843 in respondents' total wellbeing scores. We can therefore reject NH7.

8.5. Data analysis outputs:

Univariate Analysis

MoCT for scale variables: age, physical activity, SWEMWBS, SCWBS:

		Statistics				
How old are you in years?		How many days in the last week have you done 30 minutes or more of physical activity	How many days in the last week have you done 60 minutes or more of physical activity	Total wellbeing score for ages 14+, using SWEMWBS	Total wellbeing score for ages 11-13, using SCWBS	Deprivation status
N	Valid	834	839	312	527	793
	Missing	5	0	527	312	46
Mean		13.12589928	3.60	2.90	23.1122	39.3017
Median		13.00000000	4.00	3.00	24.0000	39.0000
Mode		13.00000000	2	2	21.00 ^a	36.00 ^a
Std. Deviation		1.078982100	2.145	2.112	5.43807	8.75925
Range		6.000000000	7	7	28.00	46.00
Minimum		11.00000000	0	0	7.00	14.00
Maximum		17.00000000	7	7	35.00	60.00

a. Multiple modes exist. The smallest value is shown

Frequency tables:

PRE POST

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Pre	478	57.0	57.0	57.0
	Post	361	43.0	43.0	100.0
	Total	839	100.0	100.0	

What is your gender?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	404	48.2	49.6	49.6
	Male	411	49.0	50.4	100.0
	Total	815	97.1	100.0	
Missing	I describe myself in another way	17	2.0		
	Prefer not to say	7	.8		
	Total	24	2.9		
Total		839	100.0		

I'm good at communicating with other people

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	41	4.9	4.9	4.9
	disagree	91	10.8	10.8	15.7
	neither	226	26.9	26.9	42.7
	agree	346	41.2	41.2	83.9
	strongly agree	135	16.1	16.1	100.0
Total		839	100.0	100.0	

On the whole, I am satisfied with myself

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	52	6.2	6.2	6.2
	disagree	105	12.5	12.5	18.7
	neither	252	30.0	30.0	48.7
	agree	312	37.2	37.2	85.9
	strongly agree	118	14.1	14.1	100.0
Total		839	100.0	100.0	

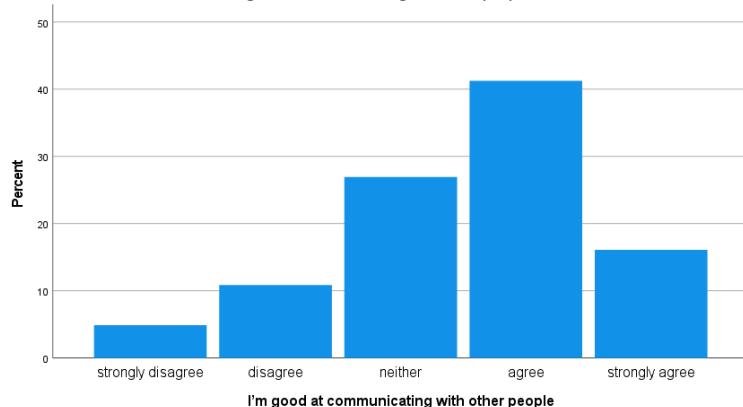
I feel part of my local community

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	44	5.2	5.2	5.2
	disagree	83	9.9	9.9	15.1
	neither	286	34.1	34.1	49.2
	agree	336	40.0	40.0	89.3
	strongly agree	90	10.7	10.7	100.0
Total		839	100.0	100.0	

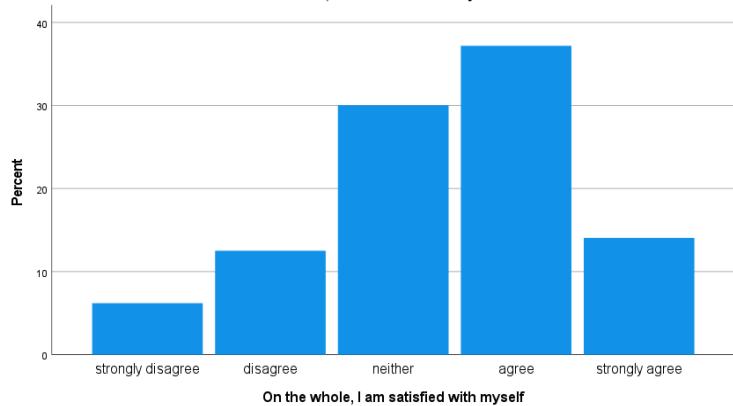
I am excited about my future

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	26	3.1	3.1	3.1
	disagree	46	5.5	5.5	8.6
	neither	191	22.8	22.8	31.3
	agree	303	36.1	36.1	67.5
	strongly agree	273	32.5	32.5	100.0
	Total	839	100.0	100.0	

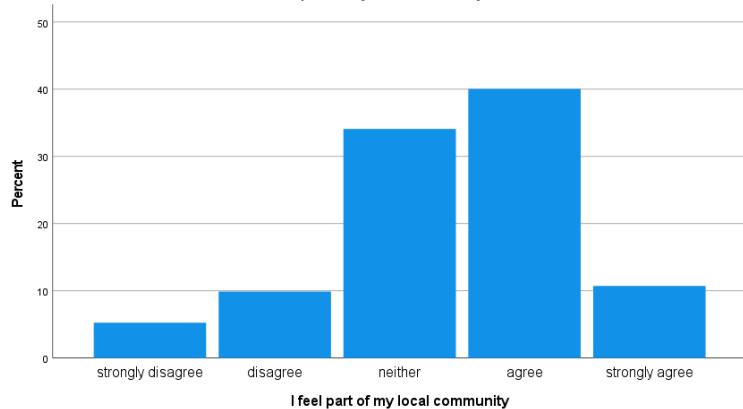
I'm good at communicating with other people

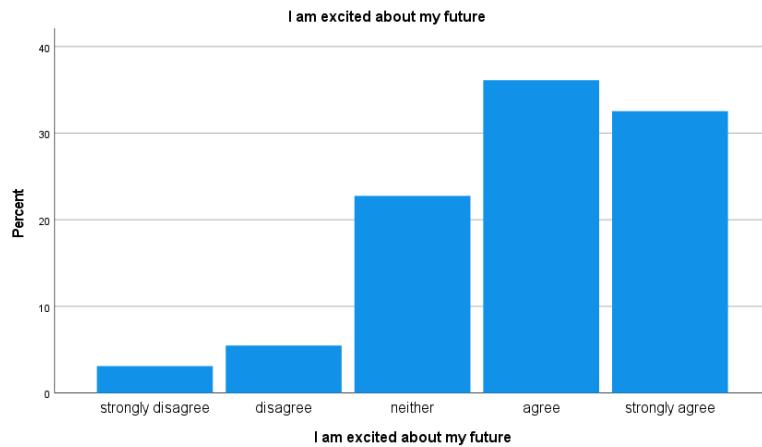


On the whole, I am satisfied with myself



I feel part of my local community





Cronbach Alpha

SCWBS

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.984	.985	12

Inter-Item Correlation Matrix

	I think good things will happen in my life	I've been able to make choices easily	I can find lots of fun things to do	I feel that I am good at some things	I think lots of people care about me	I think there are many things I can be proud of	I've been feeling calm	I've been in a good mood	I enjoy what each new day brings	I've been getting on well with people	I've been cheerful about things	I've been feeling relaxed
I think good things will happen in my life	1.000	.834	.838	.862	.828	.866	.845	.861	.833	.841	.854	.833
I've been able to make choices easily	.834	1.000	.799	.821	.783	.798	.823	.811	.812	.820	.819	.823
I can find lots of fun things to do	.838	.799	1.000	.849	.823	.844	.807	.837	.823	.833	.832	.813
I feel that I am good at some things	.862	.821	.849	1.000	.830	.877	.827	.847	.820	.843	.847	.827
I think lots of people care about me	.828	.783	.823	.830	1.000	.848	.832	.844	.832	.841	.851	.835
I think there are many things I can be proud of	.866	.798	.844	.877	.848	1.000	.832	.847	.830	.851	.869	.826
I've been feeling calm	.845	.823	.807	.827	.832	.832	1.000	.896	.848	.859	.869	.883
I've been in a good mood	.861	.811	.837	.847	.844	.847	.896	1.000	.869	.876	.884	.880
I enjoy what each new day brings	.833	.812	.823	.820	.832	.830	.848	.869	1.000	.855	.872	.857
I've been getting on well with people	.841	.820	.833	.843	.841	.851	.859	.876	.855	1.000	.870	.862
I've been cheerful about things	.854	.819	.832	.847	.851	.869	.869	.884	.872	.870	1.000	.864
I've been feeling relaxed	.833	.823	.813	.827	.835	.826	.883	.880	.857	.862	.864	1.000

Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Item Means	2.576	2.384	2.719	.336	1.141	.015	12

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
I think good things will happen in my life	28.31	269.817	.914	.843	.983
I've been able to make choices easily	28.51	273.620	.876	.780	.984
I can find lots of fun things to do	28.19	268.157	.893	.806	.983
I feel that I am good at some things	28.22	268.649	.909	.843	.983
I think lots of people care about me	28.24	266.416	.898	.811	.983
I think there are many things I can be proud of	28.22	267.089	.913	.853	.983
I've been feeling calm	28.43	269.812	.916	.861	.983
I've been in a good mood	28.35	268.876	.930	.880	.983
I enjoy what each new day brings	28.53	271.720	.909	.834	.983
I've been getting on well with people	28.21	268.011	.919	.848	.983
I've been cheerful about things	28.36	269.115	.928	.867	.983
I've been feeling relaxed	28.48	270.172	.914	.851	.983

SWEMWBS

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.843	.843	7

Inter-Item Correlation Matrix

	I've been feeling optimistic about the future	I've been feeling useful	I've been feeling relaxed	I've been dealing with problems well	I've been thinking clearly	I've been feeling close to other people	I've been able to make up my own mind about things
I've been feeling optimistic about the future	1.000	.373	.261	.345	.377	.403	.397
I've been feeling useful	.373	1.000	.459	.352	.460	.459	.411
I've been feeling relaxed	.261	.459	1.000	.468	.535	.472	.408
I've been dealing with problems well	.345	.352	.468	1.000	.595	.452	.529
I've been thinking clearly	.377	.460	.535	.595	1.000	.412	.525
I've been feeling close to other people	.403	.459	.472	.452	.412	1.000	.415
I've been able to make up my own mind about things	.397	.411	.408	.529	.525	.415	1.000

Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Item Means	3.302	3.128	3.606	.478	1.153	.026	7

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
I've been feeling optimistic about the future	19.88	23.549	.483	.264	.838
I've been feeling useful	19.98	22.800	.572	.354	.826
I've been feeling relaxed	19.88	22.334	.597	.403	.822
I've been dealing with problems well	19.90	21.584	.635	.457	.816
I've been thinking clearly	19.82	21.554	.679	.499	.809
I've been feeling close to other people	19.69	22.452	.599	.379	.822
I've been able to make up my own mind about things	19.51	21.788	.620	.401	.818

Bivariate analysis

Crosstabs (for categorical variables)

Gender with 4 self-assessment statements:

I'm good at communicating with other people * What is your gender? Crosstabulation

			What is your gender?		
			Female	Male	Total
I'm good at communicating with other people	strongly disagree	Count	25	14	39
		% within What is your gender?	6.2%	3.4%	4.8%
	disagree	Count	61	26	87
		% within What is your gender?	15.1%	6.3%	10.7%
	neither	Count	109	110	219
		% within What is your gender?	27.0%	26.8%	26.9%
	agree	Count	151	191	342
		% within What is your gender?	37.4%	46.5%	42.0%
	strongly agree	Count	58	70	128
		% within What is your gender?	14.4%	17.0%	15.7%
Total	Count	404	411	815	
	% within What is your gender?	100.0%	100.0%	100.0%	

On the whole, I am satisfied with myself * What is your gender? Crosstabulation

			What is your gender?		
			Female	Male	Total
On the whole, I am satisfied with myself	strongly disagree	Count	34	15	49
		% within What is your gender?	8.4%	3.6%	6.0%
	disagree	Count	63	38	101
		% within What is your gender?	15.6%	9.2%	12.4%
	neither	Count	134	106	240
		% within What is your gender?	33.2%	25.8%	29.4%
	agree	Count	118	190	308
		% within What is your gender?	29.2%	46.2%	37.8%
	strongly agree	Count	55	62	117
		% within What is your gender?	13.6%	15.1%	14.4%
Total	Count	404	411	815	
	% within What is your gender?	100.0%	100.0%	100.0%	

I feel part of my local community
*** What is your gender? Crosstabulation**

			What is your gender?		
			Female	Male	Total
I feel part of my local community	strongly disagree	Count	19	24	43
		% within What is your gender?	4.7%	5.8%	5.3%
	disagree	Count	51	26	77
		% within What is your gender?	12.6%	6.3%	9.4%
	neither	Count	141	136	277
		% within What is your gender?	34.9%	33.1%	34.0%
	agree	Count	153	178	331
		% within What is your gender?	37.9%	43.3%	40.6%
	strongly agree	Count	40	47	87
		% within What is your gender?	9.9%	11.4%	10.7%
Total		Count	404	411	815
		% within What is your gender?	100.0%	100.0%	100.0%

I am excited about my future * What is your gender? Crosstabulation

			What is your gender?		
			Female	Male	Total
I am excited about my future	strongly disagree	Count	12	13	25
		% within What is your gender?	3.0%	3.2%	3.1%
	disagree	Count	30	16	46
		% within What is your gender?	7.4%	3.9%	5.6%
	neither	Count	80	100	180
		% within What is your gender?	19.8%	24.3%	22.1%
	agree	Count	145	154	299
		% within What is your gender?	35.9%	37.5%	36.7%
	strongly agree	Count	137	128	265
		% within What is your gender?	33.9%	31.1%	32.5%
Total		Count	404	411	815
		% within What is your gender?	100.0%	100.0%	100.0%

Chi Square for gender with 4 self-assessment statements:

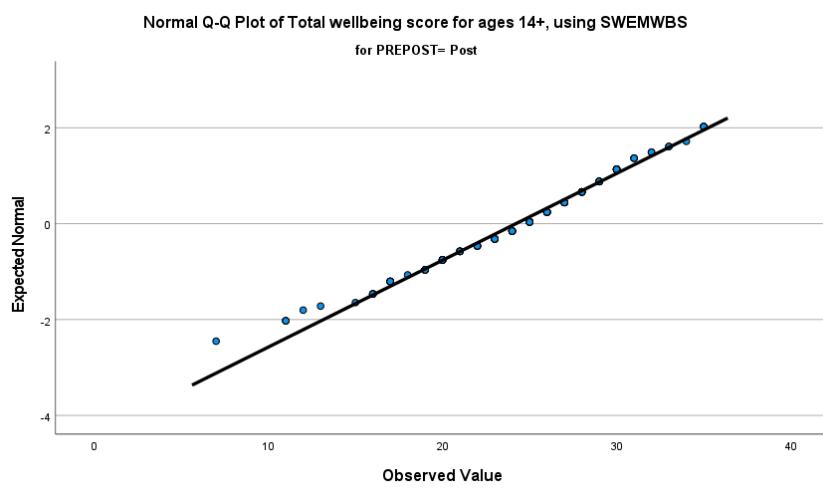
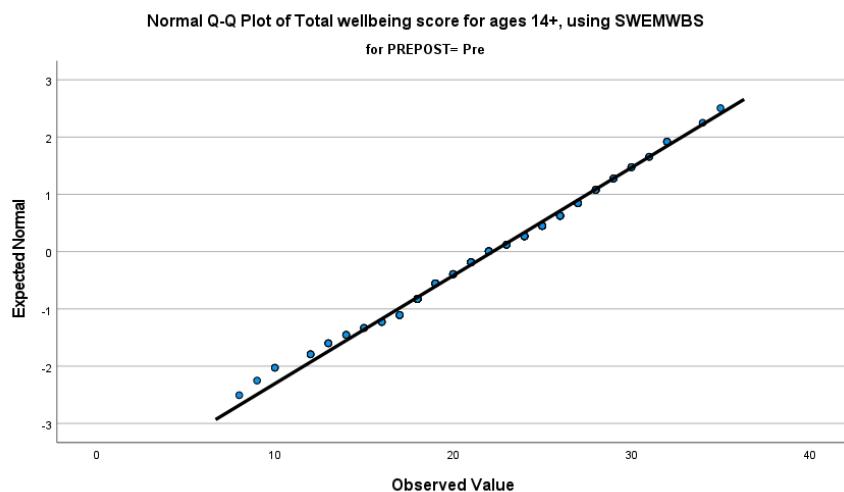
Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	22.933 ^a	4	<.001
Likelihood Ratio	23.392	4	<.001
Linear-by-Linear Association	15.847	1	<.001
N of Valid Cases	815		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 19.33.

Categorical (IV - prepost, gender) with scale (DV - scales): Parametric assumptions

Normality (Q-Q Plots):

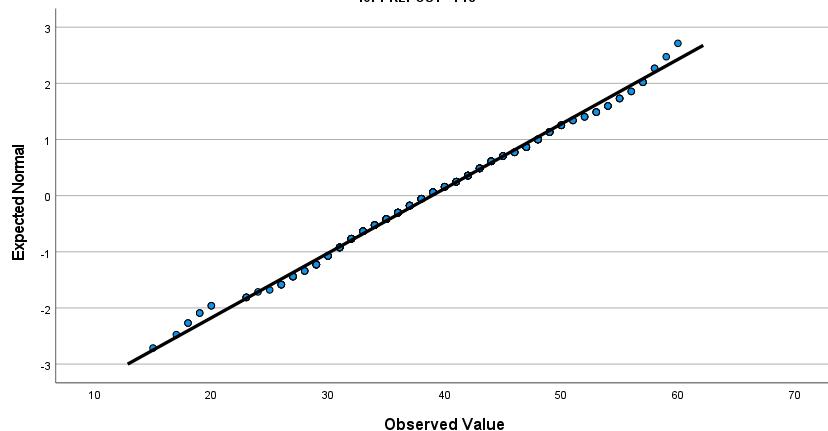


Homogeneity:

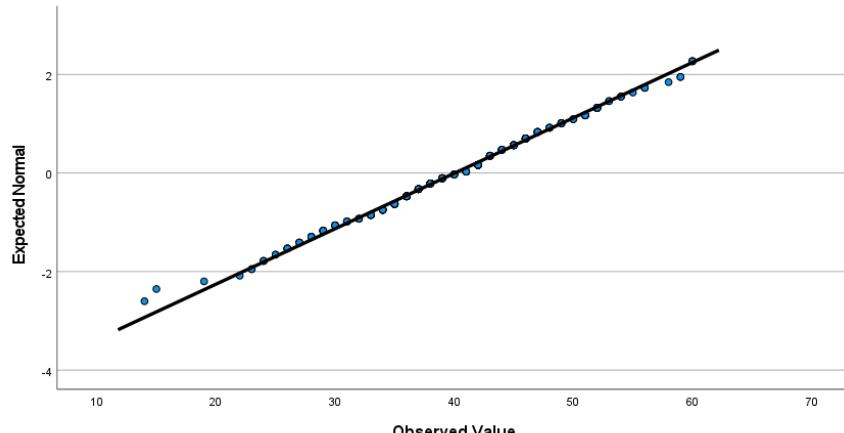
Test of Homogeneity of Variance

		Levene Statistic	df1	df2	Sig.
Total wellbeing score for ages 14+, using SCWBS	Based on Mean	.029	1	300	.864
	Based on Median	.004	1	300	.949
	Based on Median and with adjusted df	.004	1	295.288	.949
	Based on trimmed mean	.019	1	300	.891

Normal Q-Q Plot of Total wellbeing score for ages 11-13, using SCWBS
for PREPOST= Pre



Normal Q-Q Plot of Total wellbeing score for ages 11-13, using SCWBS
for PREPOST= Post



Test of Homogeneity of Variance

		Levene Statistic	df1	df2	Sig.
Total wellbeing score for ages 11-13, using SCWBS	Based on Mean	.057	1	511	.811
	Based on Median	.059	1	511	.808
	Based on Median and with adjusted df	.059	1	510.779	.808
	Based on trimmed mean	.057	1	511	.811

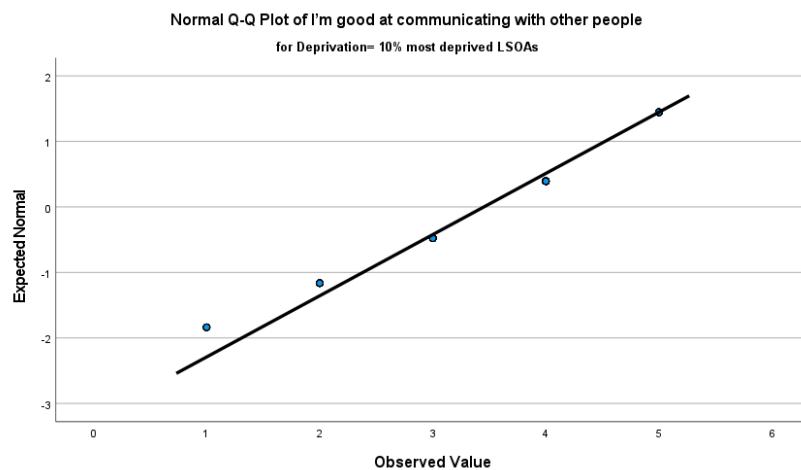
Parametric test - T-test

Independent Samples Test										
	Levene's Test for Equality of Variances		t	df	t-test for Equality of Means			95% Confidence Interval of the Difference		
	F	Sig.			Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper	
Total wellbeing score for ages 14+, using SWEMWBS	Equal variances assumed	1.746	.187	-2.918	300	.004	-1.82434	.62524	-3.05475	-.59393
	Equal variances not assumed			-2.911	290.852	.004	-1.82434	.62666	-3.05769	-.59098
Total wellbeing score for ages 11-13, using SCWBS	Equal variances assumed	10.437	.001	-6.135	511	<.001	-4.59926	.74973	-6.07220	-3.12632
	Equal variances not assumed			-6.171	500.442	<.001	-4.59926	.74529	-6.06355	-3.13497

Independent Samples Test										
	Levene's Test for Equality of Variances		t	df	t-test for Equality of Means			95% Confidence Interval of the Difference		
	F	Sig.			Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper	
Total wellbeing score for ages 14+, using SWEMWBS	Equal variances assumed	.010	.920	-3.223	310	.001	-1.96181	.60877	-3.15966	-.76396
	Equal variances not assumed			-3.213	297.593	.001	-1.96181	.61064	-3.16353	-.76009
Total wellbeing score for ages 11-13, using SCWBS	Equal variances assumed	.009	.925	-1.448	525	.148	-1.12053	.77395	-2.64095	.39989
	Equal variances not assumed			-1.444	462.350	.150	-1.12053	.77624	-2.64592	.40487

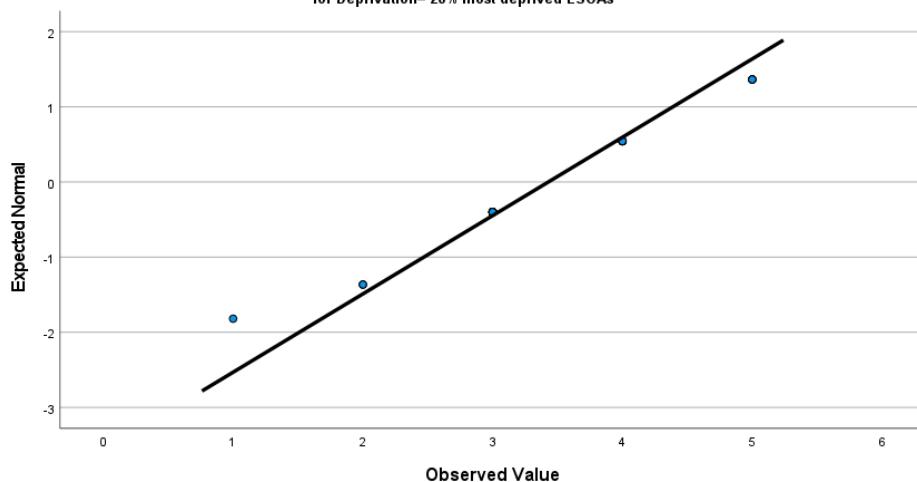
Comparing 3+ groups:

Q:Q Plots for Deprivation and 4 self-assessment questions:



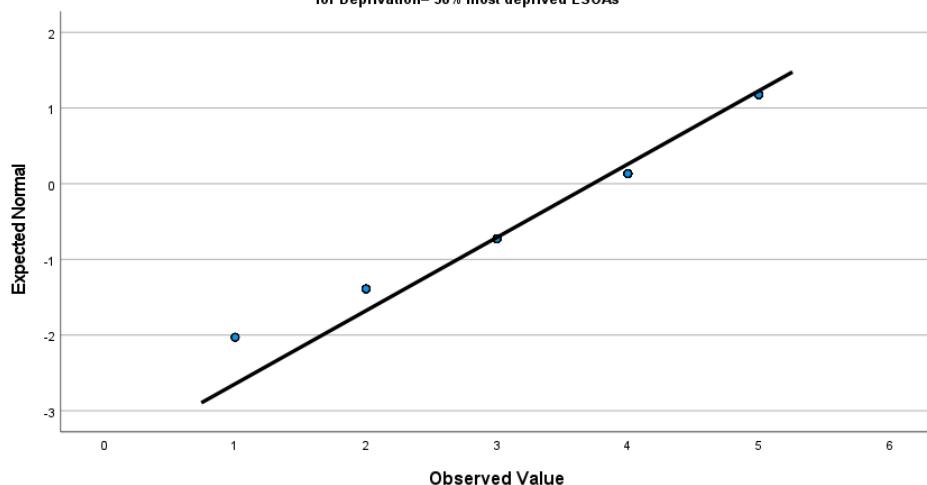
Normal Q-Q Plot of I'm good at communicating with other people

for Deprivation= 20% most deprived LSOAs



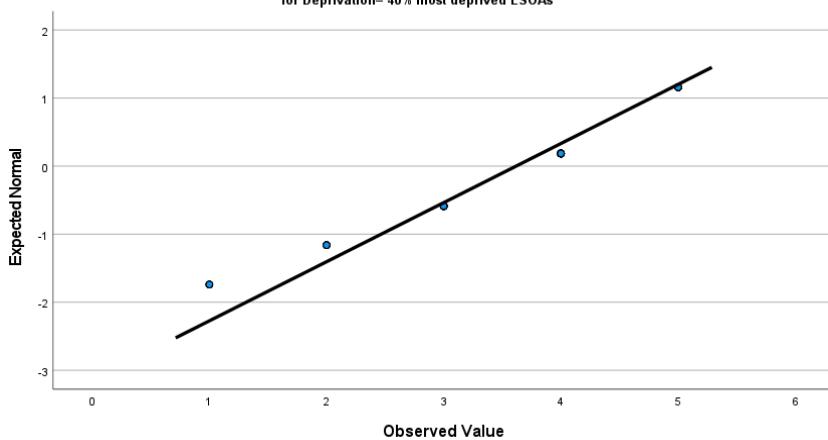
Normal Q-Q Plot of I'm good at communicating with other people

for Deprivation= 30% most deprived LSOAs



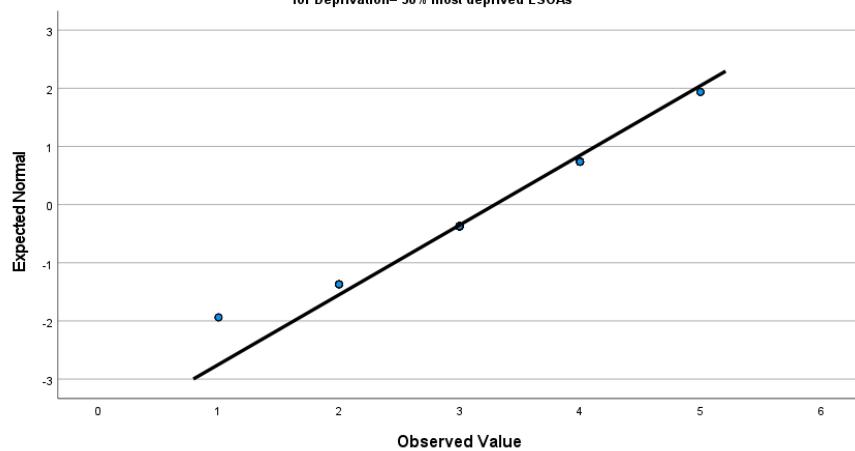
Normal Q-Q Plot of I'm good at communicating with other people

for Deprivation= 40% most deprived LSOAs



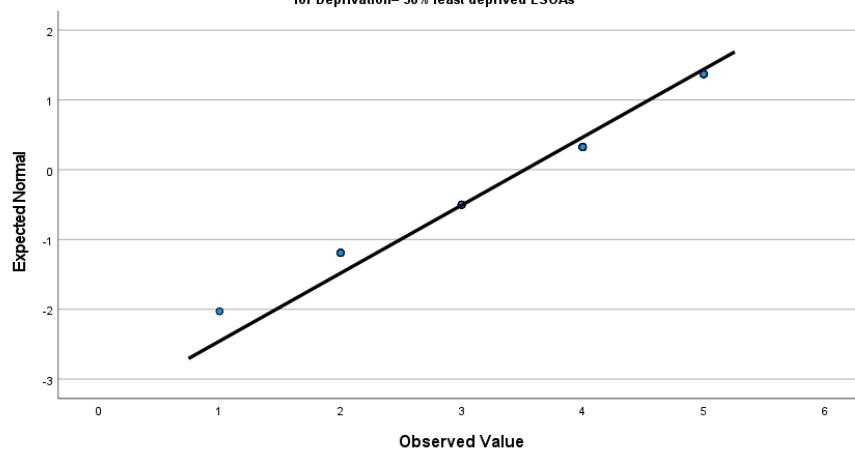
Normal Q-Q Plot of I'm good at communicating with other people

for Deprivation= 50% most deprived LSOAs



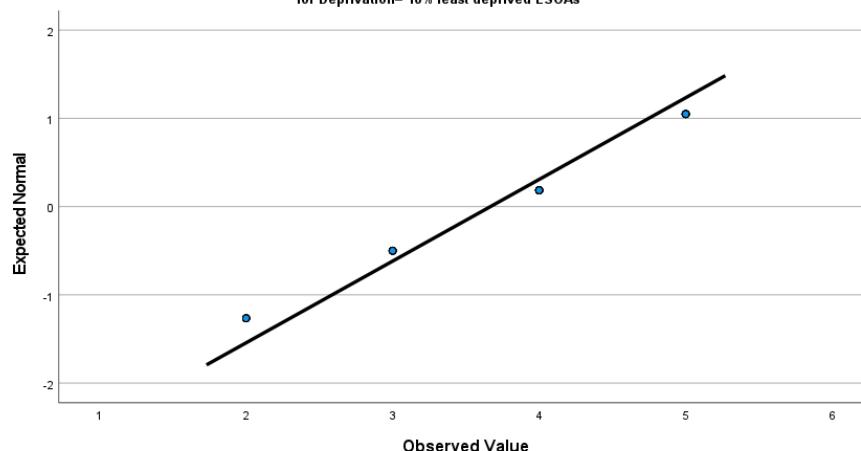
Normal Q-Q Plot of I'm good at communicating with other people

for Deprivation= 30% least deprived LSOAs



Normal Q-Q Plot of I'm good at communicating with other people

for Deprivation= 10% least deprived LSOAs



Homogeneity:

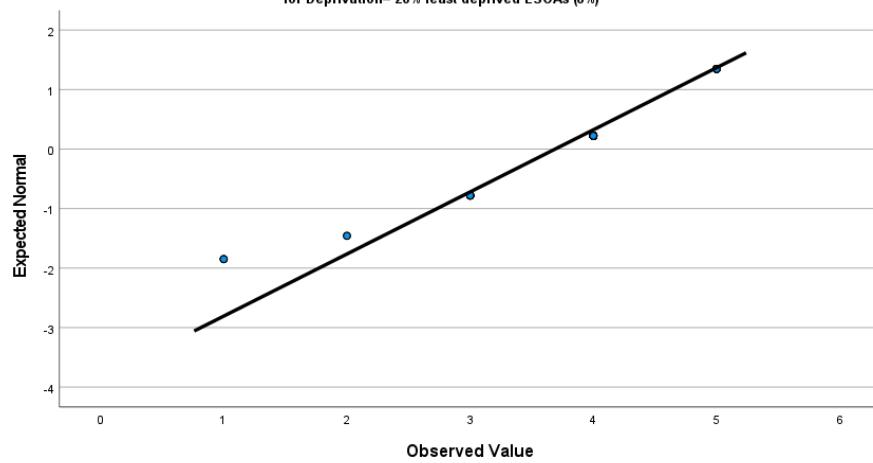
Test of Homogeneity of Variance

		Levene Statistic	df1	df2	Sig.
I'm good at communicating with other people	Based on Mean	1.849	8	784	.065
	Based on Median	.987	8	784	.445
	Based on Median and with adjusted df	.987	8	754.071	.445
	Based on trimmed mean	1.754	8	784	.083
On the whole, I am satisfied with myself	Based on Mean	1.352	8	784	.214
	Based on Median	1.467	8	784	.165
	Based on Median and with adjusted df	1.467	8	748.199	.165
	Based on trimmed mean	1.296	8	784	.242
I feel part of my local community	Based on Mean	.782	8	784	.619
	Based on Median	.965	8	784	.462
	Based on Median and with adjusted df	.965	8	769.253	.462
	Based on trimmed mean	.947	8	784	.476
I am excited about my future	Based on Mean	2.413	8	784	.014
	Based on Median	1.812	8	784	.071
	Based on Median and with adjusted df	1.812	8	750.236	.072
	Based on trimmed mean	2.095	8	784	.034

ANOVA - parametric test for deprivation with communication, satisfaction, feeling a part of local community:

Normal Q-Q Plot of I'm good at communicating with other people

for Deprivation= 20% least deprived LSOAs (6%)



Descriptives

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
I'm good at communicating with other people	10% most deprived LSOAs	195	3.4513	1.07043	.07665	3.3001	3.6025	1.00	5.00
	20% most deprived LSOAs	28	3.4286	.95950	.18133	3.0565	3.8006	1.00	5.00
	30% most deprived LSOAs	187	3.7326	1.03340	.07557	3.5835	3.8817	1.00	5.00
	40% most deprived LSOAs	60	3.6167	1.15115	.14861	3.3193	3.9140	1.00	5.00
	50% most deprived LSOAs	75	3.2933	.83461	.09637	3.1013	3.4854	1.00	5.00
	50% least deprived LSOAs	108	3.3704	1.08164	.10408	3.1640	3.5767	1.00	5.00
	30% least deprived LSOAs	46	3.5217	1.02717	.15145	3.2167	3.8268	1.00	5.00
	20% least deprived LSOAs (6%)	61	3.6885	.95814	.12268	3.4431	3.9339	1.00	5.00
	10% least deprived LSOAs	33	3.6667	1.08012	.18803	3.2837	4.0497	2.00	5.00
	Total	793	3.5347	1.04162	.03699	3.4621	3.6073	1.00	5.00
On the whole, I am satisfied with myself	10% most deprived LSOAs	195	3.2923	1.09436	.07837	3.1377	3.4469	1.00	5.00
	20% most deprived LSOAs	28	3.1071	1.19689	.22619	2.6430	3.5712	1.00	5.00
	30% most deprived LSOAs	187	3.5668	1.07742	.07879	3.4114	3.7223	1.00	5.00
	40% most deprived LSOAs	60	3.5167	1.03321	.13339	3.2498	3.7836	1.00	5.00
	50% most deprived LSOAs	75	3.0933	1.10494	.12759	2.8391	3.3476	1.00	5.00
	50% least deprived LSOAs	108	3.2685	1.04664	.10071	3.0689	3.4682	1.00	5.00
	30% least deprived LSOAs	46	3.1087	1.10007	.16220	2.7820	3.4354	1.00	5.00
	20% least deprived LSOAs (6%)	61	3.6557	.85411	.10936	3.4370	3.8745	2.00	5.00
	10% least deprived LSOAs	33	4.0606	.82687	.14394	3.7674	4.3538	2.00	5.00
	Total	793	3.3947	1.07747	.03826	3.3196	3.4698	1.00	5.00
I feel part of my local community	10% most deprived LSOAs	195	3.3795	1.00493	.07196	3.2376	3.5214	1.00	5.00
	20% most deprived LSOAs	28	3.2857	.85449	.16148	2.9544	3.6171	2.00	5.00
	30% most deprived LSOAs	187	3.5882	.95965	.07018	3.4498	3.7267	1.00	5.00
	40% most deprived LSOAs	60	3.3500	.91735	.11843	3.1130	3.5870	1.00	5.00
	50% most deprived LSOAs	75	3.1067	1.06000	.12240	2.8628	3.3506	1.00	5.00
	50% least deprived LSOAs	108	3.4907	.93224	.08970	3.3129	3.6686	1.00	5.00
	30% least deprived LSOAs	46	3.0652	1.01985	.15037	2.7624	3.3681	1.00	5.00
	20% least deprived LSOAs (6%)	61	3.2131	.95070	.12172	2.9696	3.4566	1.00	5.00
	10% least deprived LSOAs	33	3.7576	.90244	.15709	3.4376	4.0776	1.00	5.00
	Total	793	3.3972	.98337	.03492	3.3287	3.4658	1.00	5.00

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
I'm good at communicating with other people	Between Groups	18.712	8	2.339	2.182	.027
	Within Groups	840.584	784	1.072		
	Total	859.296	792			
On the whole, I am satisfied with myself	Between Groups	41.878	8	5.235	4.676	<.001
	Within Groups	877.580	784	1.119		
	Total	919.458	792			
I feel part of my local community	Between Groups	26.066	8	3.258	3.453	<.001
	Within Groups	739.808	784	.944		
	Total	765.874	792			

Post hoc:

Wiley & Sons

Kruskal-Wallis test for deprivation levels and excitement about the future:

Hypothesis Test Summary

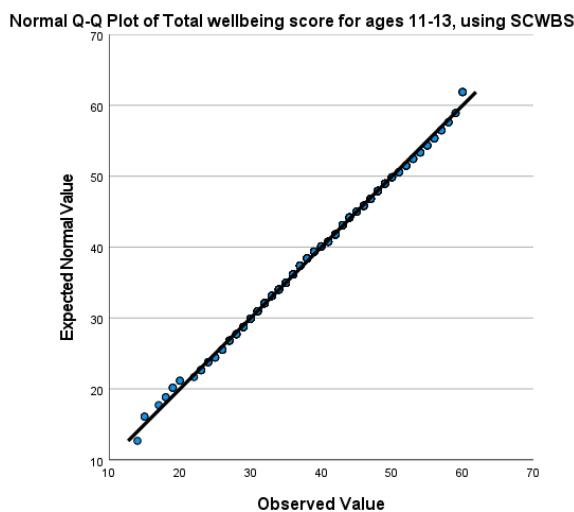
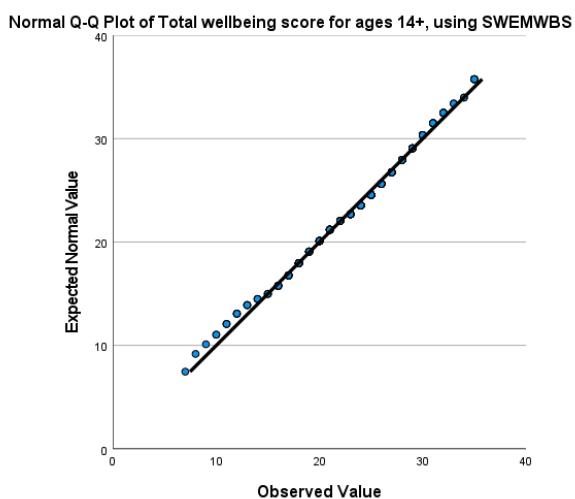
Null Hypothesis	Test	Sig. ^{a,b}	Decision
1 The distribution of Deprivation status is the same across categories of I am excited about my future.	Independent-Samples Kruskal-Wallis Test	.704	Retain the null hypothesis.

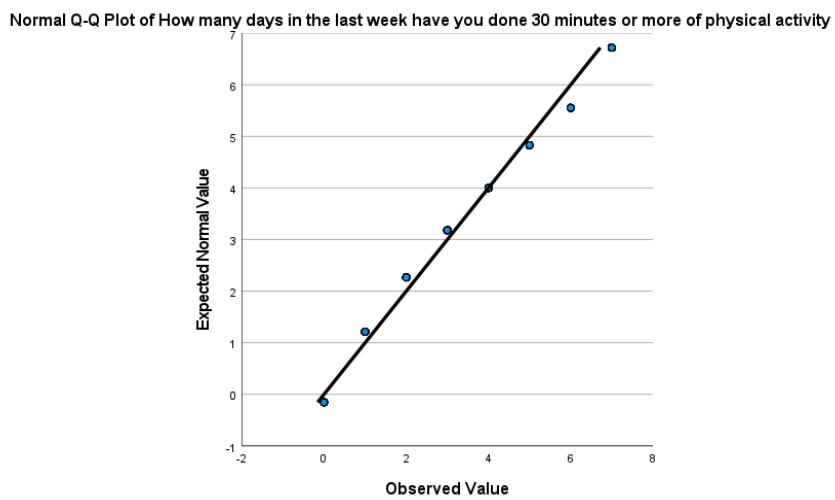
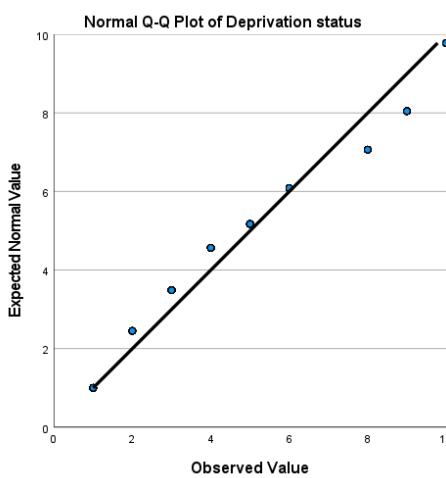
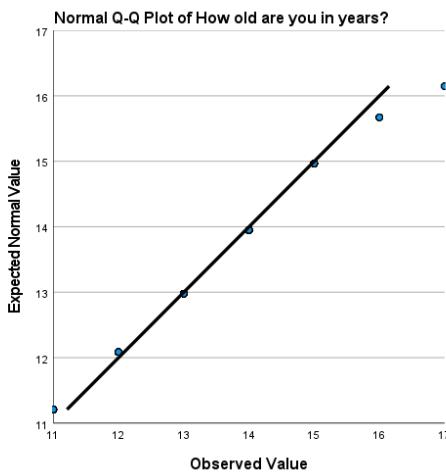
a. The significance level is .050.

b. Asymptotic significance is displayed.

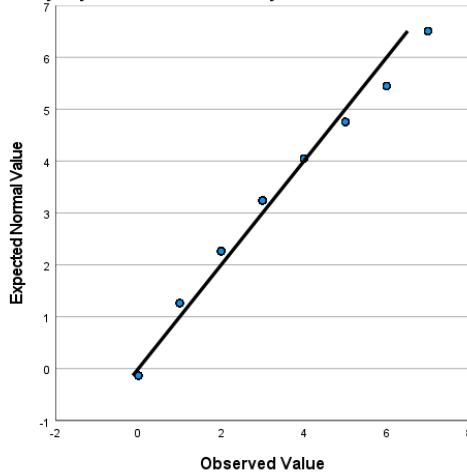
Scale variables:

Q-Q Plots





Normal Q-Q Plot of How many days in the last week have you done 60 minutes or more of physical activity



Spearman's Rank

		Correlations						
		How old are you in years?	Deprivation status	How many days in the last week have you done 30 minutes or more of physical activity	How many days in the last week have you done 60 minutes or more of physical activity	Total wellbeing score for ages 11-13, using SCWBS	Total wellbeing score for ages 14+, using SWEMWBS	
Spearman's rho	How old are you in years?	Correlation Coefficient	1.000	.079*	.051	.008	-.073	-.045
		Sig. (2-tailed)	.	.027	.140	.815	.092	.433
		N	834	788	834	834	526	308
Deprivation status		Correlation Coefficient	.079*	1.000	.015	-.028	.029	-.061
		Sig. (2-tailed)	.027	.	.674	.425	.521	.307
		N	788	793	793	793	508	285
How many days in the last week have you done 30 minutes or more of physical activity		Correlation Coefficient	.051	.015	1.000	.802**	.306**	.353**
		Sig. (2-tailed)	.140	.674	.	<.001	<.001	<.001
		N	834	793	839	839	527	312
How many days in the last week have you done 60 minutes or more of physical activity		Correlation Coefficient	.008	-.028	.802**	1.000	.290**	.344**
		Sig. (2-tailed)	.815	.425	<.001	.	<.001	<.001
		N	834	793	839	839	527	312
Total wellbeing score for ages 11-13, using SCWBS		Correlation Coefficient	-.073	.029	.306**	.290**	1.000	.
		Sig. (2-tailed)	.092	.521	<.001	<.001	.	.
		N	526	508	527	527	527	0
Total wellbeing score for ages 14+, using SWEMWBS		Correlation Coefficient	-.045	-.061	.353**	.344**	.	1.000
		Sig. (2-tailed)	.433	.307	<.001	<.001	.	.
		N	308	285	312	312	0	312

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

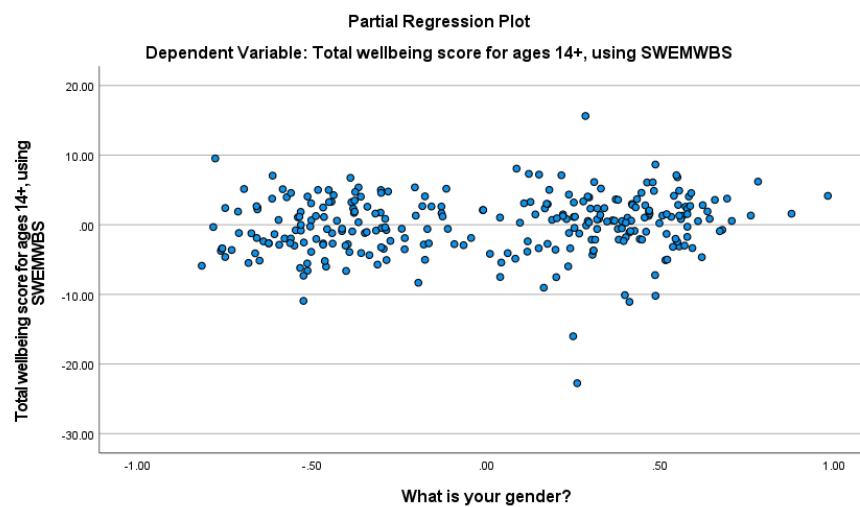
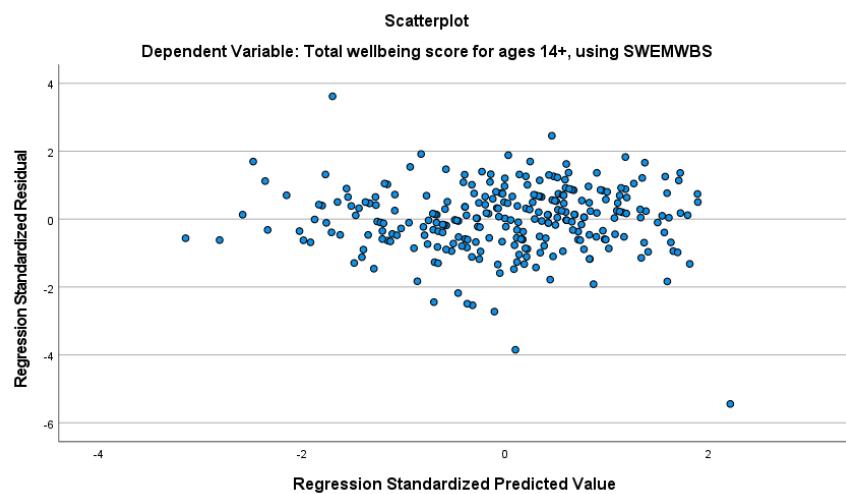
**. Correlation is significant at the 0.01 level (2-tailed).

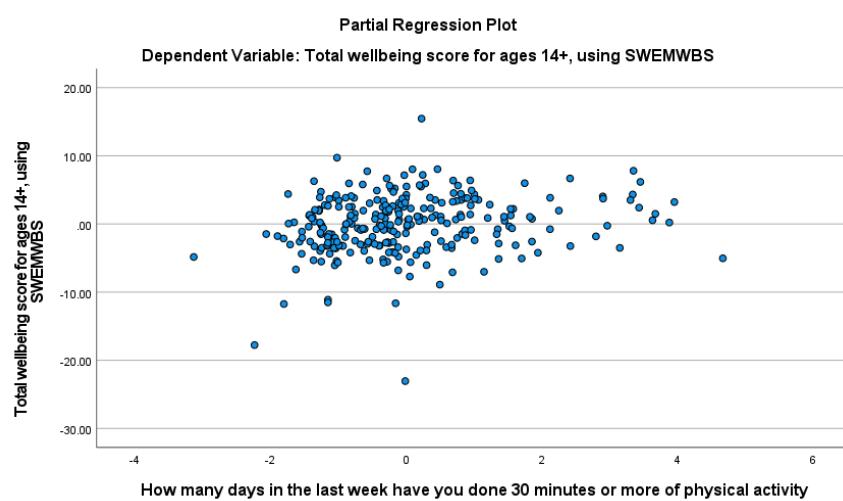
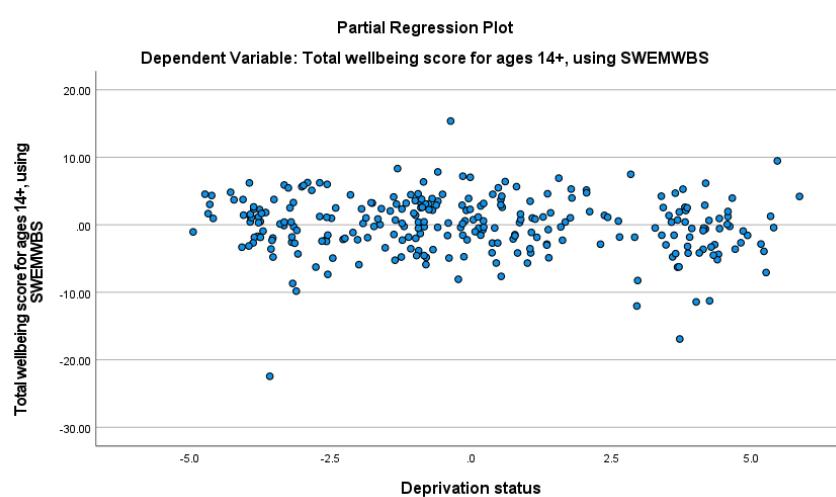
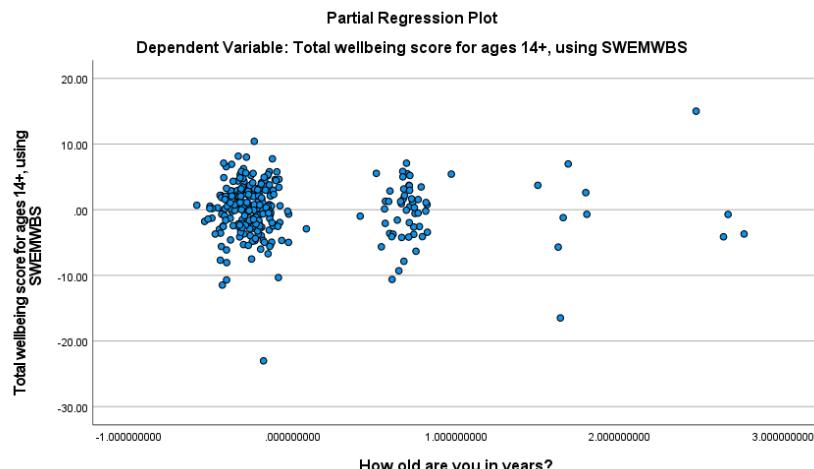
REGRESSION

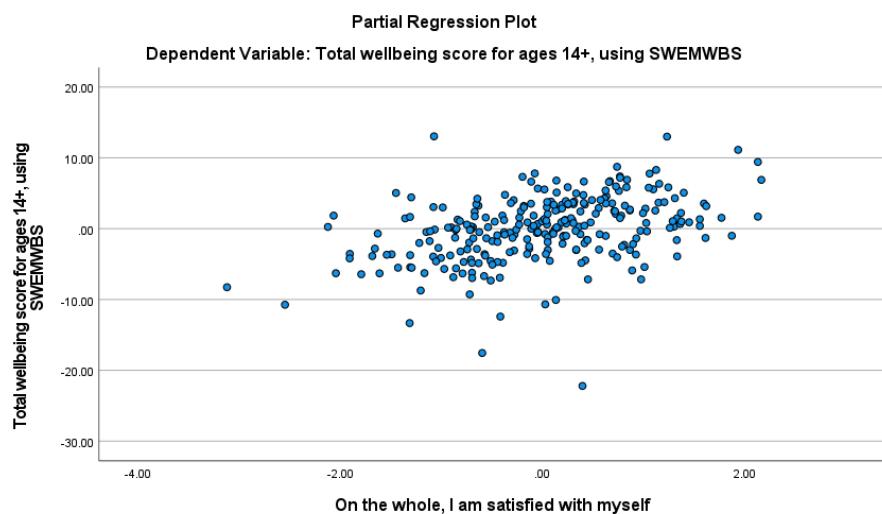
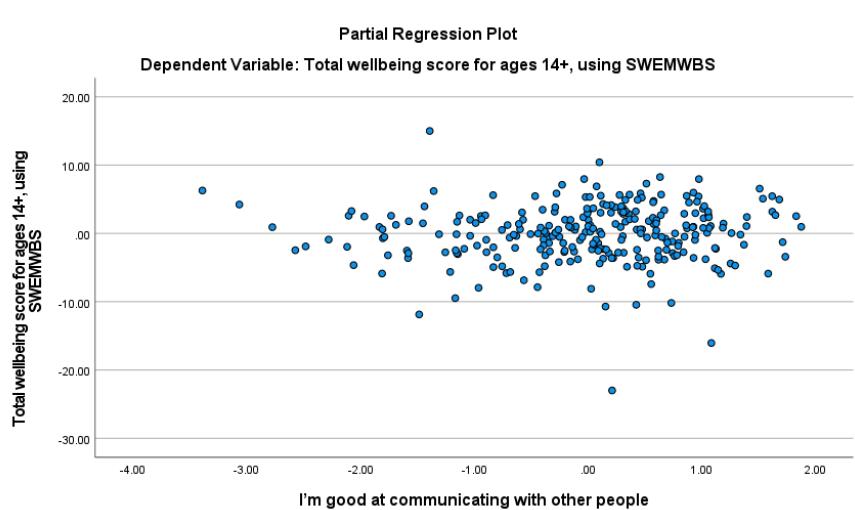
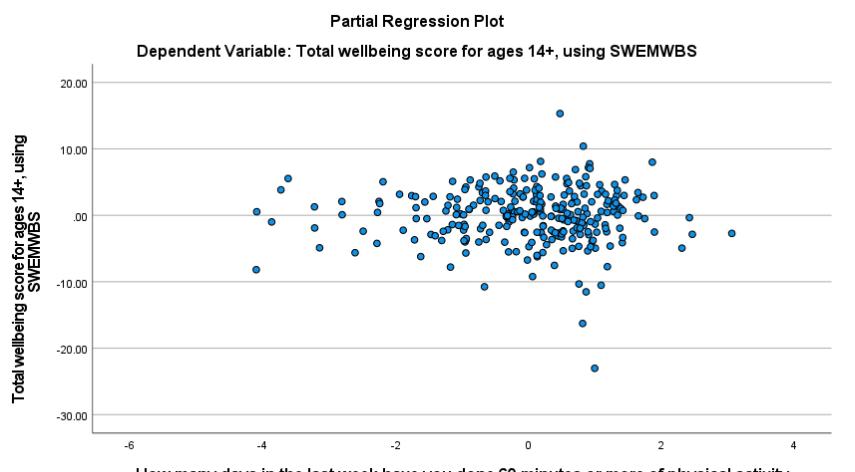
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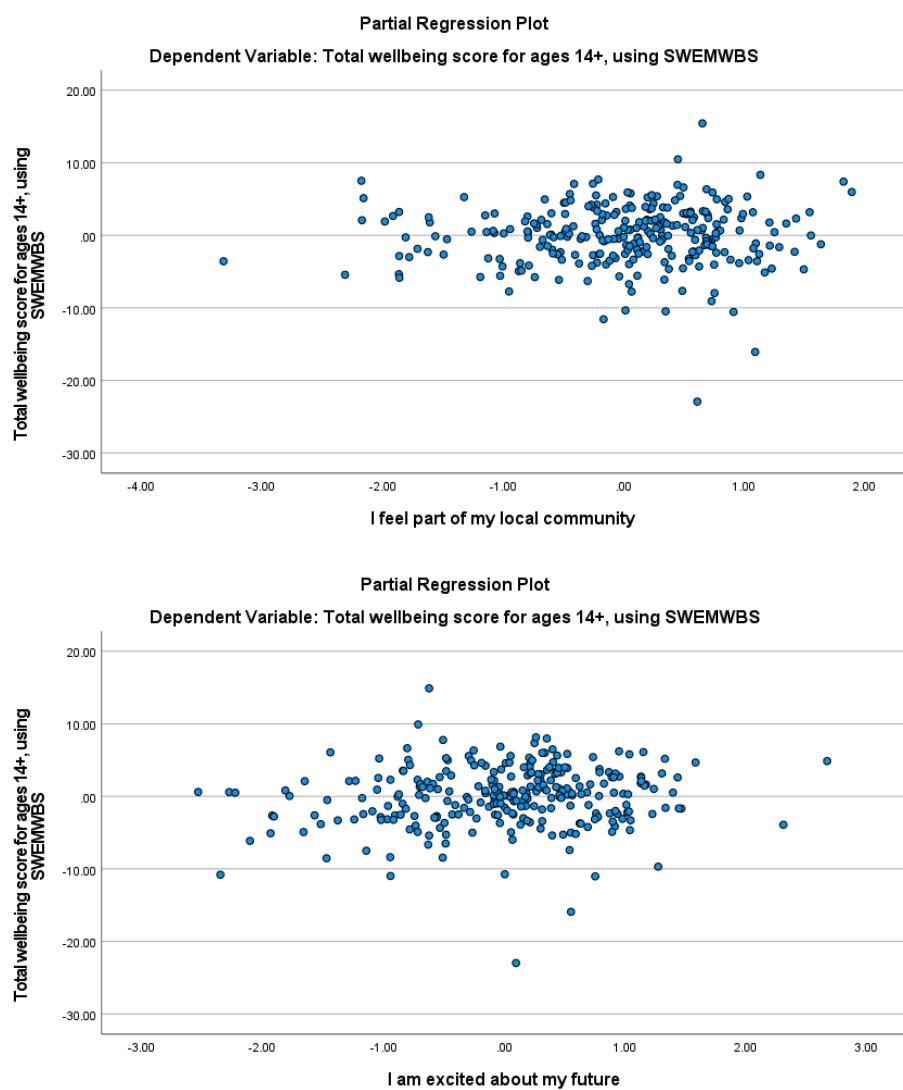
Linearity:

SWEMWBS

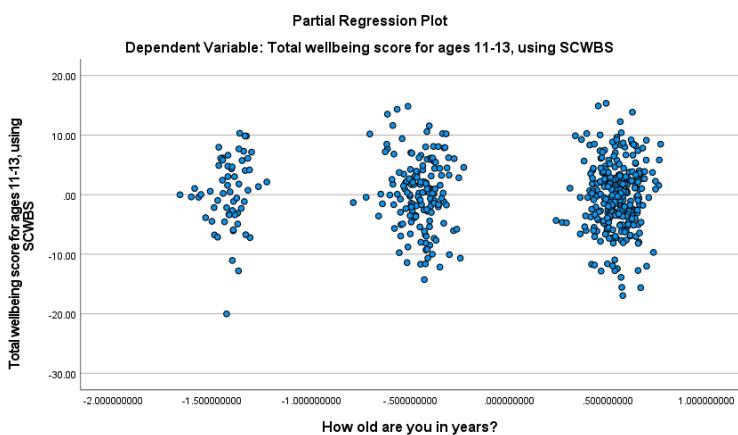
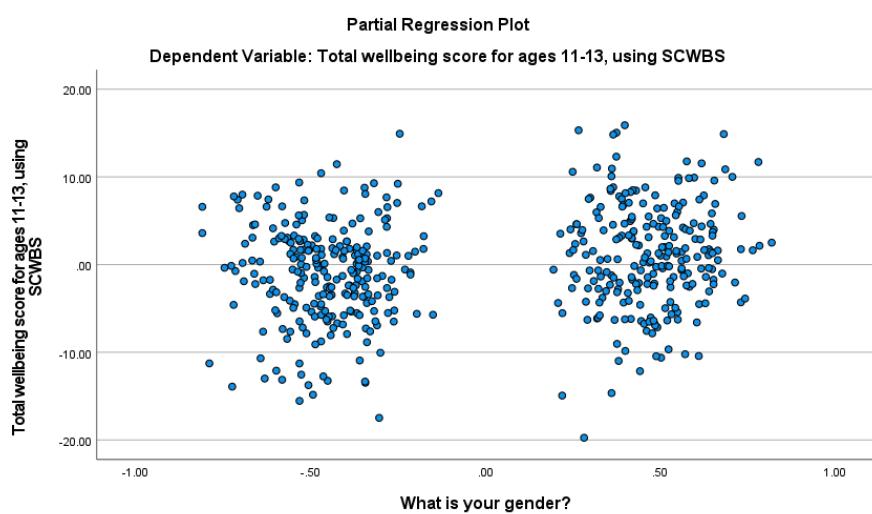
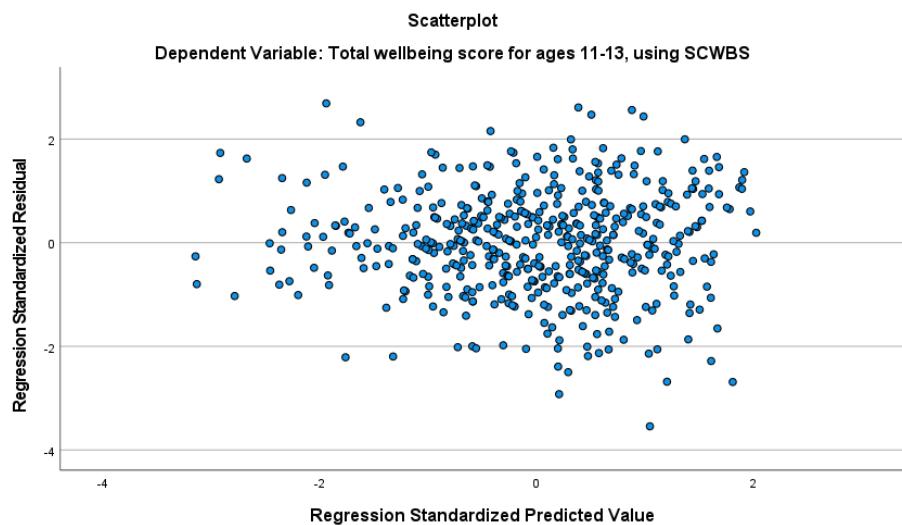


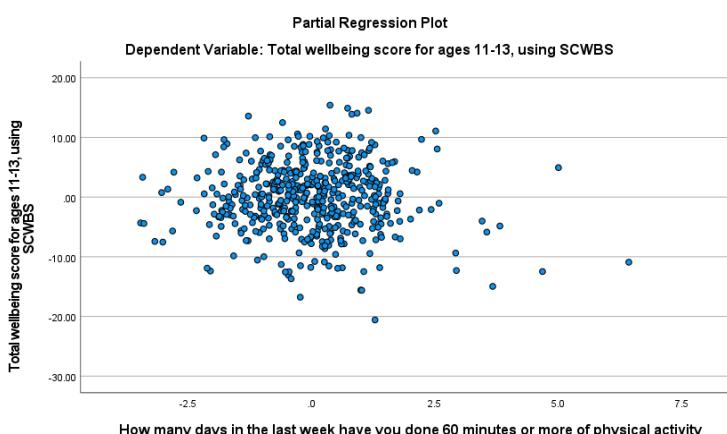
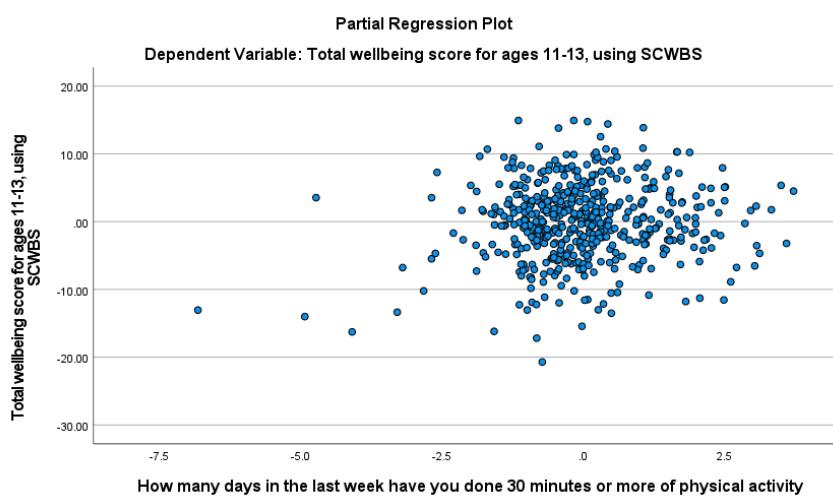
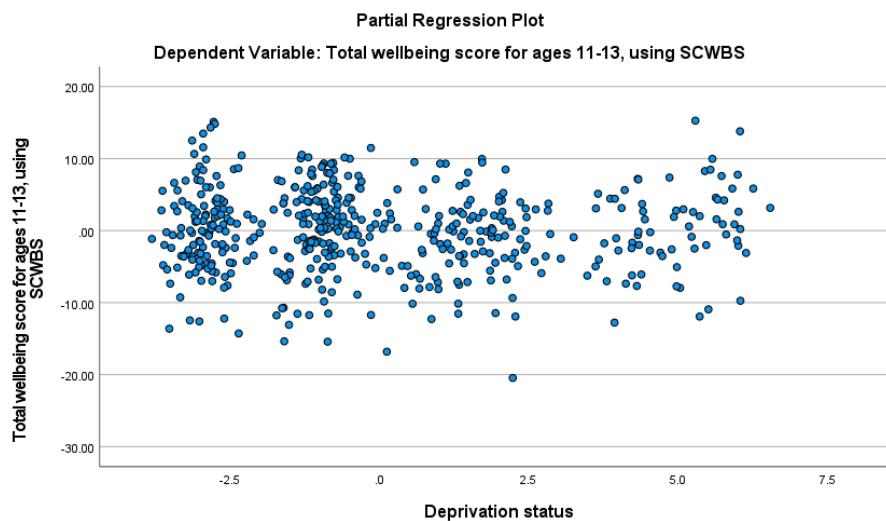


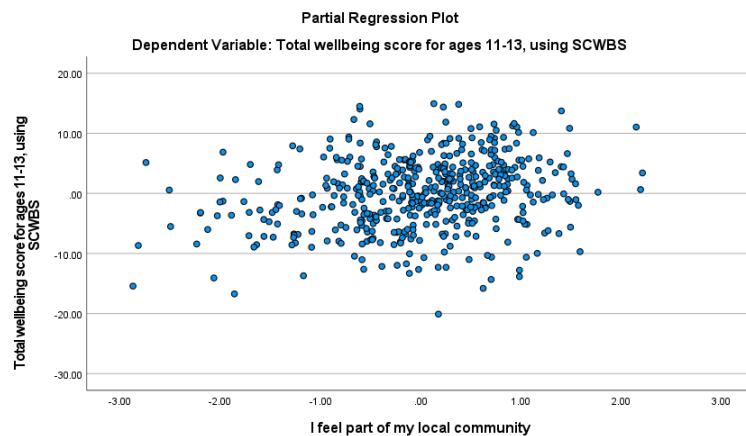
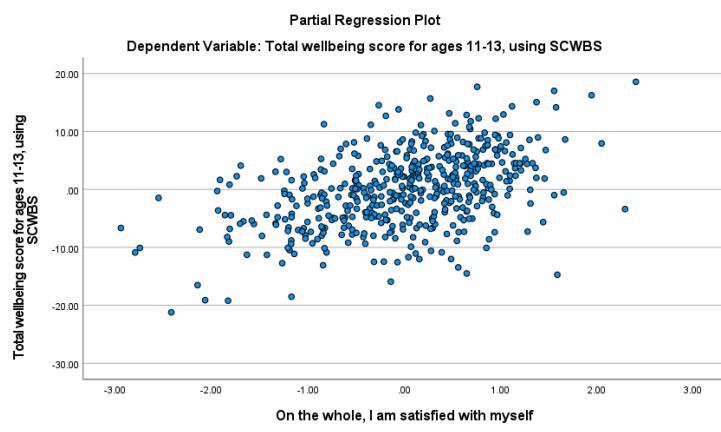
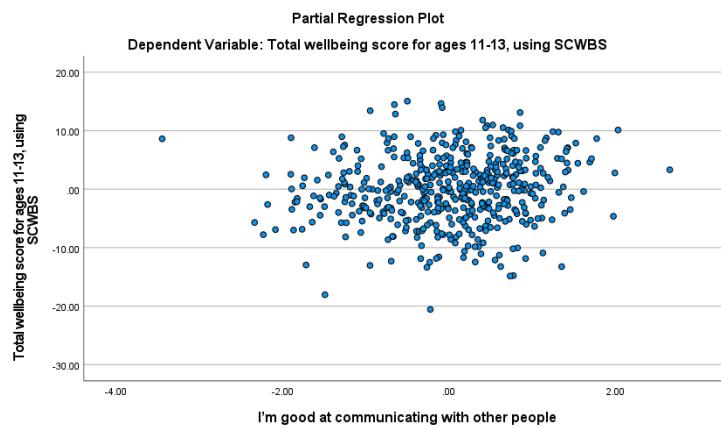


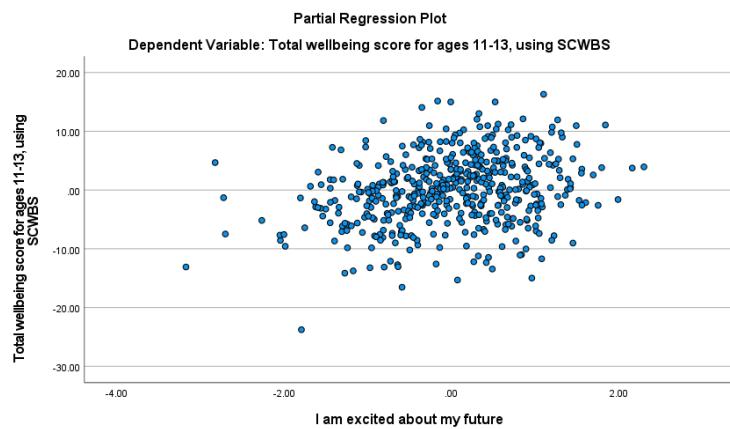


SCWBS









Multicollinearity

SCWBS

Correlations

	Total wellbeing score for ages 11-13, using SCWBS	What is your gender?	How old are you in years?	Deprivation status	How many days in the last week have you done 30 minutes or more of physical activity	How many days in the last week have you done 60 minutes or more of physical activity	I'm good at communicating with other people	On the whole, I am satisfied with myself	I feel part of my local community	I am excited about my future	
Pearson Correlation											
	Total wellbeing score for ages 11-13, using SCWBS	1.000	.253	-.088	.033	.266	.255	.445	.670	.463	.523
	What is your gender?	.253	1.000	.006	.012	.222	.240	.145	.155	.098	.061
	How old are you in years?	-.088	.006	1.000	-.045	.007	.029	-.093	-.080	-.065	-.067
	Deprivation status	.033	.012	-.045	1.000	.010	-.041	.059	.048	-.021	.077
	How many days in the last week have you done 30 minutes or more of physical activity	.266	.222	.007	.010	1.000	.813	.270	.178	.140	.138
	How many days in the last week have you done 60 minutes or more of physical activity	.255	.240	.029	-.041	.813	1.000	.261	.171	.169	.198
	I'm good at communicating with other people	.445	.145	-.093	.059	.270	.261	1.000	.422	.350	.320
	On the whole, I am satisfied with myself	.670	.155	-.080	.048	.178	.171	.422	1.000	.377	.475
	I feel part of my local community	.463	.098	-.065	-.021	.140	.169	.350	.377	1.000	.323
	I am excited about my future	.523	.061	-.067	.077	.138	.198	.320	.475	.323	1.000
Sig. (1-tailed)											
	Total wellbeing score for ages 11-13, using SCWBS	.	<.001	.026	.232	<.001	<.001	<.001	<.001	<.001	<.001
	What is your gender?	.000	.	.451	.396	.000	.000	.001	.000	.015	.088
	How old are you in years?	.026	.451	.	.160	.440	.259	.019	.037	.075	.068
	Deprivation status	.232	.396	.160	.	.410	.179	.096	.145	.319	.043
	How many days in the last week have you done 30 minutes or more of physical activity	.000	.000	.440	.410	.	.000	.000	.000	.001	.001
	How many days in the last week have you done 60 minutes or more of physical activity	.000	.000	.259	.179	.000	.	.000	.000	.000	.000
	I'm good at communicating with other people	.000	.001	.019	.096	.000	.000	.	.000	.000	.000
	On the whole, I am satisfied with myself	.000	.000	.037	.145	.000	.000	.000	.	.000	.000
	I feel part of my local community	.000	.015	.075	.319	.001	.000	.000	.000	.	.000
	I am excited about my future	.000	.088	.068	.043	.001	.000	.000	.000	.000	.
N											
	Total wellbeing score for ages 11-13, using SCWBS	493	493	493	493	493	493	493	493	493	493
	What is your gender?	493	493	493	493	493	493	493	493	493	493
	How old are you in years?	493	493	493	493	493	493	493	493	493	493
	Deprivation status	493	493	493	493	493	493	493	493	493	493
	How many days in the last week have you done 30 minutes or more of physical activity	493	493	493	493	493	493	493	493	493	493
	How many days in the last week have you done 60 minutes or more of physical activity	493	493	493	493	493	493	493	493	493	493
	I'm good at communicating with other people	493	493	493	493	493	493	493	493	493	493
	On the whole, I am satisfied with myself	493	493	493	493	493	493	493	493	493	493
	I feel part of my local community	493	493	493	493	493	493	493	493	493	493
	I am excited about my future	493	493	493	493	493	493	493	493	493	493

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients Beta	t	Sig.	Correlations			Collinearity Statistics	
		B	Std. Error				Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	10.142	5.011		2.024	.044					
	What is your gender?	2.219	.539	.127	4.115	<.001	.253	.184	.122	.923	1.083
	How old are you in years?	-.242	.373	-.019	-.649	.517	-.088	-.030	-.019	.983	1.018
	Deprivation status	-.037	.099	-.011	-.373	.710	.033	-.017	-.011	.978	1.022
	How many days in the last week have you done 30 minutes or more of physical activity	.465	.209	.115	2.222	.027	.266	.101	.066	.329	3.038
	How many days in the last week have you done 60 minutes or more of physical activity	-.161	.214	-.039	-.751	.453	.255	-.034	-.022	.322	3.108
	I'm good at communicating with other people	.830	.307	.094	2.701	.007	.445	.122	.080	.730	1.369
	On the whole, I am satisfied with myself	3.548	.304	.426	11.667	<.001	.670	.469	.345	.656	1.524
	I feel part of my local community	1.603	.304	.176	5.270	<.001	.463	.233	.156	.789	1.267
	I am excited about my future	1.894	.303	.218	6.246	<.001	.523	.273	.185	.721	1.387

a. Dependent Variable: Total wellbeing score for ages 11-13, using SCWBS

Collinearity Diagnostics^a

Model	Dimension	Eigenvalue	Condition Index	(Constant)	What is your gender?	How old are you in years?	Deprivation status	Variance Proportions					
								How many days in the last week have you done 30 minutes or more of physical activity	How many days in the last week have you done 60 minutes or more of physical activity	I'm good at communicating with other people	On the whole, I am satisfied with myself	I feel part of my local community	I am excited about my future
1	1	8.940	1.000	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	2	.456	4.429	.00	.00	.00	.12	.06	.11	.00	.00	.00	.00
	3	.267	5.790	.00	.01	.00	.82	.02	.02	.00	.01	.01	.00
	4	.097	9.622	.00	.71	.00	.00	.00	.00	.02	.06	.03	.03
	5	.059	12.319	.00	.05	.00	.02	.67	.59	.02	.05	.00	.04
	6	.057	12.555	.01	.11	.01	.00	.10	.13	.03	.43	.09	.01
	7	.048	13.699	.00	.02	.00	.01	.03	.01	.39	.06	.28	.21
	8	.044	14.183	.00	.02	.00	.01	.06	.03	.49	.04	.57	.01
	9	.032	16.741	.01	.08	.01	.00	.07	.10	.02	.35	.02	.69
	10	.001	78.051	.98	.00	.97	.00	.00	.01	.01	.00	.01	.01

a. Dependent Variable: Total wellbeing score for ages 11-13, using SCWBS

SWEMBS

Correlations

	Total wellbeing score for ages 14+, using SWEMWBS	What is your gender?	How old are you in years?	Deprivation status	How many days in the last week have you done 30 minutes or more of physical activity	How many days in the last week have you done 60 minutes or more of physical activity	I'm good at communicating with other people	On the whole, I am satisfied with myself	I feel part of my local community	I am excited about my future
Pearson Correlation	Total wellbeing score for ages 14+, using SWEMWBS	.185	-.036	-.058	.374	.352	.340	.572	.336	.379
	What is your gender?	.185	1.000	.083	.150	.143	.271	.136	.166	.023
	How old are you in years?	-.036	.083	1.000	.107	.025	-.022	-.073	-.050	.013
	Deprivation status	-.058	.150	.107	1.000	-.005	.004	-.062	.074	-.050
	How many days in the last week have you done 30 minutes or more of physical activity				.374	.143	.790	.159	.179	.130
	How many days in the last week have you done 60 minutes or more of physical activity				.352	.271	-.022	.004	.790	.362
	I'm good at communicating with other people				.340	.136	-.073	-.062	.170	.210
	On the whole, I am satisfied with myself				.572	.166	-.050	.074	.429	.458
	I feel part of my local community				.336	.023	.013	-.050	.232	.462
	I am excited about my future				.379	-.123	-.031	-.075	.131	.462
Sig. (1-tailed)	Total wellbeing score for ages 14+, using SWEMWBS	.	.001	.277	.172	<.001	<.001	<.001	<.001	<.001
	What is your gender?	.001	.	.084	.007	.009	.000	.012	.003	.351
	How old are you in years?	.277	.084	.	.039	.340	.358	.115	.203	.413
	Deprivation status	.172	.007	.039	.	.470	.475	.153	.110	.205
	How many days in the last week have you done 30 minutes or more of physical activity	.000	.009	.340	.470	.	.000	.004	.002	.016
	How many days in the last week have you done 60 minutes or more of physical activity	.000	.000	.358	.475	.000	.	.002	.000	.015
	I'm good at communicating with other people	.000	.012	.115	.153	.004	.002	.	.000	.000
	On the whole, I am satisfied with myself	.000	.003	.203	.110	.002	.000	.000	.	.000
	I feel part of my local community	.000	.351	.413	.205	.000	.000	.000	.000	.
	I am excited about my future	.000	.021	.303	.108	.016	.015	.000	.000	.
N	Total wellbeing score for ages 14+, using SWEMWBS	273	273	273	273	273	273	273	273	273
	What is your gender?	273	273	273	273	273	273	273	273	273
	How old are you in years?	273	273	273	273	273	273	273	273	273
	Deprivation status	273	273	273	273	273	273	273	273	273
	How many days in the last week have you done 30 minutes or more of physical activity	273	273	273	273	273	273	273	273	273
	How many days in the last week have you done 60 minutes or more of physical activity	273	273	273	273	273	273	273	273	273
	I'm good at communicating with other people	273	273	273	273	273	273	273	273	273
	On the whole, I am satisfied with myself	273	273	273	273	273	273	273	273	273
	I feel part of my local community	273	273	273	273	273	273	273	273	273
	I am excited about my future	273	273	273	273	273	273	273	273	273

Model		Coefficients ^a									
		Unstandardized Coefficients		Standardized Coefficients Beta	t	Sig.	Correlations			Collinearity Statistics	
		B	Std. Error				Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	9.892	6.477		1.527	.128					
	What is your gender?	1.113	.569	.100	1.958	.051	.185	.120	.091	.815	1.227
	How old are you in years?	-.122	.448	-.013	-.273	.785	-.036	-.017	-.013	.963	1.038
	Deprivation status	-.169	.092	-.088	-1.848	.066	-.058	-.113	-.085	.946	1.057
	How many days in the last week have you done 30 minutes or more of physical activity	.659	.204	.247	3.233	.001	.374	.196	.150	.367	2.727
	How many days in the last week have you done 60 minutes or more of physical activity	.017	.218	.006	.080	.936	.352	.005	.004	.337	2.964
	I'm good at communicating with other people	.223	.268	.045	.834	.405	.340	.051	.039	.752	1.329
	On the whole, I am satisfied with myself	2.115	.286	.426	7.395	<.001	.572	.415	.342	.645	1.550
	I feel part of my local community	.202	.308	.036	.656	.512	.336	.040	.030	.694	1.441
	I am excited about my future	.672	.309	.125	2.174	.031	.379	.133	.101	.647	1.546

a. Dependent Variable: Total wellbeing score for ages 14+, using SWEMWBS

BOOTSTRAP:

SWEMWBS

Bootstrap for Coefficients

Model		B	Bias	Std. Error	Sig. (2-tailed)	Bootstrap ^a		BCa 95% Confidence Interval	
						Lower	Upper		
1	(Constant)	9.230	-.320	10.208	.372	-10.422	28.318		
	What is your gender?	1.116	-.010	.544	.044	.050	2.141		
	How old are you in years?	-.102	.021	.705	.891	-1.492	1.330		
	Deprivation status	-.168	-.002	.097	.090	-.352	.020		
	How many days in the last week have you done 30 minutes or more of physical activity	.653	-.004	.204	.003	.257	1.036		
	How many days in the last week have you done 60 minutes or more of physical activity	.016	.007	.215	.924	-.399	.468		
	I'm good at communicating with other people	.217	.013	.267	.431	-.296	.781		
	On the whole, I am satisfied with myself	2.091	-.018	.271	<.001	1.570	2.577		
	I feel part of my local community	.191	.006	.297	.520	-.413	.800		
	I am excited about my future	.665	.017	.296	.025	.021	1.289		
	PRE POST	.384	-.009	.584	.522	-.752	1.549		

a. Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples

SCWBS

Bootstrap for Coefficients

Model	B	Bias	Std. Error	Sig. (2-tailed)	Bootstrap ^a		
					BCa 95% Confidence Interval		
					Lower	Upper	
1	(Constant)	10.436	-.118	4.958	.035	.897	19.882
	What is your gender?	2.221	-.004	.541	<.001	1.130	3.295
	How old are you in years?	-.244	.007	.368	.509	-.949	.477
	Deprivation status	-.035	-.002	.098	.729	-.246	.162
	How many days in the last week have you done 30 minutes or more of physical activity	.457	.001	.237	.058	-.041	.946
	How many days in the last week have you done 60 minutes or more of physical activity	-.147	-.011	.244	.558	-.601	.293
	I'm good at communicating with other people	.828	.010	.308	.007	.207	1.455
	On the whole, I am satisfied with myself	3.555	-.024	.345	<.001	2.912	4.147
	I feel part of my local community	1.614	.007	.315	<.001	.983	2.233
	I am excited about my future	1.889	.024	.313	<.001	1.183	2.596
	PRE POST	-.230	.004	.523	.670	-1.247	.810

a. Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples

Significant variables:

WEMWBS: gender, 30 mins of exercise, satisfaction with yourself, excited about future.

SCWBS: gender, good at communicating, satisfied with myself, feel a part of local community, excited about the future.

REGRESSION

SWEMWBS

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.642 ^a	.412	.404	4.23384

a. Predictors: (Constant), I am excited about my future, How many days in the last week have you done 30 minutes or more of physical activity, What is your gender?, On the whole, I am satisfied with myself

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3733.599	4	933.400	52.071	<.001 ^b
	Residual	5323.835	297	17.925		
	Total	9057.434	301			

a. Dependent Variable: Total wellbeing score for ages 14+, using SWEMWBS

b. Predictors: (Constant), I am excited about my future, How many days in the last week have you done 30 minutes or more of physical activity, What is your gender?, On the whole, I am satisfied with myself

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients Beta	t	Sig.
		B	Std. Error			
1	(Constant)	8.405	1.324		6.348	<.001
	What is your gender?	.950	.512	.087	1.856	.064
	How many days in the last week have you done 30 minutes or more of physical activity	.666	.120	.253	5.547	<.001
	On the whole, I am satisfied with myself	2.248	.263	.445	8.559	<.001
	I am excited about my future	.772	.276	.144	2.792	.006

a. Dependent Variable: Total wellbeing score for ages 14+, using SWEMWBS

SCWBS

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.760 ^a	.578	.573	5.73756

a. Predictors: (Constant), I am excited about my future, What is your gender?, I'm good at communicating with other people, I feel part of my local community , On the whole, I am satisfied with myself

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	22826.658	5	4565.332	138.681	<.001 ^b
	Residual	16690.219	507	32.920		
	Total	39516.877	512			

a. Dependent Variable: Total wellbeing score for ages 11-13, using SCWBS

b. Predictors: (Constant), I am excited about my future, What is your gender?, I'm good at communicating with other people, I feel part of my local community
, On the whole, I am satisfied with myself

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	7.290	1.401		5.202	<.001
	What is your gender?	2.390	.517	.136	4.624	<.001
	I'm good at communicating with other people	.918	.288	.104	3.186	.002
	On the whole, I am satisfied with myself	3.679	.296	.443	12.435	<.001
	I feel part of my local community	1.582	.295	.174	5.365	<.001
	I am excited about my future	1.881	.293	.217	6.429	<.001

a. Dependent Variable: Total wellbeing score for ages 11-13, using SCWBS