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Francis, L.J., Mansfield, S., McKenna, U. and Jones, S.H. (2022) *Enhancing inclusivity and diversity among cathedral visitors: the Brecon Jazz Festival and psychographic segmentation*. Journal of Beliefs and Values. ISSN 1361-7672

*This is a Manuscript published by Taylor and Francis in its final form on 21<sup>st</sup> December 2022 at:*  
<https://www.tandfonline.com/doi/full/10.1080/13617672.2022.2148084>.

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Accepted 12.11.22 Journal of Beliefs and Values

Enhancing inclusivity and diversity among cathedral visitors:

The Brecon Jazz Festival and psychographic segmentation

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### **Abstract**

A series of previous studies concerned with the psychographic segmentation of visitors to six cathedrals across England and Wales, employing psychological type theory, reported highly similar results, suggesting that cathedrals had a well-defined, but somewhat restricted appeal. Several cathedrals are attempting to widen their appeal by engaging a variety of events or exhibitions. Taking one specific example, the Brecon Jazz Festival, the present study found that 196 visitors to Brecon Cathedral during this period differed significantly from the standard psychological type profile of cathedral visitors in two ways. There were significantly more intuitive types (41% compared with 28%) and significantly more perceiving types (27% compared with 20%). These findings demonstrate that specific events have the capacity to widen the psychographic appeal of cathedrals.

*Keywords:* psychological type, psychographic segmentation, cathedral studies, visitor experience

## Introduction

The Report of the Archbishops' Commission on Cathedrals (1994), *Heritage and Renewal*, made a strong case for Anglican Cathedrals to distinguish between their two primary constituencies within 'the continuous stream of visitors and worshippers' (p. 3). In respect of the role of cathedrals among visitors, current reports on Anglican cathedrals highlight not only changes in visitor numbers, but also the wider impact of these visitors on their local communities, with special attention given to economic impact.

The Church of England's report, *Cathedral Statistics 2018*, highlights the finding that during 2018 cathedrals reported 'almost 10 million visitors', an increase of over 10% on 2017 (Church of England, 2019, p. 16). The report from the following year, *Cathedral Statistics 2019*, noted that in 2019 'there were 9.7 million visitors reported by Cathedrals. While this is a 4% drop from the 10.1 million visitors reported in 2018, it is a similar number of total visitors to a decade ago in 2009 (9.9 million visitors)' (Church of England, 2020, p. 16). The report to the Association of English Cathedrals by Ecorys (2021), *The economic and social impact of English cathedrals*, estimated over 9.5 million tourists or leisure visitors to cathedrals in 2019, an increase of 15% over the total of 8.2 million estimated in 2014 by Ecorys (2014). While there is clearly some uncertainty and variability in the way in which these visitor numbers have been calculated, the secure finding is that the overall numbers of visitors to cathedrals are far from trivial.

The report to the Association of English Cathedrals by Ecorys (2021) assessed the economic impact of these visitors on the local communities. According to this report the additional expenditure generated by 9.5 million tourists or leisure visitors in 2019 was in the region of £128 million in the local communities concerned. In addition to the direct economic benefit, Ecorys (2021) calculated the wider positive economic and social impact of cathedrals on the cities and communities that they serve. In 2019 the 42 cathedrals in England provided

6,065 full-time equivalent jobs and 15,400 volunteering posts, many of which are contingent on the tourism industry.

### **Visitor segmentation**

The importance of tracking the demographic profile of users within the broad fields of tourism, visitor studies, and the leisure and hospitality industries has long been recognised as both an aid to maximising the satisfaction of an existing pool of users and as a stimulus for broadening the range of users. In particular, sociological theories and sociographic segmentation have become well established for understanding patterned individual differences in the behaviour and expectations of visitors and tourists (see Aposolopoulos, Leivadi, & Yiannakis, 2001; Cohen & Cohen, 2019; Kozak & Decrop, 2008; Kumar, 2018). Established correlates of sex, age, and socio-economic status in the consumer patterns, needs, and expectations relevant to the tourism, leisure, and hospitality industries have been clearly identified within this research rooted in sociological theories. Psychological theories and psychographic segmentation, although less well known than these sociologically defined variables, have also been found to serve as significant predictors of the consumer patterns, needs, and expectations relevant to the tourism, leisure, and hospitality industries (Abbate & Di Nuovo, 2013; Driver & Knopf, 1977; Frew & Shaw, 1999; Furnham, 1990; Kvasova, 2015; Lee-Hoxter & Lester, 1988; Madrigal, 1995; Nolan & Patterson, 1990; Plog, 2002; Ross, 1998; Tan & Tang, 2013; Weaver, 2012).

Within this context, it was in seminal studies undertaken by Gountas and Gountas (2000, 2001) and Gountas (2003) that psychological type theory was introduced to the field of tourism, leisure, and hospitality research. More recently psychological type theory has been applied to the psychographic segmentation of cathedral visitors by Francis, Williams, Annis, and Robbins (2008), Francis, Mansfield, Williams, and Village (2010), Francis, Annis, Robbins, ap Siôn, and Williams (2012), Francis, Robbins, and Annis (2015), and

Francis and Mansfield (under review). Psychographic segmentation employing psychological type theory provides important additional information for visitor studies, alongside sociographic segmentation for two reasons. First, psychological type theory may provide a more powerful prediction of individual difference in human behaviour and attitudes than provided by sociologically defined variables. Second, variations in psychological type may be more easily overlooked than the more obvious differences in variables like sex, age, and ethnicity.

### **Grounding psychographic segmentation within psychological type theory**

A series of psychometric instruments, including the Keirsey Temperament Sorter (Keirsey & Bates, 1978), the Myers-Briggs Type Indicator (Myers & McCaulley, 1985), and the Francis Psychological Type Scales (Francis, 2005; Francis, Laycock, & Brewster, 2017) have developed, modified, and extended the original psychological type theory as proposed by Carl Jung (1971). At its core psychological type theory distinguishes between two psychological processes, styled the perceiving process and the judging process. Both processes are expressed in two contrasting functions.

The ways in which people see the world in which they live and how they gather and assemble information about that world is defined as the perceiving process. Jung (1971) described the perceiving process as the ‘irrational process’ because of its concern with gathering information without applying evaluation. Within psychological type theory, the two contrasting functions of the perceiving process are styled as sensing and as intuition. For sensing types (S) it is the realities of a situation as perceived by the senses which is of concern. They tend to focus on specific details, rather than on the overall picture. In contrast, for intuitive types (N) it is the possibilities of a situation, perceiving meanings and relationships which is of concern. They tend to focus on the overall picture, rather than on specific details.

The ways in which people evaluate and make judgements about the information assembled by the perceiving process is defined as the judging process. Jung (1971) described the judging process as the 'rational process' because of its concern with applying evaluation. Within psychological type theory, the two contrasting functions of the judging process are styled as thinking and as feeling. For thinking types (T), forming judgements and making decisions are based on impersonal, objective logic. They tend to focus on applying integrity and justice and are committed to their search for truth and their desire for fairness. In contrast, for feeling types (F), forming judgements and making decisions are based on personal, subjective values. They tend to apply compassion and mercy and are committed to their ideal for tactfulness and their desire for peace.

In psychological type theory these two core psychological processes (perceiving and judging) work within the environment of two contrasting orientations and two contrasting attitudes toward the outer world. The orientations, distinguished as introversion and extraversion, are concerned with the direction of psychological energy. Extraverts (E) are orientated toward the outer world; they draw energy from the events and people around them. They enjoy stimulating and exciting environments and thrive on communication. In contrast, introverts (I) are orientated toward their inner world; they draw energy from their own inner ideas and inner life. They find enjoyment in what is happening in their inner world, and it is silence and contemplation that helps them to thrive.

The attitudes toward the outer world are concerned with which psychological process (perceiving or judging) is exercised in the outer world. Judging types (J) engage their preferred judging function (either thinking or feeling) in the outer world. They function best with routine and established patterns, continually striving to structure their outer world. Making decisions quickly and sticking to their conclusions once made are evident in their actions. In contrast, perceiving types (P) engage their preferred perceiving function (either

sensing or intuition) in the outer world. For them an outer world that is flexible, and open helps them to achieve their best. They like to be spontaneous and are unworried by change.

### **Psychological type profile of cathedral visitors**

In the first study to apply psychological type theory to cathedral visitors, Francis, Williams, Annis, and Robbins (2008) reported on the psychological type profile of 381 visitors to one cathedral in Wales (St Davids). In the second study, Francis, Mansfield, Williams, and Village (2010) reported on the psychological type profile of 157 visitors to one cathedral in England (Chester). Both studies employed the same measure of psychological type, the Francis Psychological Type Scales (Francis, 2005). Recognising that these were two very different cathedrals, it was surprising that the findings were very similar. In St Davids 57% preferred introversion and so did 60% in Chester. In St Davids 72% preferred sensing and so did 68% in Chester. In St Davids 51% preferred thinking and so did 51% in Chester. In St Davids 81% preferred judging and so did 82% in Chester.

The total sample across these two studies was only 538 visitors so this was a clear limitation of the research. To address this problem, Francis, Annis, Robbins, ap Siôn, and Williams (2012) conducted and reported on a much larger survey, again in St Davids Cathedral, but this time involving 2,327 visitors. The findings from this third study mirrored those of the earlier two studies. In the third study, 58% of visitors preferred introversion, compared with 57% and 60% in the two earlier studies. In the third study, 72% of visitors preferred sensing, compared with 72% and 68% in the two earlier studies. In the third study 54% of visitors preferred thinking, compared with 51% in both of the two earlier studies. In the third study, 82% of visitors preferred judging, compared with 81% and 82% in the two earlier studies. In a fourth study, Francis and Mansfield (under review) reported on the psychological type profile of 1,082 visitors to four cathedrals (three in England and one in Wales). Once again, the findings were closely aligned with the findings from the earlier



studies: 60% of the visitors preferred introversion, 72% preferred sensing, 49% preferred thinking, and 80% preferred judging.

In their study Francis and Mansfield (under review) took their analysis one stage further than the earlier studies and compared the psychological type profile of the 1,082 cathedral visitors with the normative data provided for the UK by Kendall (1998). Kendall's table of the UK population, for copyright reasons, is not published here. However, key figures from that table are employed in the following commentary where comparison with the population norms highlights the two main self-selected characteristics that distinguish the psychological type profile of cathedral visitors from the wider population. While 60% of cathedral visitors preferred introversion, the proportion fell to 48% in the population as a whole. While 80% of cathedral visitors preferred judging, the proportion fell to 58% in the population as a whole. In contrast, the ratio between preferences for sensing and for intuition is very similar between the two groups. While 72% of cathedral visitors preferred sensing, so did 77% of the population as a whole. Likewise, the ratio between preferences for thinking and for feeling is also very similar between the two groups. While 51% of cathedral visitors preferred feeling, so did 54% of the population as a whole. The real challenge to cathedrals, suggested by these findings, concerns their ability to attract more extraverts and more perceiving types.

### **Widening the visitor appeal**

In their report to the Association of English Cathedrals, Ecorys (2021) drew attention to the way in which visitor numbers have been impacted by 'innovative exhibitions' (p. 11). A systematic search of cathedral websites undertaken during June 2022 has evidenced the range and scope of such innovation, as illustrated below by reference to five cathedrals: Coventry, Lichfield, Liverpool, Norwich, and Rochester.

With the City of Coventry being designated UK City of Culture 2021-22 there was a full schedule of events taking place across the year, only a few of which are presented here. A film, *Partition*, about the events surrounding the Indian subcontinent's division into India and Pakistan and the tumultuous events that surrounded this was presented by Action Rayz (screened 16 February 2022). From mid to late February 2022, *Where there is light*, an immersive sound and light installation shared the voices and stories of sanctuary seeking communities from across the country asking questions about where light can be found in the self, in others, and in the wider world. Alongside these events encouraging visitors to reflect on wider global issues, there were events for families and for those wishing to visit the cathedral for leisure purposes. For six weeks from November 2021 to January 2022 the cathedral ruins sited an ice-skating experience, *Coventry Glides*. In March 2022, *Big Fish Little Fish and Delia Phonics Festival* presented a family rave in celebration of the life and work of electronic music pioneer, Delia Derbyshire. A multi-sensory dance floor filled with ambient house music, bubbles, balloons, confetti cannons, snow foam and a giant parachute dance were designed for enjoyment by children aged 8 and under. Every first Saturday of the month the Cathedral also hosted a family fun and crafts event. In April 2022 this was focused on *Wallace and Gromit* and in May 2022 on *Alice in Wonderland*. A crafting session was followed by a screening of the film. Many of these family events were made available free of charge, although booking was essential. For those who were environmentally aware a *Preloved Retail Pop Up*, held in February 2022, offered preloved, vintage, and retro clothing paid for by weight.

At Lichfield Cathedral a summer of science, creativity and spirituality included a series of free events throughout July to November 2021. The *Pioneers in Science* (19 July to 30 August 2021) exhibition highlighted the lives of pioneering scientists whose work has shaped the world. *The Laboratory* (13 August to 01 November 2021) allowed visitors to walk

around a giant laboratory in the Cathedral and to take part in family activities. *The Great Exhibition* (19 to 30 August 2021) saw the whole Cathedral immersed in light and sound enabling exploration of the wonders of the world through the eyes of scientists.

At Britain's largest cathedral, Liverpool Cathedral, three installations resulted in record numbers of visitors. In 2018 (24 to 31 May), British artist Luke Jerram's the *Museum of the Moon* artwork, a 1:500,000 scale model of the moon using NASA photography, drew in 60,254 visitors in just one week. This exhibition also took place at cathedrals in Bristol, Chichester, Derby, Durham, Ely, Leicester, Rochester, and Wells. The following year the seven-metre spherical artwork *Gaia* (meaning the personification of the earth), also by Luke Jerram and complemented with a sound composition, hung in the Cathedral's Well. Between 25 May and 23 June 2019, it attracted over 200,000 visitors. Prayer stations were placed around the Cathedral to help visitors reflect on the earth's significance in creation. Around 48,000 candles were lit while *Gaia* was in place compared to the 10,000 candles usually lit in the same period. This exhibition also took place at Leicester and Rochester cathedrals. In 2021 (21 May to 31 August), *Peace Doves*, an artwork created by sculptor and artist Peter Walker, featuring over 18,000 paper doves, was suspended from the roof of the Cathedral and accompanied by a soundscape from composer David Harper. In its first month over 50,000 visitors viewed it. More recently, in February 2022, the Cathedral hosted *Space, the Universe and Everything*, a light and sound show allowing visitors to travel through space, light and time – from the first step on the Moon to the edge of the Universe then back again, without leaving the inside of the Cathedral. This event also took place at Carlisle Cathedral. Liverpool Cathedral has also hosted one-off music concerts. On 11 March 2022 the band *This is The Kit* performed their new album 'Off Off On', a follow-up to their 2017 critically acclaimed album 'Moonshine Freeze'.

At Norwich Cathedral more than 234,000 people enjoyed visiting *Dippy the Diplodocus* dinosaur during his 16-week stay at the Cathedral (13 July to 30 October 2021). At an iconic 26-metres the *Diplodocus* cast was part of a Natural History Museum nationwide tour. In conjunction with *Dippy*, the cathedral also hosted the *Your waves go over me* art installation inviting people to walk through a 10-metre wave of 3,000 fish. This artwork celebrated the importance of water through the ages, from the time of dinosaurs through to the modern day and beyond. The title of the sculpture was inspired by a quotation taken from the Psalms, 'All thy waves and storms are gone over me' (42.9), a reference to how, while the Bible and modern science differ about many things, they agree that life as it is known emerged from water. Previously in 2019 (8 to 18 August), *Helter Skelter* saw a 55ft helter skelter erected in Norwich Cathedral's Nave as part of the *Seeing It Differently* project that aimed to give people the chance to experience the Cathedral in an entirely new way and to open conversations about faith. Visitors climbing to the top of the helter skelter were treated to unique views of the centuries-old building and its famous medieval roof bosses which tell stories from the Bible and form the largest collection of their kind in the world. More recently the cathedral hosted in its Cloister, as part of a *Shakespeare Festival*, a performance of *Macbeth* (9 to 10 July 2021), and from 22 December 2021 until 15 January 2022 the *Norwich 20 Group* presented an art show *Horizon* in the Cathedral's Hostry, featuring the work of 50 members.

At Rochester Cathedral *Crazy Golf Bridges* was a bridge-themed adventure golf course constructed in the Nave of the Cathedral (1 August to 1 September 2019). The course was designed to encourage learning about the engineering behind bridges, giving people the opportunity to learn while taking part in a fun activity, in what for many might have been a previously un-visited building.

The hosting of such events has not been without controversy, and criticism has been levelled at the unconventional methods being used to attract the public. The *Helter Skelter* installation at Norwich and the *Crazy Golf Bridges* at Rochester are two installations that have attracted media attention centred around concerns that such events were not appropriate for hosting in a place of worship. While at Rochester Cathedral the aim was for visitors to interact with the golf bridges to learn about faith, and the building of emotional and physical bridges, the Right Reverend Dr Gavin Ashenden, Missionary Bishop for the Christian Episcopal Church, stated it was a ‘really serious mistake’ and ‘tricks’ those engaging with it into a search for God (BBC News 2019a). Similarly, while Norwich Cathedral maintained that the *Helter Skelter* was a creative way to share the story of the Bible in an innovative way, Dr Ashenden, claimed that there was no evidence that tourists become Christians, and ‘for such a place, steeped in mystery and marvel to buy in to sensory pleasure and distraction, is to poison the very medicine it offers the human soul’ (BBC News 2019b). Clearly the ‘innovative exhibitions’ to which Ecorys (2021) drew attention did not please everyone, although the visitor numbers (where available) suggested that such events were successful in drawing in the crowds.

Currently, research has not been undertaken to examine the extent to which this greater variety of provision may be reflected in reshaping the psychological type profile of cathedral visitors. The aim of the present paper is to illustrate the potential benefit for such research by drawing attention to one study conducted in Brecon Cathedral at the time when the Cathedral was hosting events from the Brecon Jazz Festival.

### **Brecon Cathedral**

Brecon Cathedral was created in 1923 to serve the Diocese of Swansea and Brecon, one of the two new dioceses created following the disestablishment of the Anglican Church in Wales. The site and building occupied by Brecon Cathedral has its roots in the Benedictine

Priory of St John the Evangelist founded in 1093 by Bernard de Neufmarché, alongside his important Norman castle, on the site of an earlier Celtic church. After the dissolution of the monasteries in 1538 it became the parish church for Brecon. A distinctive feature of Brecon Cathedral is its setting within a walled close. Remains of former monastic buildings provide a Heritage Centre and Restaurant, as well as housing for the cathedral clergy and an administrative centre for the diocese.

The nave was built in the early fourteenth century in the decorated architectural style with octagonal pillars above which are clerestory windows. Wooden screens once separated the side aisle chapels from the nave by a parclose screen belonging to four craft guilds. Only one of these chapels still survives, St Keynes Chapel in the north aisle. The chancel and transepts were built in the thirteenth century in the early English architectural style.

The present appearance of the cathedral owes a great deal to initiative and investment during the nineteenth century. In 1860, a public meeting considered the restoration of the Priory Church. Lord Camden restored the chancel, and a public fund restored the nave. Gilbert Scott added the stone vaulting to the church, removed the existing stone floor to prevent rising damp and rebuilt the timber roof. Scott saw this building as a fitting site for a cathedral some sixty years before disestablishment made this vision a real possibility. Further rich detail on Brecon Cathedral is provided by Haslam (1979, pp. 283-296).

The Brecon Jazz Festival was established in 1984 by a local man Toni Constantinescu and together with Brecon Fringe Festival is held annually over a weekend in early to mid-August. What started out as a community event with live jazz music on the streets and in the pubs, cafes and galleries of the town soon grew to include concerts and events in venues including the Guildhall, Markethall, Theatr Brycheiniog, and Brecon Cathedral making it Wales's leading international jazz festival. The Brecon Jazz Festival features both performers and promising talent from within Wales alongside diverse international musicians, attracting

large numbers of visitors to the town. Some very famous artists have performed at the festival, many appearing across several years, including Humphrey Lyttelton (in 1984, 1988, 1990, 2003, and 2004), Helen Shapiro (in 1982), Van Morrison (in 1996, 1998, and 2001), Diana Krall (in 1997), Amy Winehouse (in 2004), Jools Holland (in 2007), Joan Armatrading (in 2008), Hugh Masekela (in 2010), Dionne Warwick (in 2012), and Gregory Porter (in 2014). Activities for children, markets and a vintage fair add to the community appeal of the event. The centrality of Brecon Cathedral to the Jazz Festival was illustrated by *The Brecon and Radnor Express* when marking the retirement of the Dean of Brecon, The Very Revd Geoffrey Marshall (4 June 2014). The report noted that the Dean ‘has become a regular feature of the Brecon Jazz Festival, donning “daft” outfits and parading with the Adamant band’. During Dean Marshall’s time, in 2012 Brecon Cathedral hosted artist in residence Huw Warren, the acclaimed Welsh pianist collaborating with musicians from Norway, Austria and the UK. Subsequently in 2016, Brecon Cathedral hosted a group of musicians who delivered a collection of performances that included jazz vocal legend Jacqui Dankworth and a tribute to Duke Ellington (<https://twitter.com/cathedraljazz>).

### **Research question**

Against this background the present study has two aims. The first aim is to generate the psychological type profile of visitors to Brecon Cathedral at the time of the Brecon Jazz Festival. The second aim is to locate the profile of this new study alongside the profile of 1,082 visitors to four cathedrals (three in England and one in Wales) reported by Francis and Mansfield (under review).

### **Method**

#### **Procedure**

Permission was received from Brecon Cathedral for the second author to invite visitors to this cathedral to complete *The Cathedral and You* survey booklet following a

similar procedure to that described by Francis and Mansfield (under review) to ensure compatibility between the two sets of data. The booklet introduced the survey in the following way:

This survey explores the thoughts and feelings of visitors to cathedrals. Please be honest, we want to know your views. Please do not pause for too long over any one question and try to answer every question. Everything you tell us is completely confidential and anonymous. Thank you for your help and cooperation.

### **Instrument**

*Psychological type* was assessed by the Francis Psychological Type Scales (FPTS: Francis, 2005; Francis, Laycock, & Brewster, 2017). This 40-item instrument comprises four sets of 10 forced-choice items covering each of the four components of psychological type: orientation (extraversion or introversion), perceiving process (sensing or intuition), judging process (thinking or feeling), and attitude toward the outer world (judging or perceiving). Francis, Craig, and Hall (2008) have demonstrated that this instrument functions well in church-related contexts, reporting alpha coefficients of .83 for the EI scale, .76 for the SN scale, .73 for the TF scale, and .79 for the JP scale. For each pair of characteristics, participants were asked to check the 'box next to that characteristic which is closer to the real you, even if you feel both characteristics apply to you. Tick the characteristics that reflect the real you, even if other people see you differently'.

### **Participants**

The 196 participants comprised 100 men, 93 women, and 3 who did not disclose their sex. They ranged in age from 20 to 88 years; 4% were under the age of thirty, 13% were in their thirties, 16% in their forties, 33% in their fifties, 24% in their sixties, and 11% were aged seventy and over. The participants comprised both churchgoers and non-churchgoers: 29% never attended church services, while 26% attended church services nearly every week;



of the remaining 45%, 26% attended at least once a year, 11% at least six times a year, and 8% at least once a month. In terms of religious affiliation, the majority of the visitors described themselves as Christian (64%), 28% as religiously unaffiliated, and the remaining 7% as affiliated with other religions or spiritual traditions. In terms of the following five options, 34% of the participants regarded themselves as holidaymakers, 36% as occasional visitors to the city, 18% as regular visitors to the city, 2% as people who were studying or working in the city, and 10% as people who lived in the city. Nearly 49% were visiting the cathedral for the first time, 36% were visiting the cathedral for the second time, and a further 11% were visiting the cathedral for the third time; the remaining 5% were more frequent visitors to the cathedral. Some of the participants had made quite a fleeting visit, while others had been much more leisurely in their approach: 10% had spent under 15 minutes on their visit, 24% had taken 15 to 29 minutes, 8% had taken 30 to 44 minutes, 14% had taken 45 to 60 minutes, and the remaining 44% had spent over an hour in the cathedral. The majority of visitors were residents within the UK (90%), with 8% from Europe and 3% from the rest of the world. Nearly half (45%) had travelled over forty miles to visit the cathedral, compared with 26% who had travelled less than five miles. In terms of self-assessment of their present or most recent work, the majority of visitors (88%) regarded themselves as engaged in professional or semi-professional occupations.

### **Analysis**

A highly distinctive method for analysing, handling, and displaying statistical data in the form of 'type tables' has been developed within the empirical investigation of psychological type. This convention has been adopted in the following presentation to enable integration of these new data within the existing literature and to provide sufficient detail to aid secondary analysis and further interpretation within the rich theoretical framework afforded by psychological type theory. The sixteen discrete psychological types, the four

dichotomous preferences, the six sets of pairs and temperaments, the dominant types, and the introverted and extraverted Jungian types are all incorporated in the design of the type tables. Only commentary pertinent to those aspects of the data strictly relevant to the research question will be provided. Within these type tables, the statistical significance of the difference between two groups is established by means of the selection ratio index (*I*), an extension of chi-square (McCaulley, 1985).

### Results

The four scales of the Francis Psychological Type Scales achieved satisfactory internal consistency reliabilities in terms of alpha coefficients (Cronbach, 1951): extraversion and introversion,  $\alpha = .76$ ; sensing and intuition,  $\alpha = .69$ ; thinking and feeling,  $\alpha = .68$ ; judging and perceiving,  $\alpha = .73$ .

- insert table 1 about here -

Table 1 presents the psychological type profile of the 196 visitors to Brecon Cathedral at the time of the Jazz Festival. These data demonstrate that there were more introverts (58%) visiting the cathedral than extraverts (42%), more sensing types (59%) than intuitive types (41%), more judging types (73%) than perceiving types (27%), and a balance between thinking types (46%) and feeling types (54%). This profile remains consistent with the profiles generated by earlier studies among cathedral visitors.

Table 1 also compares the profile of these 196 visitors to Brecon Cathedral at the time of the Jazz Festival with the profile of 1,082 visitors to four cathedrals (three in England and one in Wales) reported by Francis and Mansfield (under review). Comparison with the normative data for cathedral visitors draws attention to the two main self-selected characteristics that distinguish the psychological type profile of visitors to Brecon Cathedral at the time of the Jazz Festival from the wider population of cathedral visitors. While 28% of general cathedral visitors prefer intuition, the proportion rises to 41% of visitors to Brecon

Cathedral. While only 20% of general cathedral visitors prefer perceiving, the proportion rises to 27% of visitors to Brecon Cathedral. On the other hand, the ratio between preferences for introversion and for extraversion is not greatly different between the two groups. While 60% of general cathedral visitors prefer introversion, so do 58% of visitors to Brecon Cathedral. Also, the ratio between preferences for thinking and for feeling is not greatly different between the two groups. While 51% of general cathedral visitors prefer feeling, so do 54% of visitors to Brecon Cathedral.

### **Conclusion**

The present study was contextualised within the science of cathedral studies by consideration of two fields of research (see Francis, 2015). The first field concerned the psychographic segmentation of cathedral visitors within the framework of psychological type theory. Four earlier studies reported by Francis, Williams, Annis, and Robbins (2008), Francis, Mansfield, Williams, and Village (2010), Francis, Annis, Robbins, ap Siôn, and Williams (2010), and Francis and Mansfield (under review), together involving six cathedrals, had reported highly similar findings. These four studies agreed that cathedral visitors tended to prefer introversion (between 58 and 60%), sensing (between 68 and 72%) and judging (between 80 and 82%), with a closer balance between thinking types (between 49 and 54%) and feeling types (between 46 and 51%). The second field concerned recent research on the economic and social impacts of England's cathedrals that suggest that visitor numbers have been impacted by 'innovative exhibitions' (Ecorys, 2021, p. 11).

Placed side-by-side these two fields of research raised the question as to whether 'innovative exhibitions', and other innovative events may serve to extend the reach of the appeal of cathedrals to visitors, and the extent to which such extended reach may be reflected in reshaping the psychological type profile of cathedral visitors. This research question was then tested in an exploratory pilot study among visitors to Brecon Cathedral during the period

when the cathedral was actively engaged with the Brecon Jazz Festival. When the psychological type profile of 196 visitors to Brecon Cathedral during the Jazz Festival was placed alongside the profile of 1,082 visitors to four other cathedrals (three in England and one in Wales), the data drew attention to two statistically significant differences. First, there was a significantly higher proportion of intuitive types visiting Brecon Cathedral during the Jazz Festival: while 28% of general cathedral visitors prefer intuition, the proportion rose to 41% of visitors to Brecon Cathedral. Second, there was a significantly higher proportion of perceiving types visiting Brecon Cathedral during the Jazz Festival: while 20% of general cathedral visitors prefer perceiving, the proportion rose to 27% of visitors to Brecon Cathedral.

Although there is no published research that has specifically explored the psychological type profile of individuals attracted to jazz, the finding that the Jazz Festival brought into the cathedral more intuitive types and more perceiving types is consistent with the way in which psychological type theory characterises intuition and perceiving. Intuition is the perceiving function that displays creativity and imagination (Ross & Francis, 2020). Perceiving is the attitude toward the outer world that displays flexibility and spontaneity (Francis & Smith, 2015). Such psychological predispositions seem consistent with the world of jazz. The defining characteristic of jazz is improvisation, expressed in a variety of ingenious ways, and improvisation is often associated in the literatures with creativity (Barrett, 1998; Johnson-Laird, 2002; Pressing, 1988). Exploring this theory connecting jazz with creativity in a study comparing 52 students of classical music, 25 students of jazz music, and 21 students of folk music, Benedek et al. (2014) concluded that jazz musicians recorded higher levels of ideational creativity as measured by divergent thinking tasks and also shared greater openness to new experience. These two findings are consistent with the evidence

provided by the present study. Ideational creativity is a reflection of preference for intuition, while greater openness is a reflection of preference for perceiving.

By opening the doors to jazz musicians and to the lovers of jazz music, Brecon Cathedral seems to have attracted within its walls a wider range of people than would be generally attracted as cathedral visitors. Of particular significance is the access given to a greater number of perceiving types. In their comparison between the psychological type profile of cathedral visitors and the population norms published by Kendall (1998), Francis and Mansfield (under review) identified that the greatest discrepancy concerned the under-representation of perceiving types among cathedral visitors. While perceiving types accounted for 42% of the general population the proportion fell to 20% of cathedral visitors. Other studies have drawn attention to the under-representation of perceiving types among church congregations. For example, in their study of 3,302 churchgoers drawn from 140 congregations, Francis, Robbins, and Craig (2011) reported that perceiving types accounted for just 14% of male churchgoers and 15% of female churchgoers. By engaging with the Jazz Festival, Brecon Cathedral has increased the proportion of perceiving types crossing the threshold to 27%.

The clear limitations with the present study include the way in which the data were generated by only 196 visitors, to one cathedral, engaging with one innovative event. The findings, however, are sufficiently intriguing to commend the replication of this study of the psychographic segmentation of cathedral visitors in relation to other innovative events and innovative exhibitions in other cathedrals.

### **Funding**

The authors received no funding for this study.

### **Conflict of interests**

No potential conflict of interest was reported by the authors.

**Availability of data**

Data are available from the corresponding author on request.

**Ethics approval**

The study received approval from Glyndwr University for doctoral research.

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<https://www.liverpoolcathedral.org.uk/about-us/news/it-s-been-out-of-this-world-as-over-200-000-people-encountered-the-earth-at-liverpool-cathedral/>

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<https://www.liverpoolcathedral.org.uk/about-us/news/over-50-000-visitors-flock-to-see-the-peace-doves-in-its-first-month/>

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Table 1

*Psychological type profile of visitors to Brecon Cathedral, compared with visitors to four cathedrals reported by Francis and Mansfield*

The Sixteen Complete Types				Dichotomous Preferences				
ISTJ <i>n</i> = 29 (14.8%) <i>I</i> = 0.68* +++++	ISFJ <i>n</i> = 21 (10.7%) <i>I</i> = 0.69 +++++	INFJ <i>n</i> = 15 (7.7%) <i>I</i> = 1.53 +++++	INTJ <i>n</i> = 17 (8.7%) <i>I</i> = 1.34 +++++	E <i>n</i> = 83 (42.3%) <i>I</i> = 1.05	I <i>n</i> = 113 (57.7%) <i>I</i> = 0.96	S <i>n</i> = 115 (58.7%) <i>I</i> = 0.82***	N <i>n</i> = 81 (41.3%) <i>I</i> = 1.47***	
ISTP <i>n</i> = 5 (2.6%) <i>I</i> = 1.20 +++	ISFP <i>n</i> = 7 (3.6%) <i>I</i> = 1.21 ++++	INFP <i>n</i> = 17 (8.7%) <i>I</i> = 2.23** +++++	INTP <i>n</i> = 2 (1.0%) <i>I</i> = 0.55 +	T <i>n</i> = 90 (45.9%) <i>I</i> = 0.94	F <i>n</i> = 106 (54.1%) <i>I</i> = 1.06	J <i>n</i> = 143 (73.0%) <i>I</i> = 0.92*	P <i>n</i> = 53 (27.0%) <i>I</i> = 1.32*	
ESTP <i>n</i> = 4 (2.0%) <i>I</i> = 1.47 ++	ESFP <i>n</i> = 4 (2.0%) <i>I</i> = 0.57 ++	ENFP <i>n</i> = 8 (4.1%) <i>I</i> = 1.34 ++++	ENTP <i>n</i> = 6 (3.1%) <i>I</i> = 1.95 +++	<b>Pairs and Temperaments</b>				
ESTJ <i>n</i> = 20 (10.2%) <i>I</i> = 0.96 +++++	ESFJ <i>n</i> = 25 (12.8%) <i>I</i> = 0.93 +++++	ENFJ <i>n</i> = 9 (4.6%) <i>I</i> = 1.42 +++++	ENTJ <i>n</i> = 7 (3.6%) <i>I</i> = 1.17 ++++	IJ <i>n</i> = 82 (41.8%) <i>I</i> = 0.85	IP <i>n</i> = 31 (15.8%) <i>I</i> = 1.46*	EP <i>n</i> = 22 (11.2%) <i>I</i> = 1.17	EJ <i>n</i> = 61 (31.1%) <i>I</i> = 1.02	
EN-P 14	7.1	1.55	IN-J 32	16.3	1.42	DT.T 34	17.3	0.98
E-TJ 27	13.8	1.01	I-TP 7	3.6	0.90	Dt.F 58	29.6	1.25
E-FJ 34	17.3	1.03	I-FP 24	12.2	1.79**	Dt.S 58	29.6	0.70***
ES-P 8	4.1	0.82	IS-J 50	25.5	0.68***	Dt.N 46	23.5	1.46*
ET <i>n</i> = 37 (18.9%) <i>I</i> = 1.13	EF <i>n</i> = 46 (23.5%) <i>I</i> = 1.00	IF <i>n</i> = 60 (30.6%) <i>I</i> = 1.12	IT <i>n</i> = 53 (27.0%) <i>I</i> = 0.84	ST <i>n</i> = 58 (29.6%) <i>I</i> = 0.82	SF <i>n</i> = 57 (29.1%) <i>I</i> = 0.81	NF <i>n</i> = 49 (25.0%) <i>I</i> = 1.65***	NT <i>n</i> = 32 (16.3%) <i>I</i> = 1.26	
				SJ <i>n</i> = 95 (48.5%) <i>I</i> = 0.78***	SP <i>n</i> = 20 (10.2%) <i>I</i> = 1.01	NP <i>n</i> = 33 (16.8%) <i>I</i> = 1.63**	NJ <i>n</i> = 48 (24.6%) <i>I</i> = 1.38*	
				TJ <i>n</i> = 73 (37.2%) <i>I</i> = 0.89	TP <i>n</i> = 17 (8.7%) <i>I</i> = 1.25	FP <i>n</i> = 36 (18.4%) <i>I</i> = 1.36	FJ <i>n</i> = 70 (35.7%) <i>I</i> = 0.95	

Note: *N* = 196 (NB: + = 1% of *N*)

\**p* < .05, \*\**p* < .01, \*\*\**p* < .001