Does learning equal happiness?

Research-based evidence on the impact of lifelong learning

on subjective well-being

Author: Oleksandra Brashovetska

Supervisor: Stefan Brehm

ABSTRACT

Discussions about changing the focus of assessing development progress from economic output to human well-being have sparked a rise in interest in the social sciences' research on subjective well-being in recent years. Such a transition necessitates investigating subjective well-being, its determinants, and how they interact with one another. Previous studies show ambiguity in describing the relationship between subjective well-being and learning, one of the determinants, implying both positive, negative, or, in some cases, no relationship at all. Yet, they show numerous limitations, as they focus on formal education, a certain age group, or employ a single research method, primarily quantitative.

The purpose of this thesis is to investigate the impact of lifelong learning on subjective well-being. The study utilised mixed methods analysis, combining qualitative data from 24 in-depth interviews with data from Wave 4 of the European Quality of Life Survey. According to the findings, participation in lifelong learning affects subjective well-being in a variety of ways: it can boost happiness by contributing to all dimensions of well-being, but it can also have a negative effect by causing stress or raising aspirations that are not met. Still, the evidence suggested that lifelong learners have greater levels of happiness and life satisfaction. Furthermore, learning is seen to provide significant benefits to subjective well-being through increasing self-awareness, self-confidence, and self-esteem, as well as expanding social networks, community engagement, and opportunities for professional development.

Key words: subjective well-being, happiness, lifelong learning, education

Word count: 14838

ACKNOWLEDGEMENTS

TABLE OF CONTENTS

LIST OF FIGURES AND TABLES

LIST OF APPENDICES

Appendix 1. Interview questions

Appendix 2. Summary of interview participants

Appendix 3. Informed consent form

Appendix 4. Univariate analysis

Appendix 5. Bivariate analysis

Appendix 6. Spearman's Rank test for associations

Appendix 7. Multivariate analysis

ABBREVIATIONS

AL - adult learning

EQLS-4 - European Quality of Life Survey, round 4

Eurofound - European Foundation for the Improvement of Living and Working Conditions

LLL - lifelong learning

OECD - Organisation for Economic Co-operation and Development

SWB - subjective well-being

UNESCO - The United Nations Educational, Scientific and Cultural Organization

WeD - Wellbeing in Developing Countries Research Group

WHR – World Happiness Report

1. INTRODUCTION

Background

Well-being is a dynamic domain in both policymaking and academia. Despite over fifty years of research, debates over what well-being is, how it can be measured, and how it relates to sustainable development are still emerging. The concept of well-being has mostly been studied in the fields of health studies or positive psychology. However, since it has been included in the Sustainable Development Goals, it has grown into a separate concern within the development field. Measuring well-being allowed researchers to analyse human development and assess peoples' satisfaction with socio-economic status. In recent years, however, development studies have moved from measuring exclusively a material dimension of well-being (Easterlin, 1995) to taking into account psychological variables and self-reported levels of happiness and life satisfaction (Veenhoven, 2002; Wills-Herrera et *al*., 2009; OECD, 2013) revealing even more nuanced aspects. Well-being, along with happiness and life satisfaction, have become integral parts of global and national surveys that aim to assess human development, considering both objective and subjective factors. At regional and national levels, several governments have started to devote greater focus to well-being, emphasising the importance of human well-being as the ultimate goal of any state activity and a way to promote a more equal and sustainable society (Birkjær et *al*., 2021).

Happiness, operationalized as subjective well-being (SWB), captures the interest of researchers and policymakers: when analysed and averaged across large samples, it may be considered a measuring indicator of life satisfaction and welfare, and therefore used to make informed policy decisions (Cohen and Vandenbergh, 2008; FitzRoy et *al*., 2012; Adler, 2013). However, informed policymaking requires looking beyond happiness at a larger scale, making it crucial to understand what happiness determinants are and to what extent they affect levels of happiness. Prior studies have shown that SWB is influenced by macro level factors, including economic, political, and environmental factors (Emmerling et *al*., 2021). Simultaneously, happiness is driven by individual level factors, both objective, such as age, personal income, health status, as well as subjective, including self-perception, life purpose, emotions, social connections (Diener, E. et *al*., 1999; Seligman, 2011; Hone et *al*., 2014).

Among individual level factors, learning is also considered as one of the happiness determinants. Research examines learning both in terms of access to education, but also considers the benefits obtained through such learning (Schuller et *al*., 2004; Field, 2009; Stubb et *al*., 2011; Laal, 2012; Araki, 2022; Yang et. *al*., 2022). However, prior studies have commonly focused on measuring impact of formal education, mainly in school or university, which perhaps can be explained by easy accessibility of enrolment data, while only few studies have analysed the influence of other types of learning on SWB. This study looks closer at learning experiences in adulthood or lifelong learning. Lifelong learning (LLL) is a continuous process of acquiring knowledge and skills throughout all possible means, including professional training, community-based learning, and non-formal education. It is characterised by self-motivation and recognition of a goal behind such learning. LLL is also identified as priority of global development stated in Sustainable Development Goal #4: *"ensure inclusive and equitable quality education and promote lifelong learning opportunities for all"* (UN, 2015). As a development researcher, I am interested in how the goals of sustainable development and their targets interact with one another.

Purpose, aim and research questions.

The purpose of this research is to examine the impact of lifelong learning on subjective well-being. The study investigates both positive and negative effects with consideration of prior research and recognition that the nature of the impact may vary due to the complexity of the domains under examination. All types of learning gained or presently being obtained by adults, regardless of the source of such learning or the motive behind such learning, are considered within study. Following research questions were posed to navigate the research:

> **RQ1:** What impact do learning experiences in adulthood have on subjective well-being?
>
> **RQ2:** To what extent lifelong learning in adulthood has an impact on subjective well-being?
>
> a. Is participation in adult learning (x) associated with level of happiness (y)?
>
> b. Does the level of participation in adult learning (x) have an association with happiness (y) when differences in gender, age, employment status and obtained higher education are controlled for?

RQ3: How does the quantitative data further explain impact of lifelong learning on subjective well-being reflected in qualitative data?

The mixed methods approach is employed to address above-mentioned questions. In-depth interviews would allow the author to understand what impact lifelong learning has on happiness, while also to identify possible similarities and tendencies. Quantitative data would allow testing hypotheses on a representative sample, while adding other predictor variables to ensure model validity. Results of both data analysis would assist in formulating findings on the overall impact of lifelong learning on happiness.

Outline

The thesis first outlines the research purpose and research questions. The literature review then explores research relevant to subjective well-being and lifelong learning. The theoretical approach to both subjective well-being and lifelong learning is then outlined, subsequently followed by the description of a developed conceptual framework on the interconnections between subjective well-being and lifelong learning. The methodology, including research design, methods applied along with ethical considerations and limitations are then detailed. The next chapter is devoted to the results and discussion of the major findings, followed by conclusions and future research opportunities.

2. LITERATURE REVIEW

2.1. Well-being, happiness and life satisfaction

Due to different perceptions of well-being, there are many theories that attempt to explain what well-being consists of and how knowledge about well-being can help humanity in everyday life. Primarily, well-being has been viewed as hedonic or eudaimonic. While hedonic happiness may be pursued by satisfying an individual's pleasure, eudaimonic followers believe that individuals pursue happiness by seeking their life purpose and fulfilling their potential (Ryan & Edward, 2001). Eudaimonic view became a basis for self-actualization concept by Maslow (1970) and impacted domains of positive psychology. Further research conducted by Henderson et *al*. (2013) showed that hedonic and eudaimonic behaviours both contribute to well-being and have impact on happiness but through different ways: hedonic behaviours assisted in regulating emotions and increasing positive emotions, while eudaimonic behaviour led to greater understanding of one's role in their life. However, afterwards the researchers established that such division has no sense as perceptions and the way an individual views certain experiences are always subjective (*ibid*.). Still, several definitions of well-being have been based on the above-mentioned approaches. Among the first ones was the study by Bradburn (1969), who developed a scale of psychological well-being and suggested that well-being is a state in which a positive affect predominates over a negative affect. Marks & Shah (2004), on the contrary, in 'Well-being manifesto for a flourishing society' argued that well-being is more than an affect: it has personal dimensions, namely life satisfaction and personal development, and a social context called 'social well-being'.

Another approach to define the nature of well-being considers its objective and subjective dimensions. The concept of subjective well-being and its components was introduced by Diener et *al*. (1999): '*Subjective well-being is a broad category of phenomena that includes people's emotional responses, domain satisfactions, and global judgments of life satisfaction.*' In contrast, Ryff (1989) proposed the term 'psychological well-being', which could be measured by six constructs: autonomy, personal growth, purpose in life, self-acceptance, mastery, and positive connections to others. Researchers agree, however, that well-being is a complex concept that defines a state, attitude, and perception, which are affected by a variety of external and internal

variables (Easterlin, 2006; Stiglitz et *al*., 2009). In an effort to conceptualise well-being in simple terms, a research group of scientists at the BATH University developed the following approach to well-being:

<div align="center">

Doing Well * Feeling Good

Doing Good * Feeling Well

(White, 2010)

</div>

The model suggests that 'doing well' is a representation of material dimension, which concerns economy, welfare and standards of living. 'Feeling good' explains the subjective dimension, which reflects feelings, perceptions and satisfaction. 'Doing good - feeling well', on the other hand, implies the importance of actions which one takes or how a person is making decisions, especially in connection with a community.

Das et *al*. (2020) analysed the existing theories on subjective well-being and categorised them, proposing four categories (Figure 1): (i) theories of fulfilment and engagement, which seek to explain how goals, needs and activities impact subjective well-being; (ii) personal orientation theories which are heavily focused on personality, both in terms of socio-demographic variables and internal characteristics, such genetical biological predisposition or state of mental health, analysing how personality affect process of fulfilment, and how external factors of engagement reflect on personal perceptions and actions; (iii) evaluative theories which investigate how a person's life perceptions are connected to self-realisation and emotions; (iv) emotional theories which analyse how emotions interact with personal fulfilment and engagement, as well as a person's perceptions of life. Through this approach, the authors sought to consider how the theories interact with each other and what determinants influence SWB.
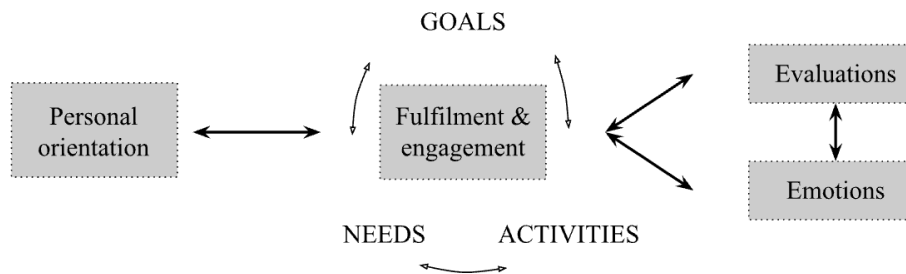
Figure 1. Associations between theories of SWB (adapted from Das et *al*., 2020)

Given that well-being is important for policy making and development, researchers have proposed various theoretical frameworks for understanding and measuring well-being, which apply different determinants to measure SWB, while considering geographical context. Some of the frameworks are based on national approach aimed at improving policy making, such as the National well-being framework from the Office for National Statistics in UK (Hicks et *al*., 2013), which suggests that well-being is affected by (i) a broad range of individual factors, such as health, education and relationships, and (ii) contextual domains, including those on a macro level such as governance or natural environment. National frameworks, however, are limited in geographical application as they analyse specific contexts with more homogeneous populations, and therefore are not applicable for other countries (Stiglitz et *al*., 2009). On the contrary, Rentfrow (2018) argues that well-being differs not only cross-nationally, but within specific regions, suggesting that national frameworks might not even apply to local contexts.

International organisations, including research institutions, create yet another cohort of theories and frameworks on explaining and measuring happiness and well-being. This approach is characterised by the search for common factors among countries and geographical contexts. For example, Gallup Research Center measures well-being by analysing GDP per capita, social security system, life expectancy, access to civic rights and freedoms (Gallup-Healthways, 2009). The Gallup approach has been challenged since it utilises only the objective dimension and does not consider the subjective side. Another attempt to measure subjective well-being was proposed by Fleche et *al*. (2011), who developed OECD determinants of subjective well-being. A wide range of economic, social, and personal factors were used to explain life satisfaction, including new domains like importance of friends, trust in people, environment index, self-rated health status. Ruggeri et *al*. (2020), on the contrary, conducted a multidimensional analysis in 21 countries and argued that *'well-being is more than happiness and life satisfaction'*, suggesting that measuring well-being cannot rely on traditional metrics and requires a more complex approach. Layard et *al*. (2016) proposed a comprehensive framework, which is now used by World Happiness Report (WHR). The WHR framework includes external factors and personal features and adds new domains - genes and environment *(ibid).*

The definition of well-being, its determinants, and approaches to understanding and measuring subjective well-being are still being debated. Lack of agreement among researchers on which factors are determinants resulted in different focuses emerged: while some theories address external factors that might affect life satisfaction level, others suggest that happiness and personal perceptions should be prioritised in order to explain phenomena of subjective well-being (Diener et *al*., 1999; Kahneman & Deaton, 2010). Despite the lack of a unified approach, studies show that one's level of well-being is affected by a variety of factors. Noteworthy, the same impact of specific factors does not guarantee the same level of well-being due to subjectivity and complexity.

2.2. Lifelong learning

In this study, two concepts are utilises: education and learning. Education is more commonly used in quantitative studies such as surveys, being only one of the approaches to learning. Education is defined as a systematic process of learning aimed at acquiring knowledge, skills, values and attitudes, which commonly refers to a formal process (Masadeh, 2012; Cremin, 1976). At the same time, learning is a more holistic concept, it is understood as a transformative process of acquiring knowledge and skills throughout study, teaching, working or life experiences, which leads to forming competences, values, and change (Washburne, 1936; Ambrose, 2010). Given that this research focuses on learning experiences in adulthood, the thesis utilises the concept of adult learning (AL). According to the European Commission (2022), a key characteristic of adult learning is participation in lifelong learning (LLL).

The term 'lifelong' in connection to learning has been firstly used by UNESCO in 1973 (Friesen & Anderson, 2004). Since then, it has appeared as an increased priority in national and international programs, and according to Blackmore (2006:11) became *'a new way of thinking about the relationship between work, education, training, family, and leisure'*. Lifelong learning considers all possible learning experiences, regardless of the reason behind motivation to learn and goals of such learning:

> *LLL is a continuously supportive process which stimulates and empowers individuals to acquire all the knowledge, values, skills and understanding they will*

require throughout their lifetimes and to apply them with confidence, creativity and enjoyment in all roles, circumstances and environment. (Laal, 2012: 4269)

An important characteristic of lifelong learning which distinguishes it from other activities is intentions to learn. Such intentions vary and may be related to personal reasons (e.g. improving self-confidence), professional reasons (e.g. gaining requires skills), and social reasons (e.g. building connections). Lifelong learning went beyond classical perception of education, leading to redefining knowledge and taking a role in contributing to personal development and progressive social change (Aspin & Chapman, 2007). There is still much controversy about what kind of learning affects a person and to what extent. Simultaneously, LLL is identified as a development priority and is part of the sustainable development goals. To achieve this objective, international organisations and policymakers are developing new approaches to adult learning and looking for ways for measuring the impact of such learning on human well-being.

2.3. Impact of lifelong learning on subjective well-being

Studies have shown that lifelong learning has an impact on different aspects of a person's life, including employability, social relationships, mental health, individual performance and level of happiness (Argyle & Martin, 1991; Schuller et *al*., 2004; Field, 2009; Laal, 2012). Gouthro (2006) highlights gender perspective on benefits of learning on well-being, suggesting that increased level of literacy among women leads to improved standards of living in developing countries. Blackmore (2006), on the contrary, argues that women, especially among marginalised groups, are expected to participate in lifelong learning, but at the same time fulfil a number of other obligations, including maintaining family, which makes learning less prioritised and, in some cases, simply impossible to participate in.

There is evidence for both positive and negative correlations between learning and happiness, including research on how well-being affects academic performance. It is noteworthy that the results obtained in individual countries differ significantly from one another as well as from those obtained from international surveys such as the European Social Survey. For instance, Oswald & Powdthavee (2008) analysis of the British Household Panel Survey revealed that individuals with

higher degrees and well-performing students reported higher levels of life satisfaction in comparison to those with lower levels of education. Similar results were found in the United States by Oreopoulos (2003) and in Switzerland by Frey and Stutzer (2002). However, some of the findings were challenged later, when tested with other variables (Stutzer, 2004). This is also evident in a cross-country study by Helliwell (2003) who found a statistically significant positive association between education and life satisfaction after analysing data from the World Values Survey. When other variables were included in the study, however, the association became non-significant (*ibid*.). Such findings, in my opinion, confirm the complexity of happiness determinants and importance of holistic view on well-being.

Conversely, several studies have also confirmed that learning may have a negative impact on well-being and happiness. For instance, several national studies have found evidence of increased stress and anxiety levels through learning experiences, which directly affects subjective well-being and mental health (Appel & Dahlgren, 2003; Stubb et *al*., 2011). In contrast, the study from South Africa found a positive association, however only at the level of achieving a degree, which might be explained by aspirations and financial opportunities that are associated with higher education qualifications (Kingdon & Knight, 2007). The aspirations related to education level have been also discussed in cross-country studies. Based on data from the European Social Survey, Caporale et *al*. (2009) have discovered a negative relationship between life satisfaction and higher education qualifications, implying that education is related to raised and unfulfilled aspirations. These findings were followed by Ferrante (2007), who suggested that individuals' expectations are frequently higher than opportunities in reality, resulting in a situation in which life satisfaction level is declining.

2.4. Gaps in existing research

Previous research on the association between learning and subjective well-being is ambiguous: results show negative association, positive association and in some cases no relationship at all. Noteworthy, studies are conducted in different geographical contexts: within and among countries. Country-focused studies mainly address formal graduate education, often covering a very narrow group of people, such as medical students or PhD students (Schmidt & Umans, 2014;

Kristoffersen, 2018), or address specific determinants of SWB such as hope (Oliver et *al*., 2017). Only a few national studies have analysed adult learning, including different learning experiences (Granderath, Martin & Froehlich, 2021; Hall, Jones, & Evans, 2022). In addition, different cultural contexts may have a different definition of subjective well-being and a different weighting of its determinants (Gough & McGregor, 2007). Therefore, it is likely that the findings of national research are not applicable for other countries. Cross-country studies use data from international surveys and base their conclusions using quantitative indicators. In terms of learning experiences, researchers examine formal education data, such as educational level, without considering alternative types of learning, such as professional training or community-based learning (Jongbloed 2018, Helliwell et *al*., 2023). In regard to SWB, researchers use happiness and life satisfaction interchangeably, which leads to different results (Howell & Howell, 2008).

Although some important studies on the effects of participating in LLL on SWB have been carried out, the existing literature has some clear limitations. Firstly, the vast majority of previous studies are limited to formal education as are based on data from surveys, which commonly utilise information on years of education or level of education. Secondly, studies are built on cross-sectional data, thus the question of cause-and-effect relationships between variables and the influence of other factors on such relationships remain unclear (Bak-Klimek et *al*. 2015).

Despite a large number of empirical studies, there is relatively little academic research explicitly devoted to understanding how adult learning affects subjective well-being. This type of research, predominantly, is conducted for the purposes of policymaking (Jongbloed, 2008; Field, 2009). While studies of adult learning impact on SWB provide researchers with insights into the nature of relations between these variables, they have several limitations: applying only one research method, mainly quantitative (Schuller et *al*., 2002); focusing on a specific age group (Feinstein & Hammond 2004; Jenkins 2011); or focusing on only one type of learning (Ruhose et *al*. 2019). This study aims to investigate the association between subjective well-being and learning cross nationally regardless of form or type of such learning experiences among the adult population. It utilises a mixed method approach, addressing the gap of analysing only one type of data.

3. THEORETICAL FRAMEWORK

This thesis discusses the impact of lifelong learning on subjective well-being, which are both complex concepts. To understand such a relationship, I first study relevant theories for each of the notions. To explain SWB, I am utilising a theory proposed by the Wellbeing in Developing Countries Research Group (WeD) and extending it to emphasise both levels of impact on SWB and its determinants (White, 2010). In this research LLL is considered through Delors (1996; 2013) theory of four pillars of education. However, given that the research aims to determine the impact of a specific factor - lifelong learning - on subjective well-being, a conceptual framework has been developed.

Subjective well-being theory

The WeD approach to well-being identifies three key dimensions: the material, the relational, and the subjective (White, 2010). The material comprises assets, welfare, and standards of living, as well as a person's satisfaction and self-assessment of their position regarding welfare. The relational dimension explains how SWB is affected by personal relationships, social system, access to the services, safety and environmental resources, as well as relations with the state. It also concerns issues of social capital, social divisions and inequalities (White, 2010). The subjective dimension explains people's perceptions of their position, role, identity, their cultural values, ideologies, and beliefs (*ibid.*). Even though such division allows influencing factors to be structured, it is important to remember the close connection that these variables have. Learning in the context of access to education, for example, falls under the social dimension, whereas satisfaction with the level of education falls under the subjective dimension.

For the purpose of this study, WeD theory has been adapted and expanded with consideration of findings through empirical research in order to identify determinants of well-being (Figure 2). Based on conducted research and using an analytical approach, well-being consists of three interlinked components: subjective, social, and material well-being. Subjective well-being refers to how people experience and feel about their life in general (Diener, E. et *al.*, 1999). In terms of individual dimension, the framework incorporates following determinants of SWB: purpose, meaning in life, self-acceptance, self-esteem, competence level and accomplishment, optimism

and positive emotions, engagement and achievement (Seligman, 2011; Hone et *al*., 2014). Social relationships are considered since they constitute essential components of both SWB and learning (Helliwell and Putnam, 2004; Field, 2005; Seligman 2011; Aknin et *al*., 2013). Within this research, such relationships, including personal interactions, networks, social capital, along with perception of trust, respect, safety are included in the concept of social well-being (Keyes, 2002; Marks & Shah, 2004). Hone et *al*. (2014) suggests that social well-being also includes how people evaluate their engagement in community and social contribution. Material well-being refers to a wide range of economic determinants such as income, taxation, costs, financial security, employment and perception of such factors, including financial satisfaction, satisfaction with standard of living (Prawitz et *al*., 2006; Sirgy, 2018). Material well-being is frequently evaluated in the development field since material indicators are the easiest to measure using available objective indicators. For instance, to determine happiness level by country, researchers use Gallup polling data and monitor gross domestic product per capita, level of social support and healthy life expectancy (Helliwell et. *al*., 2023).
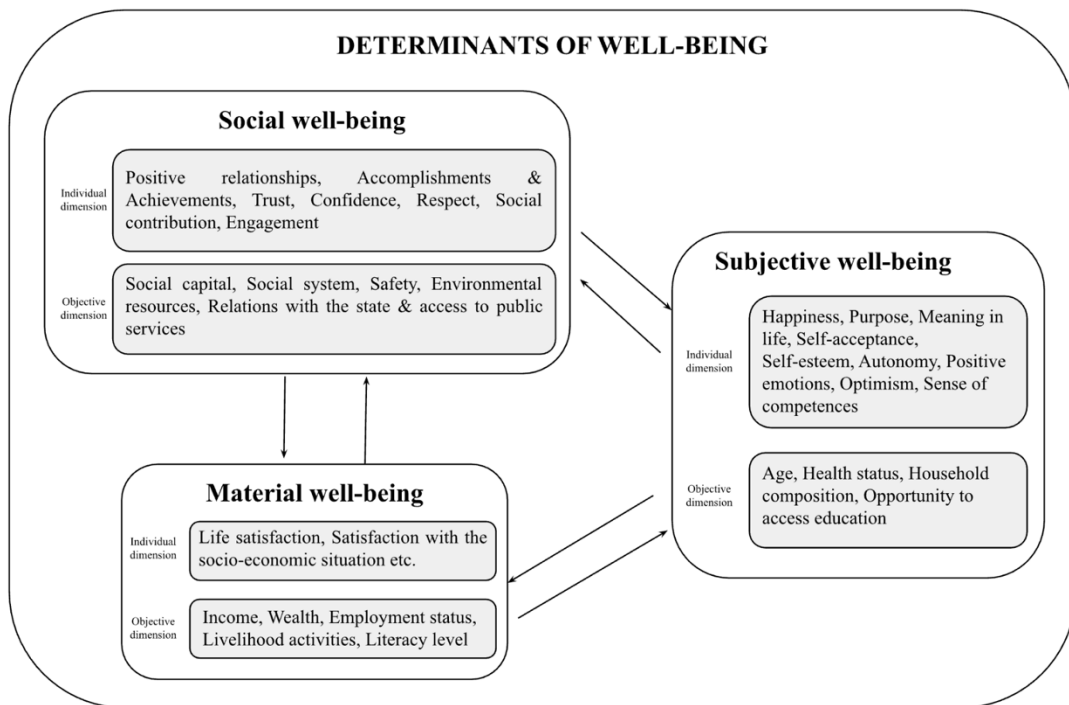
Figure 2. Determinants of SWB & their interconnections
(developed by the author with content drawn from Diener, E. et *al*., 1999; Keyes, 2002; White, 2010; Seligman, 2011; Hone et *al*., 2014)

White (2010:162) highlights that *"well-being emerges in the interplay of 'objective' – that is, externally observable and independently verifiable – aspects of people's circumstances, and their 'subjective' perceptions and assessments of these"*. This reflects the duality of well-being, highlighting that all components, including SWB have objective and individual dimensions, and therefore should be considered from both perspectives. Subjective aspects are the primary focus within this research, while objective factors are considered throughout research including applying as control variables.

Lifelong learning theory

In this research lifelong learning is considered throughout the theory proposed by Delors et. *al*. (1996), which states that learning is based on four pillars: learning to know, learning to do, learning to be & learning to live together (Figure 3).
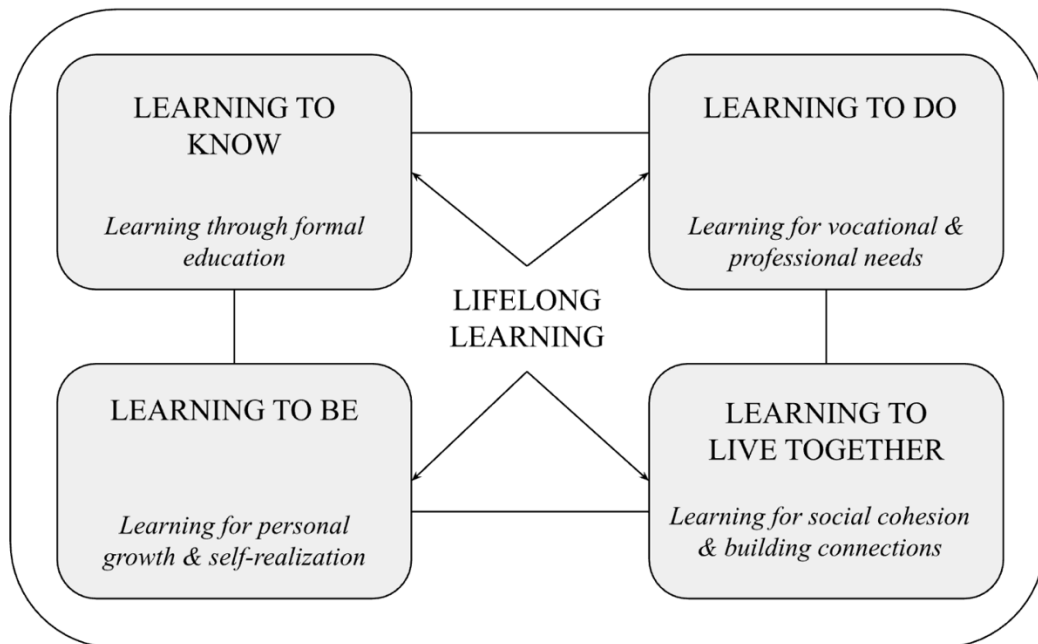
Figure 3. Four pillars of learning (adapted from Delors et. *al*. (1996) and Sung & Freebody (2017)

Learning to know refers to mastering learning tools rather than simply acquiring information, aiming at *'understanding at the very least enough about his or her environment to be able to live in dignity'* (Delors et *al*., 1996: 86). It is frequently reflected in formal education, which is associated with obtaining qualifications. Learning to do is about acquiring practical skills and

transforming them into competences. This type corresponds to vocational and professional needs, raising the importance of adaptability to new working environments and professional challenges (*ibid*). Sung and Freebody (2017) suggest that learning to know and learning to do are inseparable in the pursuit of personal development and greater productivity.

Learning to be refers to holistic personal growth: '*education must contribute to the all-round development of each individual - mind and body, intelligence, sensitivity, aesthetic sense, personal responsibility and spiritual values*' (Delors et *al*., 1996: 94). This dimension emphasises the significance of self-realisation and opportunities to progress through the learning journey at one's own particular pace and in accordance with one's own personal needs. Simultaneously, the learning experiences are connected to constructing social interactions and building meaningful relationships. Delors et *al*. (1996: 92) highlighted that education is designed to help the individual learn about the diversity and similarities that exist in humanity, which would ultimately impact societal challenges and improve social inclusion. Scatolinin (2010) argues that despite the split into four forms of learning, they remain strongly integrated, and consequently lifelong learning should be considered holistically.

Conceptual framework

For the purposes of this study a conceptual framework has been developed, which shows the relationships between well-being and lifelong learning, and their components (Figure 4). The framework suggests that well-being and LLL affect each other. There is limited research on how level of well-being impacts learning that suggests an assumption that a high level of well-being improves an individual's performance and quality of education (OECD, 2017; 2019). Such findings have been also tested and presented in the World Happiness Report 2020, showing strong correlation between SWB and the goal for quality education (De Neve & Sachs, 2020).
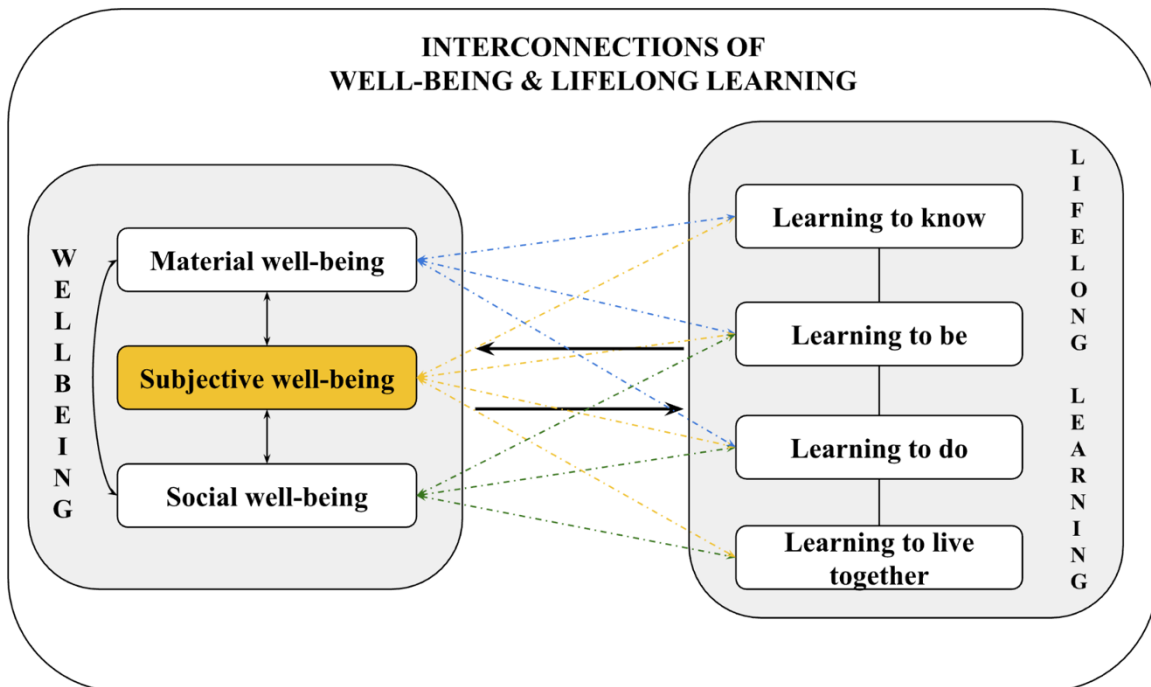
Figure 4. Conceptual framework 'Subjective well-being and its interconnections with lifelong learning' (developed by the author with content drawn from Delors et al. 1996; 2013; White 2010)

A number of studies prove that learning has an impact on subjective well-being, regardless of macro factors and socioeconomic conditions. Improved self-confidence and self-esteem, both of which are recognized as SWB determinants, are among the direct outcomes of adult learning (Kubzansky et al. 1998; Knasel, Meed & Rossetti, 2000; Hammond, 2004; Tett & Maclachlan, 2007). Research shows that participation in adult learning might have a positive impact on mental health (Westwood & Graham, 2003). Schuller (2002; 2004) on the contrary, argues that adult learning tends to have both positive and negative effects on psychological well-being. Simultaneously, according to Dench and Regan (2000) and Hammond (2004), learning leads to a clearer sense of identity, the ability to think independently, and the ability of individuals to cope with life difficulties. Thus, improves resilience and promotes sense of purpose and hope (Argyle & Martin, 1991; Hammond, 2004). In addition, lifelong learning affects optimism, a sense of control over one's life, life satisfaction and happiness, and a sense of belonging to a social group (Dench & Regan, 2000; Hammond & Feinstein, 2006).

Field (2009) suggests that well-being should be considered one of the most significant outcomes of adult learning since it affects not only the person but also the wider society. This statement is supported by researchers who determined the impact of learning on social well-being. Schuller et *al*. (2004) has found that engagement in learning is associated with increasing social capital, as learning experiences improve social competencies and ultimately results in the expansion of social networks. Learning in adulthood also contributes to civic engagement and better social integration (Argyle & Martin, 1991; Parry et *al*., 1992; Hammond, 2004). Dench and Regan (2000) also emphasised that learning leads to individual employment, providing better life opportunities.

Following results of previous academic research and empirical analysis of available studies, I can draw the conclusion that lifelong learning has an impact on subjective well-being, manifested in the impact on specific determinants of subjective well-being. These findings are reflected in the developed conceptual framework, which will guide the thesis by assisting in analysing and interpreting the data, as well as discussing findings.

4.METHODOLOGY

This section focuses on the methodological process applied in this study. The research design and its connection to the conceptual framework are outlined first. Since a mixed methods approach is employed in this research, both qualitative and quantitative methods are discussed in the section. Qualitative methods of in-depth interviews, including sampling techniques are explained, followed by quantitative methods of secondary data analysis, presenting data source, variables and types of analysis utilised during this research. Ethical considerations, positionality and reflectivity are then discussed. The section ends with identified methodological limitations.

4.1. Research design

Ontology and epistemology should be disclosed for in-depth understanding of the study, as they impact the research design as well as practice of the study (Bryman, 2012). The ontological position taken in this research is critical realism, which suggests the acceptance of the real-world existence independently from human perceptions, theories, and constructions (Bhaskar & Hartwig, 2010). Simultaneously, the reality is observed by individuals and captured by broad critical examination (Moon & Blackman, 2014). The critical realist ontology supports key aspects of both qualitative methods and quantitative methods, thus is applicable for mixed methods by facilitating understandings and results of both approaches (Maxwell & Mittapalli, 2010; Maxwell, 2012).

In terms of epistemology and theoretical perspectives, the researcher applied a combination of paradigms. Mainly, the research is guided by the constructivist paradigm, which suggests that knowledge is a result of human interaction with the real world, and therefore is built up socially (Dawadi, Shrestha, & Giri, 2021). Creswell (2014) argues that in the constructivism paradigm, while individuals create their own perceptions and meanings of experiences, the researcher should explore the complexity of views and aim for learning about as many perspectives as possible. This is achieved through both qualitative and quantitative approaches. The data as well as how the results are interpreted, in terms of epistemology, are considered as constructions (Kivunja & Kuyini, 2017). However, aiming to gain a more in-depth understanding of phenomena, hermeneutics approach was utilised for the qualitative part of the study. When applying

hermeneutics approach, individuals through self-interpretation and perceptions are creating their own constructions of reality, thus providing researchers with more subjective insights, and understanding about phenomena (Zweck, Paterson & Pentland, 2008). The researcher argues that when investigating social phenomena such as well-being and lifelong learning, combining approaches allows for a richer and deeper understanding of individual experiences as well as the identification of commonalities.

The present study utilises a mixed method approach, that assists the researcher to explore a wide range of interpretations, gain accuracy and build up a more comprehensive picture with sufficient data (Dawadi, Shrestha, & Giri, 2021). Maxwell (2012) argues that such an approach allows researchers to achieve completeness and, in some cases, gain confirmation about correctness of interpretations. Mixed methods were also used in this study to overcome the limitations found in prior studies which employed either qualitative or quantitative methodologies. The data collection was purposefully designed so that the researcher first conducted interviews, aimed at learning about individual experiences and perceptions of participants, followed by analysis of obtained data on similarities and differences across such experiences. In the second stage, the researcher turned to quantitative data analysis, using a dataset from an international survey. There are several reasons behind the decision to work with quantitative data. First, quantitative data is more representative since it provides information about a larger sample of the population; second, the dataset allowed participants who participated in lifelong learning to be compared to those who did not (Creswell, 2014). During the third stage, results of both analyses were used to identify how the quantitative data further explain impact of LLL on subjective well-being reflected in qualitative data.

The research design employed a conceptual framework developed within this research. Considering that the framework explains multidimensionality and ambiguity of the impact of lifelong learning on subjective well-being, it should be integrated into research design on each stage, allowing to conduct informed analysis and interpret data carefully. Within the qualitative stage, participants were asked a series of questions regarding their learning experiences, including types and formats of such experiences, motivation behind learning and what learning resulted in (Appendix 1). Interviews also included questions about all three aspects of well-being, including questions about rating level of life satisfaction (material aspect), possible impact of learning

experiences on social connections (social aspect), as well rating of happiness level and a question about how learning made them feel (subjective aspect). Secondary data analysis was conducted with variables that reflect both SWB dimensions: subjective, presented via self-rated happiness level, and objective, mainly presented in control variables such as age or gender. Lifelong learning was analysed through the lens of self-reported participation in training for professional (learning to do) or non-professional reasons (learning to be), however 'learning to know' component was also assessed via level of education obtained by survey respondents.

4.2. Hermeneutic interviews

The study used in-depth, semi-structured interviews with individuals who have participated in lifelong learning in their adulthood. Interviews lasted between 40 and 80 minutes. Before starting the main part of the interview, each participant answered a series of questions that assisted researcher in creating a demographic profile for each participant, including gender, age, and country of origin etc. In addition, each participant was asked to self-assess their level of happiness, level of life satisfaction, and level of well-being. To ensure depth of detail, the main part of the interview elicited two types of responses. First, the participant answered yes or no questions, which allowed researcher to establish facts about the learning journey of the interviewee and create a learning experience portrait for each participant. Second, the participant and the researcher engaged in a semi-structured dialogue (Cole, 2010). Initial interview questions were structured in a way that the researcher could learn about different aspects of learning experiences and how they affected different dimensions of well-being. Still, conversations were guided by responses from the interviewees to capture what participants consider as important aspects of their own experience. Qualitative interviews gave participants the opportunity to discuss not only the process and outcomes of their learning experiences, but also share their emotions and perceptions toward learning, as well as their reflection on the impact of LLL on their subjective well-being.

Non-random purposeful sampling was used to establish a group of participants that met the requirements of the research (Creswell, 2009; Creswell and Poth, 2018): adult individuals that experienced learning in adult life both presently or in the past. Such learning experiences include both formal and non-formal education, training for professional purposes and/or for personal

development. The final number of interview's participants is 24. This included sixteen females and eight males aged 20–48, all of whom pursued at least secondary education and have experienced lifelong learning (Appendix 2). The interviews were conducted in one of the proposed languages of the participant's choice. In this way, the researcher aimed to reduce the influence of language barriers and capture the participant's thoughts in their native language (Scheyvens, 2014). All the interviews were recorded, transcribed, and analysed manually using a combination of analytical approaches.

4.3. Secondary data analysis

4.3.1. Data Source and Case Selection

The main qualitative data used to inform the study is retrieved from round four of the European Quality of Life Survey (EQLS-4), conducted in 2016 by the European Foundation for the Improvement of Living and Working Conditions (Eurofound, 2018; 2023). EQLS-4 is questionnaire-based interview study of adults, which aims to analyse how various factors affect their quality of life, including individuals' life satisfaction and happiness. In terms of scope, it includes data from 33 countries analysing nationally representative samples, resulting in 36908 observations (*ibid*). The questionnaire consists of 104 questions and was revised compared to the previous years to minimise the effect of general responses on the answer about the level of happiness and well-being. Thus, respondents were asked to evaluate their level of happiness as well as life satisfaction level at the beginning of the interview (Eurofound, 2016).

Several factors contribute to the selection of such a database. First, since most interviewees have had their learning experiences in European countries, it is assumed that the results of the survey conducted across the same geographical area will validate or refute the outcomes of the interviews. Second, EQLS-4 is one of the few cross-country surveys that includes variables for both happiness as well as participation in learning. This allows for a series of tests to determine if there is a relationship between these variables, as well as test them by adding control variables such as age or employment. Finally, the methodology used in the survey emphasises the theoretical findings and approaches defined in the conceptual framework developed for this study. Survey employs a

multidimensional approach by tackling both objective variables such as education and employment, as well as subjective perceptions such as how individuals evaluate their level of happiness or satisfaction with life, suggesting interdependence of objective and subjective domains as well as their impact on a person's life and well-being.

In this study, I am focusing on two main variables from EQLS-4: (1) level of happiness (i.e. subjective well-being) and (2) participation in adult learning (AL). In order to receive accurate data, missing cases for level of happiness were eliminated, thus 99.5% are to be analysed. However, for control variables tests the number of cases might change due to missing data.

4.3.2. *Dependant variable*

This research analyses one dependent variable - level of happiness, which represents self-reported subjective well-being. The original variable is a scale from 1 to 10, where 1 is very unhappy and 10 is very happy. Univariate analysis of the dependent variable showed 36728 valid cases, with mode value of 8 and mean value of 7.06, suggesting high average level of self-reported happiness among respondents (Appendix 4).
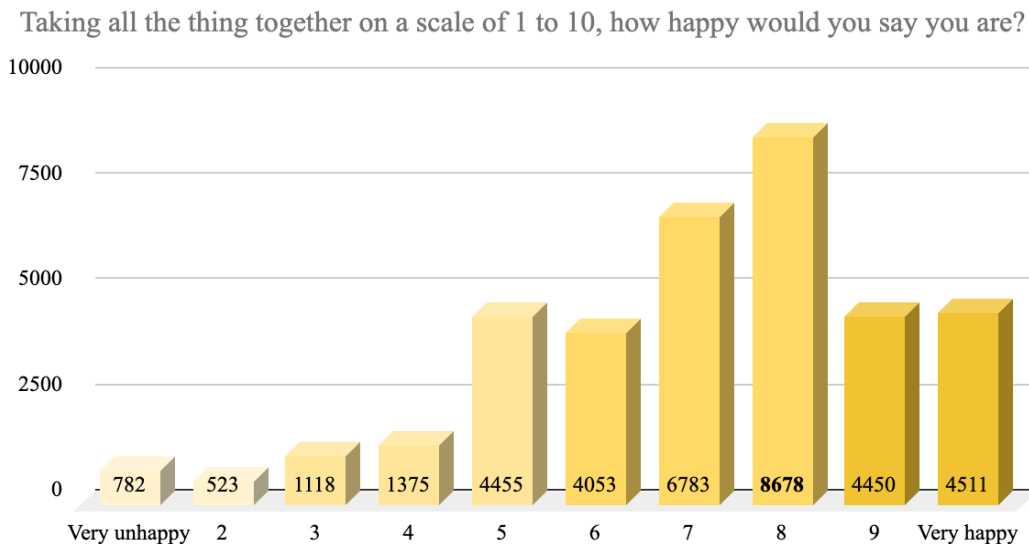
Figure 5. Distribution of self-reported level of happiness among respondents

21

To create an applicable measure index, this study created a binary dummy variable with 2 categories: not happy (includes responses from 1 to 5) and happy (includes responses from 6 to 10). Since the level of happiness is operationalized as a dichotomous variable, it is measured on a nominal scale. Such variable transformation resulted in following frequencies and percentage (Table 1). Following central tendency of happiness was determined via mode value, allowing to suggest that the majority of individuals reported being happy (Antonius, 2012).

Happiness	Frequency	Percent	Valid Percent
Not happy	8253	22.5	22.5
Happy	28475	77.5	77.5
Total	36728	100	100

Table 1. Frequencies and Percentage for the dependent variable, Happiness

4.3.3. Independent variable

Participation in adult learning is an independent variable. In the survey, there are two questions that correspond to AL: respondents were asked if over last year they have participated in any training courses either (1) for professional/work-related reasons or (2) non-professional (i.e. personal) reasons. Both variables are nominal and were re-coded to be presented with two categories, namely participated & did not participate in adult learning for professional reasons/ non-professional reasons (Appendix 4). Given that this research is designed to learn about the possible effects of learning on SWB regardless of the motivation or reasons for such learning, I have created new variable called **"Participation in adult learning",** which is a mean of two above mentioned variables and has 3 categories: (1) did not participate in adult learning, (2) participated in one type of adult learning, (3) participated in adult learning (both types) (Table 2).

Participation in Adult learning	Frequency	Percent	Valid Percent
Did not participate in adult learning	27279	74.3	74.3

Participated in one type of adult learning	7175	19.5	19.5
Participated in adult learning (both for professional or personal reasons)	2274	6.2	6.2.
Total	36728	100	100

Table 2. Frequencies and Percentage for the dependent variable, Participation in adult learning

Descriptive statistics show that the vast majority of respondents did not participate in adult learning. However, over 25% of respondents participated in training for professional reasons, personal reasons or for both during the last 12 months.
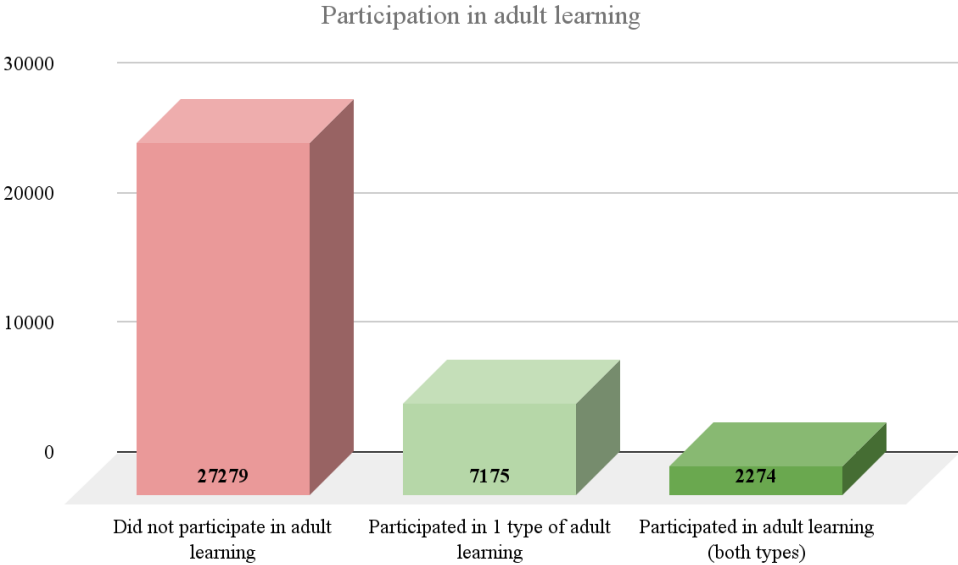
Figure 6. Histogram of participation in adult learning

4.3.4. Control variables

Control variables are added to examine whether they contribute to a better model fit when analysing the possible impact of lifelong learning on SWB. Respondents' gender, age, employment status as well as information about obtaining higher education are utilised as control variables for this study (Appendix 4).

● **Gender**

Studies that examined happiness in both genders have been contradictory. While some of them show no significant difference between males and females happiness level (Diener, Oishi & Lucas, 2003), some suggest that levels of happiness among genders differs (Kamthan et *al*. 2019). Such differences might be explained by response bias among individuals when they assess levels of happiness on a scale. Montgomery (2022) in her research about gender gap in happiness found that respondents use life satisfaction scales differently, and after normalising response scales level of happiness differs among women and men. In this study gender is considered as a control variable. Descriptive statistics suggest that there are 36728 valid observations, out of which 43.4% (15955 responses) are male and 56.6 (20773 responses) are female, which shows normal distribution. Unfortunately, other genders are not presented in the survey, thus will not be analysed.

● **Age**

A number of studies in different geographical contexts find a linkage between age and happiness, suggesting various models (Cheng et. *al*., 2017; Ng, 2022). Keyes (1998) argues that age facilitates level of well-being resulting in both positive and negative effects. Simultaneously, as this study focuses on adult learning, age is considered as a variable that might bring up insights about learning effects in different ages. The survey covered participants aged 18 to 95 years, with the mean value of 50.74. Histogram shows normal distribution.
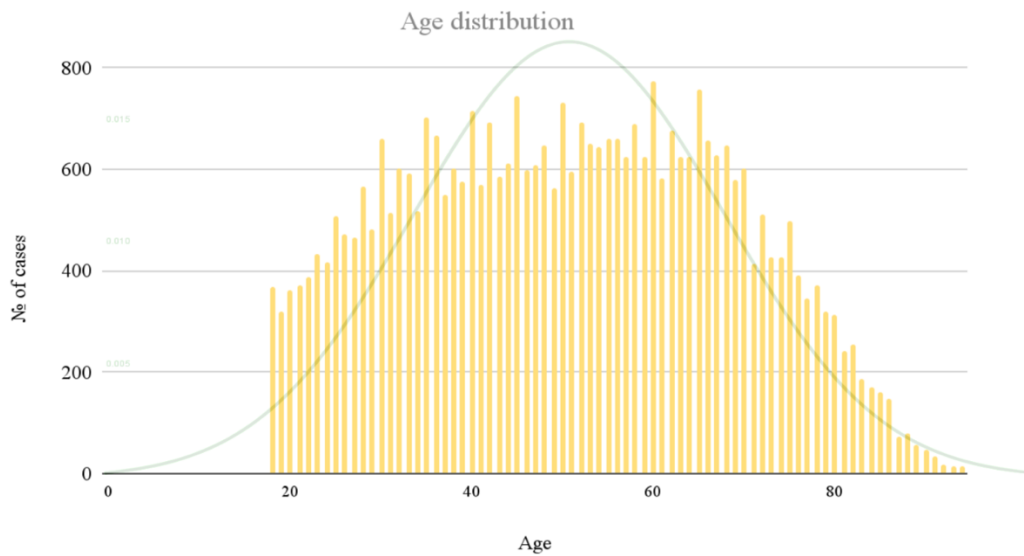
Figure 7. Histogram of age distribution (incl.normal curve)

● **Employment status**

Employment is considered as one of the benefits of learning, as it allows one to pursue qualifications for the job market. Simultaneously, employment has an impact on human well-being. This is evident in a study conducted by Oswald et *al*. (2015) who proved the positive relationship between happiness and productivity at work. While employment has various impacts on well-being, another research in economics of happiness, found that unemployment is destructive towards individuals' material, social and subjective well-being (Yagi, Urakawa & Yonezaki, 2016; De Neve & Ward, 2017). Such interrelation and findings are the reason behind choosing employment status as a control variable. EQLS-4 provides 12 categories of possible employment status, including several types of employment, retired option and other statuses which are connected to unemployment. In this research I am interested in testing employment as a control variable regardless of its type. Moreover, the results are quite scattered among options. Thus, I have re-coded available data into 3 categories, namely employed, retired and unemployed (Appendix 4).
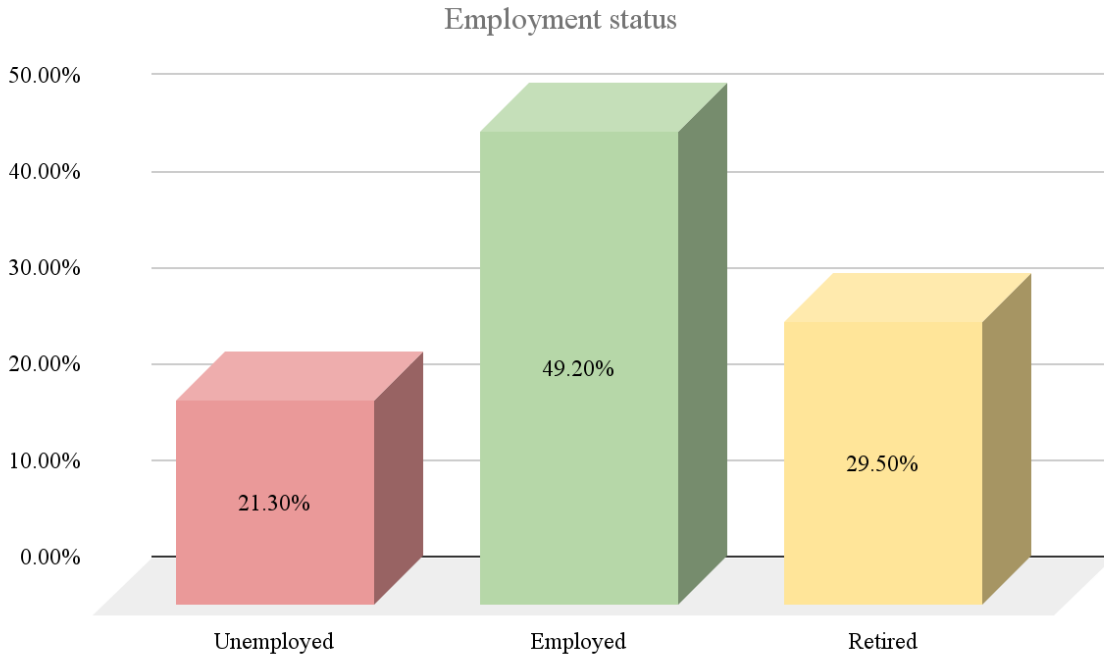
Figure 8. Bar graph of employment status distribution among respondents

● **Higher education status**

According to previous research results, education is considered as a factor that affects the level of SWB (Strießnig, 2015). Hartog & Oosterbeek (1998) in their research argue that individuals who pursued higher education are more likely to be happier. Based on these findings, level of education is to be utilised as a control variable. The survey provides data on completed education with three categories: primary, secondary, and tertiary education. Given that this research focuses on learning experiences in adulthood, primary and secondary education are out of scope, therefore only tertiary education should be considered. Tertiary education is presented as a separate variable labelled as 'completed higher education', presenting 9681 cases.

4.3.5. Bivariate & multivariate analysis

In order to determine whether there is a relationship between subjective well-being and lifelong learning, questioned in the second research question, it is proposed to conduct a bivariate and multivariate analysis. Bivariate correlation seeks to either confirm or refute the existence of any association or linkage between two variables (Antonious, 2012). To test the hypothesis that there is a significant relationship between participation in AL and happiness, at first, I am looking at how the distribution of counts of participation in adult learning changes when the level of happiness changes. As variables are categorical (nominal and ordinal), I used crosstabs, Cramer's V association and stacked bars to explore the bivariate relationship between them (Appendix 5).

Regardless of the results, bivariate analysis is to be followed by multivariate analysis which looks at more than two variables. Binary logistic regression was selected at the most suitable, considering the binary and categorical nature of the dependent variable (Elliott and Woodward, 2007). Such an analysis was conducted with the goal to find an answer to the research question: *Does the level of participation in adult learning (x) have an association with happiness (y) when differences in gender, age, employment status, and level of education are controlled for?* For this purpose, the hypothesis suggested the following: There is significant relationship between participation in adult learning and happiness when differences in gender, age, employment status and level of education are controlled for. For the accuracy of the model and determination of the admissibility of the use

of control variables, a Spearman's Rank test was conducted. Such tests allow checking for association between independent variable and control variables.

Level of happiness was a dependent variable in all cases. Lifelong learning, presented as participation in adult learning, was an independent variable, with 'participated in both types of lifelong learning' as a baseline. Other variables were used as control variables, included separately, and presented in different cases to determine whether they have different effects. In the first case, effects of LLL and gender on the level of happiness were looked at. The effects of participation in adult learning and age on the level of happiness were tested in case 2. Next, in case 3, I have analysed LLL, employment status and level of happiness. Effects of LLL and higher education on happiness are tested in case 4. All control variables were added at the same time for the final analysis presented in case 5 aimed at analysing the overall effect. For each of the cases a range of tests were conducted to ensure viability of models, in particular to indicate performance of the model over predictors Omnibus Tests of Model Coefficients was run along with Hosmer-Lemeshow test and the Nagelkerke R Square aimed at determining the goodness of the model fit. Additionally, in order to analyse the likelihood of dependent variable when changes of independent variables occur, the variable in equation with Beta coefficient and the odds ratio Exp(B) value were conducted.

4.4. Ethical consideration, positionality and reflectivity

The research adheres to the requirement and information in regard to the consent and confidentiality, outlined in the LUMID Ethical Guidelines. Since the study focuses on lifelong learning, only adult participants were interviewed, while responses of participants over 18 years old were put to test within secondary data analysis. The consent to participate and provide data was obtained verbally or in writing from each interview participant. Additionally, before the interview, the researcher read out the informed consent form, explained the purpose of the study, how data is collected, used, and saved, as well as provided contact details of the researcher. To ensure that the participant understood what they are consenting to, the informed consent form was translated into the language of the interview, chosen by the participant. Each participant was informed of the ethical guidelines, with an emphasis on the right not to answer any of the questions

and to withdraw all or part of their responses at any point of the study (Appendix 3). However, participants were also informed that withdrawal would not be possible after submitting the thesis. All participants agreed to be recorded during the interview, agreed that their data would only be used for research purposes and gave consent to being quoted in the thesis. Participants had the right to choose the name under which their quotes will appear in the study, or to choose the "anonymous" option.

The topic of subjective well-being should be approached with caution at all times since it is likely to be interconnected to the topics of emotions, experiences, states, and mental health. Thus the 'do not harm' principle should be applied before, within and after interviews, as well as throughout the whole research (Scheyvens, 2014). As learning experiences are always unique, within interviews participants were asked to reflect on their own experiences and share their own perceptions, avoiding any reflections or subjective comments from the researcher. Still, discussing challenges during studies as well as reflecting on one's level of happiness resulted in participants sharing their deepest feelings and concerns, and some sharing stories of depression and life struggles. Therefore, the researcher applied sensitive interviewing techniques, such as providing additional time to express feelings within the interview and ensure positive closure of each interview (Dempsey, L. et *al*., 2016).

Liamputtong (2007) suggests that qualitative design of research with in-depth interviews is more convenient for sensitive topics, as it allows human-human interaction, while Elmir et *al*. (2011) recommends utilising face-to-face interviews when exploring sensitive topics. Therefore, most of the interviews were conducted online (through Zoom video conferencing), and several were conducted in person. Since few participants were unable to participate in person or online, they were offered the option of responding to the questions in writing. Considering that all participants are literate (have at least a secondary education), the risk of failing to understand the questions when responding to interview questions in writing has been assessed to be minimal. Each participant, however, was encouraged to ask any questions about the interview, including asking for clarification, regardless of interview type.

One of the considerations that needs to be addressed is positionality, by reflecting on one's position that might impact the gathered data, interpretation of such data or research process as a whole (Holmes, 2020). This research allowed me to understand a part of myself that I had never acknowledged: I am a first-generation student in my family, whose learning experiences were both in formal and informal settings, including learning opportunities abroad. Furthermore, the studies were affordable, which had not previously been the case for any of my family members. Those benefits are not available to everyone, therefore, were considered carefully throughout study. While I am aware of fewer opportunities and lack of access to LLL in many rural and urban areas, as well as a number of socioeconomic barriers to obtaining such an education outside of one's own settlement, I have also witnessed learning as a transformative process that has led to individuals' personal and professional growth as well as improved well-being.

As an nonformal education mentor, I entered this study with pre-understandings of the possible connections between learning experiences and happiness, which enabled me to acquire a deeper understanding of the opportunities and challenges the participants faced during their learning experiences (Alvesson & Sandberg, 2022). On the other hand, I was aware of potential bias and, in order to overcome it, I self-reflected both verbally and in writing, used mentorship and coaching approaches to distinguish myself from the participant's experiences, was constantly reminding myself about the uniqueness of each learning journey, and importance of acknowledging the insights and feelings of every participant. To ensure that learning experiences and perceptions of participants are the priority, all interview texts were repeatedly examined within different stages of the research.

4.5. Limitations

Several methodological limitations can be identified within this study, mainly due to the choices made by the researcher. First, the sample of interview's participants included only those who experienced lifelong learning, making this sample not representative. More holistic approach towards the impact of LLL on SWB would include those, who have never experienced adult education, enabling the opportunity to compare both groups. However, such a choice of participants was intentional, because the researcher sought to find out what effect LLL has on

subjective well-being, and therefore, for this reason was looking for individuals who had such experiences. Second, the data obtained as a result of the interview are subjective in nature. And although there are similar tendencies, such data cannot be generalised to a country or region level (Scheyvens, 2014). Thus, similar research in specific geographical contexts might produce other findings, dictated by cultural and other local characteristics. Languages and translation can be another limitation of this study, as data was collected in three languages spoken by the researcher. Despite the fact that the use of several languages allowed the participants to express themselves freely without choosing words, it may have caused inaccurate translation which could be explained by linguistic differences of languages (Birbili, 2000). For the quotations, the researcher used verbatim translation and agreed each quotation with the respondent.

To overcome the limitations of qualitative research, quantitative data was utilised. Yet, it also had some limitations. To begin with, the survey includes data collected in 2015. Educational environment, as well as portraits of learning experiences have changed since, for instance in terms of online education experience, which was brought due to global pandemic. Second, while the selected dataset has significantly more education-related questions than other international surveys, the scope is limited to completed level of education and participation in training for professional or nonprofessional reasons. Subsequently, other types of learning, such as community-based learning, are overlooked, making it impossible to provide a more comprehensive analysis of the impact of lifelong learning on happiness. Conducting a survey with a greater focus on participation in various types of learning as well as measuring subjective well-being among representative samples, would, perhaps, allow to determine whether the findings of this study are more broadly generalisable. Despite these limitations, the data revealed a number of findings, which are presented and discussed in the next section.

5. RESULTS AND DISCUSSION

This section addresses the findings of the study obtained through interviews and data analysis. Common tendencies and outcomes of the impact of lifelong learning on subjective well-being have been identified throughout the qualitative study, and could be grouped into three main findings:

(a) Lifelong learning through its influence on self-understanding and personal growth, affects SWB.
(b) Lifelong learning contributes to material well-being (e.g., standards of living), by providing a foundation for professional development and self-realisation.
(c) Lifelong learning boosts social well-being by allowing people to form meaningful relationships and become a part of the community.

Consequently, as indicated in the conceptual framework of this study, LLL has an impact on three dimensions of well-being. Furthermore, social and material well-being contribute to happiness and subjective well-being. Simultaneously, there are a number of unique observations that do not lend themselves to broad patterns but can be beneficial for the chosen approach. This in particular is related to the negative impact of lifelong learning on happiness, which is presented and discussed in the following section. Individual experiences and above-mentioned tendencies are then followed by results extracted from round four of the European Quality of Life Survey, which covered over 36000 cases. Conducted analysis confirmed the hypothesis that lifelong learning has an impact on well-being. However, according to dataset test results the relationship between the LLL and SWB are weak, while up to 8.3% of cases could be explained by chosen models. The overall influence of lifelong learning on subjective well-being, based on the received quantitative and qualitative data, is then discussed, offering findings regarding both negative and positive impact.

5.1. Impact of lifelong learning on subjective well-being: tendencies & experiences

5.1.1 Self-understanding & soft skills

Prior academic findings on how learning affects subjective well-being identifies a number of common soft outcomes that take the form of particular psychosocial qualities. Such subjectively

measured outcomes include self-confidence, self-efficiency, self-understanding as well as soft skills. During the discussions with the interview participants, all these concepts appeared in conversations in one way or another. Self-understanding was probably the most common among participants. Caitlin shared her journey to self-understanding through learning: "*...I believe my learning experience has not only made me more aware of the world, but more aware of myself and how I perceive myself. This is especially evident when it comes to rational vs. irrational thinking. I think my learning experience has made me more reflective and I have become more in touch with evaluating myself and my feelings in relation to myself and my surroundings*".

For some participants, LLL also contributed to self-acceptance, through self-discovery, "*understanding of one's own identity, needs and values. But also getting an understanding of the behaviour and motives of other people*" (Mykhailo). Furthermore, learning brought self-awareness about one's psychological patterns and driving forces, and for several participants became a therapeutic method to work out psychological traumas. Jujiya had also mentioned that learning helped reduce shyness, while also teaching self-worth and contributed to self-confidence in expressing oneself. Some respondents also highlighted increasing self-esteem. Notably, female participants cite self-esteem as one the main learning benefits, whereas males indicate self-confidence as such. Eva, reflecting on how adult learning impacted her SWB, shares: "*The more you learn the more you understand yourself. By understanding yourself, you know where your good place is and what makes you feel happy.*".

Skills and competences were discussed by all interview participants. Even though hard skills were expected to be in the first place, respondents mainly discussed their soft and cross–disciplinary skills. Annika and Nate, who currently together pursue master's degrees, discussed how their learning contributed to their critical thinking and ability to "*critically evaluate and see different angles of situation*". However, to develop competence, a continuous process is important, thus, a lifelong learning approach might be beneficial towards skills, competences, and attitudes development: "*I think one needs to continue learning in a really wide and broad sense, because sometimes the first thing that you learn might not be the truth. So yeah, I think there's a lot of value in continuous learning*" (Annika). Nikita shared his story about nonformal learning experiences, which assisted him in developing public speaking and presentation skills. "*The learning process

is about re-inventing yourself, - he says, - *It might be challenging at times, but it is always about a step forward".* This insight was supported by another participant Noomi, who is a non-formal educator: *"I am happy when I learn something new and when I can apply something I have learnt".*

5.1.2. Professional development & self-realisation

Among the benefits of participation in adult learning, interviewees discussed professional development and the opportunity to improve their career prospects. This was especially evident among participants who participated in adult learning for professional reasons: *"On the job learning has much greater value in improving practical knowledge about your area of work. So even though I appreciate academic learning platforms and still consider them important, I place a much greater emphasis on learning through real-life experiences"* (Participant 3)*.*

While analysing this aspect, I noticed several trends that are common to participants with a similar learning experiences profile. The respondents can thus be divided into two major groups: Group A, which is represented by participants who are still in the process of pursuing higher education and have no or limited professional experience; and Group B, which consists of participants with higher education (at least Bachelor's degree), work experience and participation in training for professional reasons. Group A commonly has aspirations of starting their career, preferably at a well-paid and purposeful job. Among the benefits, participants highlighted becoming knowledgeable and acquiring skills to *"become more valuable in the market"* (Nikita). Noteworthy, most participants are aware of the fact that education itself is not always sufficient for success in professional life: *"I think education gives you a good baseline. Learning curve is probably really steep when you actually start a job"* (Annika).

Group B is represented mainly by adults over 27 years old. This group is also united by a conscious choice of learning experiences (e.g. master degree, professional training), which, in their opinion, affects career growth and creates opportunities for professional self-realisation. Within discussions, participants paid more attention to the secondary benefits of their learning experiences, such as their material well-being, status and respect, and standards of living. *"My status changed in one moment, as did the attitude towards me,* - shares Tibor, - *Society started*

seeing me as an educated person, thus employers became more interested in me". Alex shared that with his second master's degree he got a job offer, social security and stability, which allows to cover his needs and do what makes him happy.

Married participants described similar benefits, noting that their employment and capacity to provide for themselves and their families—taking care of both their own well-being and that of their family—was facilitated by the knowledge and skills, as well as social connections, they had gained during learning experiences. Participant 3, who is currently getting higher education abroad after over 10 years of professional experience, when talking about the connection between learning and SWB said: *"Although I don't think learning directly leads to happiness, it does support positive growth in life, thereby impacting our subjective well-being indirectly. For instance, having a master's degree expanded my career options and helped me find decent jobs".*

Learning, especially within formal education, assisted in self-realisation as a professional in different ways: (a) contributed to the understanding of a variety of professional opportunities; (b) assisted in *"personal growth, forming a more holistic view on life"* (Olya); (c) empowered self-development *"to become the better version of myself and hopefully to make positive impact on the world"* (Participant 4); (d) provided guidance and in some cases even determined professional future.

5.1.3. Meaningful relationships and community

All participants discussed social well-being, in particular expansion of social circle and sense of belonging, as a benefit of adult learning. This validates the conceptual framework's statement of the relationship between lifelong learning and well-being, in particular the impact of learning to live together on individuals' well-being. Noteworthy, participants mainly addressed relationships with their peers, but not with teachers or trainers. Therefore, it can be suggested that interpersonal and professional relationships come to the forefront of social relations in adult learning experiences, while the teacher's role remains less notable.

Eva admitted that learning experiences account for over 90% of her social capital; while formal education brought professional networks, nonformal learning facilitated building a number of lasting friendships. "*When you are in an environment with people who are eager to learn it is easy to connect with others on your passion for knowledge. -* said Caitlin. - *It continues to be inspiring and motivating and forever grateful for this aspect of my adult learning.*". Liza stated that for her, learning is closely linked to people as education both formal and nonformal assists in building friendships and *'connecting with like-minded people'*. Noomi also shared her experiences of nonformal learning, which in her experience united people who share the same values as she does, highlighting that such learnings become *"a very much a source of happiness"*.

For Alex *"education brought true friendships into life, which remain strong even after learning is completed, regardless of where friends are now and what they do in their lives"*. Two participants also revealed that they met their partners throughout participating in adult learning. One of the most essential components of the participants' learning experiences was the ability to develop friendships and build positive relations with others. Such relationships contributed to the strengthening of social ties and support of the participants during and after learning experiences, which ultimately impacted SWB.

Furthermore, learning experiences facilitate access to communities, such as academic or professional ones, while also providing direct access to educators and professionals in specific fields: *"The community is expanding. You suddenly have access to people you would never meet unless you study in this specific settlement"* - said Olya. Such access provides opportunities for peer-to-peer learning, which might be beneficial as noted by Caitlin "*... I have learned so much from my social connections, arguably more than my formal studies"*. In Nadiya's story, she shared that while studying in university she participated in student organisation by taking leading roles, which later on led to her interest in nonformal learning, followed by a switch in her professional development.

Field (2005) noted that learning assists individuals develop skills and awareness that encourage interaction with others. Raised awareness was noted as a benefit of adult learning by the vast majority of interviewees: *"Entering a different type of learning environment and culture has*

definitely made me more aware of myself in relation to others and myself in relation to different learning environments" - shared Caitlin. Bohdan, when sharing his memories from bachelor's degree in international university, felt *"like it was the first time I was exposed to so many nationalities and it was really an international experience"*. Liza, who also joined an international university for her master studies mentioned that she met people from different cultures and with different backgrounds and they had a strong impact on her optimism and SWB: *"Education brought me understanding of others: how to co-exist and to learn from each other. People I have met through learning taught me to look at things from a totally different angle and to have faith in the best ahead"*.

5.1.4. Negative impact of lifelong learning on happiness

Lifelong learning as well as subjective well-being are both subjective concepts in terms of how they are perceived and evaluated. Therefore, in addition to common trends, there are a number of individual experiences that reveal even more deeply the topic of the influence of LLL on happiness. Olya, the first-generation student in her family, shared the story about obtaining education abroad: *"Choosing an education in adulthood is a serious commitment, as one must completely alter their life while understanding the motivation and reasoning behind this decision… Adulthood comes bundled with awareness, thus when you choose education in adulthood you manifest its importance to yourself"*. In this context, it is worth noting that the participants' motivation and reasoning to engage in learning is also different. Despite the reasons may vary (employer requirement, personal interest in the topic, curriculum requirement, social influence), adults were self-motivated and voluntarily chose to study. Thus, LLL is characterised by a more conscious choice of such learning and an understanding of the opportunities and challenges of such a choice.

Although it is often assumed that learning has a positive impact on human well-being, it is essential to remain mindful that negative experiences can occur. This was especially evident when participants were asked to share on how learning made them feel. Despite the fact that the responses to this question most certainly covered the whole emotional spectrum, many participants' learning processes were accompanied by negative emotions. Feeling lost is common among young adults. Nikita, who recently graduated from university, shared that he felt lost, and

all the time questioned his education choice and had doubts about the future. Zoryna drew attention to another aspect of learning, which is delivered through non-formal education: *"I was overwhelmed by the wide range of learning opportunities; they were all fascinating, so I had to try many different things. And for a long time, I was unable to choose the direction of my personal and professional development"*. Another challenge which was spotted by Alex is self-doubt, which was caused by unfulfilled expectations, perfectionism, and burnout.

The process of learning was tough on participants, causing stress, anxiety and in some cases mental disorders. Stress was mainly related to inability to perform tasks on time, evaluation results or lack of specific competences (e.g. work in groups or presentation skills). Aurika explained that pursuing education in adulthood requires a lot of resources, including time, which is challenging due to other adult life commitments. Moreover, as an adult one puts more expectation on themselves, which might result in self-doubt and fear of mistakes. Nate noted that there is a difference between learning and studying: *"I like learning and exploring new topics, but I don't like studying: the process of assignments and how I am evaluated on them"*. This raises another important observation about techniques used in the learning process: in some educational systems, learning is a more reflective process with the goal of learning and building life competences, whereas in others, learning is more oriented on knowledge itself and how to measure level of knowledge.

Participants had also highlighted how knowledge that they obtained impacted them personally. For instance, learning about sustainability brought two polar feelings. Annika, who is interested in the business sector, mentioned that her studies allowed her to learn more about innovations and *"gave me a bit of hope, and, ironically, made me feel more happier"*. Simultaneously, Participant 4 shared that they felt *"miserable and depressed due to learning more about climate change or unsuccessful development initiatives"*. Thus, the knowledge one acquires during learning can have various kinds of effects, including contributing to raising awareness and encouraging to find solutions to the world's challenges.

Societal pressure is faced by many participants within the study, including pressure from family and *"feeling obligated to pursue education, which is so hard to afford"* (Participant 1). More frequently, such an influence is noticed throughout formal education, including tertiary education

or choice of higher education: *"I absolutely hated studying in school and felt the pressure to at least complete master's level education from a good university to be eligible to apply for decent jobs in my country"* (Participant 3). Another type of pressure is the one participant put on themselves, perceiving learning to be crucial in one's development. Participant 1 suggested that to overcome this type of pressure *"there should be pauses between learning experiences, to allow yourself to reflect, grow and think about next steps"*.

Noteworthy, that participants were faced with negative experiences during the learning process, which were caused by both internal, e.g. individual perception or self-evaluation, and external factors, such as social pressure. However, when participants discussed the completed learning experiences while reflecting on today's feelings, the emotions connected with them were mostly positive, including feeling wholesome, enthusiastic, inspired, joyful, rewarded and full of purpose.

5.2. Lifelong learning and happiness: findings from quantitative data

In an effort to understand to what extent lifelong learning has an impact on subjective well-being, when looking at a bigger sample, data from EQLS-4 was analysed quantitively. For this purpose, bivariate and multivariate analysis were conducted. Bivariate analysis is concerned with analysing two variables with the aim to find a relationship between these variables (Bryman, 2015). In order to examine whether a relationship between LLL and SWB remains even when other variables are considered, a multivariate analysis was conducted (*ibid*).

Bivariate analysis
The bivariate analysis aimed to test hypotheses if there is any relationship between participation in adult learning and happiness (Appendix 5). To determine such a relationship, stacked bars, crosstabs, and Cramer's V association were used. When visualised in a bar graph, it becomes evident that the ratio of happy people to unhappy people in the category "participated in adult education" is different from those who did not participate in such learning (Figure 9). Hence, the share of people considering themselves happy is higher among those who participated in adult education.

Happiness & participation in adult learning
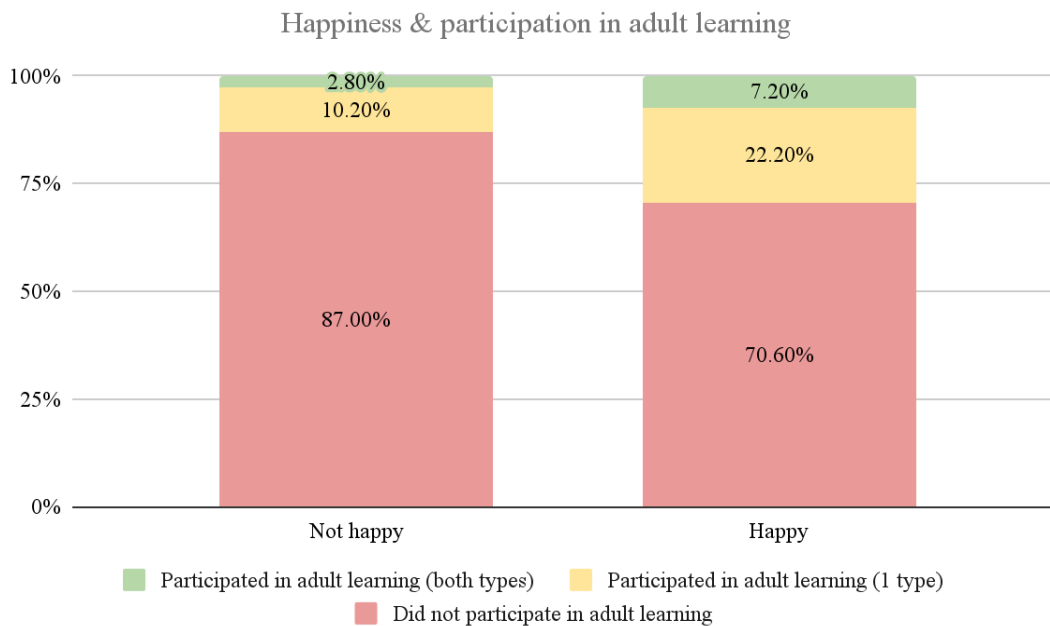
Figure 9. Bar graph of the percentage of happy and unhappy people per category of participation in adult learning

When tested on a full happiness scale (from 1 to 10), the ratio between those who participated in adult learning and those who did not, changed for individuals, who self-reported higher levels of happiness. In particular, among respondents who rate their happiness from 1 to 6, there are more of those who did not participate in AL above those who participated, while for those who rated happiness level from 7 to 10, there are more of those who did participate in AL (Appendix 5). Thus, it is possible to assume that individuals who participate in adult learning are more likely to rate their happiness level higher.

The crosstabs and Cramer's V further support this conclusion. The Cramer's V measures the relative strength of the association between two variables on a scale from 0 to 1, where 1 is a perfect association and 0.10 is considered as the minimum threshold for significant relationships (Cramer & Howitt, 2004; Elliot & Woodward, 2007). In this case, both Cramer's V with result of 0.157 as well as p-value of Pearson Chi-Squared test (0.01) suggest that there is a substantial relationship between participation in adult learning and level of happiness. Such conclusions are also confirmed by the results of Chi-squared test that shows how likely it is that observed distribution is due to chance alone (Elliot & Woodward, 2007). In this case, the p-value of Pearson

Chi-Squared test is less than 0.05, at 0.001, suggesting a significant relationship between variables (Antonius, 2012: 219). Considering the results of the conducted tests, the null hypothesis is to be rejected, suggesting that there are associations and relationships between independent and dependent variables, allowing to confirm research assumptions presented within the conceptual framework.

Multivariate analysis

Stepwise regression analysis was conducted in order to test the hypothesis if there is a significant relationship between participation in adult learning and happiness when control variables are added to the equations. Before conducting the regression analysis, Spearman's Rank test was run to check association between participation in adult learning (independent variable) and selected control variables. According to the findings, there are negative correlation coefficients, which are indicating negative association of ranks, in particular between participation in adult learning and employment status, age & sex (Appendix 6). Positive significant correlation has been found between participation in adult learning and completed higher education. However, this association (0.308) is considered weak. Therefore, chosen control variables were considered applicable for testing.

Binary logistic regression was utilised to conduct analysis on impact of participation in adult learning on level of happiness, when differences in control variables: gender, age, employment status and obtained higher education are controlled for (Appendix 7). At each step, variables were added according to their contribution to the models R square and p-value of threshold of 0.1, which were used to set a limit on the total number of variables included in the final model (Table 3). Participation in adult learning as well as employment status were both categorical variables, thus a reference category had to be chosen for each of the variables: participated in both types of adult learning and employed respectively.

Table 3. Stepwise regression

	Model 1 Std. beta (Odds ratio)	Model 2 Std. beta (Odds ratio)	Model 3 Std. beta (Odds ratio)	Model 4 Std. beta (Odds ratio)	Model 5 Std. beta (Odds ratio)
Participated in one type of AL	-0.161*** (0.851)	-0.129*** (0.879)	-0.157** (0.855)	-0.090** (0.914)	-0.072** (0.931)
Did not participate in AL	-1.150** (0.317)	-1.004*** (0.366)	-0.953*** (0.386)	-0.918*** (0.400)	-0.696*** (0.499)
Gender	-0.056** (0.945)				0.039** (1.040)
Age		-0.011*** (0.989)			-0.013*** (0.987)
Retired			-0.539*** (0.583)		-0.158*** (0.854)
Unemployed			-0.718*** (0.487)		-0.688*** (0.502)
Higher education				0.686*** (1.987)	0.586*** (1.796)
Omnibus	< 0.001	< 0.001	0.000	0.000	0.000
Hosmer-Lemeshow	0.331	< 0.001	0.834	0.856	0.004
Cox & Snell	0.027	0.033	0.042	0.038	0.054
Nagelkerke R2	0.042	0.050	0.064	0.059	0.083
No. of obs.	36728	36728	36728	36552	36552

*p < 0.1, **p < 0.05, ***p < 0.01

Five models were used in the binary logistic regression analysis: the first four models included one control variable at a time, whereas model five included all control variables examined in prior models. To determine eligibility and good fit, each model was subjected to Omnibus and Hosmer-Lemeshow tests. Based on Omnibus tests, the significance level in all models is less than 0.05, indicating that models are eligible for the study. According to the Hosmer-Lemeshow test significance in Model 2 and Model 5 is less than 0.05, which indicates models' poor fit. Fagerland and Hosmer (2012), however, argue that such tests are not the only one of the available tools to determine goodness of fit and the Hosmer-Lemeshow test alone cannot completely assess model fit. Thus, all models were analysed further.

The negative odds ratio is the overall tendency among variables in all models with few exceptions. For a non-categorical variable (age) negative results suggest that increase in its value is less likely to cause change in level of happiness. In other words, happiness levels tend to decrease over years. Blanchflower (2020) contends that happiness levels alter with time, emphasising that well-being is U-shaped in age, with the lowest level of SWB occurring between the ages of 47 and 48. Hellevik (2017), on the contrary, argues that the tendency of age to increase or decrease happiness level is not visible unless other control variables are included, implying that age has a minimal effect on self-reported happiness level by itself. The current study, however, reveals that there is a strong association between age and happiness level. Similar findings were provided in cross-national (Graham & Pozuelo, 2017; Beja, 2018) and national research (Cheng et *al*., 2015; Grover & Helliwell, 2019), which indicated a shift in happiness level with age.

Since other variables are categorical, the negative odds ratio suggests that the predictor variables are less likely to cause change in level of happiness than the reference category. To start with, participation in adult learning as a predictor variable was based on three values: no participation, participation in one type of AL and participation in both types of AL applied as a reference category. In all presented models, the data suggest that those who do not participate in adult learning are less happy on average than those who do. According to the findings, individuals who participated in adult learning for both professional and non-professional reasons are the happiest of the three groups. Those who participated in one type of adult learning are less happy on average than the reference group, while those who did not participate in any adult learning are the least happy considering evident higher negative effects.

In model 1 with gender as a control variable a negative odds ratio of -0.05 suggests that women are on average less happy than men. However, the odds ratio for gender turns to positive in model 5, when other control variables are added into the equation, suggesting that women on average are reporting higher levels of happiness. In order to explain this change, additional tests were performed. Results showed that gender changes sign when a higher education variable is added into the equation, thus it is not the gender that increases the odds of unhappiness but the lower level of education. Since women on average have less access to education, particularly higher education, their level of happiness will remain lower (Montgomery, 2022). Still, many

international surveys suggest that women report higher levels of happiness and life satisfaction compared to men (Diener, E. et *al*., 1999). Recent studies, however, challenge these findings and support results of present study. Blanchflower & Bryson (2022: 23) found that "women are *always* and *everywhere* more unhappy than men". Montgomery (2022) in her study suggests that there is a gender-related response bias when individuals rate their happiness or life satisfaction: first, women and men use the same response scale differently providing different responses to describe the same satisfaction or happiness level; second, women and men have different expectations for their lives. Therefore, quantitative studies should consider normalising scales to obtain more accurate results.

Model 3 & 5 included employment status as a control variable and predictor of happiness level, which was based on three values: employed as a reference value, unemployed, and retired. According to the findings, employed individuals are more likely to be happy on average. Unemployed people are the least happy of the three groups, while retired individuals are less happy than employed, but happier than unemployed. When tested with other control variables, the odds ratio for the retired group changed but remained negative. Previous studies have also found a relationship between happiness and employment. According to Blanchflower et *al*. (2014: 119) *'on average, a 1 percentage point increase in the unemployment rate lowers well-being by over 5 times'*. It should be noted that unemployment affects both financial and non-monetary benefits such as social status, social relations, and self-confidence, which are determinants of SWB. De Neve & Ward (2017) analysing World Happiness Report found that unemployed are reporting more negative emotional experiences in their life, which ultimately affect SWB.

Model 4 in addition to participation in adult learning, includes higher education as a control variable. Higher education has a positive odds ratio both in model 4 and final model, suggesting positive correlation with level of happiness. According to the results, the likelihood of happiness would double for individuals who obtained higher education compared to those who did not. Previous studies suggest that there is a positive relationship between higher education and level of happiness. For instance, Jongbloed, (2018) found that tertiary education as well as vocational training have a significant positive impact on SWB and life satisfaction.

Findings obtained from multivariate analysis support the alternative hypothesis and allow to conclude that there is a significant relationship between participation in adult learning and happiness when differences in gender, age, employment status and higher education are controlled for. Despite the fact that each of variables has its own impact on SWB, consistency of results regarding participation in AL are well observed: individuals who participated in adult learning on average are happier compared to those who did not participate in all tested models.

5.3. Discussion on overall influence of lifelong learning on subjective well-being

To analyse association between lifelong learning and subjective well-being, this study employed a mixed methods approach to overcome the limitations of prior studies that used only one research method. Furthermore, the researcher was able to investigate the influence of learning on happiness of adults regardless of their age group due to the sample of interview participants and dataset selection. Finally, the researcher evaluated the impact of lifelong learning in general, regardless of the type or reason for such learning. The study was guided by the developed conceptual framework, which utilised theoretical approaches to both well-being and LLL, highlighting their interconnectedness. The findings of the study provide insights into the impact of lifelong learning on happiness that support earlier findings while also adding novel understandings into how learning experiences tend to change SWB.

Chapter 5.1 focused on the results of the qualitative part of research and presented common tendencies and individual encounters among interviewees. The findings revealed that lifelong learning has an impact on SWB in both positive and negative ways. It became evident that learning experiences affect individuals differently on many levels, addressing happiness, life satisfaction, and social well-being. Participants discussed self-awareness and personal growth as a result of their learning. Since adult learning is usually associated with career prospects and professional development, according to participants, it contributed to their living standards and material well-being. Furthermore, learning as a social process involves regular interactions with others, allowing adult learners to (i) create meaningful relationships (e.g., friendships, professional connections); and (ii) become part of a community, which boosts social well-being and promotes a sense of belonging. All of the identified benefits are determinants of SWB, according to subjective well-

being theory and the conceptual framework. Thus, theoretical assumptions are reflected in results, obtained within the qualitative stage of research.

Simultaneously, the study showed a less popular position among educators and researchers on the possible negative impact of learning on happiness. First, in addition to self-confidence and self-esteem, learning could be a source of stress. Such stress could be caused by the learning process itself (e.g. assignments, tests), but also by social pressure (e.g. high expectations from parents, or stress related to work commitments). Feeling lost or overwhelmed were as well reported by participants, which led to anxiety and in some cases affected mental health. In addition, learning experiences in adulthood could evoke stress caused by previous learning, primarily school education, which has been also found by Barton et *al.* (2007). Second, while learning provides individuals with career opportunities, it also raises high aspirations and expectations that are not always met. Diener et *al.* (1999:283) argues that such unfulfilled aspirations *"will lead to unhappiness because the person will be discouraged by the long gap between where he or she is and where they would like to be"*. These findings are consistent with previous studies conducted by Caporale et *al.* (2007) and Ferrante (2007), who both noted a negative relationship between life satisfaction and higher education qualifications.

Based on data from qualitative interviews, it is reasonable to conclude that lifelong learning has both positive and negative impact on subjective well-being. Despite evidence of a negative association between learning and SWB, the majority of data indicates a positive impact of learning experiences on happiness and well-being in general. Participation in lifelong learning has a direct impact on domains such as confidence, awareness, and skills development. Other benefits, whether social (e.g., contributing to social capital, expanding connections) or economic (e.g. employability) have an indirect impact on subjective well-being. However, since the interview involved a limited number of participants, obtained results are not generalisable.

To address these limitations, the research incorporated secondary data analysis of an international survey, as described in Chapter 5.2. Quantitative part of research attempted to determine to what extent lifelong learning in adulthood has an impact on SWB. Findings suggest that adult learning is associated with levels of happiness. Furthermore, bivariate analysis showed that among the

respondents who consider themselves happy the ratio of participation in adult learning was twice as high compared to the respondents who self-reported a low level of happiness (Figure 9). Stepwise regression analysis was applied to test the association between AL and happiness when control variables were added. Results indicated that there is a significant association between LLL and happiness. In addition, the impact of other factors was investigated, and results demonstrated that age, gender, employment status and higher education also have their own share of influence on happiness. Findings further indicate that respondents who participated in adult learning were happier on average than those who did not, and this tendency was preserved in all tested models. Therefore, it can be concluded that analysis conducted on a large sample, further confirmed that lifelong learning has an impact on happiness.

Linking the findings to the final research question, "How does the quantitative data further explain the impact of lifelong learning on subjective well-being reflected in qualitative data?" it would be reasonable to conclude that results from qualitative and quantitative data are consistent, and both suggest that learning in adulthood has an impact on individual levels of happiness and well-being in general. While qualitative data analysis revealed findings about the impact of LLL on various aspects of well-being across its determinants, secondary data analysis confirmed such findings while also generating a new debate about the complexity and ambiguity of the impact of learning on SWB, implying that the relationship between LLL and SWB is highly context-dependent (Field, 2012). Sirgy (2019) stated that, while individual perceptions of happiness and well-being are subjective, research demonstrates that there are objective measurable factors that substantially impact SWB. As a result, when examining the impact on subjective well-being, it is difficult to filter out learning as the sole determining element. However, based on the findings, it is impossible to deny that lifelong learning impacts happiness.

6. CONCLUSION AND IMPLICATIONS FOR FUTURE RESEARCH

Interest in subjective well-being research has grown in the social sciences in recent years, with discussions about shifting the focus of assessing development progress from economic output to human well-being. Happiness, however, is difficult to measure since it varies greatly between individuals and is strongly influenced by external factors such as politics, economics, and the environment. In order to understand how to measure happiness, researchers have developed a wide range of approaches, each of which identifies its own set of SWB determinants. This thesis employed developed conceptual framework suggesting strong interrelations between LLL and subjective well-being. The study applied a mixed methods approach combining qualitative and quantitative data analysis with the goal of learning more about the impact of individual learning experiences on SWB, common patterns and tendencies among interviewees, and the extent to which such findings are inherent in a larger representative sample obtained through EQLS-4.

This thesis has been one of the first attempts to thoroughly examine how lifelong learning affects subjective well-being. It has provided a deeper insight into relationships between adult learning and happiness, suggesting that since there is a significant relationship between AL and happiness level, lifelong learning should be addressed as a subjective well-being predictor and determinant. However, relationships between learning and happiness are ambiguous: while learning could increase happiness by improving all three dimensions of well-being, it may also have a negative effect, causing stress or raising aspirations that are not met. Schuller et *al*. (2004: 3) has pointed out that *'the ways in which learning actually affects our lives, individually and collectively, remain relatively unexplored in systematic empirical fashion'*. Yet both qualitative and quantitative data proved that participants in adult learning (both formal and non-formal) report greater levels of happiness and satisfaction with their life. Individuals highlight greater self-understanding, self-confidence, and self-esteem as significant benefits of learning, as well as expanded social networks, community engagement, and prospects for professional development.

These findings have certain limitations in terms of generalizability. For instance, the geographical scope of this study was confined to learning experiences obtained in Europe and was cross-national. Therefore, further research is required to determine whether geographical context both

across and within countries would cause different results. Considerably more work will need to be done in quantitative research to determine impact of lifelong learning on SWB when other predictors are considered. This might include other theoretically identified happiness determinants, such as health, income, access to social services, access to education, as well as macro-level predictors (e.g. governance, inflation). Further work is needed to fully understand the implications of possible negative effects of LLL on happiness. It should be noted, however, that such research would most likely require participation of mental health professionals to adhere to the 'do not harm' principle.

Moreover, the role of gender is an intriguing aspect which could be usefully explored in further research. First, gender differences in the learning-happiness association are likely to differ across countries, taking into consideration gender equality challenges, educational access, and cultural contexts. Second, the majority of quantitative research uses binary distribution (female and male) without addressing other genders, making it difficult to assess the impact of learning on SWB from the perspective of gender diversity. Finally, more information on participation in other forms of learning (for example, community-based learning) would assist us in establishing a greater degree of accuracy on this matter. While qualitative data in this study includes a wide range of learning experiences, quantitative data was restricted to educational level and involvement in training during the previous year. Given that lifelong learning entails acquiring knowledge and skills, values and understanding through various forms of learning, more data on non-formal education provided by civil society organisations or the community could assist in: (i) understanding the complex impact of adult learning on happiness, and (ii) comparing the impact of formal and nonformal education on a person's subjective well-being.

REFERENCES

Adler, M. (2013). Happiness surveys and public policy: What's the use? *Duke Law Journal*, 62(8), pp. 1509–1601, [online] Available at: https://heinonline-org.ludwig.lub.lu.se/HOL/Page?handle=hein.journals/duklr62&div=53 [Accessed 16 March 2023].

Aknin, L. B., Barrington-Leigh, C. P., Dunn, E. W., Helliwell, J. F., Burns, J., Biswas-Diener, R., Kemeza, I., Nyende, P., Ashton-James, C. E., & Norton, M. I. (2013). Prosocial spending and well-being: Cross-cultural evidence for a psychological universal. *Journal of Personality and Social Psychology, 104*(4), pp. 635–652. 10.1037/a0031578.

Alvesson, M., & Sandberg, J. (2022). Pre-understanding: An interpretation-enhancer and horizon-expander in research. *Organization Studies*, *43*(3), pp. 395–412. 10.1177/0170840621994507.

Ambrose, S.A. (2010). *How learning works. Seven research-based principles for smart teaching*. Jossey-Bass (Jossey-Bass higher and adult education series), [online] Available at: <https://firstliteracy.org/wp-content/uploads/2015/07/How-Learning-Works.pdf> [Accessed 10 April 2023].

Antonius, R. (2012). *Interpreting Quantitative Data With IBM SPSS Statistics*. Sage Publications Ltd.

Appel, M. L., & Dahlgren, L. G. (2003). Swedish doctoral students' experiences on their journey towards a PhD: Obstacles and opportunities inside and outside the academic building. *Scandinavian Journal of Educational Research*, 47(1), pp. 89–110. 10.1080/00313830308608.

Araki, S., (2022). Does Education Make People Happy? Spotlighting the Overlooked Societal Condition. *J Happiness Stud* 23, pp. 587–629, 10.1007/s10902-021-00416-y.

Argyle, M. And Martin, M. (1991). The psychological causes of happiness. In F. Strack, M. Argyle And N. Schwarz (Eds.). *Subjective Well-being: An interdisciplinary perspective* (Pergamon: Oxford), pp. 77–100.

Aspin, D.N., Chapman, J.D. (2007). Lifelong Learning: Concepts and Conceptions. In: Aspin, D.N. (eds) *Philosophical Perspectives on Lifelong Learning*. Lifelong Learning Book Series, vol 11. Springer, Dordrecht. 10.1007/978-1-4020-6193-6_1.

Bak-Klimek, A., Karatzias, T., Elliott, L., & Maclean, R. (2015). The determinants of well-being among international economic immigrants: A systematic literature review and meta-analysis. *Applied Research in Quality of Life,* 10(1), pp. 161–188. 10.1007/s11482-013-9297-8.

Barton, D., Ivanič, R., Appleby, Y., Hodge, R. and Tusting, K. (2007) Literacy, Lives and Learning, Routledge, London. 10.4324/9780203608302.

Beja EL Jr. (2018). The U-shaped relationship between happiness and age: Evidence using World Values Survey data. *Quality & Quantity*, 52, pp. 1817–1829. 10.1007/s11135-017-0570-z.

Bhaskar, R. & Hartwig, M. (2010) *The formation of critical realism: a personal perspective*. First edition. Routledge. 10.4324/9780203878088.

Birbili, M. (2000). Translating From one Language to Another. *Social Research Update,* 31, pp. 1-17. [online] Available at: https://www.researchgate.net/publication/279440020_Birbili_M_2000_Translating_from_one_language_to_another_Social_Research_Update_issue_31_httpwwwsocsurreyacuksruSRU31html [Accessed 6 February 2023]

Birkjær, M., Gamerdinger, A., & El-Abd, S. (2021). *Towards a Nordic Wellbeing Economy.* 10.6027/nord2021-049.

Blackmore J. (2006). Unprotected participation in lifelong learning and the politics of hope: a feminist reality check of discourses around flexibility, seamlessness and learner earners in Leathwood, C. and Francis, B. ed. (2006) *Gender and lifelong learning. critical feminist engagements*. Routledge, Taylor & Francis Group. 10.4324/9780203969533.

Blanchflower, D., Bell, David N. F., Montagnoli, A. & Moro, M. (2014). The happiness tradeoff between unemployment and inflation. *Journal of Money, Credit and Banking*, 46(S2), pp. 117–141, [online]. Available at:<http://ludwig.lub.lu.se/login?url=https://www.jstor.org/stable/24499152> [Accessed 16 April 2023]

Blanchflower, D. (2020). 'Is Happiness U-shaped Everywhere? Age and Subjective Well-being in 132 Countries', *NBER Working Papers*, pp. 1–64. 10.3386/w26641

Blanchflower, D. & Bryson A. (2022). 'The Female Happiness Paradox', *NBER Working Papers*, pp. 1–65. 10.3386/w29893

Bradburn, N. M. (1969). *The structure of psychological well-being*. Aldine.

Bryman, A. (2012) *Social research methods*. 4. ed. Oxford University Press.

Caporale, G.M., Georgellis, Y., Tsitsianis, N. and Yin, Y.P. (2009). 'Income and happiness across Europe: Do reference values matter?', *Journal of Economic Psychology,* 30(1), pp. 42–51. 10.1016/j.joep.2008.06.004.

Cheng TC, Powdthavee N, & Oswald AJ. (2015). Longitudinal evidence for a midlife nadir in human well-being: Results from four data sets. *The Economic Journal*, 127, 126–142. 10.1111/ecoj.12256.

Cohen, M.A. and Vandenbergh, M.P. (2008). 'Consumption, Happiness, and Climate Change', *Environmental Law Reporter News & Analysis*, 38(12), pp. 10834–10837, [online] Available at: <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1288638> [Accessed 3 March 2023]

Cole, M. (2010). Hermeneutic Phenomenological Approaches in Environmental Education Research with Children. *Contemporary Approaches to Research in Mathematics, Science, Health and Environmental Education,* Deakin University, [online] Available at: <https://deakinsteme.org/event/2010-contemporary-approaches-to-research-in-mathematics-science-health-and-environmental-education-symposium/> [Accessed March 10 2023].

Cramer, D. & Howitt, D. (2004). *The Sage dictionary of statistics: a practical resource for students in the social sciences.* London: SAGE.

Cremin, L.A. (1976). *Public education* (Vol. 1). New York: Basic Books.

Creswell, John W. (2009). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. 3rd ed. Thousand Oaks: Sage.

Creswell, John W. (2014). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. 4th ed. Thousand Oaks: Sage.

Creswell, J. and Poth, C. (2018). *Qualitative Inquiry & Research Design: Choosing Among Five Approaches*. Los Angeles: SAGE Publications.

Das, K.V., Jones-Harrell, C., Fan, Y. *et al.* (2020). Understanding subjective well-being: perspectives from psychology and public health. *Public Health Rev* 41, 25. 10.1186/s40985-020-00142-5.

Dawadi, S., Shrestha, S., & Giri, R. A. (2021). Mixed-Methods Research: A Discussion on its Types, Challenges, and Criticisms. *Journal of Practical Studies in Education*, 2(2), 25-36. 10.46809/jpse.v2i2.20.

Delors, J. et al. (1996). 'Learning: The Treasure within. Report to UNESCO of the International Commission on Education for the twenty-first-Century, Paris UNESCO 1996', *Internationales Jahrbuch der Erwachsenenbildung*, 24(1), pp. 253–258. 10.7788/ijbe.1996.24.1.253.

Dempsey, L. *et al.* (2016) 'Sensitive interviewing in qualitative research', *Research in Nursing & Health*, 39(6), pp. 480–490. 10.1002/nur.21743.

Dench, S, and Regan, J. (2000). Learning in Later Life: Motivation and Impact. DfEE Research Report RR183, London: Department for Education and Employment, [online] Available at: <https://www.employment-studies.co.uk/resource/learning-later-life-motivation-and-impact> [Accessed 19 April 2023]

De Neve, J.-E. and Ward, G. (2017). 'Does Work Make You Happy? Evidence from the World Happiness Report', *Harvard Business Review Digital Articles*, pp. 2–7. [online] Available at:<https://hbr.org/2017/03/does-work-make-you-happy-evidence-from-the-world-happiness-report> [Accessed 6 April 2023]

De Neve, J.-E. and Jeffrey D. Sachs. (2020). *WHR 2020 | CHAPTER 6. Sustainable Development and Human Well-Being,* [online] Available at: <https://worldhappiness.report/ed/2020/sustainable-development-and-human-well-being/> [Accessed 6 April 2023]

Diener, E. et *al.* (1999). 'Subjective well-being: Three decades of progress', *Psychological Bulletin*, 125(2), pp. 276–302. 10.1037/0033-2909.125.2.276.

Diener E, Oishi S, Lucas RE.(2003). Personality, culture, and subjective well-being: emotional and cognitive evaluations of life. *Annual Review of Psychology.* 2003;54(1), pp. 403–425. 10.1146/annurev.psych.54.101601.145056.

Dockery, A. M. (2010). *Education and happiness in the school-to-work transition.* Adelaide, South Australia, The National Centre for Vocational Education Research (NCVER), [online] Available at: <https://www.ncver.edu.au/publications/publications/all-publications/education-and-happiness-in-the-school-to-work-transition> [Accessed 5 April 2023]

Easterlin, R.A. (1995) 'Will raising the incomes of all increase the happiness of all?', *Journal of Economic Behavior & Organization*, 27(1), p. 35. 10.1016/0167-2681(95)00003-B.

Elliott A. C., and Woodward, W. A. (2007). *Statistical analysis quick reference guidebook with SPSS examples.* SAGE Publications

Elmir, R., Schmied, V., Jackson, D., & Wilkes, L. (2011). Interviewing people about potentially sensitive topics. *Nurse Researcher*, 19 (1), 12–16. 10.7748/nr2011.10.19.1.12.c8766.

Emmerling, J., Navarro, P. and Sisco, M.R. (2021) 'Subjective Well-Being at the Macro Level—Empirics and Future Scenarios', *Social Indicators Research: An International and Interdisciplinary Journal for Quality-of-Life Measurement*, 157(3), pp. 899–928. 10.1007/s11205-021-02670-2.

Eurofound (2016). *EQLS 2016 - Questionnaire.* [online] Available at: <https://www.eurofound.europa.eu/surveys/european-quality-of-life-surveys/european-quality-of-life-survey-2016/questionnaire> [Accessed 28 February 2023]

Eurofound. (2018). *European Quality of Life Survey 2016: Technical and fieldwork report. On-line working paper,* [online] Available at:

<https://www.eurofound.europa.eu/sites/default/files/wpef18016.pdf> [Accessed 28 February 2023]

European Foundation for the Improvement of Living and Working Conditions (2023). *European Quality of Life Survey Integrated Data File, 2003-2016,* [data collection], UK Data Service, 3rd Edition. 10.5255/UKDA-SN-7348-3.

Fagerland, M.W. and Hosmer, D.W. (2012). 'A generalized Hosmer-Lemeshow goodness-of-fit test for multinomial logistic regression models', *Stata Journal*, 12(3), pp. 447–453. 10.1177/1536867x1201200307.

Ferrante, F. (2007). *Does human capital bring life satisfaction? Human capital, expectations and life satisfaction*. Mimeo. Faculty of Economics, University of Cassino.

Field J. (2005). *Social capital and lifelong learning*. Bristol University Press, Policy Press 10.2307/j.ctt9qgvrm.

Field, J. (2009). 'Good for your soul? Adult learning and mental well-being', *International Journal of Lifelong Education*, 28(2), pp. 175–191. 10.1080/02601370902757034.

Field, J. (2012) *Is Lifelong Learning Making a Difference? Research-Based Evidence on the Impact of Adult Learning*. Dordrecht: Springer Netherlands (Springer International Handbooks of Education. 26). 10.1007/978-94-007-2360-3_54.

FitzRoy, F., Franz-Vasdeki, J., & Papyrakis, E. (2012). Climate change policy and subjective well-being. *Environmental Policy and Governance,* 22(3), pp. 205–216. 10.1002/eet.1581.

Fleche, S., C. Smith and P. Sorsa (2011), "Exploring Determinants of Subjective Wellbeing in OECD Countries: Evidence from the World Value Survey", *OECD Economics*

Department Working Papers, No. 921, OECD Publishing, Paris. 10.1787/5kg0k6zlcm5k-en.

Frey, B. S. and Stutzer, A. (2002). *Happiness and Economics.* Princeton and Oxford: Princeton University Press.

Gallup-Healthways. (2009). Gallup-Healthways Well-Being™ Index: Methodology Report for Indexes. [online] Available at: <https://news.gallup.com/poll/195539/gallup-healthways-index-methodology-report-indexes.aspx> [Accessed 7 March 2023]

Graham C, & Pozuelo JR (2017). Happiness, stress, and age: How the u curve varies across people and places. *Journal of Population Economics*, 30, pp. 225–264. 10.1007/s00148-016-0611-2.

Granderath, J.S., Martin, A. and Froehlich, L. (2021). 'The Effect of Participation in Adult Education on Life Satisfaction of Immigrants and Natives: A Longitudinal Analysis', *Journal of Happiness Studies*, 22(7), pp. 3043–3067. 10.1007/s10902-020-00340-7.

Gough, I. R. and J.A. McGregor (eds) (2007). *Wellbeing in Developing Countries: New Approaches and Research Strategies*, Cambridge: Cambridge University Press, [online] Available at: <https://assets.cambridge.org/97805218/57512/frontmatter/9780521857512_frontmatter.pdf> [Accessed 17 March 2023]

Grover S, & Helliwell JF (2019). How's life at home? New evidence on marriage and the set point for happiness. *Journal of Happiness Studies*, 20, pp. 373–390. 10.1007/s10902-017-9941-3.

Hall, S., Jones, E. and Evans, S. (2022). *Adult Participation in Learning Survey 2022*. Learning and Work Institute

Hammond, C. (2002). *Learning to Be Healthy.* London: Institute of Education.

Hammond, C. (2003). How Education Makes Us Healthy. *London Review of Education*, 1(1): pp. 61-78. 10.1080/1474846032000049134.

Hammond, C. (2004). Impacts of Lifelong Learning Upon Emotional Resilience, Psychological and Mental Health: Fieldwork Evidence. *Oxford Review of Education*, 30(4): pp. 551-568. [online] Available at: <https://www.jstor.org/stable/4127165>. [Accessed 23 March 2023]

Hammond, C. and Feinstein, L. (2005). The Effects of Adult Learning on Self- Efficacy. *London Review of Education*, 3(3): pp. 265-287.10.1080/14748460500372754.

Hartog, J. and Oosterbeek, H. (1998) 'Health, Wealth and Happiness: Why Pursue a Higher Education?', *Economics of Education Review*, 17(3), pp. 245–256. 10.1016/S0272-7757(97)00064-2.

Hellevik O (2017). The U-shaped age-happiness relationship: Real or methodological artifact? *Quality & Quantity*, 51, pp. 177–197. 10.1007/s11135-015-0300-3.

Helliwell, J. F. (2003). How's Life? Combining Individual and National Variables to Explain Subjective Well-Being. *Economic Modelling,* 20 (2), pp. 331-360, 10.1016/S0264-9993(02)00057-3.

Helliwell, J.F., Putnam R.D. (2004). The social context of well-being. *Philos Trans R Soc Lond B Biol Sci.* 2004 Sep 29;359(1449), pp.1435-46. 10.1098/rstb.2004.1522.

Helliwell, J. F., Layard, R., Sachs, J. D., Aknin, L. B., De Neve, J.-E., & Wang, S. (Eds.). (2023). World Happiness Report 2023 (11th ed.). Sustainable Development Solutions Network. [online] Available at: <https://worldhappiness.report/ed/2023/> [Accessed 3 April 2023]

Henderson, L., Knight, T., & Richardson, B. (2013). An exploration of the well-being benefits of hedonic and eudaimonic behaviour. *The Journal of Positive Psychology*, 8(4), pp. 322–336. 10.1080/17439760.2013.803596

Holmes, A.G.D. (2020) 'Researcher Positionality -- A Consideration of Its Influence and Place in Qualitative Research - A New Researcher Guide', *Shanlax International Journal of Education*, 8(4), pp. 1–10. 10.34293/ education.v8i4.3232.

Hone, L.C., Jarden, A., Schofield, G.M., & Duncan, S. (2014). Measuring flourishing: The impact of operational definitions on the prevalence of high levels of wellbeing. *International Journal of Wellbeing* ,4 (1), pp. 62- 90. 10.5502/ijw.v4i1.4.

Howell, R.T. and Howell, C.J. (2008). 'The Relation of Economic Status to Subjective Well-Being in Developing Countries: A Meta-Analysis', *Psychological Bulletin*, 134(4), pp. 536–560. 10.1037/0033-2909.134.4.536.

Jenkins, A. (2011). Participation in learning and wellbeing among older adults. *International Journal of Lifelong Education*, 30(3), pp. 403–420. 10.1080/02601370.2011.570876.

Jongbloed, J. (2018). 'Higher Education for Happiness? Investigating the Impact of Education on the Hedonic and Eudaimonic Well-Being of Europeans', *European Educational Research Journal*, 17(5), pp. 733–754. 10.1177/1474904118770818

Kamthan S, Sharma S, Bansal R, Pant B, Saxena P, Chansoria S, Shukla A. (2019). Happiness among second year MBBS students and its correlates using Oxford Happiness Questionnaire. *Journal of Oral Biology and Craniofacial Research.* 2019;9(2), pp.190–192. 10.1016/j.jobcr.2018.06.003.

Keyes, C. L. M. (1998). Social well-being. *Social Psychology Quarterly, 61*(2), pp.121–140. 10.2307/2787065.

Keyes, C. L. M. (2002). The mental health continuum: From languishing to flourishing in life. *Journal of Health and Social Behavior, 43*(2), pp. 207–222. 10.2307/3090197.

Kingdon, G.G. and Knight, J. (2007). Community, comparisons and subjective well-being in a divided society. *Journal of Economic Behavior & Organization* 64 (1), pp. 69-90. 10.1016/j.jebo.2007.03.004

Kivunja, C. & Kuyini, A.B. (2017). Understanding and Applying Research Paradigms in Educational Contexts. *International Journal of Higher Education.* 6(5): 26-41. 10.5430/ijhe.v6n5p26.

Knasel, E., Meed, J. and Rossetti, A. (2000). *Learn for Your Life: A blueprint for continuous learning*, Harlow: Pearson Education

Kristoffersen, I. (2018). 'Great expectations: Education and subjective wellbeing', *Journal of Economic Psychology*, 66, pp. 64–78. 10.1016/j.joep.2018.04.005.

Kubzansky, L. D., Berkman, L. F., Glass, T. A., Seeman, T. E. (1998). Is Educational Attainment Associated with Shared Determinants of Health in the Elderly? Findings from the Macarthur Studies of Successful Aging. *Psychosomatic Medicine*, 60(5), pp. 578-585.10.1097/00006842-199809000-00012.

Layard, R., Clark, A., & Senik, C. (2016). The causes of happiness and misery. In J. F. Helliwell, R. Layard & J. Sachs (Eds.), *World Happiness Report 2016*. New York: Sustainable Development Solutions Network.

Liamputtong, P., 2007. *Researching the Vulnerable*. London: SAGE Publications, Ltd. 10.4135/9781849209861

Marks, N. and Shah, H. (2004). "A well-being manifesto for a flourishing society", J*ournal of Public Mental Health*, Vol. 3 No. 4, pp. 9-15. 10.1108/17465729200400023.

Masadeh, M. (2012). Training, education, development and learning: what is the difference?. *European Scientific Journal, ESJ*, *8*(10). 10.19044/esj.2012.v8n10p%p.

Maslow, A, H. (1970). *Motivation and personality* (2nd ed.). New York, NY: Harper & Row

Maxwell, J.A. and Mittapalli,K. (2010). Realism as a Stance for Mixed Methods Research in A. Tashakkori and C. Teddlie (Eds.), *SAGE Handbook of Mixed Methods in Social and Behavioral Research*, 2nd ed. Sage Publications, 2010. pp. 145-167, [online] Available at:<https://methods.sagepub.com/book/sage-handbook-of-mixed-methods-social-behavioral-research-2e> [Accessed 26 February 2023]

Maxwell, J.A. (2012). *A realist approach for qualitative research*. SAGE Publications.

Montgomery, M. (2022). 'Reversing the gender gap in happiness', *Journal of Economic Behavior and Organization*, 196, pp. 65–78. 10.1016/j.jebo.2022.01.006.

Moon, K., and Blackman, D. (2014). A Guide to Understanding Social Science Research for Natural Scientists. *Conservation Biology*, 28, pp. 1167-1177. 10.1111/cobi.12326/full.

National Research Council (2013) *Subjective Well-Being: Measuring Happiness, Suffering, and Other Dimensions of Experience*. Washington, DC: The National Academies Press. 10.17226/18548.

Ng, YK. (2022). Age and Happiness. In: Happiness—Concept, Measurement and Promotion. Springer, Singapore. 10.1007/978-981-33-4972-8_9.

OECD (2017). *PISA 2015 Results (Volume III): Students' Well-Being*, PISA, OECD Publishing, Paris. 10.1787/9789264273856-en.

OECD (2019). *PISA 2018 Well-being Framework*, in PISA 2018 Assessment and Analytical Framework, OECD Publishing, Paris. 10.1787/38a34353-en.

OECD (2020). *How's Life? 2020: Measuring Well-being*, OECD Publishing, Paris, 10.1787/9870c393-en.

Oliver, A., Tomás, J.M. and Montoro-Rodriguez, J. (2017). 'Dispositional hope and life satisfaction among older adults attending lifelong learning programs', *Archives of Gerontology and Geriatrics*, 72, pp. 80–85. 10.1016/j.archger.2017.05.008.

Oreopoulos, P. (2003). *Do Dropouts Drop Out Too Soon? Evidence from Changes in School-Leaving Laws*. NBER Working Paper 10155. Cambridge MA: National Bureau of Economic Research. 10.3386/w10155.

Oswald, A. J., & Powdthavee, N. (2008). Death, Happiness, and the Calculation of Compensatory Damages. *The Journal of Legal Studies*, *37*(S2), pp. S217–S251. 10.1086/595674

Oswald, A.J., Proto, E. and Sgroi, D. (2015). 'Happiness and Productivity', *Journal of Labor Economics*, 33(4), pp. 789–822. 10.1086/681096.

Parry, G., Moyser, G. and Day, N. (1992). *Political Participation and Democracy in Britain*. Cambridge: Cambridge University Press. 10.1017/CBO9780511558726.

Prawitz, Aimee & Garman, E. & Benoit, Sorhaindo & Barbara, O'Neill & Kim, Jinhee & Drentea, Patricia. (2006). InCharge Financial Distress/Financial Well-Being Scale: Development, Administration, and Score Interpretation. *Journal of Financial Counseling and Planning* 17 (1), pp. 34-50. 10.1037/t60365-000.

Rentfrow, P. J. (2018). Geographical variation in subjective well-being. In E. Diener, S. Oishi, & L. Tay (Eds.), Handbook of well-being. Salt Lake City, UT: DEF Publishers, [online]

Available at: <https://www.nobascholar.com/chapters/49/download.pdf> [Accessed 30 March 2023]

Ruggeri, K., Garcia-Garzon, E., Maguire, Á. *et al.* (2020). Well-being is more than happiness and life satisfaction: a multidimensional analysis of 21 countries. *Health Qual Life Outcomes* 18, 192. 10.1186/s12955-020-01423-y.

Ruhose, J., Thomsen, S.L. and Weilage, I. (2019). 'The benefits of adult learning: Work-related training, social capital, and earnings', *Economics of Education Review*, 72, pp. 166–186. 10.1016/j.econedurev.2019.05.010.

Ryan, Richard M., and Edward L. Deci. (2001). "On Happiness and Human Potentials: A Review of Research on Hedonic and Eudaimonic Well-Being." *Annual Review of Psychology,* vol. 52, no. 1, 2001, pp. 141-166. 10.1146/annurev.psych.52.1.141

Ryff, C. D. (1989). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *Journal of Personality and Social Psychology*, 57(6), pp. 1069-1081. 10.1037/0022-3514.57.6.1069.

Sabates, R. and Hammond, C. (2008). *The impact of lifelong learning on happiness and wellbeing*, London: Centre for Research on the Wider Benefits of Learning. [online] Available at: <https://www.researchgate.net/publication/253807608> [Accessed 22 March 2023]

Sarah C. White. (2010). Analysing wellbeing: a framework for development practice, *Development in Practice*, 20:2, pp. 158-172, 10.1080/09614520903564199.

Scatolini, Sergio Saleem & Maele, Jan & Bartholomé, Manu. (2010). Developing a curriculum for 'learning to live together': building peace in the minds of people. Exedra. Nº Extra, pp. 133-158. [online] Available at: <https://www.researchgate.net/publication/270314696_Developing_a_curriculum_for_'le

arning_to_live_together'_building_peace_in_the_minds_of_people> [Accessed 14 April 2023]

Schmidt, M. and Umans, T. (2014). 'Experiences of well-being among female doctoral students in Sweden', *International Journal of Qualitative Studies on Health and Well-being*, 9. 10.3402/qhw.v9.23059.

Schuller, T., Brassett-Grundy, A., Green, A., Hammond, C., & Preston, J. (2002). Learning, continuity and change in adult life. In Wider benefits of learning research report 3. London. [online] Available at: <https://discovery.ucl.ac.uk/id/eprint/1545921/1/Schuller2002Learning.pdf> [Accessed 18 April 2023]

Schuller, T., Preston, J., Hammond, C., Bassett-Grundy, A. And Bynner, J., 2004. *The Benefits of Learning: The impacts of formal and informal education on social capital, health and family life* (London: Routledge). 10.4324/9780203390818.

Shah, H., & Marks, N. (2004). *A well-being manifesto for a flourishing society*. Journal of Public Mental Health. 3, pp. 9-15. 10.1108/17465729200400023.

Scheyvens, R (ed.) (2014). *Development Fieldwork : A Practical Guide*, 2nd edition SAGE Publications, Limited, London.

Seligman, M. E. (2011). *Flourish: A visionary new understanding of happiness and well-being* (1st Free Press hardcover ed.). New York, NY: Free Press.

Sirgy, M. J. (2018). The psychology of material well-being. *Applied Research in Quality of Life, 13*(2), pp. 273–301.10.1007/s11482-017-9590-z.

Sirgy, M. J. (2019). "What determines subjective material well-being?," In: Brulé, G., Suter, C. (eds) *Wealth(s) and Subjective Well-Being. Social Indicators Research Series,* vol 76. 10.1007/978-3-030-05535-6_3.

Stiglitz, J. E., Sen, A., & Fitoussi, J.-P. (2009). *Report by the Commission on the Measurement of Economic Performance and Social Progress*. Paris: INSEE. [online] Available at: <https://ec.europa.eu/eurostat/documents/8131721/8131772/Stiglitz-Sen-Fitoussi-Commission-report.pdf> [Accessed 2 April 2023]

Strießnig, E. (2015). Too educated to be happy? An investigation into the relationship between education and subjective well-being. IIASA Interim Report. IIASA, Laxenburg, Austria: IR-15-015. [online] Available at: <https://pure.iiasa.ac.at/id/eprint/11674/> [Accessed 18 March 2023]

Stubb, J., Pyhältö, K., & Lonka, K. (2011). Balancing between inspiration and exhaustion: PhD students' experienced socio-psychological well-being. *Studies in Continuing Education*, 33(1), pp. 33–50. 10.1080/0158037X.2010.515572

Stutzer, A. (2004). The role of income aspirations in individual happiness. *Journal of Economic Behaviour and Organisation*, 54(1): pp. 89-109. 10.1016/j.jebo.2003.04.003

Sung, J. and Freebody, S. (2017) 'Lifelong learning in Singapore: where are we?', *Asia Pacific Journal of Education* , 37(4), pp. 613–629. 10.1080/02188791.2017.1386090.

Tett, L. and Maclachlan, K. (2007) Adult literacy and numeracy, social capital, learner identities and self-confidence, *Studies in the Education of Adults*, 39(2), pp. 150-67. 10.1080/02660830.2007.11661546.

UN (2015). *Sustainable development goals.* [online] Available at: <https://sdgs.un.org/goals> [Accessed 29 April 2023]

Veenhoven, R. (2002) 'Why Social Policy Needs Subjective Indicators', *Social Indicators Research*, 58(1/3), pp. 33–45. 10.1023/A:1015723614574.

Washburne, J. N. (1936). The definition of learning. *Journal of Educational Psychology, 27*(8), pp. 603–611.10.1037/h0060154.

Westwood, P., & Graham, L. (2003). Inclusion of Students with Special Needs: Benefits and Obstacles as Perceived by Teachers in New South Wales and South Australia. *Australian Journal of Learning Disabilities*, 8, pp. 3-15.10.1080/19404150309546718.

Wills-Herrera, E., Islam, G. and Hamilton, M. (2009). 'Subjective Well-Being in Cities: A Multidimensional Concept of Individual, Social and Cultural Variables', *Applied Research in Quality of Life: The Official Journal of the International Society for Quality-of-Life Studies*, 4(2), pp. 201–221. 10.1007/s11482-009-9072-z.

Yagi, T., Urakawa, K., Yonezaki, K. (2016). Happiness and Employment Status. In: Tachibanaki, T. (eds) *Advances in Happiness Research*. Creative Economy. Springer, Tokyo. 10.1007/978-4-431-55753-1_9.

Yang, Dongliang & Zheng, Ge & Wang, Haoran & Li, Mingna. (2022). Education, Income, and Happiness: Evidence From China. *Frontiers in Public Health*. 10. 855327. 10.3389/fpubh.2022.855327.

Zweck, C. v., Paterson, M., & Pentland, W. (2008). The Use of Hermeneutics in a Mixed Methods Design. *The Qualitative Report,* 13(1), pp. 116-134. 10.46743/2160-3715/2008.1609.

Appendix 1. Interview questions

I.   Portrait

Each of the following questions will be asked in order to have control variables. By this I mean that there might be other factors that influence happiness. You may choose not to answer any of the questions.

Your name (or anonymous)	
Country of origin	
County of current residence	
Age	
Gender	
Marital status	
Highest level of education	

II.   Let's talk a bit about happiness and wellbeing.

1. Wellbeing is commonly associated with life satisfaction, health and happiness. Do you agree with this?

2. What is happiness for you?

Level of happiness (overall) *Imagine the scale from 1 to 10, where 1 - extremely unhappy, and 10 Extremely happy. In overall, how would you rate your level of happiness as for today? You may also choose the answer 'I don't know'.*	
Level of life satisfaction (overall) *Imagine the scale from 1 to 10, where 1 - extremely dissatisfied, and 10 Extremely satisfied. In overall, how would you rate your level of life satisfaction as for today? You may also choose the answer 'I don't know'.*	

III. Now let's move a bit towards your learning experiences in adulthood.

Short note: by learning I mean process rather than the result. There are plenty of terms that are used in relation to learning, including training, education, studies. In this research there is no limit to fields of learning or formats. All experiences are welcomed to be shared. Please note that any education or learning experiences obtained in childhood (up to 18 y.o.) is not a focus of research.

Statement	Yes	No	Comments
Are you currently involved in learning?			
Have you taken an education or training course at any time within the last year? If yes, what kind of training and how long did it last?			
In your learning experience, have you been involved in formal education (university, college)			
In your learning experience, have you been involved in non-formal education (trainings, workshops - provided outside of official educational system)			
Was/is your learning experience delivered in person?			
Were/are you involved in learning activities via online means?			
Was/is your learning experience done at your home country?			
Was/is your learning experience done abroad?			
Was/is your learning experience pursued in different cultural settlements?			
Were/are you involved in learning experience due to external factors (work commitment, parental influence, society pressure)?			
Were/are you involved in learning experience due to internal factors (interest in specific topic/skills, personal growth etc.)			

Please feel free to comment on any of the above-mentioned statements.

1. Could you please share about your learning journey after school?
2. Did you enjoy the process of learning?

3. What learning experience brought you: any benefits, any regrets?

4. How learning made you feel?

5. Has anything changed in your life with your learning?

6. Did your learning experience assist you with professional development in any way? Is your job related to gaining knowledge?

7. Did your learning experience assist you with personal development in any way?

8. Do you think that your learning experience has anything to do with your:

Category	Agree/Disagree	Comment (please elaborate if possible)
Self-esteem		
Self confidence		
Awareness		
Behaviour/attitude		
Social connections		
Life satisfaction		
Happiness/ wellbeing		

9. Has your perception of learning changed in adulthood? If so, how?

10. There are plenty of factors that impact our wellbeing. Research shows that age, marital status, income and level of education etc have such an influence. Do you think that your learning experience impacted your subjective well-being? How?

Appendix 2. Summary of interview participants

Interviewee	Age	Gender	Marital status	Highest level of education (as for 02/2023)	Country of origin	Participation in LLL over last 12 months	Time spent for learning within the previous year	Self-reported happiness level	Self-reported life satisfaction level
Eva	23	female	single	bachelor	Estonia	yes	2.5 month	7.5	7.5
Liza	21	female	single	bachelor	Ukraine	yes	everyday	7.5	7.5.
Alex	32	male	single	PhD	Ukraine	yes	300 days	8	8
Tibor	35	male	single	master	Serbia	yes	3 weeks	8	6
Simon	46	male	married	PhD	UK	yes	n/a	8	n/a
Nikita	22	male	single	bachelor	Lithuania	yes	everyday	7.5	8.5
Noomi	32	female	single	master	Netherlands	yes	24 days	8	9
Nadiya	36	female	married	PhD	Ukraine	yes	10 days	10	8
Aurika	33	female	married	master	Ukraine	yes	6 months	6	5
Juliia	20	female	single	secondary	Ukraine	yes	40 hours/week	7	8
Yuliia	23	female	single	bachelor	Ukraine	yes	25 days	7	9
Myckhailo	26	male	single	PhD	Ukraine	yes	15 days	8	8
Zoryna	25	female	in partnership	master	Ukraine	yes	17 days	7	8
Maryna	31	female	married	master	Ukraine	yes	5 weeks	9	9
Natalya	35	female	single	PhD	Ukraine	yes	70 days	7	7
Nate	22	male	single	bachelor	US	yes	40 hours/week	7	8

Annika	22	female	single	bachelor	Germany	yes	40 hours/week	7	7
Bogdan	22	male	single	bachelor	Ukraine	yes	40 hours/week	7	9
Caitlin	28	female	single	bachelor	US	yes	40 hours/week	7	7
Olya	27	female	single	master	Ukraine	yes	7 months	8	7
Participant 1 Anonymously	25	female	married	master	Estonia	yes	2 hours/week	7	6
Participant 2 Anonymously	36	male	married	master	Bangladesh	yes	everyday	9	9
Participant 3 Anonymously	33	female	single	master	India	yes	40 hours/week	5	7
Participant 4 Anonymously	33	female	single	master	Georgia	yes	40 hours/week	9	9
Average:	28.67							7.56	7.73

Appendix 3. Informed consent form

The interview is a part of academic research with the International Development & Management program at Lund University, conducted by Oleksandra Brashovetska (contact details: obr****@gmail.com).

Purpose of research:
The purpose of this research is to examine the impact of lifelong learning on subjective well-being. The data is collected from 3 main resources: previous academic findings, results of social survey (European Quality of Life Survey) and interviews with people, who experienced lifelong learning. If participants have any questions about the research, they are strongly encouraged to ask the researcher at any moment during the interview or after it.

Procedure of the interview:
The interview will last for about 50-60 minutes. The researcher will make some notes on the way. Participant's responses will be confidential and anonymized in the manner that no one could track answers to the respondent. However, if participants wish, their name can be revealed in the study. Recording of the interview (in case participant agrees to it) will be saved until June and will be available only to the researcher.

Data & Copyright
The interview is about participants and their experience. In the research, the researcher will use generalised data, however they might quote participants to illustrate findings. All selected quotes are to be pre-approved by the participant. Information gathered on individuals will only be used for research purposes.

Right to withdraw:
Participants may decide to withdraw their responses or any part of them at any time. The researcher kindly asks that if the participant decides so, to inform the researcher no later than May 10, 2023, as the thesis will be finalised and handed out to Lund University.

Publishing:
Thesis will be defended in June 2023, and afterwards published on Lund University official database. Upon request, the link to the study will be shared as soon as it is published.

Please confirm the following: I am aware that I must be at least 18 years of age to participate. My confirmation signifies my voluntary participation in this project, and that I have received a copy of this consent form.

Appendix 4. Univariate analysis

Applied dataset: European Quality of Life Survey, Wave 4, 2016

Level of happiness - dependent variable.

Statistics

Taking all things together on a scale of 1 to 10, how happy would you say you are?

N	Valid	36728
	Missing	0
Mean		7.0611
Mode		8.0
Std. Deviation		2.08919
Range		9.00
Minimum		1.00
Maximum		10.00

Taking all things together on a scale of 1 to 10, how happy would you say you are?
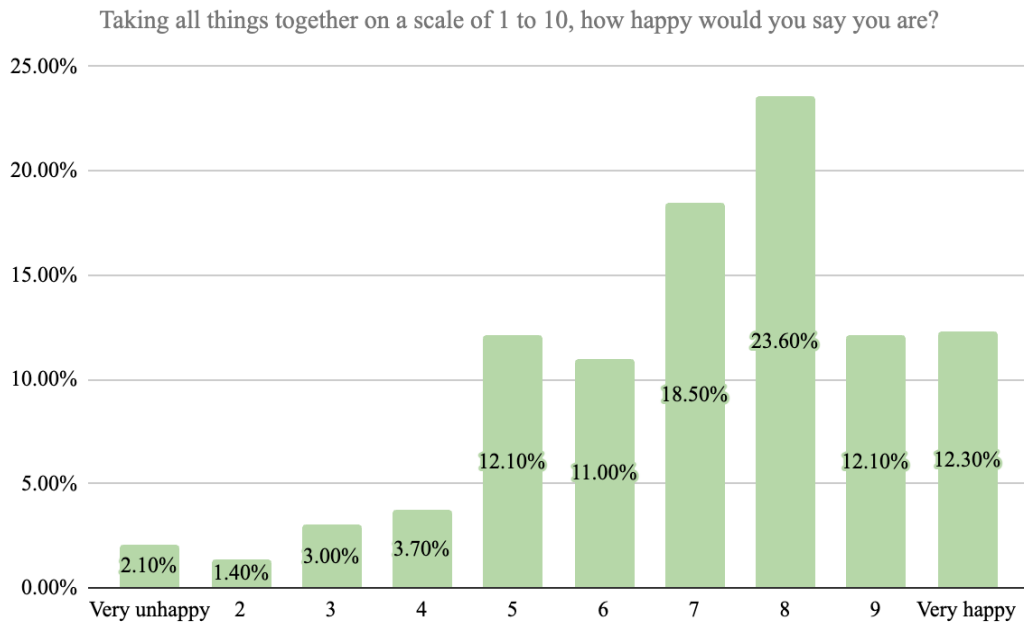
Based on this variable, a dummy variable has been created: **Happiness level dummy**

Rating from 0 to 5 is considered as 'not happy', while rating from 6 to 10 is considered as 'happy':

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not happy	8253	22.5	22.5	22.5%
	Happy	28475	77.5	77.5	100%
	Total	36728	100.0	100.0	

Participation in adult learning - independent variable

EQLS-4 included two nominal variables, related to adult learning:

- Training for professional/work-related reasons
- Training for non- professional reasons

Statistics:

		Training for professional reasons	Training for non- professional reasons
N	Valid	36728	36728
	Missing	0	0
Mode		.00	.00
Range		1.00	1.00
Minimum		.00	.00
Maximum		1.00	1.00

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Did not participate in training for professional reasons	28787	78.4	78.4	78.4
	Participated in training for professional reasons	7941	21.6	21.6	100
	Total	36728	100.0	100.0	

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Did not participate in training for NON-professional reasons	32946	89.7	89.7	89.7
	Participated in training for NON-professional reasons	3782	10.3	10.3	100
	Total	36728	100.0	100.0	

Above-mentioned variables were re-coded, resulting in new variable 'Participation in adult learning' with 3 possible values:
1. Did not participate in AL
2. Participated in one type of AL, i.e. in training for professional reasons OR training for non-professional reasons
3. Participated in 2 types of AL, i.e. in training for professional reasons AND training for non-professional reasons

Participation in Adult learning	Frequency	Percent	Valid Percent
Did not participate in adult learning	27279	74.3	74.3
Participated in one type of adult learning	7175	19.5	19.5
Participated in adult learning (both for professional or personal reasons)	2274	6.2	6.2.
Total	36728	100	100

Participation in adult learning

Control variables

Gender (sex)

Statistics:

N	Valid	36728
	Missing	0
Mode		2
Range		1
Minimum		1
Maximum		2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	15955	43.4	43.4	43.4
	Female	20773	56.6	56.6	100
	Total	36728	100.0	100.0	

Age

N	Valid	36728
	Missing	0
Mean		50.7415
Median		51.0000
Mode		60.00
Std. Deviation		17.70337
Range		77.00
Minimum		18.00
Maximum		95.00

Age distribution
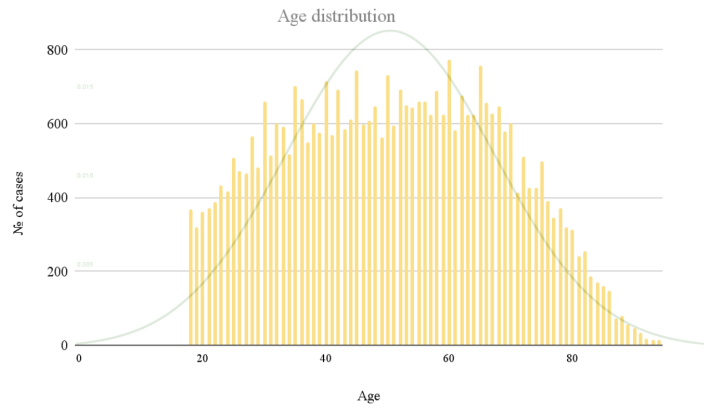
Employment status

Statistics:

N	Valid	36728
	Missing	0
Mode		1
Range		11
Minimum		1
Maximum		12

The dataset provided employment status in 12 categories:

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	At work as employee or employer/self-employed	16938	46.1	46.1	46.1
	Employed, on childcare leave	427	1.2	1.2	47.3
	Employed, on other special leave	177	.5	.5	47.8
	In receipt of retirement pension and at work as employee or employer/self-employed	353	1.0	1.0	48.7
	At work as relative assisting on family business or farm	174	.5	.5	49.2
	Unemployed less than 12 months	916	2.5	2.5	51.7
	Unemployed 12 months or more	1709	4.7	4.7	56.3
	Unable to work due to long-term illness of disability	701	1.9	1.9	58.3
	Retired	10824	29.5	29.5	87.7
	Full-time homemaker/fulfilling domestic tasks	2731	7.4	7.4	95.2
	In education (at school, university, etc.)	1672	4.6	4.6	99.7
	Other (not asked)	106	.3	.3	100.0
	Total	36728	100.0	100.0	

For the purpose of the study, the employment status variable was re-coded into a new variable: **"Employment status 3 categories"** with three values:

- Employed (categories 1-5)
- Retired (category 9)
- Unemployed (all other categories)

Employment status 3 categories statistics

N	Valid	36728
	Missing	0
Mean		2.1973
Median		2.0000
Mode		3.00
Std. Deviation		.86474
Range		2.00
Minimum		1.00
Maximum		3.00

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Retired	10824	29.5	29.5	29.5
	Unemployed	7835	21.3	21.3	50.8
	Employed	18069	49.2	49.2	100
	Total	36728	100.0	100.0	

Higher education

The dataset includes the variable "Education: three categories" with 36552 valid cases.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Lower secondary or below	10976	29.9	30.0	30.0
	Upper secondary or post secondary	15895	43.3	43.5	73.5
	Tertiary	9681	26.4	26.5	100
	Total	36728	100.0	100.0	
Missing	System	176	.5		
Total		36728			

Since the study focuses on adult learning experiences, only tertiary education is considered. Tertiary education is presented as a separate variable labelled as 'completed higher education'

Statistics:

N	Valid	36552
	Missing	176
Mode		.00
Range		1.00
Minimum		.00
Maximum		1.00

Completed higher education

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	26871	73.2	73.5	73.5
	Yes	9681	26.4	26.5	100
	Total	36552	99.5	100.0	
Missing	System	176	.5		
Total		36728			

Appendix 5. Bivariate analysis

Research question	Is participation in adult learning (x) associated with level of happiness (y)?
Null hypothesis	**H0** There is no significant relationship between participation in adult learning and happiness
Alternative hypothesis	**H1** There is a relationship between participation in adult learning and happiness

Analysed variables.

Type of variable	Name of variable
Dependent variable	Level of happiness
Independent variable	Participation in adult learning

Case Processing Summary

	Valid		Cases missing		Total	
	N	Percent	N	Percent	N	Percent
Happiness level dummy* Participation in Adult learning	36728	100.0%	0	0.0%	36728	100.0%

Happiness level dummy* Participation in Adult learning Crosstabulation

		Participation in Adult learning Crosstabulation			Total
		Did not participate in AL	Participated in one type of AL	Participated in both types of AL	
Happiness level dummy	Not happy	7181	841	231	8253
	Happy	20098	6334	2043	28475
Total		27279	7175	2274	36728

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	906.302[a]	2	<.001
Likelihood Ratio	1009.566	2	<.001
Linear-by-Linear Association	811.874	1	<.001
N of Valid Cases	36728		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 510.98

Directional Measures

			Value
Nominal by Interval	Eta	Happiness level dummy Dependent	.157
		Participation in Adult Learning Dependent	.149

Symmetric Measures

		Value	Asymptotic Standard Error [a]	Approximate T [b]	Approximate Significance
Nominal by nominal	Phi	.157			<.001
	Cramer's V	.157			<.001
Interval by Interval	Pearson's R	.149	.004	28.813	<.001[c]
Ordinal by Ordinal	Spearman Correlation	.157	.004	30.394	<.001[c]
N of Valid Cases		36728			

a. Not assuming the null hypothesis

b. Using the asymptotic standard error assuming the null hypothesis

c. Based on normal approximation

Participation in adult learning & happiness

not happy **happy**

	Did not participate in adult learning	Participated in adult learning (1 type)	Participated in adult learning (both types)
not happy	87.00%	10.20%	2.80%
happy	70.60%	22.20%	7.20%

Happiness & participation in adult learning

Participated in adult learning (both types) **Participated in adult learning (1 type)** **Did not participate in adult learning**

	Not happy	Happy
Participated in adult learning (both types)	2.80%	7.20%
Participated in adult learning (1 type)	10.20%	22.20%
Did not participate in adult learning	87.00%	70.60%

Happiness level (scale) & participation in adult learning

Participated in adult learning (both types) **Participated in adult learning (1 type)** **Did not participate in adult learning**

	Very unhappy	2	3	4	5	6	7	8	9	Very happy
Participated in adult learning (both types)	0.40%	0.50%	1.10%	1.90%	6.20%	8.70%	19.50%	28.00%	17.90%	15.70%
Participated in adult learning (1 type)	0.60%	0.60%	1.40%	2.10%	6.90%	7.90%	20.40%	29.10%	17.10%	13.80%
Did not participate in adult learning	2.70%	1.70%	3.60%	4.30%	14.00%	12.00%	17.90%	21.80%	10.30%	11.60%
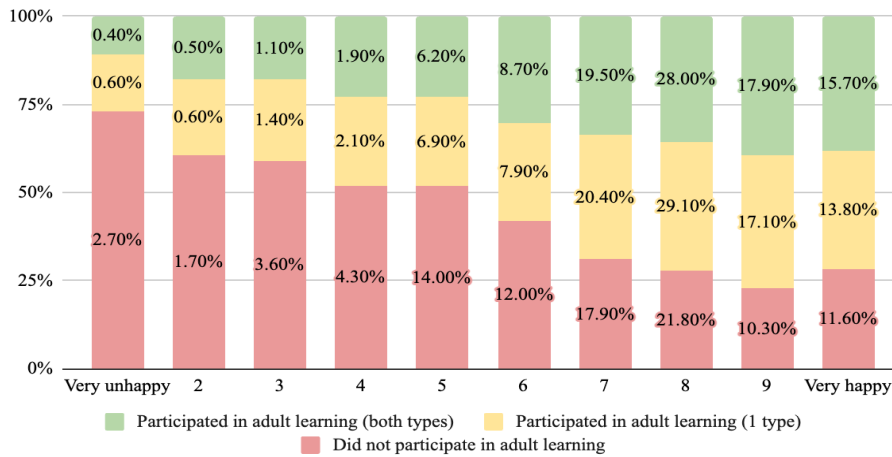
Appendix 6. Spearman's Rank test for associations

			Participation in Adult Learning	Respondent sex
Spearman's rho	Participation in Adult Learning	Correlation Coefficient	1.000	-.015**
		Sig. (2-tailed)	.	.005
		N	36728	36728
	Respondent sex	Correlation Coefficient	-.015**	1.000
		Sig. (2-tailed)	.005	.
		N	36728	36728

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

			Participation in Adult Learning	Respondent age
Spearman's rho	Participation in Adult Learning	Correlation Coefficient	1.000	-.282**
		Sig. (2-tailed)	.	.000
		N	36728	36728
	Respondent age	Correlation Coefficient	-.282**	1.000
		Sig. (2-tailed)	.000	.
		N	36728	36728

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

			Participation in Adult Learning	Employment status_3_categories
Spearman's rho	Participation in Adult Learning	Correlation Coefficient	1.000	-.339**
		Sig. (2-tailed)	.	.000
		N	36728	36728
	Employment status_3_categories	Correlation Coefficient	-.339**	1.000
		Sig. (2-tailed)	.000	.
		N	36728	36728

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

			Participation in Adult Learning	Completed higher education
Spearman's rho	Participation in Adult Learning	Correlation Coefficient	1.000	.308**
		Sig. (2-tailed)	.	.000
		N	36728	36552
	Completed higher education	Correlation Coefficient	.308**	1.000
		Sig. (2-tailed)	.000	.
		N	36552	36552

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

Appendix 7. Multivariate analysis

Research question	Does the level of participation in adult learning (x) have an association with happiness (y) when differences in gender, age, employment status and obtained higher education are controlled for?
Null hypothesis	**H0** There is no significant relationship between participation in adult learning and happiness when differences in gender, age, employment status and obtaining higher education are controlled for.
Alternative hypothesis	**H1** There is a significant relationship between participation in adult learning and happiness when differences in gender, age, employment status and obtaining higher education are controlled for.

Variables tested within logistic regression

Type of variable	Name of variable
Dependent variable	Level of happiness
Independent variable	Participation in adult learning
Control variable	Age
Control variable	Sex (gender)
Control variable	Employment status
Control variable	Higher education

Model 1. the effects of participation in adult learning and gender on the level of happiness

Model statistics

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	1014.408	3	<.001
	Block	1014.408	3	<.001
	Model	1014.408	3	<.001

Hosmer and Lemeshow Test

Step	Chi-square	df	Sig
1	3.426	3	.331

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	38122.942[a]	.027	.042

a.Estimation terminated at iteration number 5 because parameter estimates changed by less than .001.

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp (B)	95% C.I. for EXP(B)	
								Lower	Upper
Step 1a	Participated in 2 types AL			848.754	2	<.001			
	Did not participate in AL	-1.150	.071	264.197	1	<.001	.317	.276	.364
	Participated in 1 type AL	-.161	.079	4.223	1	.040	.851	.730	.993
	Respondent sex	-.056	.026	4.835	1	.028	.945	.899	.994
	Constant	2.268	.080	798.578	1	<.001	9.660		

a. Variable(s) entered on step 1: Participation in Adult learning, Respondent Sex

Model 2. the effects of participation in adult learning and age on the level of happiness

Model statistics

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	1229.041	3	<.001
	Block	1229.041	3	<.001
	Model	1229.041	3	<.001

Hosmer and Lemeshow Test

Step	Chi-square	df	Sig
1	46.530	8	<.001

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	37908.310[a]	.033	.050

a.Estimation terminated at iteration number 5 because parameter estimates changed by less than .001.

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp (B)	95% C.I. for EXP(B)	
								Lower	Upper
Step 1a	Participated in 2 types AL			623.347	2	<.001			
	Did not participate in AL	-1.004	.072	196.976	1	<.001	.366	.318	.422
	Participated in 1 type AL	-.129	.079	2.686	1	.101	.879	.754	1.026
	Respondent age	-.011	.001	216.955	1	<.001	.989	.988	.991
	Constant	2.625	.076	1193.026	1	<.001	13.806		

a.Variable(s) entered on step 1: Participation in Adult learning, Respondent age

Model 3. the effects of participation in adult learning and employment status on the level of happiness

Model statistics

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	1570.659	4	.000
	Block	1570.659	4	.000
	Model	1570.659	4	.000

Hosmer and Lemeshow Test

Step	Chi-square	df	Sig
1	.863	3	.834

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	37566.691[a]	.042	.064

a.Estimation terminated at iteration number 5 because parameter estimates changed by less than .001.

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp (B)	95% C.I. for EXP(B)	
								Lower	Upper
Step 1a	Participated in 2 types AL			511.602	2	<.001			
	Did not participate in AL	-.953	.072	175.366	1	<.001	.386	.335	.444
	Participated in 1 type AL	-.157	.079	3.967	1	.046	.855	.732	.998
	Employed			550.746	2	<.001			
	Retired	-.539	.031	304.641	1	<.001	.583	.549	.620
	Unemployed	-.718	.033	483.222	1	<.001	.487	.457	.520
	Constant	2.369	.070	1130.820	1	<.001	10.691		

a.Variable(s) entered on step 1: Participation in Adult learning, Employment_status_3_cat

Model 4. the effects of participation in adult learning and higher education on the level of happiness

Model statistics

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	1433.808	3	.000
	Block	1433.808	3	.000
	Model	1433.808	3	.000

Hosmer and Lemeshow Test

Step	Chi-square	df	Sig
1	.311	2	.856

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	37512.401ᵃ	.038	.059

a.Estimation terminated at iteration number 5 because parameter estimates changed by less than .001.

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp (B)	95% C.I. for EXP(B)	
								Lower	Upper
Step 1a	Participated in 2 types AL			541.768	2	<.001			
	Did not participate in AL	-.918	.072	162.161	1	<.001	.400	.347	.460
	Participated in 1 type AL	-.090	.079	1.289	1	.256	.914	.783	1.068
	Higher education	.686	.035	387.296	1	<.001	1.987	1.855	2.127
	Constant	1.836	.072	658.603	1	<.001	6.273		

a.Variable(s) entered on step 1: Participation in Adult learning, Higher education

Model 5. the effects of participation in adult learning and all control variable on the level of happiness

Model statistics

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	2039.042	7	.000
	Block	2039.042	7	.000
	Model	2039.042	7	.000

Hosmer and Lemeshow Test

Step	Chi-square	df	Sig
1	22.675	8	.004

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	36907.167[a]	.054	.083

a. Estimation terminated at iteration number 5 because parameter estimates changed by less than .001.

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp (B)	95% C.I. for EXP(B)	
								Lower	Upper
Step 1a	Participated in 2 types AL			281.459	2	<.001			
	Did not participate in AL	-.696	.073	90.035	1	<.001	.499	.432	.576
	Participated in 1 type AL	-.072	.080	.817	1	.366	.931	.796	1.088
	Respondent sex	.039	.026	2.177	1	.140	1.040	.987	1.095
	Respondent age	-.013	.001	152.314	1	<.001	.987	.985	.989
	Employed			419.494	2	<.001			
	Retired	-.158	.042	14.514	1	<.001	.854	.787	.926
	Unemployed	-.688	0.34	414.040	1	<.001	.502	.470	.537
	Higher education	.586	.035	274.131	1	<.001	1.796	1.676	1.925
	Constant	2.520	.092	743.777	1	<.001	12.429		

a.Variable(s) entered on step 1: Participation in Adult learning, Respondent sex, Respondent age, Employment_status_3_cat, Higher education

Additional tests on gender role

Crosstabulation

		Respondent sex		Total
		Male	Female	
Completed higher education	No	11704	15167	26871
	Yes	4180	5501	9681
Total		15884	20668	36552

Model statistics

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	1438.378	4	.000
	Block	1438.378	4	.000
	Model	1438.378	4	.000

Hosmer and Lemeshow Test

Step	Chi-square	df	Sig
1	1.126	4	.890

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	37507.831[a]	.039	.059

a. Estimation terminated at iteration number 5 because parameter estimates changed by less than .001.

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp (B)	95% C.I. for EXP(B)	
								Lower	Upper
Step 1a	Participated in 2 types AL			539.416	2	<.001			
	Did not participate in AL	-.916	.072	161.707	1	<.001	.400	.347	.461
	Participated in 1 type AL	-.090	.079	1.301	1	.254	.914	.782	1.067
	Respondent sex	.055	.026	4.563	1	.033	1.057	1.005	1.112
	Higher education	.686	.035	387.090	1	<.001	1.987	1.855	2.127
	Constant	1.812	.072	624.992	1	<.001	6.120		

a. Variable(s) entered on step 1: Participation in Adult learning, Respondent sex, Higher education