

STORIEL:

The Happy Museum in Gwynedd



"What's Your Story?"

Happy Museum Project Report, Nov 2017

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Summary

Mental health disorder presents one of the most pressing challenges of our time. With the incidence of mental health problems growing year on year, heritage organisations can play an active role in directly promoting quality of life across communities. This also provides an opportunity for museums to expand their traditional offering, and to engage new populations. The following report details how museums can contribute to visitor wellbeing, as part of a collaborative project between Storiell Museum and Bangor University, North Wales, supported by a grant from the Happy Museums Project (<http://happymuseumproject.org>). Included in this project, was the experimental trial of a bespoke smartphone app, designed to enhance the museum experience using the narrative power of visitor stories.

The Happy Museum

The Happy Museum project was launched in April 2011, in order to investigate how museums can enhance well being and create a happier society for many, amidst current global financial and environmental challenges. (THM, 2011). This involves re-imagining the traditional role of museums, both in terms of the visitor experience and the way that individuals are able to relate to their collections, the wider community, and topical issues of the modern day (THM, 2011).



Introduction

In an age where information is available at the touch of a button, museums remain authentic providers of historical experience and expertise. A calm physical space in which to celebrate learning and memorialise history, the timeless offering of education will be shared across generations of visitors. Yet, the conditions of our current environment present a further opportunity. Long-established stewards of the community, museums are perfectly placed not only to inform society, but also to promote our collective mental wellbeing.

Mental Health in the UK

In many Western countries, mental disorders are now the leading cause of disability. Amongst the most prevalent mental health problems are depression, generalised anxiety disorder, social anxiety disorder and post-traumatic stress disorder (NICE, 2016). Mental illness prevents individual and societal functioning, causes emotional suffering (Keyes, 2001) and has stark economic implications due to absenteeism, productivity and health-care costs (Greenberg et al. 1993; Keyes & Lopez 2002). 27% of European adults have experienced at least one series of mental disorder in the past year (WHO, 2016), whilst 13% of adults are currently receiving treatment for a mental health issue in Wales alone (National Statistics, 2016).

Particularly concerning are sharply rising trends of mental health disorder amongst younger generations, with the Child and Adolescent Mental Health Service reporting a 100% increase in referrals between 2010 and 2014. The rapidly changing social context of the 21st century is thought to contribute to this increase. For example, many developed countries have experienced worsening income inequality (Organisation for Economic Cooperation and Development, 2011), increased family conflict (Sweeting et al. 2010) and growing exposure to the internet and social media (Carli et al., 2014), all of which have been associated with mental health problems (Langton et al., 2011, O’Keeffe & Clarke-Pearson, 2011).

Additionally, even these figures fail to capture the plight of 'languishers'; individuals who have not received a clinical diagnosis of mental disorder, yet experience a life that feels hollow and empty (Fredrickson & Lahoda, 2005). Not only does languishing substantially impact an individual's ability to enjoy life and socially function (Keyes, 2002), but those who experience languishing are significantly more likely to develop a mental health condition in the future (Keyes et al., 2012).

Also linked to the development of serious mental health disorders, are social isolation and loneliness (Adams, Sanders & Auth, 2004), which are thought to pose a particular risk to older adults. The ramifications of decreased social participation, retirement and bereavement in those aged 65 and over are clear, with 39% of older adults reporting feelings of loneliness, and 1 in 5 stating they feel forgotten (Age UK, 2015).

Support

A further issue is the discrepancy between the prevalence of mental disorder, and the corresponding availability of treatment. Across the UK, a substantial proportion of people don't access any mental health support, with only 25% of those suffering from depression and anxiety-related conditions receiving clinical care (The Mental Health Policy Group, 2015). Access barriers include the reluctance to seek help, often associated with the social stigma linked to mental health problems (Sherwood, 2008), and a lack of economic resource, with 10.3% of those presenting with severe common mental disorder symptoms requesting treatment, yet not receiving it (Knapp, McDaid & Parsonage, 2011).

The prevalence of mental disorder is a significant and increasing problem. Numerous risk factors have been implicated in this increasing trend, including a maladaptive social context surrounding younger generations, and heightened social isolation in older communities. Additionally, it is important to note that the absence of psychopathology does not necessarily represent mental wellbeing. Languishing not only impacts current quality of life, but also acts as a warning signal for the development of subsequent disorder. Issues of social stigma and economic instability complicate the process of intervention, further compounding the problems of mental ill health. However, public-facing organisations have the capacity to play an active role in promoting mental strength. This can create individuals and communities who are appropriately prepared to tackle the stressors of the modern world, despite genetic predisposition or challenging life events (Keyes, 2002).



An Opportunity for Change

Promoting societal well being is therefore a valuable endeavor for any organisation working within the public sector. Whilst the current image of national mental health may look bleak, developments in research and strategy present transformative opportunities for many. A growing degree of attention has been devoted to initiatives that build psychological strength, aligning with the reconceptualisation of psychological well being as more than the absence of psychological disorder, but also the presence of positive emotional states and personal functioning. A shift in attention to pre-emptive strategies not only represents a cost-effective method of improving our global quality of life, but also an opportunity for heritage sites such as museums to expand their current offering, in order to tackle one of the most urgent challenges of our time.

What does it mean to 'flourish'?

5

The offering of wellbeing initiatives via heritage organisations, such as The Happy Museum project, corresponds well with the philosophy of positive psychology. In contrast to traditional approaches, positive psychology looks not to ameliorate disorder, but to proactively build human strength. Positive psychology aims to protect individuals from future harm, by identifying and developing positive personal traits and civic virtues (Gillham & Seligman, 1991; Seligman and Csikszentmihalyi, 2000) thereby providing psychological resources that can buffer individuals from environmental stressors. Six core elements are understood to comprise positive functioning (Keyes & Ryff, 1999):



What does it mean to 'flourish'?

Work, academic and social pressures can result in deficits to the six factors of positive functioning, resulting in the development of mental disorders such as stress, anxiety and depression (Keyes, 2002). Climate change, political instability, and economic uncertainty thwart needs for environmental mastery and autonomy (Berry, Bowen., & Kjellstrom, (2010; Aledom, 2005), and restrict perceptions of purpose (Fuller-Rowell, Evans, Paul, & Curtis, 2015). An increasingly polarised society can limit the capacity for widespread positive relationships with others (Abi-Hashem, 2015), further compounded by the fallacy of connection provided by social media (De Choudhury, Gamon, Counts, & Horvitz, 2013). However, pre-emptively strengthening some or all of these six factors can provide a psychological resource which buffers individuals from the antecedents of mental health disorder (Keyes, 2002).

Importantly, both the services provided by museums, and their connection with the general public, mean such organisations are particularly well placed to support the development of these positive traits. Exploring the museum offers the chance for social encounters, in which one can develop a greater understanding of the self, and the wider world (Chatterjee & Noble, 2013) . A wide array of artefacts offers one the opportunity to devise an autonomous experience (Simon, 2010), whilst witnessing the achievements of others can inspire personal direction (Simon, 2010). Enhancing this experience with evidence-based expertise can therefore provide strongly beneficial and protective experiences for the community as a whole.



Flourishing and the Museum

Numerous studies have demonstrated the benefits of museum visits to psychological well being. Research suggests that by providing an experience that is social, autonomous, informative and meaningful, museums can provide a restorative influence from the daily demands of life, such as work (Packer & Bond, 2010), resulting in lower levels of anxiety (Cuypers, 2011). Additional services provided by museums such as object handling and art making have been shown to promote wellbeing in both clinical and non-clinical populations (Robert, Camic & Springham, 2011; Camic, Tischler & Pearman, 2013) and participatory based projects have been evidenced as particularly effective in promoting mood and social inclusion for often overlooked segments of society (Craft in Mind, 2016). Indeed, by presenting an aesthetically pleasing and non-stigmatising environment, museums provide a welcome space for those looking to boost their mood, but who are reluctant to seek professional help (Ander et al., 2013; Camic et al., 2013; Flatt et al., 2014).

Furthermore, the incorporation of well being support has become a direct consideration for the most cutting-edge of institutions, such as The Story Museum. Here, for the first time, the purpose and design of a museum were explicitly informed by well being and sustainability (TSM, 2016), including a 'mood tree' which allowed visitors to share their mood when entering and departing the museum, symbolising their emotions via different coloured leaves.

Such initiatives represent a shift from the authoritative stance of museums in presenting a single, official view, to a more accessible, personalised and inclusive museum experience (Visser, 2015). The benefits of this transition are evident, with an overwhelming majority of visitors voluntarily reporting the mood tree as fun and engaging.



Learning from Others

Far from a novel concept, the practice of storytelling has been used since the construction of the first museum 2500 years ago (Wilkins, 2011). However, with the advent of participatory museums, the use of storytelling as a tool for promoting visitor experience has re-emerged (Johnsson, 2006; TSM, 2016; Bedford, 2011). Storytelling isn't just recognised as a means of giving life to inanimate collections (Johnsson, 2006), but also as a means of facilitating empathy, in order to promote greater understanding of complex emotional experiences (Hunter & Hunter, 2006). Information may be shared in any number of ways, but it is the personal and emotional nature of storytelling that can engage audiences in such a compelling manner. Listening to the stories of others can both relieve anxiety and provide intensely positive experiences. For example, one element of narrative expression is that the sharing of individual concerns can validate and legitimise worries in the words of others, increasing social connection (Hunter & Hunter, 2006). Secondly, aligning with the premise of broaden-and-build theory (Fredrickson, 2004), the process of experiencing positive emotional reflections can increase individuals' thought-action repertoire, meaning they are more likely to notice further opportunities for positive experience within the museum. Therefore, this positive cycle of emotion and behaviour is not only important for an individual's immediate well being, but also their museum experience as a whole.



Creating your own Narrative

In parallel with the importance of providing of a participatory visitor experience (Visser, 2015) the benefits of creating one's own narratives can be readily observed in studies of well being. Not only does the opportunity to share one's own perspective on museum artefacts transform visitors from passive receivers to active participants, but numerous psychological benefits can be derived from self-expression in narrative form. For example, visitors who can create and share their own stories may use personal insights to elaborate on existing information, facilitating enhanced emotional connection with museum exhibits (Bedford, 2001). Furthermore, the expressive writing paradigm details how writing about negative life events can decrease rumination, enhancing both mental and physical health (Pennebaker, 2000; Pennebaker & Seagal, 1999).

The benefits of storytelling in the museum context may be particularly potent for those suffering with stress or low mood, given that narrative self-expression has been shown to promote the deriving of meaning from adverse life experiences (King & Milner, 2000), a benefit which may result from artefacts that evoke strong emotional responses. However, the rewards of narrative self-expression aren't limited to negative descriptions; further research has documented the value of writing about positive experiences in enhancing mood and well being, as well as broadened cognition and heightened positive emotion (Burton & King, 2004; Lyubomirsky, King & Diener, 2005).

Indeed, the museum experience could provide the opportunity to directly reflect on mental health as a concept, and subsequently reduce associated stigma. The parallel to this idea can be observed in studies of diabetes in Native America, whereby the Native American Diabetes project sought to employ stories as a means of stimulating openness and discussion amongst diabetics and their families (Carter, Perez & Gilliland, 1999). The project was highly successful in promoting a positive outlook and sense of hope for the future, with narrative account thought to be instrumental in developing a new concept of living a healthily within the context of diabetes, thereby improving overall quality of life (Carter et al., 1999).

Future Generations

Additionally, the sharing of narrative may also support well being via the mechanism of generativity. Defined as the desire to nurture and guide young people, and to contribute to the next generation (Ehlman, Ligon & Moriello, 2014), feelings of generativity are associated with subjective well being (Ackerman, Zuroff & Moskowitz, 2000) and the desire to act sustainably, such as environmentally responsible behaviour (Urien & Kilbourne, 2011). Additionally, first-hand accounts of historical events can stimulate sound historical understanding in the young, by bringing history to life and facilitating inter-generational dialogue (Dutt-Doner, Allen & Campanaro, 2016). Therefore, the use of narrative history can not only disseminate important information, but also enhance quality of life across generations, promote positive behavioural intentions and support social relationships.



Technology and the Museum

Whilst research suggests that museums provide significant wellbeing benefits at a fundamental level, new technologies offer dynamic opportunities to enhance this experience. For example, the widespread use of smartphones provide an accessible tool for visitors to construct their own cultural adventure, making collections more engaging to younger visitors (Rossou et al., 2015), and providing consistently novel experiences in a cost-effective manner (Camarero-Izquierdo, Garrido-Samaniego & Silva-Gracia, 2009). Importantly, the most significant well being gains have been observed in those who make repeat visits to museums (Packer & Bond, 2010) and those who actively participate in museum activities (Cuypers et al., 2011). Apps can be particularly valuable in motivating return visits via the provision of a regularly changing experiences, and make the process of active participation easier, even for those who are socially anxious.

Indeed, research suggest apps present a novel and exciting way to provide information to visitors (Camarero-Izquierdo, Garrido-Samaniego & Silva-Gracia, 2009), offering them innovative routes via which to interact with the museum. Immersive technology is thought to offer escape value to visitors who wish to shake off the daily demands of life and immerse themselves in history, in a manner more expedient than that afforded by the more traditional museum (Collin-Lachaud & Passebois). For example, audio technology has previously been used to allow visitors to experience the Alcatraz Cellhouse via the voices of former inmates and guards (Boing, 2014), whilst the Sotto Voce Guidebook used synchronised sharing to transmit descriptive audio content between pairs of visitors. This project was particularly innovative in its use of technology, by enabling visitors to 'learn about their companion's interests' and thereby igniting and enriching subsequent conversations.



Combining the evident benefits of cultural spaces, and now widespread access to smart technology, the 'What's Your Story' App fuses novelty and antiquity to provide compelling personal narrative in an easily accessible format. 'What's Your Story' allows visitors to record and upload their personal stories for selected museum exhibits, as well as listen to narratives of others, from an archive of community-generated content. This provides a platform via which to share personal stories, facilitating several key benefits:



Meaning:

Visitors are able to see how their experience connects to part of a wider whole and develop their own understanding through the construction of narrative & feelings of generativity.

Autonomy:

Visitors have more control over how they experience the museum, and can observe exhibits from multiple perspectives, not just the official view.

Positive Relations:

Visitors are able to more directly connect to the thoughts and emotions of others.

Competence:

Narrative sharing can aid the understanding of complex ideas and opinions.

Smart technology lends itself particularly well to narrative expression, as it enables visitors to verbalise their stories. Research has shown that substituting the conventional style of writing stories with oral transmission enhances physical and psychological functioning (Kelley, Lumley & Leisen, 1997). Additionally, the open source design of 'What's Your Story' is particularly appropriate for generating an extensive resource of visitor narratives, allowing users to share in a collective and highly meaningful experience, to better understand themselves, each other, and the world around them.

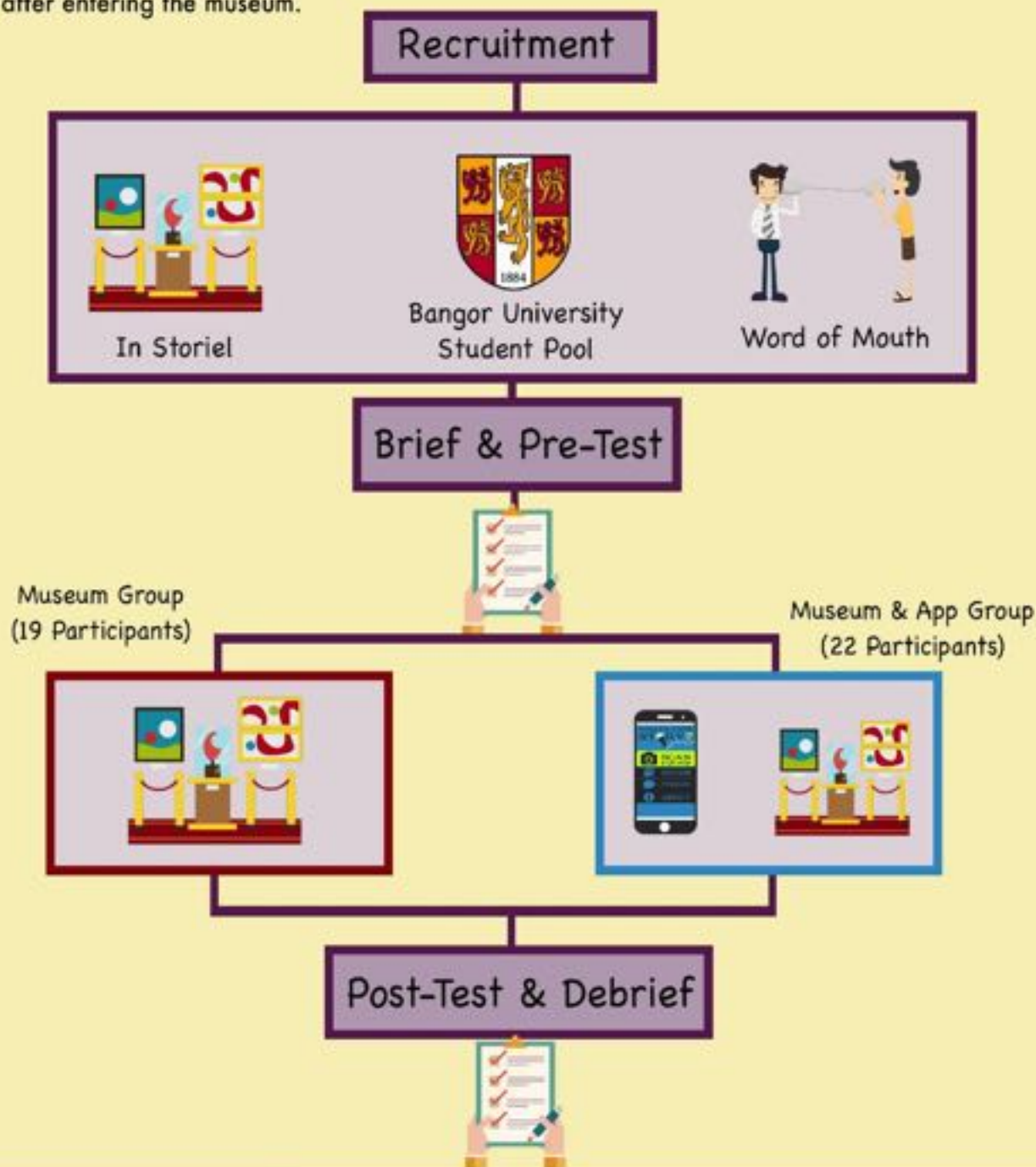
However, whilst research with numerous settings and populations indicate the value of museums in promoting well being, the benefits of technological support in enhancing this experience in specific relation to happiness and quality of life, is yet to be empirically investigated. Exploring the potential wellbeing gains from both the museum experience, and the use of 'What's Your Story' can provide valuable insights as to the role of heritage sites in promoting communal quality of life. Findings from this project can extend our current understanding of museums as venues for health promotion, by investigating the factors that make a health-enhancing experience more likely. Additionally, results will further explore the use of a bespoke technological intervention, designed to generate positive emotions in cultural spaces, enabling museums to optimise their service offering.

Therefore the primary aims of this project were:

To investigate the wellbeing benefits of visiting Storiel Museum

To investigate the effectiveness of the 'What's Your Story App' in enhancing potential wellbeing benefits

To find out more about museums, technology and wellbeing, we recruited members of the public to take part in an experimental study. Potential participants were approached within Storiel, and also invited to take part via word-of-mouth, and the Bangor University student pool. Two groups either experienced the museum in its natural form, or via the 'What's Your Story' app using an iPad and headphones. All participants completed measures of wellbeing before and after entering the museum.



This study used three different measures to capture visitor experience in Storiel Museum. These measures were specifically selected to identify relevant aspects of wellbeing, in the context of prior research on the benefits of museum visits, and the design of the 'What's Your Story app. All participants used pen and paper measures to self-report their responses, and completed a basic demographics form.

Orientations to Meaning

The Orientation to Meaning subscale is part of a wider set of measures known as the Orientations to Happiness Scale (OTH) designed by Peterson et al. (2005). This questionnaire assesses the extent to which participants experience and pursue a sense of meaning, pleasure and engagement in life. Heritage sites can show visitors how their personal experience can connect to a wider whole, and the What's Your Story app is designed to promote understanding and generativity via visitor narrative. Given the power of these factors to promote one's sense of meaning in life, the orientations to meaning sub-scale was chosen as a particularly appropriate measure of wellbeing at the museum. Participants responded to statements such as "I have a responsibility to make the world a better place" by choosing from a 5-point scale ranging from 'not at all like me' to 'very much like me'.



Satisfaction with Life

The Satisfaction with Life scale (SWLS) (Diener et al., 1985) is designed to assess participants' overall life satisfaction using statements such as 'the conditions of my life are excellent'. This measure was deemed particularly appropriate as it allows participants to consider a great number of factors in order to generate a holistic cognitive judgement, rather than being limited to reflecting on happiness within the context of specific life domains. Comprised of 5 statements, which participants respond to using a 7-point scale from 'strongly agree' to 'strongly disagree', the SWLS is also brief and widely accessible.



The Life, Interaction, Feelings & Environment Survey



The LIFE survey was devised by the Happy Museum (2011) and Simerica and Oxford Institute, in order to assess the influence of museum visits on volunteers, visitors and members of staff. The LIFE survey assesses wellbeing across a variety of time-points, asking visitors to reflect on their experiences now, during the last few hours, generally and during the last few weeks. The LIFE survey also attends to a variety of wellbeing and museum relevant domains, including interest in learning, relationships with others, the environment and general satisfaction. Additionally, the LIFE survey is highly sensitive, using a 10-point scale to detect even minor changes across these variables.

Using the App

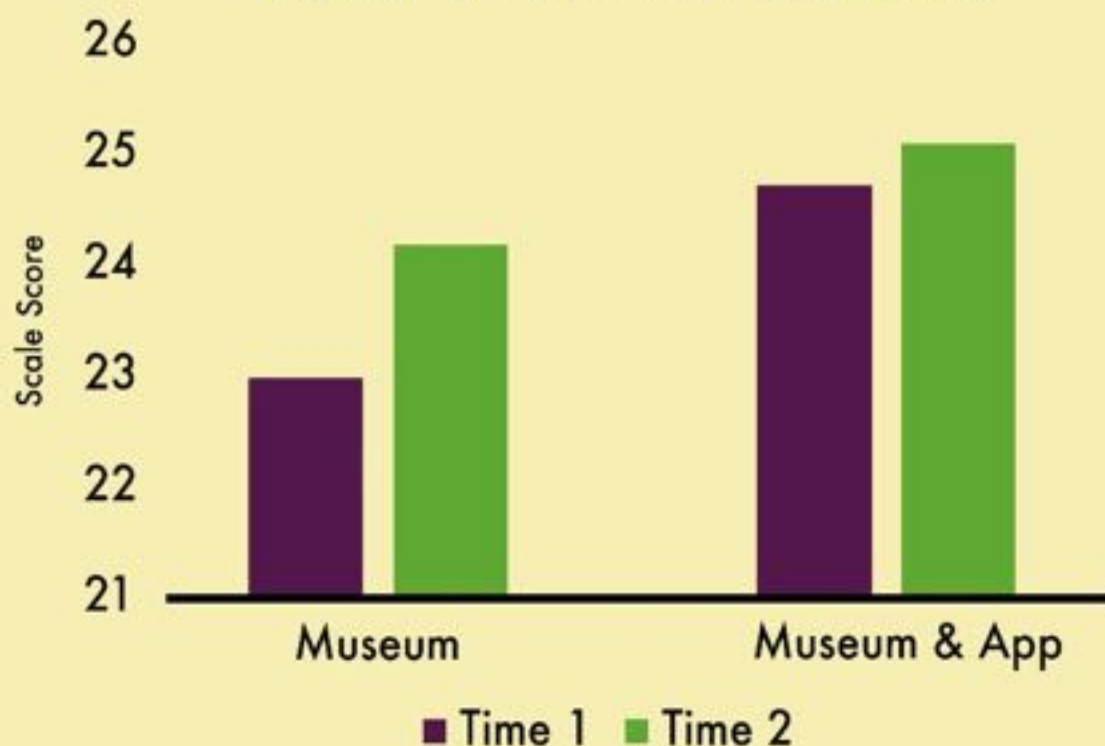
Participants who were invited to use the What's Your Story app were presented with an iPad and set of headphones. QR codes were positioned next to a selection of artefacts throughout the museum, which participants scanned using their iPads, in order to access the pre-recorded narratives of others. Participants could also use their iPads to record and submit their own stories to the Storiel database.



27 participants were recruited from Bangor University, with a further 8 participants approached upon their entry to the museum, whilst 7 others were recruited via word of mouth. Both genders were well represented with 21 and 20 male and female participants respectively. 93% of the sample were aged between 18-29, with the remainder between the ages of 50-59 (2%) and 60+ (5%).

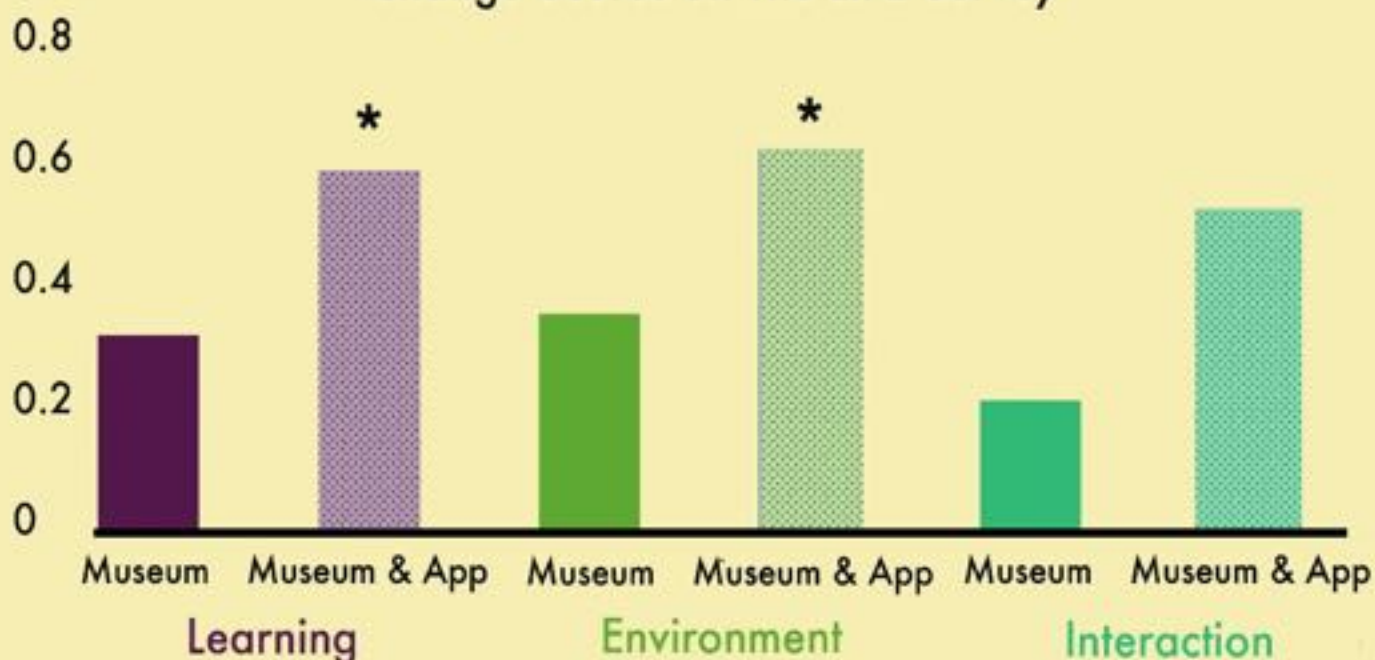
Mean scores on each measure were generated for all participants, both before (time 1), and after (time 2) they visited the museum. This allowed us to detect if the museum experience had influenced visitor wellbeing, and whether the What's Your Story app had provided any additional benefits. For all participants, scores between time 1 and time 2 increased on the Satisfaction with Life Scale. This suggests that all participants experienced greater psychological wellbeing as a result of experiencing the museum. Such gains were most pronounced in the museum only group.

The Satisfaction with Life Scale



All participants also demonstrated gains on all subscales of the LIFE survey. In order to investigate these findings further, participants' time 1 scores were subtracted from their time 2 scores, in order to provide a more specific metric of change. Statistically significant (learning and environment) or marginally significant (interaction) change scores were found in the app group, but not in the museum only group.

Change Scores on The LIFE Survey

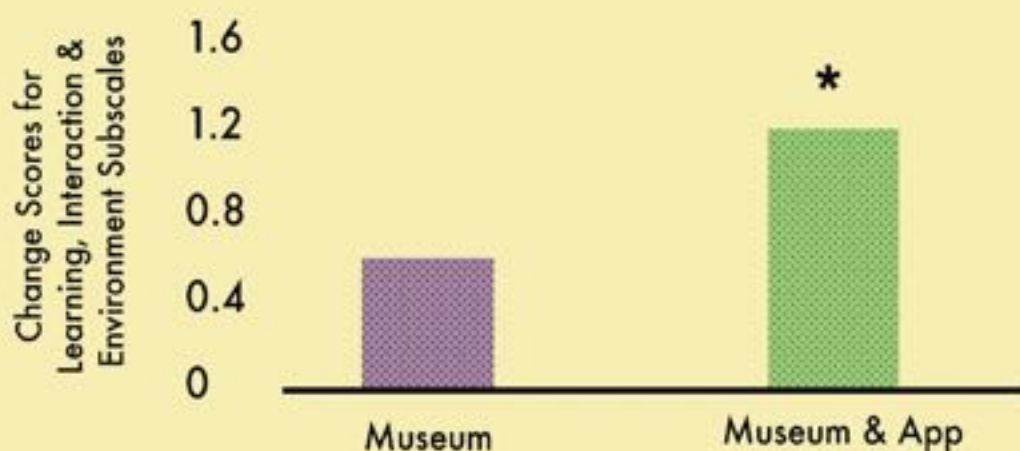


* indicates statistical significance at the $p < .05$ level

These findings indicate that whilst all participants demonstrated an increase in their engagement with learning, the environment and other people, participants in the app group experienced these factors above and beyond the likelihood of chance. This supports the idea of What's Your Story as a tool to enhance the museum experience, and promote behaviour associated with wellbeing and sustainability.

In addition to this, we also generated four time-categorised scores (experience now, over the past few hours, generally and over the past few weeks) for participant wellbeing across the LIFE survey domains. As expected, participants gave higher ratings for both their interest in and experience of learning, interaction and environment for the hours in which they visited the museum, compared to the hours immediately preceding their visit. These differences were found to be statistically significant in the app group only.

Experience over the past few hours



* indicates statistical significance at the $p < .05$ level

Scores on the Orientations to Meaning subscale also increased for participants experiencing the museum naturally between time 1 and time 2, however this increase was not observed for participants using the app. The statistical values for all analyses and a visual interpretation of the Orientations to Meaning results can be found in Appendix 1 and 2 respectively.

Overall, the results of this study suggest that visiting Storiel museum enhanced visitors' satisfaction with life, and increased their interest and engagement with learning, other people, and the environment. Visitors who experienced the museum in its natural form demonstrated higher life satisfaction gains than those using the app, whilst those using the app reported more interest and engagement in learning, the environment and other people, than visitors who did not.

Learning, Interaction & The Environment

The most prominent increases across all scales were observed in the app group, who demonstrated greater interest in and engagement with learning, other people and the environment as a result of their visit. As hypothesised, it is likely these results occurred as a consequence of feelings of generativity, inspired by listening to the emotional reflections of others (Dutt-Doner, Allen & Campanaro, 2016). This desire to contribute and protect the next generation is associated with social interest (Ehlman, Ligon & Moriello, 2014), environmentally responsible behaviour (Urien & Kilbourne, 2011) and can promote the understanding of complex ideas (Dutt-Doner, Allen & Campanaro, 2016). This process is also likely to have been facilitated by the engaging elements of accessing narrative via immersive technology (Rossou et al., 2015; Camarero-Izquierdo, Garrido-Samaniego & Silva-Gracia, 2009).



Enhancing Wellbeing

Previous research supports the finding that visits to heritage sites can promote wellbeing. For example, Kaplan, Bardwell & Slakter (1993) have suggested that museums present visitors with a restorative environment, which provides relaxation and energy. Aligned with Attention Restoration Theory (Kaplan & Kaplan, 1989) this theory proposes that prolonged mental effort, such as intensely working on a project, elicits direct attention fatigue, leading individuals to feel burnout and unable to concentrate. Recovery from this fatigue requires a restorative environment that facilitates a wakeful but restful state (Kaplan & Kaplan, 1989). Research suggests that an environment which is physically or mentally different from one's everyday setting, and one which promotes exploration, fascination and effortless engagement is of particular value. Prior evidence suggests the museum setting contains these elements (Kaplan, Bardwell & Slakter, 1993; Packer & Bond, 2010).



Since visitors in the app group showed less significant satisfaction with life gains than those experiencing the museum in its natural form, it is important to consider why this may have occurred, and is discussed next.

The 'What's Your Story' app enhanced the museum experience by inspiring users to engage with learning, in forming relationships and in the environment. However, participants using the app showed smaller wellbeing increases as measured by the SWLS, the LIFE survey, and the Orientations to Meaning scale. This research study provided a valuable platform to interpret how the What's Your Story app may be enhanced, to promote the aforementioned facets of psychological wellbeing, and to add further benefit to visitor experience in the future. Prior research suggests several key changes may be valuable:

Getting Social

What's Your Story was designed, in part, to promote social connections between visitors. However, it is possible the logistics of using the app actually hindered this experience. Participants were able to experience and contribute to a communal narrative database, however the headphones they were wearing limited dynamic and real-time interactions. This means participants may have sacrificed social exchanges they otherwise would have experienced, as a result of their visit.

As a basic psychological need, socialisation is universally relevant, and essential for psychological wellbeing (Ryan & Deci, 2004). Previous research suggests that the social elements of museum experiences are particularly salient to visitors, with 38% of respondents reporting interaction with others as the leading factor behind their visit (McIntyre, 2007). This finding is further supported by research suggesting the importance of socialisation to other cultural activities, such as festivals (Morgan, 2006). Further work suggests socialisation in the museum environment is perceived as particularly valuable, as this context affords visitors the opportunity to widen their social circle beyond their own companions (Coffee, 2007; Packer, 2008). Given previous research documenting the damaging implications of loneliness (Adams, Sanders & Auth, 2004), findings that those looking to boost their mood may actively seek out the social offerings of heritage sites (Ander et al., 2013) and the past success of participatory-based museum projects (Robert, Camic & Springham, 2011; Craft in Mind, 2016), enhancing the social affordances of What's Your Story is an important goal if greater psychological wellbeing is to be achieved.

Getting Social

Consequentially, future iterations of the What's Your Story app might draw inspiration from Grinter et al. (2002) who used handheld devices to enable pairs of visitors to listen to each other's audio guidebooks, subsequently promoting social exchange. This is a particularly innovative use of immersive technology, given that it not only uses audio content to inform, restore and engage visitors, but also actively promote social interaction. Such principles could be easily replicated with What's Your Story, by allowing users to share and send stories they have found particularly interesting to other visitors in the museum. The use of technology in this way may be particularly beneficial for facilitating interactions amongst those who are socially inhibited or anxious (Camarero-Laquierdo et al., 2009), and promote the enjoyment and novelty of using the app.



A Personal Experience

Whilst social interaction can be considered an important element of the cultural experience to many, further investigation suggests a variety of factors motivate visitors to take a trip to the museum (Kirchberg & Tröndle, 2012). These range from social, educational and introspective, with the level of preference varying significantly between visitors (Pekarik, Doering & Karns, 1999). Such findings suggest individuals have very distinct preferences for certain types of experiences, which mediates the ultimate degree of satisfaction arising from a museum visit (Kirchberg & Tröndle, 2012). This aligns with Self-Determination Theory which suggests all individuals have the fundamental drive to master skills (competence), to be social (relatedness), and to feel that they have a voice in determining their activities and behaviour (autonomy), however distinct differences exist between the relative importance of these categories to each individual (Ryan & Deci, 2004).

A Personal Experience

Therefore, adapting the What's Your Story app, in order to provide a more personalisable experience may directly enhance the degree to which users are able to satisfy their need for autonomy, but also to which they can modify the museum experience to suit the rest of their personal needs. For example, allowing users to select from a comprehensive menu of menu of features that distinctly cater for the needs of competence, relatedness and autonomy could be strongly beneficial in directly enhancing wellbeing, and the museum experience itself.



Relaxing Recording

The capacity for app users to record their own stories offered several benefits. Previous investigation suggests that this experience could have promoted feelings of generativity (Dutt-Doner, Allen & Campanaro, 2016), a sense of purpose (Bedford, 2011), and increase visitors' understanding of complex ideas (Hunter & Hunter, 2006). Given the significant results for the learning, interaction and environment subscales of the LIFE survey, it would appear that What's Your Story was effective in promoting these sensations.

Relaxing Recording

However, the process of sharing audio-narratives entailed recording oneself aloud amidst other visitors to the museum. Many participants were reluctant to create their own stories as a result of social inhibition, with only one participant choosing to engage in this activity. Indeed, participants mentioned how recording their "own" experiences whilst touring the museum could arouse feelings of "embarrassment", and that "it's difficult to share private information".

The quiet environment of the museum is likely to have enhanced a phenomenon known 'the spotlight effect', which refers to a bias in people's assessments of how noticeable their actions and appearance are to others (Gilovich, Medvec & Savitsky, 2000). This sensation could inadvertently impede the core objective of What's Your Story, by preventing visitors from creating and sharing their own personal narratives, and significantly hindering potential wellbeing benefits, which could result from this activity.

Given prior research on the specific benefits of verbalising narrative (Smith, Lumley & Leisen, 1997) and the fact that that an extensive range of audio submissions can create a valuable resource for future visitors, helping users to verbally record their stories is an important goal. This process could be made easier by providing visitors with a private space in which to record and upload narratives, such as a 'story booth'. Not only would this remove barriers of social inhibition, but it would also improve the audio quality of transmissions and could provide an additional novel experience, to be integrated and themed according to topical exhibitions.



Technical Ease

Finally, a seamless recording experience may be important to the overall success of What's Your Story due to the potential of the app to both satisfy and thwart psychological needs. For example, expressive writing has previously been linked to improved physical health (Smith et al., 1999), the reduction of stress and anxiety (Hunter & Hunter, 2006), greater empathy (Pennebaker & Segal, 1999). However, it is possible participants who were eagerly anticipating listening to and sharing narratives were prevented from this action by QR codes that were difficult to reach, or absent from their exhibits of interest.

Therefore, it is important to identify and correct potential practical limitations associated with using What's Your Story in the museum environment. This may involve checking the accessibility of QR codes, and collecting pilot data on which exhibits are most desirable or salient for visitors. An obvious yet important consideration, this attention will allow visitors to successfully record personal stories, and share their experience with others.



Overall, these findings suggest that the museum experience can promote satisfaction with life amongst visitors, as well as interest and engagement with learning, the environment and other people. Additional support from immersive technology such as the What's Your Story app can significantly enhance these benefits. However, it is important to preserve the natural social offerings of museums, when attending to the practical implementation of this technology. Future research may consider the effectiveness of the suggested recommendations in promoting the effectiveness of What's Your Story, in optimising the benefits of the museum.



At a time of rapid political, economic and sociocultural change, collaborative partnerships between heritage organisations and academic institutions provide clear value. Such relationships not only create a strong evidence base with which to support the benefits of cultural experiences, but the results of such projects also find ways to ensure the relevance of the museum in a dynamic world. The results of this particular venture can help us understand how to enhance the museum experience, ease the national mental health burden, and how to strengthen communities across Britain.



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Baseline Differences

Measure	Mean	Standard Deviation	T-Value	P-Value	Degrees of Freedom
Orientations to Happiness					
			0.29	0.776	39
Control (19)	3.67	0.73			
Experimental (22)	3.6	0.79			
Satisfaction with Life					
			-1.08	0.289	39
Control (19)	4.59	0.98			
Experimental (22)	4.94	1.07			
LIFE Survey					
			1.35	0.186	39
Control (19)	6.97	1.1			
Experimental (22)	6.46	1.32			

ANOVA Statements

Measure	F-Value	P-Value	Effect Size
Orientations to Happiness			
Condition	0.15	.705	.004
Time	1.68	.202	.041
Interaction	0.05	.821	.001
Satisfaction with Life			
Condition	0.61	.442	.015
Time	2.95	.094	.070
Interaction	0.85	.361	.021
LIFE Survey			
Condition	1.40	.245	.035
Time	8.90	.005*	.186
Interaction	0.41	.525	.010

Change Score T-Tests

Measure	Mean	Standard Deviation	T-Value	P-Value
Orientations to Happiness				
Control	0.14	0.4	1.5	0.15
Experimental	-0.038	0.29	-.61	0.55
Satisfaction with Life				
Control	1.21	3.43	1.54	0.14
Experimental	0.36	2.42	.07	0.49
LIFE Survey				
<i>Learning</i>				
Control	0.32	1.1	1.25	0.23
Experimental	0.58	1.13	2.4	0.03*
<i>Interaction</i>				
Control	0.21	1.27	.72	0.48
Experimental	0.52	1.26	1.92	0.069
<i>Environment</i>				
Control	0.35	.95	1.6	0.15
Experimental	0.62	1.23	2.37	0.03*
<i>Feelings</i>				
Control	0.40	1.16	1.59	0.15
Experimental	0.35	.95	1.73	0.1
<i>Hours</i>				
Control	0.58	1.6	1.58	0.13
Experimental	1.17	1.95	2.82	0.01*

The Orientations to Meaning Subscale

Please read the following statements and for each, tick the box that best describes you. There are no right or wrong answers, so please answer as honestly as you can throughout and try not to let your response to one question influence your response to other questions.

	Not at all like me	Not very like me	Some-what like me	Mostly like me	Very much like me
My life serves a higher purpose.					
In choosing what to do, I always take into account whether it will benefit other people.					
What I do matters to society.					
I have a responsibility to make the world a better place.					
What I do matters to society.					
My life has lasting meaning.					

The Satisfaction with Life Scale

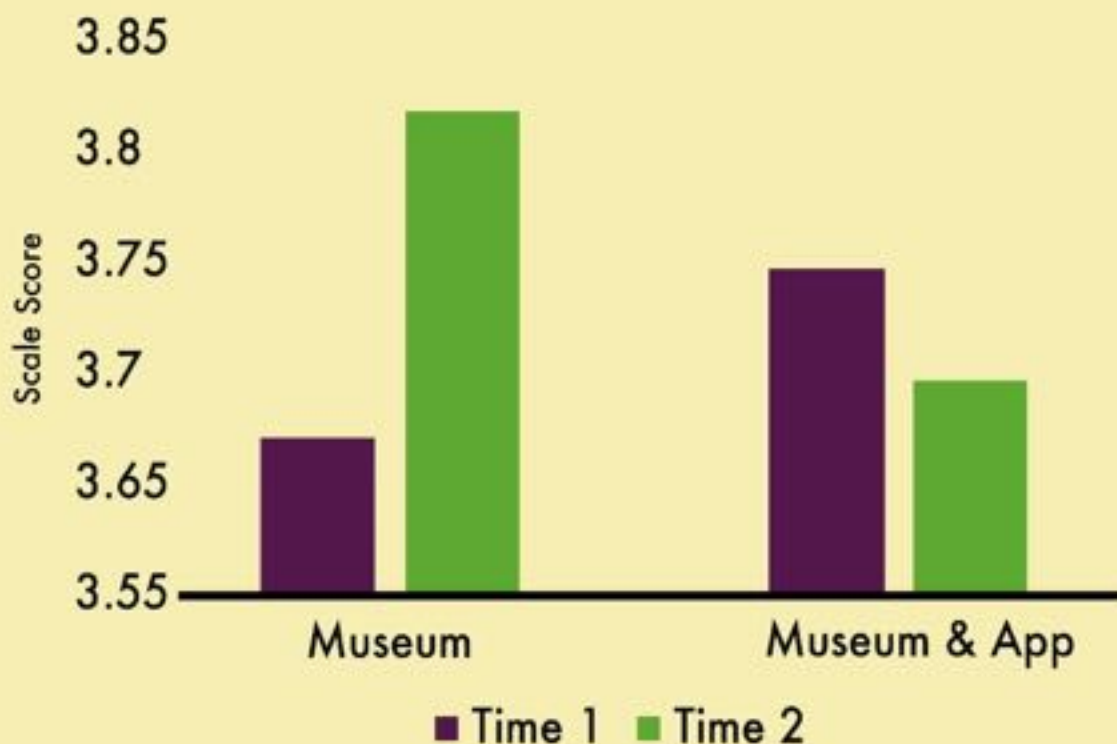
	Strongly Agree	Agree	Slightly Agree	Neutral	Slightly Disagree	Disagree	Strongly Disagree
In most ways, my life is close to my ideal.							
The conditions of my life are excellent.							
I am satisfied with my life.							
So far I have gotten the things I want in life.							
If I could live my life over, I would change almost nothing.							

The LIFE Survey

Please rate each of the statements and choose a number from 0-10 (0= not or none at all; 10 = completely), which indicates how much the statement is applicable to you. There are no right or wrong answers. Do not spend too much time on each statement

	0	1	2	3	4	5	6	7	8	9	10
How happy do you feel now?											
In the last few hours:											
How interested have you been in new things?											
How interested have you been in other people?											
How aware have you been of your environment?											
How satisfied are you with life nowadays?											
Nowadays, generally:											
How much do you learn?											
How close do you feel to other people?											
How much do you feel you belong in your environment?											
To what extent do you think the things you do in your life are worthwhile?											
In the last few weeks, how often have you chosen to:											
Learn or experience something new?											
Do activities with other people (beyond family and friends)											
Actively care for you environment?											

The Orientations to Meaning Scale





*The
End*