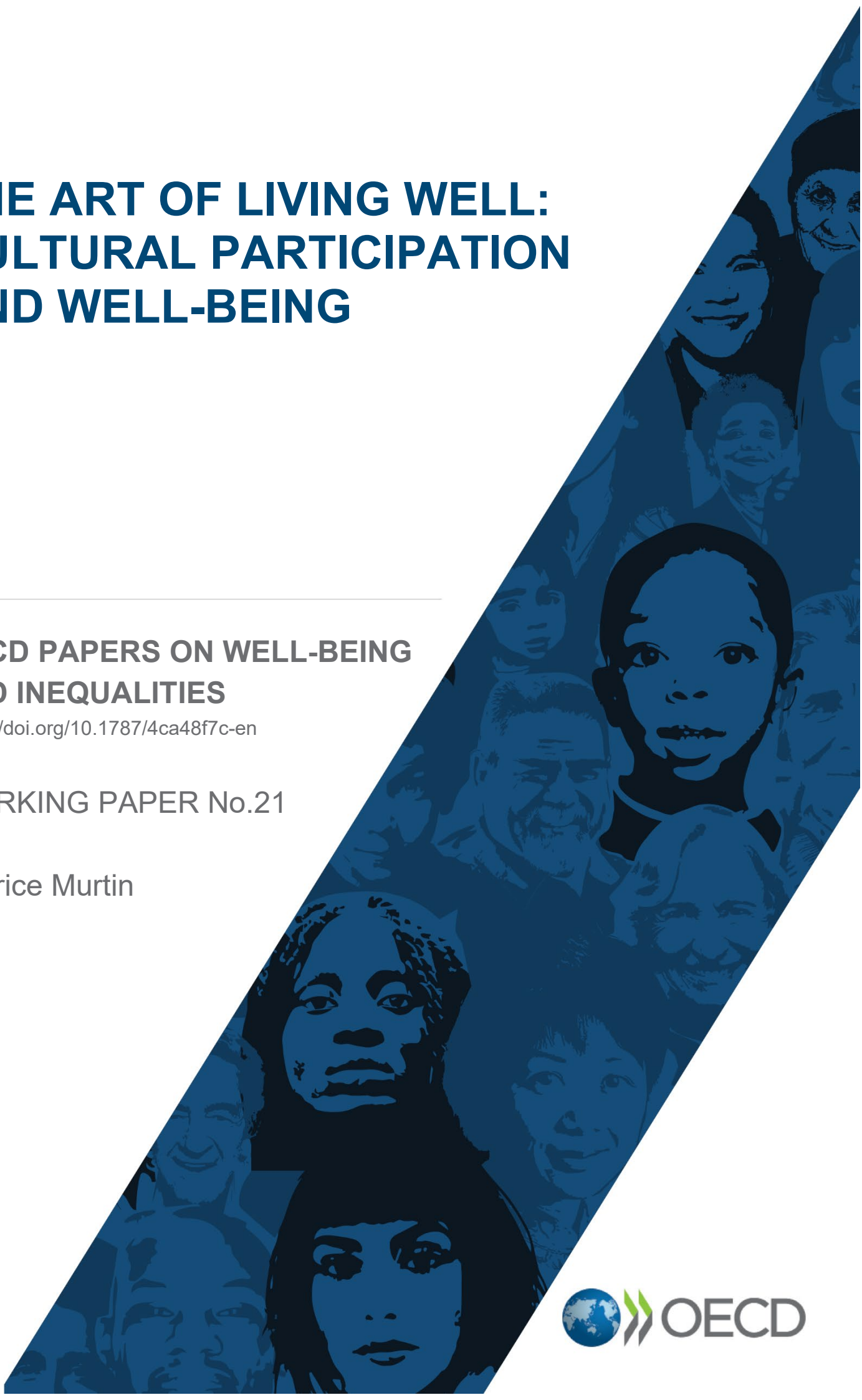
THE ART OF LIVING WELL: CULTURAL PARTICIPATION AND WELL-BEING



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Abstract

This paper first presents a meta-analysis of the causal impact of cultural participation on well-being. The meta-analysis classifies the literature according to the strength of the evidence available and various types of cultural activities. Secondly, this paper uses data from time use surveys from Canada, France, Italy, the United Kingdom, and the United States to study individuals' emotional responses to a series of daily activities. This is then used as a basis for an empirical assessment of the drivers of time allocation across different activities, showing that expectations of future well-being are one of the reasons why individuals decide to engage in cultural activities. Furthermore, the model helps explain why cultural participation, in spite of being one of the most enjoyable human activities, is also the least undertaken. We show that heterogeneity of preferences results in a strong selection effect in available statistics.

Résumé

Ce document propose une méta-analyse du lien causal entre la participation aux activités culturelles et le bien-être. Dans la méta-analyse, la littérature scientifique est organisée à partir de la qualité des preuves et du type d'activité culturelle analysée. Ensuite, ce travail s'appuie sur des enquêtes sur l'emploi du temps réalisées au Canada, en France, en Italie, au Royaume-Uni et aux États-Unis afin d'examiner la réponse émotionnelle des personnes à une série d'activités quotidiennes. Ces données sont aussi utilisées pour une analyse empirique des raisons de l'allocation du temps entre plusieurs activités. Cette analyse montre que l'implication dans les activités culturelles est en partie liée aux attentes en matière de bien-être. De plus, le modèle aide à expliquer pourquoi la participation culturelle est l'une des activités humaines les moins fréquentes, en dépit d'être l'une des plus plaisantes. Nous montrons que la forte hétérogénéité des préférences aboutit à de forts effets de sélection dans les statistiques disponibles.

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1 Introduction

There is a considerable amount of literature exploring the determinants of well-being and happiness. Research on the topic has flourished in recent years also as a result of increased national and international initiatives aiming at defining the contours of what matters for a good life. This has coincided with expanded availability of data and general evidence on well-being (OECD, n.d.[1]). In the policy world, the topic of well-being has also attracted a lot of attention especially after the report by the Stiglitz, Sen, and Fitoussi Commission (2009[2]), which paved the way for academic and policy discussions on the determinants of well-being. At the same time, the OECD took up the initiative of coordinating and advancing the debate among countries on well-being measurement (OECD, n.d.[1]). In the light of the recommendations put forward within the context of several international projects, a number of countries have developed their own well-being frameworks, which have often been defined as a result of civil society and expert groups consultations. Examples in this respect are the initiatives in Italy, New Zealand, France, Israel, and UK, where large public consultations were launched to assess what domains mattered to people's well-being (Exton and Shinwell, 2018, pp. 7-9[3]). These countries, along with several others, have developed sets of indicators that can be employed at different stages throughout the policy-making process (Exton and Shinwell, 2018, pp. 16-17[3]).

In that context, the importance of cultural participation for well-being emerged as a leading theme in several public consultations and was included in a number of national well-being frameworks. Yet, in spite of its perceived relevance among the drivers of a good life, the interpretation of the concept of culture is not straightforward. French sociologist Pierre Bourdieu (1989[4]) describes culture as an asset forming cultural capital, putting forward a landmark distinction: whilst institutionalised cultural capital equals to formal qualifications, embodied capital is the knowledge that is needed in order to fully enjoy culture in its objectified form (Bourdieu, 1989[4]). Another definition that is frequently referred to when discussing culture is that proposed by UNESCO (1982[5]), which characterises culture as a set of tangible and intangible asset comprising 'not only the arts and letters, but also modes of life, the fundamental rights of the human being, value systems, traditions and beliefs'. Such a broad definition enhances completeness to the detriment of specificity. In order to overcome this, literature has generally resorted to listing a series of activities that constitute domains of cultural consumption (ESSnet-Culture, 2012, p. 39[6]).

This paper examines the relationship between subjective well-being and cultural consumption. The links between culture in general and well-being go beyond the scope of this paper, and the focus of this article is solely on participation to cultural activities and the consumption of cultural products – hereinafter referred to as 'cultural participation' or 'cultural consumption' interchangeably. This means that concepts of culture as a form of identity, or as a determinant of eudaimonia, intended as sense of meaning and purpose in life, are not in scope for this analysis.

This paper makes a twofold contribution on the links between cultural participation and well-being. Firstly, we provide a comprehensive review of the literature on cultural activities and well-being, while spanning several scientific fields. Secondly, this paper considers the relationship between subjective well-being and time allocation in a simple theoretical model, which seeks to explain why culture, in spite of being one of the most enjoyable human activities, is also the least undertaken. We show that heterogeneity of preferences results in a strong selection effect in available statistics.

This paper is related to previous studies that have examined how people allocate their leisure time, and the impact that cultural activities have on subjective well-being (Grossi, Tavano Blessi and Sacco, 2018[7]; Wheatley and Bickerton, 2017[8]; Fancourt and Finn, 2019[9]; OECD, 2022[10]). In general, studies have dealt with the relationship between cultural consumption and well-being from three different standpoints. Qualitative research has sought to interpret how people respond to cultural stimuli, in particular by looking at their emotions and mood while engaging in cultural activities. Analyses of this type have generally been based on small groups of individuals with certain common characteristics. For example, studies have focused on patients in healthcare settings, or on older people in nursing homes. Quantitative methods have attempted to study associations between cultural consumption and a wide range of well-being determinants; in some cases, research has gone a step further by trying to establish causality in order to capture the effect of cultural participation on well-being. These studies have normally dealt with larger groups, in many cases nationally representative samples from large population surveys. Causality has also been investigated in a rich set of medical and neurological studies that have focused on brain activation processes as a result of being exposed to artistic stimuli, as well as physiological reactions associated with engagement in arts and crafts. Although sample sizes in many medical studies are modest, strong impact evidence is ensured by the scientific approaches used in recording changes in indicators such as biological stress markers and activation of specific brain areas; for this reason, medical studies generally offer the most convincing evidence on the relationship between subjective well-being and culture. Overall, the literature indicates that there might be strong causal effects for all the areas of cultural consumption analysed. Yet, not all areas of cultural consumption have so far received the same degree of attention: gaps in the literature remain as regards certain types of cultural activities. We find that availability of statistical studies evaluating the impact of active arts engagement or writing on well-being is limited, and that there are few medical studies in this domain. Also, there is a lack of medical studies on the role of performing arts and cinema on subjective well-being.

The paper is structured as follows. Section 2 provides a meta-analysis of the effect of cultural participation on well-being. Section 3 takes stock of time-use survey statistics to document the uptake of cultural activities and the associated well-being and relates the two with a simple time allocation model. Last section concludes.

2 The impact of cultural activities on well-being

This section provides a multi-disciplinary review of the relationship between cultural activities and well-being. In recent years, literature has increasingly focused on the benefits related to work-life balance. In this respect, research has increasingly focused on understanding the contribution of leisure activities to life satisfaction (Sirgy, Uysal and Kruger, 2017[11]). If free-time activities and hobbies are reasonably thought to contribute to well-being, a similar reasoning could be applied to cultural activities, if only because people engage in cultural activities mainly during their spare time, out of choice.

Research has dealt with the topic of cultural consumption in relation to well-being from a variety of perspectives, sometimes in an unstructured manner. There is abundant evidence of a link between cultural consumption and life satisfaction (Węziak-Białowolska, Białowolski and Sacco, 2018[12]). Yet, in some cases, studies have only highlighted a mere association between the two, often studying outcomes based on modest sample sizes, without identifying clear causal relationships between forms of cultural consumption and aspects of well-being (Galloway, 2006[13]). In spite of this, a comprehensive review of the body of evidence available to date suggests that cultural participation might improve a person's well-being, although further research is needed to expand and consolidate the findings. This evidence is summarised in the Table below and further discussed in the next sections.

Table 2.1. Summary of literature review

Music (active)		
Statistical studies	(Bygren, Konlaan and Johansson, 1996[12]); (Fujiwara and MacKerron, 2015[13]); (Fujiwara, Kudrna and Dolan, 2014[14]); (Weziak-Bialowolska, 2016[15])	Significant positive association with lower mortality risk, happiness, health, and negative relation with depressed mood. Significant negative association with life satisfaction. Causal relationship inconclusive.
Selected populations	(Bieleninik et al., 2017[16]); (Cohen et al., 2006[17]); (Daykin et al., 2018[18]); (Fancourt et al., 2016[19]); (Fogg-Rogers et al., 2015[20]); (Pacchetti et al., 2000[21]) ; (Sapouna and Pamer, 2016[22]); (Särkämö et al., 2013[23]); (Thomson and Chatterjee, 2016[24])	Qualitative appraisals suggest association with enjoyment, relaxation, and socialisation. Positive correlation with positive mood. In medical settings, benefits are extended to carers. In patients with dementia, positive association with general cognition improvements, attention, executive function; in the long-term, positive association also with episodic memory. Causal relationship shown by neurological activity: positive effects on downregulation of stress and improved sociability.
Medical and neurological studies	(Vickhoff et al., 2013[25])	Causal effects on heart rate variability and respiration, conditional on type of singing.
Music (passive)		
Statistical studies	(Fujiwara, Kudrna and Dolan, 2014[14]); (Fujiwara and MacKerron, 2015[13]); (Grossi et al., 2011[26]); (Konlaan, Bygren and Johansson, 2000b[27]); (Ritter and Ferguson, 2016[28])	Positive association with psychological well-being, apart from being in the audience of jazz concerts. Positive association with longevity and creativity. Positive impact on life satisfaction, happiness and relaxation.
Selected populations	(Blood and Zatorre, 2001[29]); (Hatem, Lira and Mattos, 2006[30]); (Linnemann et al., 2015[31]); (Linnemann, Strahler and Nater, 2016[32]); (McCaffrey, 2009[33]); (Nilsson, 2009[34]); (Särkämö et al., 2008[35]); (Särkämö et al., 2013[23]); (Vaajoki et al., 2012[36]); (van der Heijden et al., 2015[37])	In clinical populations, qualitative associations show positive link with relaxation, mood, and orientation. Positive, but weaker, association with attention and executive function. In non-medical populations, association with reduced stress still holds. Positive correlation with caregivers' well-being. No significant association neither with post-operatory dosage of analgesics, nor hospital stay. Causal evidence of activation of brain circuitry involved in processing euphoria and pleasant emotion, as well as reward.
Medical and neurological studies	(Cervellin and Lippi, 2011[38]); (Chapados and Levitin, 2008[39]); (Chanda and Levitin, 2013[40]); (Croom, 2012[41]); (Fancourt, Ockelford and Belai, 2014[42]); (Goldstein, 1980[43]); (Menon and Levitin, 2005[44]); (Rickard, 2004[45]); (Salimpoor et al., 2011[46]); (Swaminathan and Schellenberg, 2015[47])	Causal evidence of stress reduction and relaxation, skin vasoconstriction and electrodermal activity, heart rate variability, and blood pressure. Impact on brain structures involved in reward processing and in regulation of autonomic responses to external emotional stimuli. Potential positive association with dopamine release in specific brain areas.
Music (active/passive)		
Selected populations	(Bradt, 2010[48])	Positive association with pain reduction, more markedly as long as music is present and in the immediate post-operatory phase.
Medical and neurological studies	(Trombetti et al., 2011[49])	Positive association with gait performance in the context of music-based multitasking activities.

Visual arts (active)		
Statistical studies	(Weziak-Bialowolska, 2016[15])	Positive association with self-reported well-being and self-reported health. Non-significant association with depressed mood and severity of symptoms. Inconclusive causal link.
Selected populations	(Archibald, Scott and Hartling, 2014[50]); (Cowl and Gaugler, 2014[51]); (Fisher and Specht, 1999[52]); (Hacking et al., 2008[53]); (Liddle, Parkinson and Sibbritt, 2013[54]); (Renton et al., 2012[55]); (Reynolds, 2010[56]); (Reynolds, Vivat and Prior, 2011[57]); (Rose and Lonsdale, 2016[58])	Qualitative information on positive association with reduced anxiety and enhanced coping skills. Among older adults and patients, association with sense of accomplishment, self-value, and general feelings of pleasantness. No causal link is established.
Visual arts (passive)		
Statistical studies	(Brown, MacDonald and Mitchell, 2015[59]); (Fujiwara, 2013[60]); (Fujiwara and MacKerron, 2015[13]); (Konlaan, Bygren and Johansson, 2000b[27]); (Weziak-Bialowolska, 2016[15]); (Wheatley and Bickerton, 2017[61])	Positive relation between visiting heritage sites and life satisfaction. Mixed significance of this association for museums and galleries; positive and significant association with happiness and self-reported health. In general, higher frequency of visits to museums and historical sites is associated with higher satisfaction with life, leisure, and happiness. Volunteering in museums is non-significant for happiness, and significantly negative for health. Positive link between frequently visiting museums and art exhibitions and longevity. Positive impact of museums on happiness, among the activities yielding the greatest return in terms of coefficient size.
Selected populations	(Crociata, Agovino and Sacco, 2014[62]); (Colbert et al., 2013[63]); (Eekelaar, Camic and Springham, 2012[64]); (Ferilli et al., 2017[65]); (Lackoi, Patsou and Chatterjee, 2016[66]); (Young et al., 2015[67]); (Clow and Fredhoi, 2006[68]); (Grossi, Tavano Blessi and Sacco, 2018[7]); (Vaillancourt et al., 2007[69]); (Van Dongen, Van Strien and Dijkstra, 2016[70])	Qualitative findings suggest positive association with enhanced subjective well-being, episodic memory, and semantic clustering abilities in selected medical groups. Conflicting results in terms of verbal fluency. Positive relationship with reductions in cortisol levels. Positive causal impact on hospital discharge rate of mental health illnesses.
Medical and neurological studies	(Vartanian and Skov, 2014[71])	Causal evidence that exposure to paintings engages multiple areas of the brain relating to categorisation and systematisation of paintings' features, alongside activation in areas related to emotional and reward processing.
Visual arts (active/passive)		
Selected populations	(Ander et al., 2013[72]); (Camic, Hulbert and Kimmel, 2017[73]); (Thomson and Chatterjee, 2016[24])	Qualitative positive association with mood, calmed anxiety, and confidence, as well as with subjective well-being and happiness in clinical settings. No causal evidence is investigated.
Literature (active)		
Selected populations	(Baikie and Wilhelm, 2005[74]); (Pennebaker and Seagal, 1999[75])	Mixed results in terms of association of expressive writing with life satisfaction and mood. Possible positive association with awareness of healthy behaviours.

Literature (passive)		
Statistical studies	(Ateca-Amestoy et al., 2014[76]); (Brown, MacDonald and Mitchell, 2015[59]); (Bygren, Konlaan and Johansson, 1996[12]); (Fujiwara, Kudrna and Dolan, 2014[14]); (Fujiwara and MacKerron, 2015[13]); (Grossi et al., 2011[26]); (Wheatley and Bickerton, 2017[61])	Significant positive association between book reading and happiness across countries. Reading hobbies are negatively associated with life satisfaction. Higher survival rates are found for those who frequently read books or periodicals, although the association seems stronger with occasional reading. The association with library and archives use is negative. Library use exerts a positive impact on happiness, but not on relaxation. Novel reading is found to be the best predictor of psychological well-being among a set of cultural variables.
Selected populations	(Bavishi, Slade and Levy, 2016[77]); (Burke, 2015[78]); (Crociata, Agovino and Sacco, 2014[62]); (Brewster, 2014[79]); (Djikic, Oatley and Carland, 2012[80])	Reading is positively related to a lower mortality risk. Library use is positively associated with improved quality of life in clinical populations. Literary texts are positively associated with enhanced variability in personality for readers. Reading books and newspapers has a positive impact on reduction of hospital stay in mental health patients.
Cinema and theatre (active)		
Statistical studies	(Brown, MacDonald and Mitchell, 2015[59])	Positive association between performing activities and life satisfaction.
Selected populations	(Mbizvo, 2006[81]); (Sapouna and Pamer, 2016[22]); (Torrissen, 2015[82])	Qualitative information related to the use of theatre to convey health-related messages. Qualitative positive association with empowerment.
Cinema and theatre (passive)		
Statistical studies	(Ateca-Amestoy et al., 2014[76]); (Fujiwara, Kudrna and Dolan, 2014[14]); (Grossi et al., 2011[26]); (Weziak-Bialowolska, 2016[15])	Positive association between going to the cinema and happiness across countries. Positive correlation over time between health and past cinema attendance. Positive impact of theatre attendance and subjective well-being.
Selected populations	(Konlaan, Bygren and Johansson, 2000b[27])	Positive association between cinema attendance and longevity. The link does not hold in the case of theatre.

Music

As many other art forms, music is among the most ancient ways that humans developed to express themselves. Music has evolved from the prehistoric age to the classical world, until contemporary music styles (Cervellin and Lippi, 2011[14]).

While the debate on the role of music for subjective well-being is ongoing, some clear results have already emerged. Active music making seems to be positively associated with lower mortality risk. In a large sample of Swedish citizens, playing music is found to predict longevity, alongside a set of other cultural practices (Bygren, Konlaan and Johansson, 1996[15]). Singing seems to have a strong impact on happiness in a large but not nationally representative British sample (Fujiwara and MacKerron, 2015[16]). Considering coefficient magnitude as a proxy for determining the relative importance of a set of cultural activities in life, singing ranks second, alongside performing arts (Fujiwara and MacKerron, 2015[16]). UK nationally representative data shows instead a negative association of music with life satisfaction (Fujiwara, Kudrna and Dolan, 2014[17]). However, in a Swiss household panel study, music making was found to be correlated with health and general life satisfaction, yet there was no statistically significant effect of active engagement in musical activities in terms of impact (Weziak-Białowolska, 2016[18]).

A number of qualitative studies have explored the relationship between active music making and different aspects underlying well-being in a variety of contexts. Qualitative work has reported encouraging findings concerning the use of active music-based interventions among patients affected by dementia (Daykin et al., 2018[19]). Patients with dementia who regularly took part in active music therapy showed a significant improvement of cognitive function, attention, and executive function compared to the control group (Särkämö et al., 2013[20]). Medical evidence has also suggested that dementia patients undergoing a three-month weekly project of active music therapy could improve their motor functions, as well as their affect and general quality of life (Pacchetti et al., 2000[21]). The positive association between singing and improved health in subjects affected by Alzheimer and other types of dementia seems to be greater at early stages of the illness, or at a younger age (Särkämö et al., 2016[22]). Among older people suffering from Parkinson's disease or affected by stroke, singing activities are described as an enjoyable social activity entailing a broad range of benefits in terms of enhanced social interaction, as well as verbal functions (Fogg-Rogers et al., 2015[23]). In cancer patients, (Fancourt et al., 2016[24]), singing seems to induce changes in levels of the stress hormone cortisol, beta endorphins, and oxytocin, all suggesting a decrease in stress which was found to occur also in carers (Fancourt et al., 2016[24]).

There is also medical evidence that has demonstrated that singing is likely to influence heart rate variability and respiration, which can, in turn, influence stress levels (Vickhoff et al., 2013[25]).

Listening to music can also have its benefits. Concertgoers seem to enjoy an advantage in terms of longevity over people that do not go to concerts often (Konlaan, Bygren and Johansson, 2000b[26]). In an Italian sample, attending live music events is associated with higher psychological well-being, although not in the case of jazz concerts, which may be due to self-selection bias (Grossi et al., 2011[27]). A positive relationship between listening to 'happy' music, high in arousal, and ability to have original was also observed in people who listen to music (Ritter and Ferguson, 2016[28]). Music was found to have a causal impact on happiness and relaxation (Fujiwara and MacKerron, 2015[16]); as a more general consequence, music listening seems to exert a positive influence over overall life satisfaction (Fujiwara, Kudrna and Dolan, 2014[17]).

Recent studies carried out in specific settings or among specific cohorts have provided valuable insight into people's reactions to listening to music. Small children undergoing heart surgery seem to benefit from reduced stress, as shown by lower heart rate and respiratory rate when listening to music (Hatem, Lira and Mattos, 2006[29]). Older patients who are made to listen to music appear to experience reduced confusion and higher cognitive abilities in the first three days following hip surgery relative to the control

group, which was only treated with regular care (McCaffrey, 2009[30]). For open-heart surgery patients, evidence from a randomised controlled trial showed that listening to music influences the release of the hormone oxytocin, which indicates lower perceived stress (Nilsson, 2009[31]). For patients with dementia and Alzheimer's disease, music listening appeared to be associated with better orientation and remote episodic memory and, to a lesser extent, improved attention and cognitive function, in addition to higher quality of life (Särkämö et al., 2013[20]; Särkämö et al., 2016[22]). Further evidence has also shown that music might be responsible for recovery in verbal memory, alongside better mood (Särkämö et al., 2008[32]). Yet, there were no significant results in terms of reduced use of analgesics and shorter hospital stay for a randomised music listening intervention in a group of 168 patients undergoing laparotomy (Vaajoki et al., 2012[33]). The contradiction among medical evidence might be explained by the fact that type of music, duration of the sessions, and type of surgery could all interact with the soothing effect of music listening. However, the benefits of music listening do not seem to be limited to clinical populations. A study by Linnemann *et al.* (2016[34]) found that music listening throughout the day among a group of university students was associated with a reduction in stress measured through cortisol levels. Music low in arousal appeared responsible for activating the autonomic nervous system, as shown by increases in salivary alpha amylase, an autonomic stress marker (Linnemann, Strahler and Nater, 2016[34]; Linnemann et al., 2015[35]). More importantly, when music is chosen for relaxation purposes, the downregulation of stress seems to be even larger (Linnemann et al., 2015[35]).

Listening to music was found to exert a considerable influence over different cardiac and neurological functions, ranging from modulating heart rate and ventilation, to altering levels of biochemical stress markers (Cervellin and Lippi, 2011[14]). One of the most common reactions associated with music are 'chills' and 'thrills' (Goldstein, 1980[36]). Chills, in fact, are considered psychological markers of intense arousal, linked to moments to peak pleasure (Salimpoor et al., 2011[37]). In this respect, there is suggestive evidence that music, when charged with emotional significance, can alter skin conductance and frequency of chills (Rickard, 2004[38]). However, music does not merely cause chills: chills are rather the most visible sign of mental stimulation. Listening to music can engage the reward circuitry of the brain, in a comparable manner to the activation detected when one is experiencing euphoria or other pleasant emotions (Blood and Zatorre, 2001[39]). Functional magnetic resonance imaging (MRI) showed brain activation *inter alia* in the area of the nucleus accumbens (NAc), which is thought to be implicated in hedonic reward processing and to be linked to dopamine release (Blood and Zatorre, 2001[39]). Endogenous dopamine release, in fact, appears to occur during reward processing both in the anticipation phase of pleasure, as in the moments of peak emotional responses to music (Salimpoor et al., 2011[37]). This is confirmed by further studies showing a complex mechanism at work to process musical stimuli. The NAc, alongside the ventral tegmental area (VTA), as well as the hypothalamus and the insula, are thought to be involved in autonomic and psychological responses, especially relative to reward processing, and all seem to activate during music listening (Menon and Levitin, 2005[40]).

Music entrainment, during which a therapist tunes in with a patient's pain and produces a musical picture of the pain, before turning it into a pain-healing melody, has also been investigated in the literature. Among children undergoing orthopaedic surgery, music entrainment is found to be associated with reduced discomfort, especially as long as the music is present (Bradt, 2010[41]). Participation in music-based multitask exercises among older adults was instead found to foster gait performance, and balance, thus reducing risk of falling (Trombetti et al., 2011[42]).

Visual arts

Engagement in visual art production does not seem to cause improvements in health or well-being, although it is still positively associated with both (Weziak-Białowolska, 2016[18]). Yet, extensive qualitative literature has shown that, in certain specific settings, visual arts experiments, such as painting or arts and crafts, might yield a wide range of benefits for the people involved. In a broad literature review on hospital and psychiatric settings, it was found that children participating to art-making sessions seem to experience drops in self-reported anxiety, as well as improved coping skills, alongside enhanced understanding (Archibald, Scott and Hartling, 2014[43]). However, research has focused mainly on the benefits of art-making experiments among older people. For people with dementia, artistic activities seem to be associated with increased capacity of dealing with behavioural and emotional downsides of the illness, although they might not exert any influence on cognitive abilities (Cowl and Gaugler, 2014[44]). Regular artistic engagement seems to be also correlated with successful ageing, as it appears from a series of interviews conducted among older people by Fisher and Specht (1999[45]), whose study illustrated that older people participating in artistic activities experienced enhanced sense of purpose in life, personal growth, and stronger motivation. Similar findings were reported in another study focusing on an art-making intervention among older women, which also placed a high value on the social dimension of the occasion (Liddle, Parkinson and Sibbritt, 2013[46]). Older women suffering from arthritis participating in art classes also expressed general feelings of enjoyment, as well as mentioning that sessions were an opportunity to re-experience memories, while concentrating on personal development (Reynolds, Vivat and Prior, 2011[47]). Connectedness with the past was an important element for older people participating to arts sessions that was cited also in another study by Rose and Lonsdale (2016[48]), along with improvements in perceived self-value given by social interactions. The social aspect of art classes was also seen positively by participants (Reynolds, 2010[49]).

A substantial body of research has also looked at the influence of passive consumption of visual arts on well-being under its various components. Visiting museums, attending art exhibitions, going to heritage sites are activities that are believed to improve people's well-being in a number of ways. Although a study on a Swiss sample does not find any causal effect of visiting museums and galleries (Weziak-Białowolska, 2016[18]), other studies point in the opposite direction. Fujiwara (2013[50]) and Fujiwara and MacKerron (2015[16]) showed a positive impact of visiting museums on happiness and self-reported health, with the exception of volunteering at museums, which does not have a significant effect on happiness and tends to have a negative value for health – although this is probably due to bias in self-selection. Similarly, visiting heritage sites is found to have a significantly positive relation with life satisfaction, almost comparable to sports activities, although the association does not reach statistical significance in the case of museums and galleries (Brown, MacDonald and Mitchell, 2015[51]). Frequent visits to historical sites (one or two times per year) and museums (three or four times a year) are also associated with greater life and leisure satisfaction, and with boosted general happiness (Wheatley and Bickerton, 2017[52]).

For this reason, it becomes essential to ensure that visitors can make the most out of their cultural sites experiences, because mere availability of facilities may not be sufficient to improving visitors' understanding of information and well-being (Ferilli et al., 2017[53]), although availability of cultural facilities is undeniably an essential component of cultural participation (Tavano Blessi et al., 2016[54]). Guided tours of galleries, in fact, seem to be associated with enhanced subjective well-being among adults suffering from psychosis (Colbert et al., 2013[55]). Among dementia patients, repeated visit to galleries followed by discussions of their experiences were associated with enhanced verbal fluency and capability of recalling distant memories (Young et al., 2015[56]). Verbal fluency does not seem to improve according to another study on subjects with dementia, although patients seem to show a positive association between visual art viewing and episodic memory and semantic clustering (Eekelaar, Camic and Springham, 2012[57]). Furthermore, mental health discharge rate seems to be improved by visiting museums and art exhibition (Crociata, Agovino and Sacco, 2014[58]). In non-medical subjects, there seems to be a non-negligible

longevity advantage for people who frequently visit museums and art exhibitions compared to subjects that never do (Konlaan, Bygren and Johansson, 2000b[26]). Visiting cultural sites seems to have considerable implications in terms of stress-regulation. For instance, among a group of London workers, cortisol responders visiting an art gallery during their lunch break reported a drop in cortisol levels in half an hour comparable to a decrease that, under normal conditions, would be experienced over a five-hour period (Clow and Fredhoi, 2006[59]). In a sample of visitors to a heritage site in Italy, 90% of people saw a significant 40-percent net global increase in their self-reported well-being following the visit (Grossi, Tavano Blessi and Sacco, 2018[7]). 95% of participants reported a significant decrease in cortisol secretion after the visit, controlling for time of the day (Grossi, Tavano Blessi and Sacco, 2018[7]). The effect of visual arts on the brain is confirmed by neurological evidence of a complex brain mechanism that activates when looking at beautiful objects (Vaillancourt et al., 2007[60]). The mind of a person looking at a work of art does not just try to decipher its content, but rather it analyses the colours, the composition, the traits of the artefact in a multi-stage fashion (Brazier, 2016[61]). Ultimately, visual arts are capable of eliciting deep emotions, or 'awe', which strike one's mind with a combination of vastness and a feeling of accommodation (Keltner and Haidt, 2003[62]). As in the case of music listening, art viewing might induce the brain to trigger responses to the anticipation of a pleasant emotional experience (Van Dongen, Van Strien and Dijkstra, 2016[63]).

Experiments have also been carried out on object manipulation, the practice of taking museum objects into medical settings and letting patients touch and feel them. Due to their nature, they could be located mid-way between active and passive engagement in visual arts. Overall, people involved in experiments of this type reported improvements in mood and reduced anxiety, and reported enhanced general well-being (Ander et al., 2013[64]; Camic, Hulbert and Kimmel, 2017[65]).

Literature

There is conflicting evidence on the benefits of expressive writing (Baikie and Wilhelm, 2005[66]). Studies carried out on expressive writing have often come to antithetical conclusions, although this is likely to be due to the variety of forms and structure of experiments in the field. However, it is interesting that writing about important emotional experiences as opposed to neutral events seems to be linked to better psychophysical health (Pennebaker and Seagal, 1999[67]).

Reading has also been considered as one of the activities that can improve one's well-being. A study conducted on a large sample of UK households established the existence of a negative correlation between reading as an hobby and being satisfied with life, suggesting that it could be more the number of activities one engages in on a regular basis rather than their frequency to matter for subjective well-being (Brown, MacDonald and Mitchell, 2015[51]). Yet, in a sample of individuals from 30 different countries, reading seems to present a strong association with happiness (Ateca-Amestoy et al., 2014[68]). Frequently reading magazines or books is also associated with higher survival rates, although the result is stronger for people who occasionally engage in reading activities (Bygren, Konlaan and Johansson, 1996[15]). These findings are corroborated by another longitudinal study based on a 12-year follow-up, which highlighted a significant reduction in mortality risk for readers compared to non-readers (Bavishi, Slade and Levy, 2016[69]). Indeed, novel reading was found to be the most important predictor of subjective well-being among a set of selected cultural variables in a study by Grossi *et al.* (2011[27]). At the same time, there is conflicting evidence on library use in UK samples: Fujiwara and MacKerron (2015[16]) found a positive causal link between library use and happiness, but not with relaxation, while Wheatley and Bickerton (2017[8]) suggested that frequency of library and archives use is negatively related to life satisfaction and leisure time satisfaction.

At the same time, libraries constitute a therapeutic landscape for patients with mental health problems, where people affected by mental illness can find shelter (Brewster, 2014[70]). In addition to this, quantitative evidence has demonstrated that mental health discharge rate seems to be positively influenced by the reading of books and newspapers (Crociata, Agovino and Sacco, 2014[58]). Reading could also be associated with subtle changes in personality traits: literary texts reading seems to be linked with higher variability in personality, although the correlation does not seem to hold for the genre of literary texts (Djikic, Oatley and Carland, 2012[71]).

Cinema and theatre

Lastly, also performing arts are largely positively associated with well-being dimensions. One example is a study conducted on a large UK sample, which provided evidence for a positive link between singing, dancing, or performing in a play or opera and life satisfaction (Brown, MacDonald and Mitchell, 2015[51]).

International data has provided support for a positive association between going to the cinema and happiness (Ateca-Amestoy et al., 2014[68]). A similar correlation is also found in a sample of Swiss residents between going to the theatre or cinema in the three-year period before the study and health, although the relation appeared to be negative in terms of life satisfaction, and no significant causal relationship was found (Weziak-Białowolska, 2016[18]). A positive causal link seem to exist also between going to the theatre and subjective well-being (Fujiwara, Kudrna and Dolan, 2014[17]). The importance of cinema and theatre for well-being is confirmed by the finding that both cinema and theatre are among the top 11 predictors of well-being across a set of cultural and non-cultural activities (Grossi et al., 2011[27]). Cinema was also found to be related to an advantage in terms of longevity for those who go to see films frequently, although no such association is present for theatre attendance (Konlaan, Bygren and Johansson, 2000b[26]).

3 What determines the choice of cultural activities?

This section presents evidence on experienced well-being during a range of human activities including cultural activities, and then offers a simple model of time allocation to explain why cultural activities have the highest impact on well-being but the lowest uptake on average.

Cultural activity as a social signal

Time is a scarce resource, and individuals make choices on how to allocate it among different activities. These decisions have important implications for the financial security, physical health, and emotional well-being of people, and ultimately their happiness (Hamermesh, Frazis and Stewart, 2005[72]). Bourdieu (1989[4]), in his work on cultural capital, was among the first to explore the influence exerted by an individual's socioeconomic background and their wider social network on the development of cultural taste and the level of engagement in different pastimes. Thus, protracted contact with a particular type of cultural life during a child's upbringing is likely to influence choices of cultural products and activities over a lifetime.

Over the years, three main streams of thought concerning cultural consumption have emerged (Chan and Goldthorpe, 2007[73]; Miles and Sullivan, 2012[74]). The homology theory finds its conceptual foundations in Bourdieu's view that different social strata correspond to different lifestyles (Chan and Goldthorpe, 2007[73]). It was thus implied that higher social classes tend to prefer highbrow types of culture, which are inherently more complex to be interpreted and, consequently, enjoyed (van Eijck, 1997[75]). Such a view closely mirrors Bourdieu's (1989[4]) idea that cultural capital in its embodied form is a necessary condition to benefit from cultural capital in its objectified state. As a result, the upper classes possess the knowledge that is needed to fully enjoy refined forms of culture, while the lower classes are left with consumption of 'inferior' cultural products, which do not require as much embodied cultural capital to be consumed. More recently, research advanced the hypothesis that society could have shifted towards individualisation of lifestyles, resulting in cultural tastes being determined by much more than just social class (Chan and Goldthorpe, 2007[73]): personal characteristics were thought to matter more than social group conventions in the formation of cultural orientations. Gender, sexuality, or ethnicity seemed to influence consumption of cultural goods more than other aspects relating to class. Lastly, other research introduced the idea of a cultural cleavage that was not based anymore on a distinction between highbrow and lowbrow cultural consumption patterns, but rather on the opposition between culturally omnivorous and univorous individuals (Peterson and Kern, 1996[76]; Miles and Sullivan, 2012[74]). Higher social strata were likely to have a more open-minded attitude towards cultural consumption, thus choosing to consume also popular forms of art, while blue and white collars stuck with lowbrow content.

Regardless of the social or individual patterns at play, sociological studies suggest that the distinction in highbrow and lowbrow cultural products does exist, and that people's preferences and cultural appropriation skills are factors behind the choice of cultural activities. Cultural participation (and non-participation, as a consequence) is inherently unevenly distributed among different socioeconomic

categories (van Eijck, 1997[75]). On top of the distinction between highbrow and lowbrow culture, there are certain cross-cutting activities in which most individuals, irrespective of their social origin, engage, such as watching TV or listening to the radio (Roberts, 2010[77]). Yet, evidence from the US Time Use Survey seems to suggest that watching TV could be related to factors such as education or occupational status, with the lower educated and the unemployed tending to watch more TV than other groups (Krantz-Kent, 2018[78]). Consumption of passive free-time activities, including TV watching, could be more popular among lower classes also because of their lower market price, or because of the absence of stigma against them (Brent, 2007[79]). Apart from TV watching, other cultural activities seem to attract on average higher-income, better-educated individuals (Bureau of Labor Statistics, U.S. Department of Labor, 2015[80]; Miles and Sullivan, 2012[74]).

Cultural activities as a well-being experience: evidence from time-use surveys

Individuals engage in a variety of activities every day, and the emotional responses associated with each activity can be rather different. Kahneman and Krueger (2006[81]) elaborated the concept of the U-index, a 'misery index' measuring the fraction of time people spend doing unpleasant activities. An unpleasant episode is the episode in which the highest score on any of a series of negative affect components (feeling frustrated, depressed, hassled, angry, worried, criticised) is strictly greater than any experienced positive emotion (happiness, or enjoyment) (Stiglitz, Sen and Fitoussi, 2009, p. 212[2]). It follows that the higher the U-index of a certain person for a certain episode, the more unpleasant or upsetting that action is.

One of the first examples of the application of the U-index was a study carried out by Krueger et al. (2009[82]) among a non-representative sample of 820 women living in Rennes, France, and 810 women from Columbus, Ohio. The research was based on the Daily Reconstruction Methods (DRM), according to which interviewees describe how they felt during particular moments of their day (Stiglitz, Sen and Fitoussi, 2009, p. 212[2]). The study by Krueger et al. (2009[82]) showed that although Americans reported higher life satisfaction on average, their U-index suggested that they tended to spend more time in unpleasant activities, thus participating in activities yielding more negative emotions than their French counterparts.

In this respect, time use surveys represent a useful tool to gather information about time allocation decisions for nationally representative samples of individuals. Time use surveys have been conducted in several countries, but only few of them have included measures of momentary affect to gather meaningful information about respondents' emotional statuses associated with different activities. In a study, Flèche and Smith (n.d.[1]) sought to replicate the U-index using data from the American Time Use Survey (ATUS) and its French equivalent, *Enquête Emploi du temps* (EDT) for 2010 and 2009-2010 respectively. Although the two surveys are based on a different approach to the collection of information about emotional statuses of respondents, the authors found that it is still possible to obtain a U-index measure to compare emotional statuses across the two national groups (OECD, n.d.[1]).

This study builds on the approach proposed by Kahneman and Krueger (2006[81]) and by Flèche and Smith (n.d.[1]) to look at emotional responses of individuals engaging in a variety of daily activities, including cultural activities. For this purpose, this study utilises time use surveys from Canada, France, Italy, UK, and the United States, which contained indicators of respondents' emotions and feelings experienced whilst doing specific activities. Data for Canada refers to the years 2015 and comes from the module on time use of the General Social Survey. For France, data is sourced from the EDT of 2009-2010. For Italy, the 2013-2014 *Inchiesta sull'Uso del Tempo* (Survey of Time Use) was used. As regards the UK, data was gathered through the 2014-2015 wave of the Time Use Survey. Data for the United States comes from the American Time Use Survey (ATUS) 2016. Differences in the reference period of the time use surveys considered are explained by the low frequency with which these surveys are carried out, and by the fact that not all the most recent waves have included questions on well-being. For this reason, this paper uses the most recent surveys that contain information about momentary affect. Following the example set by

Flèche and Smith (n.d.[1]), this research paper utilises the measures of emotional status or similar indicators contained in national time use surveys as proxies for the estimation of the U-index.

There are a number of discrepancies to be considered alongside the varied timeframes of the time use surveys. As highlighted in the comparison between data from the US and Franche by Flèche and Smith (n.d.[1]), there are differences in the way diary information is collected (such as via telephone interviews, or by a paper diary, for example), and in the criteria applied to ask questions about momentary emotional status. For instance, in the ATUS survey three actions are randomly selected, and respondents only record their emotional status for those three episodes – although they do so for a number of different emotions; in the case of France, instead, only a subsample of respondents is given well-being questions, but these are for all daily episodes, and only consist of one emotional appraisal (OECD, n.d.[1]). An overview of the characteristics of the surveys is provided in Table 2.1. Results of time use refer to the sampled population whose age is comprised between 15 and 64 years old. However, appropriate weighting is applied to ensure that survey findings are reflective of the general population.

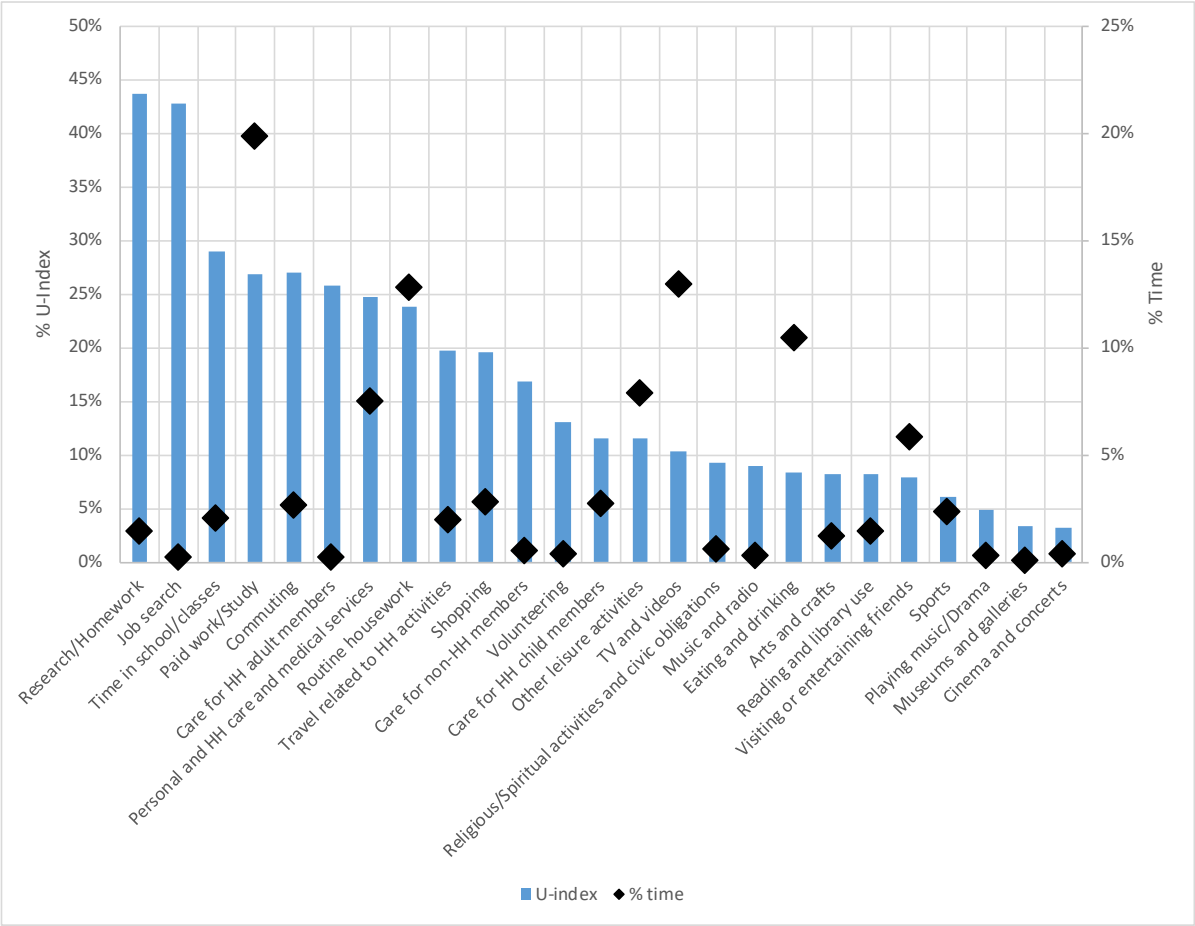
Table 3.1. Time use surveys characteristics

	Canada	France	Italy	United Kingdom	United States
Survey name	General Social Survey - Time Use	Enquête Emploi du temps	Uso del tempo	United Kingdom Time Use Survey (UKTUS)	American Time Use Survey (ATUS)
Wave year	2015	2009-2010	2013-2014	2014-2015	2016
Well-being scale	-3; +3	-3; +3	-3; +3	1; 7	0; 6
Well-being sample size	Whole sample	Sub-sample	Whole sample	Originally based on a sub-sample; extended to whole sample after two months from the start	Whole sample
Well-being questions	Two randomly chosen time slots	All activities	All activities	All activities	Three randomly chosen activities

Source: Various national time use surveys.

Figure 3.1 depicts the average U-index for a large number of human activities as well as the average time spent on them in the sample. Some clear patterns emerge. First, two of the actions that yield the most negative feelings are two activities which take up relatively little time: study and research, and job search. The fact that the percentage of time that is dedicated to such activities is low is explained by the consideration that among the sample there are only few students, and only few people looking for a job. Other actions, such as working and watching television, are common activities, in the sense that a large percentage of the population spends time on them. In the case of work, the U-index is above 25 percent, meaning that one in four individuals found working unpleasant. This is of particular concern considering that working is one of the most time-consuming actions. Time spent commuting to and from home is small relative to other daily activities; yet, 25% of this time elicits negative feelings among respondents. This is consistent with studies that have underlined the negative impact of commuting on subjective well-being (Stutzer and Frey, 2008[83]; Novaco and Gonzalez, 2009[84]). Care for the self and for others, routine housework, and travel for house-related activities are also a considerable source of negative affect, although time spent on such actions may vary.

Figure 3.1. U-index for Canada, France, Italy, United Kingdom, United States



Note: Data on volunteering unavailable for France.
Source: Various national time use surveys.

In the distribution of daily activities, culture-related activities are at the lower end. From arts and crafts to cinema and concerts, all cultural activities seem to be associated with very little negative emotional reactions, but the average time people spend on them is minimal. Playing music or acting, visiting museums or attending concerts is associated with negative feelings in less than 2% of the time spent on such activities. This may appear as a staggering contradiction: people tend to spend more time doing things that do not make them particularly happy but that somehow need to do, such as commuting, and little time engaging in activities that truly make them feel happy. The only exception to the positive association between cultural activities and low levels of the U-index is watching TV: yet, it is safe to argue that television may not only broadcast cultural programmes; for instance, political debates or the news may not always elicit pleasant reactions in the audience.

In the rest of the section, we describe a simple model that is helpful to reconcile the evidence presented above and sheds some light on the role of experienced well-being in people's choice of activities and time allocation.

A simple model of time allocation and experienced well-being

Our representation of individual preferences merges the approaches from (Becker, 1965[85]), where agents allocate time depending on the respective price and utility of specific activities, and from Kahneman and Krueger (Kahneman, 2006[81]), where agents allocate time depending on the well-being experienced during specific activities. In this model, individuals derive utility from both consumption C and from the intrinsic well-being *SWB* experienced during the various activities.

$$U = \ln C + SWB$$

Time spent in working is denoted as t_w and time in activity *i* is t_i. Assuming an absence of savings, total consumption is $C = w \cdot t_w$ with w being the wage rate. Experienced well-being over all activities is an index with subjective weights v_k:

$$SWB = v_w \cdot f(t_w) + \sum_i v_i \cdot f(t_i).$$

Krueger and Kahneman simply consider $f(t) = t$. As one considers a log utility function for consumption, one also retains $f(t) = \ln t$ for homogeneity of time preferences, but other functional forms could be considered. Then, the representative agent has utility:

$$U = \ln(w \cdot t_w) + v_w \cdot \ln t_w + \sum_i v_i \cdot \ln t_i$$

$$U = \ln w + (1 + v_w) \cdot \ln t_w + \sum_i v_i \cdot \ln t_i$$

Maximising U under the time constraint $t_w + \sum t_i = 1$ and the positivity constraints $\forall i \; t_i \geq 0$ yields the FOCs and interior solutions:

$$\forall i \quad \frac{t_i^*}{t_w^*} = \frac{v_i}{1+v_w} \quad (1)$$

provided that they verify $t_i^* \geq 0$, i.e. $\frac{v_i}{1+v_w} \geq 0$. For the sake of simplicity, we focus on people with a working activity, whose potential subjective disutility from work cannot exceed the utility derived from consumption, i.e. $1 + v_w > 0$. It follows that people undertake activity *i* if they put a positive subjective weight on it, i.e. if $v_i > 0$. Then, the actual time allocated to activity i is simply $t_i^+ = t_i^*. (v_i \geq 0)$.

Let us denote $v_i^+ = v_i. (v_i \geq 0)$ the subjective weights for any activity undertaken by the agent. The formal solution to the maximisation programme injects (1) into the budget constraint $t_w^* + \sum t_i^+ = 1$ and immediately yields the time allocated to work and to any other activity:

$$t_w^* = \frac{1}{1 + \frac{\sum_i v_i^+}{1 + v_w}}$$

$$t_i^+ = t_w^* \cdot \frac{v_i^+}{1 + v_w}$$

Preference parameters (v_w, v_i) are unknown but one hypothesises that they can be represented by a function *g* (to be estimated) of the corresponding U-index as defined by (Kahneman, 2006[81]):

$$v_i = g(\bar{U}_\iota) \quad \text{with} \quad \frac{\partial v_i}{\partial \bar{U}_\iota} < 0 \qquad (2)$$

To test whether the theory fits the facts, one calculates for each non-market activity *i* its average value *among those who undertake the activity*, and divide it by the average working time t_w in country c:

$$y_{i,c} = \frac{t_{i,c}}{t_{w,c}}$$

From (1) and (2) one has:

$$y_{i,c} = \frac{g(\bar{U}_{i,c})}{1+g(\bar{U}_{w,c})} \quad (3)$$

Equation (3) displays the empirical relationship between the relative time allocated to human activity *i* (relatively to working time) with respect to experienced well-being in activity *i* (relatively to well-being experienced at work). As a starting point, one considers a linear function g(.) and alternatively a cubic in the U-index. Coefficients are estimated via non-linear least squares.

Table 2.2 and Figure 2.1 present the results. There is a weak negative relationship (significant at 10% confidence level as shown on Column 1) between the U-index and the time allocated to non-market activities. Interestingly, the statistical significance becomes much stronger (significant at 1% confidence level) when some non-linearity is accounted for. As shown on Figure 2.1, time allocation depends strongly on the U-index for very pleasurable activities (U-index lower than 0.2) such as cultural activities, and for very non-pleasurable activities (U-index above 0.3) such as care for adult household members. However, time allocation varies little in-between those two bounds.

In a nutshell, this empirical investigation shows that experienced well-being matters to some extent to explain time allocation in human activities. Experienced well-being is certainly not the only driving factor behind time allocation, as for instance social norms also matter for not-so-pleasurable activities, such as care provision. But the evidence shows that expectations of well-being also matter to some extent.

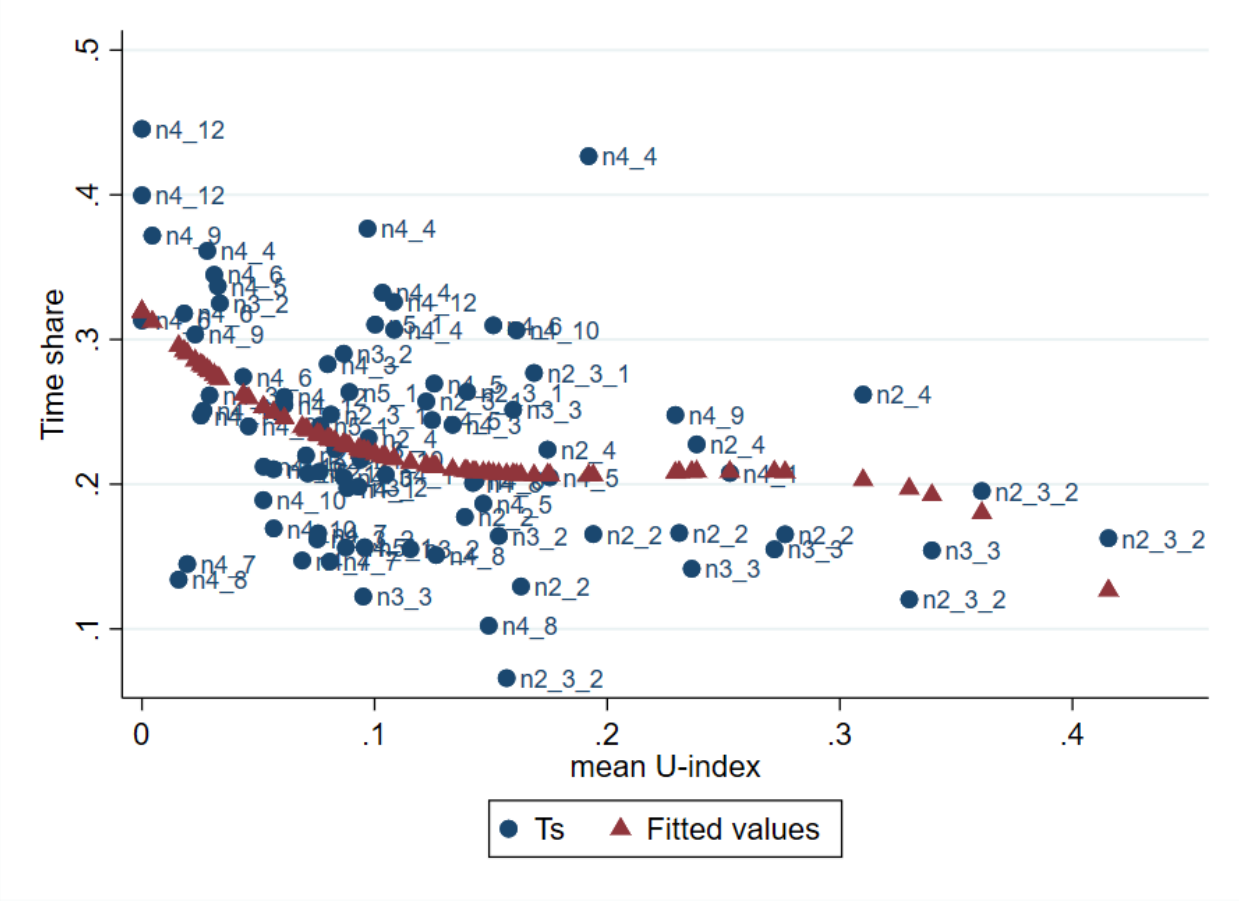
The model also explains why so few people undertake cultural activities while experiencing very high levels of experienced well-being when they do so. Taste and preferences differ across people, which in the model translates into heterogeneity in the parameter v_i: only those with a positive parameter v_i undertake the activity *i*. For cultural activities, the model suggests that people with a taste for cultural activities value them very much and experience very high well-being, but on average, this group of people is of relatively small size.

Table 3.1. Non-linear estimation of the relative time allocated to non-work activities with respect to experienced well-being

	(1)	(2)
	Model 1	Model 2
constant	0.330***	0.403***
	(0.015)	(0.032)
U-index	-0.392***	-2.073***
	(0.105)	(0.694)
U-index^2		9.804**
		(4.588)
U-index^3		-14.982*
		(8.233)
N	85.000	85.000
r2	0.916	0.922

Note: "*' p<0.10; ** p<0.05; *** p<0.01.
Source: Various Time Use databases and authors' calculation.

Figure 3.2. Correlation between relative time spent on activities and U-index among participants



Note: Only people in work. n2_2=Shopping; n2_3_1=Care for child household members; n2_3_2=Care for adult household members; n2_4=Care for non-household members; n2_6=Travel related to household activities; n3_2=Eating and drinking; n3_3=Personal and household care, and medical services; n4_1=Sports and physical activity; n4_3=Visiting or entertaining friends; n4_4=Watching TV and videos; n4_5=Other leisure activities; n4_6=Cinema and concerts; n4_7=Reading and using the library; n4_8=Music and radio listening; n4_9=Arts and crafts; n4_10=Playing music or drama; n4_12=Visiting museums and galleries; n5_1=Religious and spiritual activities, and civic duties.
Source: OECD Time Use database and authors' calculation.

4 Conclusion

There is a lot of evidence suggesting that cultural participation has a broad range of well-being effects, ranging from health to psychological well-being and social relationships. Our literature review shows that participating in cultural activities can help the recovery of patients in healthcare settings; it can contribute to reducing stress and anxiety; it can provide opportunities for people to socialise and build self-esteem. Individuals choose to engage in cultural activities partly because they can anticipate well-being outcomes. Nevertheless, most individuals spend limited time in cultural activities, as they have weak preferences for cultural activities.

In terms of policy implications, this paper suggests that promoting cultural participation can help achieve higher well-being and can also have broader societal impacts. In particular, cultural participation can have particularly positive outcomes for the elderly. In a context of an ageing population, investing in culture could help people live longer and have healthier lives. Investing in promoting cultural participation is important also for another reason. As new technologies are reshaping the world of work, it is possible that, in the future, productivity gains imply that individuals may spend less time in paid employment, and may have more free time to allocate to other activities (Susskind, 2020, p. 225[86]). For this reason, leisure time will become increasingly important, in particular as a source of meaning in one's life (Susskind, 2020, p. 226[86]). As a sum, the wide-ranging evidence on the links between cultural participation and well-being, and the role that cultural participation can play in changing societies, makes a compelling case for policy makers to set out the conditions for bringing investment in the arts and culture to the top of the agenda.

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