The health and wellbeing benefits of public libraries

Full report

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Executive Summary

1. Background and objectives of the study

In 2014, Arts Council England commissioned SImetrica to conduct a study to value the health and wellbeing benefits of public libraries.

Libraries have an important role in society as providers of a range of services from book-lending and computer access to children's activities, training courses and meeting space. But understanding the value of libraries is a complex issue due to the wide-ranging services that libraries provide and the inherently non-market nature of these services (most are free at the point of use).

This study looks at the value of the **health and wellbeing benefits** of library engagement measured through economic value, using methods that are consistent with the HM Treasury Green Book guidance. There are two key research aims of the study.

1. The value of engagement in library services in terms of the impact on people's overall quality of life.
This is measured through the **contingent valuation** (**CV**) method. A large CV study with around 2,000 respondents is used to ask people directly their willingness to pay (WTP) for library services as represented by paying additional council tax.

The values from the CV study represent the value associated with improved wellbeing due to library services. Technically speaking, this represents the **primary benefits** of library services. Primary benefits are those that accrue directly to the individual (ie the impact on their wellbeing). We look at the value of services in libraries in England and how this value differs by service type and the socio-demographic characteristics of the individual. We also look at what factors drive the reported values, such as socio-demographic factors and aspects of service use.

This CV study fills an important gap in the literature. Previous related studies on libraries in England have sought to place values on individual institutions, such as the British Library (Pung et al., 2004) and Bolton libraries (Jura Consultants, 2005), or have examined the value associated with book-lending and reading services (eg Morris et al., 2002). As far as we are aware, it is the first valuation of the broad range of services that are offered by libraries in England.

2. The value to society of the health benefits of library services.
Libraries may make a contribution to society though their impacts on health. We look at the potential savings due to reductions in medical service usage as a result of improvements in general health from library service usage. This is estimated using **exchequer cost savings** estimates. The aim is to add to the evidence on libraries and health costs, which BOP Consulting (2014) recognises as being weak in some areas in its evidence review.

Exchequer cost savings are known as **secondary benefits.** They relate to impacts that benefit society more widely which at some point may be an indirect benefit to the individual as well. This mainly encompasses impacts on the economy and public purse. These are benefits because they

could lead to reduced public spending on health which could lead to lower tax rates or shifts in resources to other important policy areas. These types of benefits are often also known as the economic contribution. This forms one element of overall economic value. Economic value is the approach taken in the HM Treasury Green Book and Business Case model.

A full review of the literature can be found in the main paper.

2. Methodology

We conducted a large online survey with 2,000 adult library visitors and non-visitors, where a visitor is defined as someone who has visited a public library in the past 12 months. Details of the sampling methodology and questionnaire can be found in the main report.

Respondents were asked how much additional council tax they would be prepared to pay per year to maintain the current level of services at their local libraries. This question was asked of library users and non-users.

The health-related secondary benefits were estimated using the Taking Part and British Household Panel Survey datasets, whereby we estimate the association between library service usage and general health and value improvements in general health using GP-related NHS cost savings.

3. Key findings

We find that average willingness to pay (WTP) to maintain current library services among library users in England is £19.51 per year in increased council tax. As would be expected, non-users reported a lower WTP: we find that average willingness to pay to maintain current library services among non-users of libraries in England is £10.31 per year in increased council tax, which is around half that of the WTP values stated by library users. It is possible to aggregate use value across the library-using English population to estimate a national average WTP for library services of £365.3 million per year. We can also aggregate a value for non-users in the English population to estimate a national average non-use WTP for library services of £358.1million per year. In total this provides a combined annual WTP for local library services of £723.4million across library users and non-users in England.

People who use ‘health services’ at libraries (£39.03), ‘attend lectures and other events’ at libraries (£29.08), and those who use their library as a ‘space for socialising’ (£26.44) are willing to pay more than the average user to maintain services at their local library (WTP amounts in brackets).

We find that the drivers of WTP were consistent with economic theory: socio-demographic characteristics such as higher education, frequent reading (ie interest in reading), having children and higher income are associated with higher levels of willingness to pay for library services.

We undertake some additional analysis to look at how different services impact on WTP. We find no association between library expenditure at the local authority level (which may be one indicator of the level and quality of local library services) and respondents’ willingness to pay for library

services, although this finding may be influenced by limitations in the data available. However, we found separate evidence in the data that certain characteristics or aspects of library service provision, in particular good-quality customer service and community-centred services, increase the value that users place on their local libraries.

Analysing the health and subjective wellbeing data we find that library use is positively associated with subjective wellbeing after controlling for a wide range of other factors. Library usage is associated with higher life satisfaction, higher happiness and a higher sense of purpose in life (although usage was also associated with higher levels of anxiety). These results suggest that libraries generally have an important role in library users' quality of life and wellbeing, which provides supporting evidence that the WTP results from the contingent valuation survey can be interpreted in part as reflecting primary benefits stemming from welfare changes associated with library engagement.

We also find that library engagement has a positive association with general health. After controlling for other confounding factors, being a regular library user is associated with a 1.4 per cent increase in the likelihood of reporting good general health. We valued this improvement in health in terms of cost savings to the NHS. Based on reductions in GP visits caused by this improvement in health, we predict the medical cost savings associated with library engagement at £1.32 per person per year. It is possible to aggregate NHS cost savings across the library-using English population to estimate an average cost saving of £27.5 million per year.

We note that this is likely to represent just a subset of the secondary health benefits of libraries, which may impact upon other medical services and costs aside from GP visits. It is out of the scope of this study to assess other medical service usage impacts due to lack of data. However, although the financial implications are small on a per person basis, they accumulate once cost savings across all library visitors over many years are added up. Similarly, the cost savings identified in this study are confined exclusively to medical costs. There are likely to be other areas where the secondary benefits of local libraries may be felt, such as social care, education, skills training and employment. These figures therefore represent just a subset of the secondary benefits that local libraries provide.

Combining aggregate figures for the primary and secondary benefits at the national level gives a total value of £748.1million per annum from local library services in England. We note that this figure is based on the assumption that people's stated levels of WTP do not incorporate (i) any perceived benefit of avoided costs associated with reduced health service usage, nor (ii) the secondary health benefits that libraries provide in exchequer cost savings (ie, we assume that people's WTP is not influenced by the perceived financial benefits to themselves or to the state).

The health and wellbeing benefits of public libraries. Full report

1. Background and objectives of the study

In 2014, Arts Council England commissioned SImetrica to conduct a study to value the health and wellbeing benefits of public libraries.

Libraries have an important role in society as providers of a range of services from book-lending and computer access to children's activities, training courses and meeting space. But understanding the value of libraries is a complex issue due to the wide-ranging services that libraries provide and the inherently non-market nature of these services (most are free at the point of use).

Economic value, as defined in microeconomic theory and cost-benefit analysis (CBA), is a measure of changes in human welfare, where welfare is defined at the broadest level in terms of an individual's overall quality of life (QoL). This goes by the term *utility* in economics and is usually measured through what is known as the preference satisfaction account of welfare, whereby the degree to which an individual's preferences are satisfied is taken as a measure of their utility.

Using these concepts of economic value, this study looks at the value of the **health and wellbeing benefits** of library engagement [1]. There are two key research aims of the study.

1.1 The value of engagement in library services in terms of the impact on people's overall quality of life.

This is measured through the **contingent valuation** (**CV**) method. A large CV study with around 2,000 respondents is used to ask people directly about their willingness to pay (WTP) for library services. In CV, respondents complete surveys in which a full description of the goods or service is provided and people are asked how much they would be willing to pay for it. Often the payment vehicle or method is through increases in general or local taxes. CV has been used on a number of occasions before with libraries, including a CV study of the value of the British Library (Pung et al., 2004) and Bolton libraries, which we discuss in the literature review.

The values from the CV study represent the value associated with improved wellbeing due to library services. This represents the **primary benefits** of library services. Primary benefits are those that accrue directly to the individual (ie it is the value of impacts directly on an individual's wellbeing or utility). This could be, for example, improved QoL for the individual as a result of a particular library service such as bibliotherapy.

[1] For the purposes of this study we will use the terms 'library services' and 'library engagement' interchangeably to mean the broad set of services that libraries in England provide.

We look at the overall value of library services in libraries in England and how this value differs by service type and the socio-demographic characteristics of the individual. We also look at what factors drive the reported values, such as socio-demographic factors and aspects of service use.

This CV study fills an important gap in the literature since only a few studies have looked at the primary benefits of library services and these studies have exclusively focused on reading services. This study is, therefore, the first valuation of the broad range of services that are offered by libraries in England.

1.2. The value to society of the health benefits of library services.

Libraries may make a contribution to society though their impacts on health. We look at the potential savings due to reductions in medical service usage as a result of improvements in general health from library service usage. This is estimated using **exchequer cost savings** estimates. The aim is to add to the evidence on libraries and health costs, which BOP Consulting (2014) recognises as being weak in some areas in its evidence review.

Exchequer cost savings are known as **secondary benefits.** They relate to impacts that benefit society more widely which at some point may be an indirect benefit to the individual as well. This mainly encompasses impacts on the economy and public purse, for example, reductions in medical service usage due to improved health as a result of health-related library services such as bibliotherapy. These are benefits because they could lead to reduced public spending in health which in turn could lead to lower tax rates or shifts in resources to other important policy areas. These types of benefits are often also known as the economic contribution. 'Economic contribution' and 'economic value' are separate. Economic value refers to the broad approach to valuation used in economics and economic contribution is one element (the secondary benefits) of this. Overall economic value is the approach taken in the HM Treasury Green Book and Business Case model.

The two types of benefit are important for different sectors of society. As individuals, it is highly unlikely that we make any personal decisions based on secondary benefits – we go to the doctor to get better and not to reduce medical expenditures to the state later on, and we care about safety primarily because crime has significant adverse effects on our wellbeing and not because crime incurs costs to the state (policing, courts, prisons etc). But as policymakers or as (civic) individuals in instances where we are making decisions for the good of the community or society, we also care about secondary benefits since this allows us to provide more or better services to people.

Both primary and secondary benefits are important for CBA and policy evaluation because clearly both types of benefit have value for the individuals that make up society. We focus on both types of benefit in this study.

2. Literature review

We review the literature related to libraries on CV and exchequer cost savings. The BOP Consulting (2014) evidence review provides an up-to-date meta-analysis of the literature on the economic value of libraries. It cites a wide range of international evidence, the most relevant of which we summarise here. References to specific studies can be found in the original report (BOP, 2014).

2.1. Contingent valuation

The British Library (BL) study (Pung et al., 2004) valued the library's reading rooms and remote services using a sample of 2,030 users and general public non-users. The BL study also collected users' willingness to accept (WTA) data for a scenario where the BL ceased issuing readers' passes but allowed existing readers to sell their pass, asking the minimum amount respondents would be willing to accept as a monthly payment in compensation. The study gathered data on the incremental cost of alternatives for users, such as travel, accommodation and cost of access to materials, and a non-use question using a payment mechanism of raised taxes for the maintenance of reading rooms, remote document supply and bibliographic services. The study found a mean direct use willingness to pay for reading room users of £116 (£162 present day) and a higher WTA value of £273 (£381 present day) in monthly compensation. The general public non-use WTP was much lower at £6.30 (£8.80 present day). Direct value amounted to £59 million (£82 million present day) and indirect value amounted to £304 million (£424 million present day). This amounted to Total Economic Value (TEV) of use and non-use at £363 million per year (£506 million present day).

A similar CV approach was applied to Bolton's museum, library and archive services, consisting of three museums, 15 local libraries and a central archive (Jura Consultants, 2005). The survey presented a scenario where funding from the local council would cease, and asked respondents' willingness to pay a donation to support the continuation of the library, archives and museum services. The study captured use and non-use value through a sample of 325 face-to-face and telephone respondents. They also asked the willingness to accept monthly compensation to give up the library/archive/museum pass, and gathered data on travel time and cost of alternatives (following Pung et al., 2004). The study found a mean annual WTP for Bolton's libraries for users of £39.96 (£54.03 present day), and archives of £21.96 (£29.69 present day). The total use value was calculated as £95.16 (£128.66). For non-users, mean WTP was calculated as £12 for libraries (£16.22 present day), and archives as £8.16 (£11.03 present day). Total non-use value was £33.84 (£45.75 present day). The authors aggregated WTP to £10.4 million (£14.06 million present day), divided between direct value to library users of £4.4 million (£5.95 million present day), archive users as £0.2 million (£0.27 million present day), museum users of £2.8 million (£3.79 million), and indirect value of £3 million (£4.06 million present day).

Aabø (2005) valued the continuation of the public library system in Norway through a hypothetical scenario of reallocation of public services funding. The study captured the use and non-use value of 999 respondents. Half of the sample were asked to state their maximum WTP to continue their local public library at today's activity and service levels, while the other half stated their minimum willingness to accept (WTA) compensation if their local library was closed down. Aabø estimated aggregate social value within the range of 400-2,000 NOK per household (£46.29-£231.40 present

day GBP). The lower bound of the range, based on WTP estimates, was close to the average annual library costs per household in Norway, providing convergent validity to these results.

Morris et al. (2002) valued library book-lending in the UK. The study surveyed the willingness to pay for a book loan of 550 library users across four UK libraries. The hypothetical scenario was that the book would not be available from the library service. Mean willingness to pay for adult fiction and non-fiction were £0.62 (£0.91 present day) and £0.63 (£0.93 present day) respectively. There were no significant links between the purpose of book-lending and respondents' willingness to pay. Aggregate WTP calculations showed that library book borrowers valued the service at £814 million (£1,200 million present day). The study modelled the economic value of book-buying compared to book-lending in terms of the number of reads of the book, calculated at 70 per cent of the total library net costs of buying and administering the book-lending (a bought book enjoyed one read but no administrative costs). This produced an average cost of £3.85 (£5.67 present day) per read for a bought book compared to £1.41 (£2.08 present day) when borrowed from a library.

The ERS (2012) study for the Archives, Libraries and Museums Alliance UK (ALMA-UK) applied a return on investment approach to economically value library services of 4,000 library users across 27 libraries in Scotland, Wales and Northern Ireland. The study calculated use value through taxes, time and travel costs to individuals using the services, local spending by visitors in shops and cafes (defined as community benefits), and the cost of alternatives. Mean use value for Scotland was calculated at £24.10, with an annual value per user of £1,346. Mean use value for Wales was £26.38 with an annual value per user of £2,065, and for Northern Ireland £27.72 and £2,598.

Hájek and Stejskal (2014) used willingness to pay and willingness to accept calculations to value the Municipal Library of Prague. The survey of 2,200 library users found an average willingness to pay of 642 CZK (£19.50 GBP). Willingness to accept was much higher, at 4,000 CZK (£122 GBP) for the loss of the library. The results of the survey were undermined by having an unrepresentative sample (eg three quarters of the respondents are women and respondents are drawn exclusively from the library's database of users).

A number of substantial meta-reviews of library valuation studies have been undertaken in the last decade. Aabø (2009) undertook a meta-analysis of 38 different benefit-cost studies of public libraries, of which 24 adopted cost/benefit analysis and CV approaches. The review aggregated median and mean ROI at several geographical scales: national, state, county and individual level. Of these, the majority were performed on states in the USA (eg Griffiths et al., 2004; Griffiths et al., 2006; McClure et al., 2001), with one in the UK (Pung et al., 2004). Regression analysis on the studies found that CV methods tended to produce a lower valuation than market substitute approaches. Aabø explained this finding by the requirement to be conservative when designing contingent valuation studies.

Kim (2011) performed a meta-review of library CV studies and found that values range widely in terms of benefit-cost estimates, from $0.84 to $10.33 of benefit per $1 invested (£0.60 to £7.41 present day GBP). The median result across six CV studies was $3.79 (£2.72 present day GBP) of benefit per $1 invested, compared with a median result across the revealed preference studies of $4.46 (£3.20 present day GBP) of benefit per $1 invested (across nine studies).

2.2. Exchequer cost savings

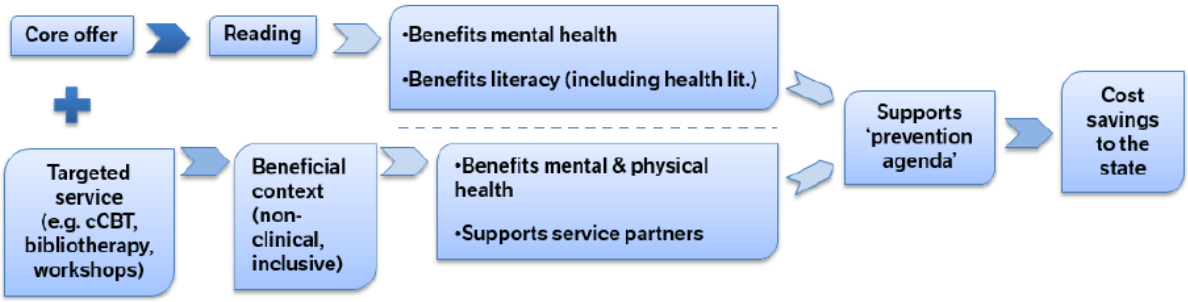
In a forthcoming report Fujiwara et al. (2015) estimate the NHS cost savings due to impacts on health from regular library visits.

Library services in Scotland, Wales and Northern Ireland were valued through cost savings made by using library services, as identified by a sample of 4,000 respondents across the three countries (ERS, 2012). The study identifies values of £24.10 by users per visit in Scotland, £26.38 in Wales and £27.27 in Northern Ireland.

An Australian study (Hutt City Libraries, 2013) used a range of approaches, including financial cost savings, to value libraries in Hutt City. The aggregate figure provided for the value of the libraries was AUD $10.9m, which translated into AUD $1.44 of benefit per AUD $1 invested. However, this was an average taken from across the three different methods (disaggregated values not available).

The BOP (2014) evidence review develops the following logic model to demonstrate the health-related cost savings of reading-related library services. In this study we look at a broader range of library services.

Figure 1. Reading services and health logic model



3. Study methodology

This study uses secondary and primary data sources to address the two research aims. Secondary data sources are used to estimate the value of secondary health benefits of library services to the exchequer. Primary data is collected for the contingent valuation (CV) study which values impact on quality of life.

3.1. Primary benefits – the impact of library engagement on individual quality of life

3.1.1. Data collection

We conducted a large online survey with library visitors and non-visitors, where a visitor is defined as someone who has visited a public library in the past 12 months. Respondents were screened using quotas for gender, age, region and library usage, which were set using national averages from the Office for National Statistics (ONS)' Annual Population Survey[2], and library use in England.[3] General population targets were met (Annex Table A1-3).[4] Targets for 60 per cent respondents having used local libraries in the last 12 months were slightly oversampled (63 per cent) (Table A4). However, this provided a large sample on which to test use of library services (Table 1).

The survey was divided into four sections. Section 1 asked different questions for those who had used local library services in the last 12 months and those who had not used their local library in the last 12 months. Those who indicated that they had used their local library in the last 12 months were asked to provide the name or address of their local library, and whether they had a library card for that library. They were asked background questions on their use and enjoyment of local library services. We provided an extensive list of services offered by local libraries, developed in consultation with Arts Council England, asking respondents to indicate which services they used when visiting their local library. Respondents were presented with the following list of 20 library services (Table 1).

Table 1. Survey question: Use of library services

Library services	Tick all that apply
Access to Internet/computer	□
Accessing information	□
Adult literacy course	□
Adult training course on computer skills	□
Adult training course on employment skills (eg job-searching and CV writing)	□
Adult training course on financial skills training (eg managing your money)	□
Bibliotherapy activities (eg books on prescription, therapeutic reading groups, computer-based cognitive behavioural therapy)	□
Borrowing adult or children's books or e-books	□

[2] http://data.gov.uk/dataset/annual_population_survey
[3] Fisher, B. (2013). *Libraries and Learning Resource Centres*. Routledge.
[4] General population targets for gender were closely met (51 per cent female). General population targets for age (Table A2) and region (Table A3) were loosened slightly to allow us to capture target quotas elsewhere, but are broadly representative of the general population.

Borrowing other items (CDs, DVDs, computer games, talking books)	□
Café/shop	□
Children activities (eg story time, Summer Reading Challenge)	□
Health services offered in the library (eg health checks, health information and advice, exercise classes)	□
Lectures/readings/special events	□
Photocopying/printing/faxing	□
Reading group	□
Room hire	□
Services for groups with special needs (eg housebound/visually impaired)	□
Socialising	□
Space to wait/relax	□
Space to work or study	□
Other (please specify)	

For each service selected, we asked how satisfied the respondents were with the service, on a scale of 1 to 5 where 1 was 'not at all satisfied' and 5 was 'extremely satisfied'. We also asked a general satisfaction question on 'the services offered by your local library' on the same scale. The non-user sample was provided with a set of reasons for not having used their local library in the last 12 months, and asked if they owned a library card. Some of these responses are used in the statistical analysis and some are used to describe the characteristics of the sample population in summary statistics. For the remainder of section 1, user and non-user samples were asked identical questions about their use of other libraries, as well as alternative forms of entertainment and cultural activities in the last 12 months, and their reading habits of books/ebooks or listening to audiobooks.

We elicited agreement with a set of statements about the services provided by local public libraries in England. We asked respondents to prioritise the top three areas where they felt government funding should be allocated, which included 'heritage, libraries, arts, museums and culture' alongside other areas like health and the economy. In section 2, all respondents were asked four SWB questions from the Office for National Statistics' Annual Population Survey[5] and a set of 12 questions from the General Health Questionnaire.

Section 3 presented respondents with information on the range of services offered by local libraries. We outlined current local government funding arrangements for libraries, and asked respondents how familiar they were with the information beforehand.

The hypothetical scenario presented respondents with a situation where because of the current financial crisis and cuts in Government funding to local libraries, "*libraries in your local area would no longer be able to offer the extra services, activities and programmes they currently offer unless more funds were raised via Council Taxes*" (see Box 1). The payment mechanism was an increase in annual council tax, even if only a very small amount, for the local library to keep all the services, activities and programmes they currently offer.[6]

[5] http://discover.ukdataservice.ac.uk/series/?sn=200002

[6] Respondents were provided with cheap talk scripts asking them to be realistic, reminding them of the household budgetary constraints, and the existence of other cultural institutions that they may wish to spend their money on

Section 4 asked a set of standard socio-demographic questions for use in the CV and health analysis, including education level, marital status, employment status, self-reported health status, annual income, annual council tax and number of dependent children.

Box 1. Council tax willingness to pay question

Funding for the services that local libraries offer comes mainly from Local Government, and is raised through Council Tax. The current financial crisis has meant that the XX libraries, like all other free libraries, has suffered cuts in Government funding, while having to keep up with new advances in technology and the associated increase in maintenance and operating costs.

Now imagine the following hypothetical situation. Suppose that, because of funding cuts, the libraries in your local area would no longer be able to offer the extra services, activities and programmes they currently offer unless more funds were raised via Council Taxes. **Core library services such as a space to read and study, book lending and computer/internet access would remain unaffected and would still be available**.

Please consider for a moment how much the [LIST OF SELECTED SERVICES] offered by your local library is worth to you, if anything.

Would you be prepared to pay for an increase in your Council Tax (you would pay this rate every year), even if only a very small amount, for your local library to keep all the services, activities and programmes they currently offer?

Yes/Maybe/No

IF YES OR MAYBE: What is the maximum that you would be willing to pay, in extra council tax per year, for your local library to keep its current service provision?

Studies have shown that many people answering surveys such as this one, say they are willing to pay more than they would actually pay in reality. So please think about this question as if it were a real decision and you were actually making a payment for real. Please do not agree to pay an amount if you think you cannot afford it, if you feel you have paid enough already, or have other things to spend your money on. Remember also that there may be other things that your council taxes could be spent on, such as social care, education, or local infrastructure. Also remember that in some cases you can find some of the services provided by libraries elsewhere.

Please focus solely on what your own local library and the services it provides are worth to you.

□ £0	□ £20	□ £90
□ £1	□ £30	□ £100
□ £2	□ £40	□ £120
□ £5	□ £50	□ £150
□ £7	□ £60	□ £175
□ £10	□ £70	□ £200
□ £15	□ £80	□ Other amount £_____

Note: Using the online survey platform we were able to list the library services they had selected in section 1 in the [services] script (this was only possible for the user sample, since non-users were not asked this question).

(Champ and Bishop 2001; Cummings and Taylor, 1999). Respondents were asked a certainty question on the donation amount that they had stated (Carlsson and Martinsson, 2006; Cummings and Taylor, 1999).

3.1.2. Data analysis

The CV method is a stated preference survey-based methodology that seeks to elicit monetary values for non-market goods by directly asking individuals about their willingness to pay or willingness to accept a particular change (Bateman et al., 2002). Respondents are presented with a hypothetical market that describes in detail the proposed change under valuation, using baseline conditions as a reference point. The hypothetical scenario should be understandable, plausible and meaningful to respondents so that they can give valid and reliable values despite possible lack of experience with one or more aspects of the scenario (Mitchell and Carson, 1989). Respondents are then asked how much they would be prepared to pay (accept) for the change described.

The contingent valuation scenarios were designed to uncover the value of the range of services provided by local libraries (via an increase in annual council tax). We assess overall WTP to maintain current library services and whether people who use certain services value library services differently. This, therefore, covers both use and non-use values. Non-use values incorporate altruistic values, bequest values and existence values, which can exist even if an individual does not experience a use benefit now or in future. Non-use values will be relevant where an individual states a positive WTP for current services even though he or she uses only a few of them or none at all.

The valuation questions can be presented in a number of different ways, including open-ended, bidding game, payment card and dichotomous choice elicitation formats. We adopted a payment card approach, presenting respondents with a range of monetary amounts from which they were asked to pick their willingness to pay. This eliminates starting point or anchoring bias and provides a visual aid to the cognitive process of valuing the good (Bateman et al., 2002; Maddison and Foster, 2003; Maddison and Mourato, 2001). However, use of a payment card elicitation mechanism means that respondents' stated values must be taken as a lower bound of their actual willingness to pay (Bateman et al., 2002) because the actual amount they are willing to pay will lie somewhere in between the amount they choose and the next amount on the payment card.

We calculate non-parametric mean and median WTP from the mid-point between the amount chosen on the card and the next amount up. All non-responses were coded as £0 bids. We coded unanswered open-space responses as missing. We estimate the average WTP to maintain *all* library services and analyse how this WTP figure is driven by usage of different library services. We look at WTP for different population groups broken down by age, gender, education and other socio-demographic factors.

We test the validity of the WTP responses using the following regression model:

$$WTP_i = \alpha + \beta_1 X_i + \varepsilon_i \qquad (1)$$

where $\boldsymbol{WTP_i}$ is the amount the individual *i* has stated they are willing to pay, $\boldsymbol{\alpha}$ is the constant term and $\boldsymbol{\varepsilon}$ is the error term containing unobserved factors that determine willingness to pay. In $\boldsymbol{X_i}$ we control for the observed determinants of willingness to pay (Bateman et al., 2002). These include those that are theoretically expected to affect WTP (such as income) as well as other factors that are known from the literature to have an effect (eg positive attitudes towards libraries and cultural institutions). This will allow us to test the validity of the WTP responses by looking at whether WTP is sensitive to theoretically relevant factors, such as the individual's level of income.

We explored possible protest bids by analysing the reasons given by respondents for being willing or not willing to pay additional council tax.

The results of the validity testing are discussed below and the statistical output can be found in the Annex.

3.2. Secondary benefits – the health-related exchequer benefits of libraries

3.2.1. Data sources

Secondary benefits were calculated using existing data collected through the Taking Part survey, a nationally representative survey of cultural and sport participation in England from 2005-11, which provides data on general health, library engagement and the main determinants of health, including age, gender, employment and education. We matched analysis on this data with figures on GP visits from Fujiwara et al. (2014), as discussed in more detail below.

3.2.2. Data analysis

Secondary benefits are the health-related benefits for society as a whole (rather than benefits directly for the individual). We estimate the impact of library services on general health using the following type of regression model:

$$H_i = \alpha + \beta_1 L_i + \beta_2 X_i + \varepsilon_i \quad (2)$$

where H_i is self-reported general health for individual i measured on a scale of 1 = 'very bad' to 5 = 'very good' and it is used in (2) as a binary variable which takes on a value of 1 if the individual is in 'very good' or 'good' health and 0 otherwise; L_i is a variable that relates to library engagement; X_i is a set of control variables and ε_i is the error term. The general health variable has been used extensively in the health literature in the past and we have found it to be strongly correlated with a range of cultural activities (Fujiwara et al., 2014).

β_1 in equation (2) is the coefficient of interest: it will provide an estimate of the impact of library engagement on general health. We note that β_1 will be biased if there are factors contained in the error term that are correlated with L. In order to reduce these selection bias effects we will control for the main determinants of health as is standard in the health economics literature. This covers age, gender, ethnicity, family status, employment status, smoking, income, housing status, religion, education, region and time of year of the survey.

Equation (2) is estimated from the Taking Part dataset, which is a survey commissioned annually by the Department for Culture, Media and Sport (DCMS). Taking Part surveys around 14,000 adult individuals per year (as of 2011) from 2005 as a repeated cross-section survey and asks a wide range of questions on involvement and attitudes concerning arts, culture and sport. It is a representative sample of the population in England. Taking Part includes data on 19 different library services. We focus on a subset of 10 services. We drop eight services because sample size was too low (N<100) and we also drop photocopying services since this is not a service that is exclusively the domain of libraries.

The value in terms of savings to the National Health Service and the exchequer can be estimated from equation (2) using the results from Fujiwara et al. (2014), where we have estimated how improvements in general health translate into cost savings to the NHS in terms of reduced GP visit frequency.

Using the British Household Panel Survey (BHPS), Fujiwara et al. (2014) find that good general health is associated with lower levels of GP visits (lower likelihood of visiting GPs six or more times per year). After controlling for a large range of determinants of medical service usage, people in good health are 25.4 per cent less likely to visit GPs frequently (six or more times per year). The BHPS data do not provide details of the actual number of visits over the highest visit category (six per year) and so as in Fujiwara et al. (2014) we make the simplifying assumption that those visiting GPs six or more times per year visit on average 10 times per year.

For GP visit costs we use the conservative lower-bound estimate of £192 per hour (or £3.20 per minute) from the healthcare costs data compiled by the Personal Social Services Research Unit (PSSRU) at the University of Kent: "*Unit Costs of Health & Social Care 2013*". The average length of a GP surgery consultation is 11.7 minutes which works out to a cost of £37 per GP visit.

This information can be used to assess the extent to which library engagement leads to reductions in NHS cost savings noting the assumptions made during the process.

We note that the analysis presented here for estimating secondary health benefits is, as with most studies in this area, necessarily based on observational datasets (ie where people have not been assigned to different conditions in a controlled experimental setting). Thus cause and effect relationships are *approximated* using statistical methods such as regression analysis, as causation cannot be directly inferred. This is because there are likely to be some unobserved factors correlated with library engagement that differ initially between the different groups and which influence the outcomes we observe. Notwithstanding this difficulty, we follow best practice in the health and wellbeing empirical literature by controlling for all of the main confounding factors in the regression analyses. Although definitive statements about causality can only be made in a controlled experimental setting, multiple regression analysis of the type employed here has been used extensively in the academic and policy evaluation literatures and so the analysis is informative for policy purposes.

3.3. Variables

Table 2 sets out a description of the variables used in the statistical analysis across both research questions.

Table 2. Variable descriptions

Variable	Description
Library user	1 = used local library in the last 12 months; 0 = not used local library in last 12 months
Gender	1 = male; 0 = female (reference)

Variable	Description
Age	Age of respondent as continuous variable (mid-point of intervals)
Age (log)	Age of respondent as log continuous variable (mid-point of intervals)
Ethnicity	Ethnicity: 1 = black and minority ethnic (BME) communities; 0 = non-BME
Social housing	1 = Social housing; 0 = otherwise
Religion	1 = Religious beliefs; 0 = otherwise
Married	1 = Married; 0 = otherwise
Civil partnership	1 = Civil partner; 0 = otherwise
Separated	1 = Separated; 0 = otherwise
Divorced	1 = Divorced; 0 = otherwise
Widowed	1 = Widowed; 0 = otherwise
Former civil partner	1 = Former civil partner; 0 = otherwise
Cohabiting	1 = Cohabiting; 0 = otherwise
Employed	1 = Employed; 0 = otherwise
Full-time employed	1 = Full-time employed; 0 = otherwise
Part-time employed	1 = Part-time employed; 0 = otherwise
Retiree	1 = Retiree; 0 = otherwise
Self-employed	1 = Full-time self-employed; 0 = otherwise
Student	1 = Student; 0 = otherwise
Family care	1 = Unpaid family worker; 0 = otherwise
Excellent general health	1 = Excellent; 0 = otherwise
Very good general health	1 = Very good; 0 = otherwise
Good general health	1 = Good; 0 = otherwise
Fair general health	1 = Fair; 0 = otherwise
Smoker	1 = Smoker; 0 = non-smoker
Income (log)	Annual household income before tax as log continuous variable (mid-point of intervals)
Children	1 = dependent children under 16; 0 = otherwise
Education (university)	1 = university degree or higher; 0 = otherwise
GCSE	1 = GCSE; 0 = otherwise
High GCSE	1 = GCSE above grade C; 0 = otherwise
Low GCSE	1 = GCSE grade D-F; 0 = otherwise
A-level	1 = A-level; 0 = otherwise
Degree	1 = Degree; 0 = otherwise
Higher Degree	1 = Higher Degree; 0 = otherwise
Professional qual	1 = Professional qualification; 0 = otherwise
Socialise most days	1 = Most days; 0 = Monthly (reference)
Socialise weekly	Socialisation: 1 = Weekly; 0 = Monthly (reference)
London	1 = London resident; 0 = rest of England

Variable	Description
East England	1 = East England resident; 0 = rest of England
East Midlands	1 = East Midlands resident; 0 = rest of England
Northeast	1 = Northeast resident; 0 = rest of England
Northwest	1 = Northwest resident; 0 = rest of England
Southeast	1 = Southeast resident; 0 = rest of England
Southwest	1 = Southwest resident; 0 = rest of England
West Midlands	1 = West Midlands resident; 0 = rest of England
Yorkshire & Humber	1 = Yorkshire & Humber resident; 0 = rest of England
Reading frequency	Likert scale 1-5 where 1 is 'never' and 5 is 'daily'
Visits to library in the last year (library users only)	Likert scale 1-5 where 1 is '1-2 times a year' and 5 is 'weekly'
Journey time (log) (library users only)	Average journey time to local library log continuous variable (minutes)
Overall satisfaction with local library services (library users only)	Likert scale 1-5 where 1 is 'not at all satisfied' and 5 is 'extremely satisfied'
Familiarity with local library services	Likert scale 1-5 where 1 is 'not at all' familiar, and 5 is 'very familiar'
Reason for not using library: get the services offered by local libraries elsewhere (non-users only)	1 = yes; 0 = no
Reason for not using library: get most information from the internet (non-users only)	1 = yes; 0 = no
Public spending on heritage, arts, museums and culture as priority	1 = agree that public spending in this area is one of the top 3 priorities; 0 = no
Membership of other organisations	1 = a member of a heritage, conservation, environmental or other organisation; 0 = member of no organisation
Agreement: 'Local libraries provide a very important service for local people'	Likert scale 1-5 where 1 is 'strongly disagree' and 5 is 'strongly agree'
Agreement: 'Local libraries are not important to me'	Likert scale 1-5 where 1 is 'strongly agree' and 5 is 'strongly disagree'
Certainty (very certain)	1 = very certain of stated WTP amount; 0 = not at all certain or somewhat certain
Access to Internet/computer	Use of services: 1 = used library service in last 12 months; 0 = otherwise
Accessing information	Use of services: 1 = used library service in last 12 months; 0 otherwise
Adult literacy course	Use of services: 1 = used library service in last 12 months; 0 = otherwise
Adult training course on computer skills	Use of services: 1 = used library service in last 12 months; 0 = otherwise
Adult training course on employment skills (eg job-searching and CV writing)	Use of services: 1 = used library service in last 12 months; 0 = otherwise

Variable	Description
Adult training course on financial skills training (eg managing your money)	Use of services: 1 = used library service in last 12 months; 0 = otherwise
Bibliotherapy activities (eg books on prescription, therapeutic reading groups, computer-based cognitive behavioural therapy)	Use of services: 1 = used library service in last 12 months; 0 = otherwise
Borrowing adult or children's books or e-books	Use of services: 1 = used library service in last 12 months; 0 = otherwise
Borrowing other items (CDs, DVDs, computer games, talking books)	Use of services: 1 = used library service in last 12 months; 0 = otherwise
Café/shop	Use of services: 1 = used library service in last 12 months; 0 = otherwise
Children activities (eg story time, Summer Reading Challenge)	Use of services: 1 = used library service in last 12 months; 0 = otherwise
Health services offered in the library (eg health checks, health information and advice, exercise classes)	Use of services: 1 = used library service in last 12 months; 0 = otherwise
Lectures/readings/special events	Use of services: 1 = used library service in last 12 months; 0 = otherwise
Photocopying/printing/faxing	Use of services: 1 = used library service in last 12 months; 0 = otherwise
Reading group	Use of services: 1 = used library service in last 12 months; 0 = otherwise
Room hire	Use of services: 1 = used library service in last 12 months; 0 = otherwise
Services for groups with special needs (eg housebound/visually impaired)	Use of services: 1 = used library service in last 12 months; 0 = otherwise
Socialising	Use of services: 1 = used library service in last 12 months; 0 = otherwise
Space to wait/relax	Use of services: 1 = used library service in last 12 months; 0 = otherwise
Space to work or study	Use of services: 1 = used library service in last 12 months; 0 = otherwise
Use other facilities	Use of services: 1 = used library service in last 12 months; 0 = otherwise
Visit libraries	1 = used library service in last 12 months; 0 = otherwise
Contingent valuation variables	
WTP	Stated willingness to pay for continuance of local library services (mid-point of intervals)
WTP Lower bound	Stated willingness to pay for continuance of local library services (low-point of intervals)

4. Results

4.1. Primary benefits – the impact of library engagement on individual quality of life

4.1.1. Summary statistics

In this section we outline the responses to demographic and background questions in section 1 of the survey. This gives an overview of the characteristics of our sample, their reading habits and their use of library services. Quotas on age, region and gender were applied to ensure that the sample was not biased by higher responses from particular groups. However, the survey was not intended as a nationally representative sample.

In our sample, 63 per cent of respondents indicated that they used their local library in the last 12 months and 37 per cent were classed as non-users. We slightly over-sampled for library users in order to maximise information on library service usage, although there is some evidence to suggest that library usage in England may be as high as 60 per cent of the population (eg Fisher, 2013). More conservative estimates would, however, place this figure at around 35 per cent of the English population (DCMS, 2014).

Average income was higher for library users (£30,000) than non-users (£27,000) and above the national average (£26,500). Thirty-five per cent of library users had dependent children, compared to only 16 per cent non-users. A higher proportion (37 per cent) of library users had university education (degree or above) than non-users (30 per cent). Fifty-three per cent of library users were in full-time work, compared to 44 per cent of non-users. Seventy-one per cent of library users reported their health as good or better compared to 64 per cent non-users (64 per cent) (Table A5).

Ninety-two per cent of the general population had visited their local library at least once in their lifetime. Sixty-three per cent had visited at least once within the last 12 months. Eighty-six per cent of library users owned a library card, and this figure was unsurprisingly lower for those who had not visited a library in the last 12 months (36 per cent). Sixty-one per cent of library users said they were likely or very likely to visit their local library in the future compared to only 18 per cent of the non-user population. On average library users read books or e-books, or listen to audiobooks around three to four times a week, compared to non-users who read books or ebooks on average twice a week (Table A6).

Among those who had used their local library in the last 12 months, the average frequency of visit was monthly. The average level of satisfaction with their local library overall was 4.2 on a scale of 1-5, where 1 is not at all satisfied and 5 is very satisfied. The three most commonly used library services were borrowing adult or children's books or e-books (63 per cent of library users used these services), using internet/computer services (41 per cent) and accessing information (39 per cent) (Table A7).

The three most common reasons given by library users for visiting local libraries were the free service (74 per cent), ease of access (66 per cent) and ease of use (63 per cent) (Table A8). Reasons given by non-users for not visiting local libraries were not feeling the need to use a local library (63

per cent), getting information from the internet instead (42 per cent) and preferring to buy books instead of borrowing (37 per cent) (Table A9).

4.1.2. Results

Among library users, 76 per cent of respondents said they would in principle (or would maybe) be willing to pay an increase in council taxes to keep all the services, activities and programmes their local library currently offers; while among non-users, 63 per cent of respondents said they would (or would maybe) be willing to pay something. Therefore, this suggests that most individuals see libraries as having an important role in their quality of life.

To test this, we first assessed the extent to which library engagement impacts on the four ONS measures of wellbeing after controlling for the main determinants of wellbeing[7] using regression analysis.[8] The results are shown in Table 3.

Table 3. Association between library usage and subjective wellbeing

	Life satisfaction		Happiness		Anxiety		Worthwhile	
	Coefficient	SE	Coefficient	SE	Coefficient	SE	Coefficient	SE
Library user	0.364***	0.088	0.352***	0.098	0.320**	0.136	0.310***	0.1
Male	-0.159*	0.09	-0.076	0.097	-0.015	0.137	-0.194**	0.098
Age	0.014***	0.005	0.021***	0.005	-0.030***	0.007	0.022***	0.005
Married	0.643***	0.138	0.564***	0.146	0.536***	0.193	0.602***	0.145
Civil partnership	0.391	0.534	0.307	0.569	0.19	0.783	0.998**	0.471
Separated	-0.49	0.378	-0.518	0.348	-0.243	0.547	0.031	0.402
Divorced	-0.034	0.191	-0.089	0.209	0.289	0.271	0.229	0.194
Widowed	0.369	0.236	0.207	0.279	0.187	0.358	0.717***	0.264
Former civil partner	1.309	1.425	1.047	1.308	2.329***	0.712	1.351	1.169
Cohabiting	0.413***	0.157	0.347**	0.171	-0.028	0.218	0.501***	0.18
Full-time employed	0.685***	0.183	0.645***	0.193	0.273	0.241	0.472**	0.19
Part-time employed	0.547***	0.193	0.478**	0.212	-0.188	0.274	0.591***	0.212
Retiree	1.103***	0.201	0.901***	0.219	-0.720**	0.289	0.900***	0.228
Self employed	0.410*	0.221	0.298	0.241	-0.463	0.318	0.532**	0.251
Student	0.714***	0.245	0.587**	0.259	-0.326	0.329	0.561**	0.26
Family care	0.088	0.271	0.323	0.297	-0.447	0.357	-0.029	0.308

[7] Controls were included for gender, age, education level, income, dependent children and region.

[8] Regression analysis allows us to simultaneously explore multiple relationships between variables, holding all other social and demographic factors constant. This allows us to isolate the association between changes in a variable of interest, such as library engagement, on an outcome, like health or wellbeing. We say that this association is significant if the observed change could not have occurred by chance, within a certain degree of confidence (eg 95 per cent). Statistical significance is highlighted with asterisks (*) in our regression tables. The size, or magnitude of the association between a unit change in the variable (termed independent variable) and the outcome of interest (termed dependent variable) is represented by the coefficient. In a regression model with life satisfaction as the dependent variable, the coefficient for the variable library user is 0.36, which means that, all else equal, visiting libraries is associated with a 0.36 point increase in life satisfaction. This explanation of regression applies to all of our regression results in this paper.

Excellent general health	2.596***	0.237	2.959***	0.249	-1.512***	0.341	2.640***	0.249
V. good general health	2.130***	0.203	2.457***	0.218	-1.906***	0.276	2.107***	0.213
Good general health	1.549***	0.194	1.785***	0.21	-1.288***	0.256	1.488***	0.203
Fair general health	0.609***	0.203	0.808***	0.217	-0.618**	0.264	0.658***	0.213
Log income	0.162**	0.07	0.117	0.075	-0.381***	0.102	0.1	0.075
Children	-0.088	0.061	-0.114*	0.062	0.227**	0.089	0.091	0.063
GCSE	-0.033	0.232	-0.048	0.24	-0.305	0.372	0.025	0.244
A-level	-0.097	0.233	-0.017	0.242	-0.326	0.382	-0.031	0.247
Degree	-0.096	0.235	-0.13	0.242	-0.385	0.378	-0.08	0.244
Higher Degree	-0.027	0.256	-0.048	0.268	0.667	0.425	0.242	0.269
Professional qual	-0.011	0.249	0	0.261	-0.385	0.402	0.057	0.264
Socialise most days	0.822***	0.117	0.886***	0.126	0.01	0.173	1.021***	0.127
Socialise weekly	0.548***	0.108	0.558***	0.119	-0.04	0.159	0.678***	0.12
Constant	2.536***	0.381	2.226***	0.393	7.617***	0.552	2.225***	0.401
Observations	1962		1962		1962		1962	
R2	0.292		0.275		0.126		0.258	

*Notes: OLS regression model. Heteroscedasticity-robust standard errors used. *** <1% significance; ** <5% significance; * <10% significance.*

We find that library use is positively associated with subjective wellbeing (SWB). After controlling for the main determinants of SWB, library users have higher life satisfaction, higher happiness and a higher sense of purpose in life compared with non-users. However, library users also have higher levels of anxiety. Broadly speaking, therefore, library engagement is associated with a broad range of positive wellbeing outcomes. This provides supporting evidence that the WTP results reported in Table 4 can be interpreted in part as reflecting welfare changes associated with library engagement.

Table 4. Mean and median WTP

Survey	WTP variable	N	Mean	Median	Max	Zeros (%)
Users	Increase in annual council tax	1,250	£19.51	£6	250	26.6
Non-users	Increase in annual council tax	735	£10.30	£3.50	250	40.9

Notes: Eleven respondents selected 'other amount' for the WTP question. Of those, only two gave an actual amount (£0 and £6.50). One person responded that libraries were 'priceless', whilst the others left the space blank. In the latter two cases responses were coded as missing.

Among library users mean annual willingness to pay to maintain current library services is £19.51 per year in increased council tax.

Among library non-users mean annual willingness to pay to maintain current library services is £10.30 per year in increased council tax. WTP by socio-demographic groups.

In Table 5 we report annual mean WTP to maintain current library services broken down by different socio-demographic groups to assess how WTP varies across the population.

Table 5. Mean WTP by different socio-demographic groups (sample size in brackets)

Socio-demographic characteristics	User mean WTP	Non-user mean WTP
Overall	£19.51 (N=1250)	£10.30 (N=735)
Age: Under 45	£21.39 (N=657)	£8.56 (N=300)
Age: Above 45	£17.42 (N=593)	£11.50 (N=435)
Gender: Female	£16 (N=655)	£9.23 (N=361)
Gender: Male	£23.37 (N=595)	£11.33 (N=374)
Parental status: Dependent children	£24.54 (N=429)	£8.32 (N=114)
Parental status: No dependent children	£16.84 (N=809)	£10.61 (N=615)
Health (self-reported): 'Good', 'Very good' or 'Excellent' health status	£20.73 (N=876)	£10.09 (N=468)
Health (self-reported): 'Fair' or 'Poor' health status	£16.94 (N=356)	£10.64 (N=258)
Education: Degree and above	£23.70 (N=454)	£11.68 (N=217)
Education: Up to degree level	£17.18 (N=790)	£9.74 (N=513)
Income: Above £28,800 per annum	£24.90 (N=519)	£12.51 (N=261)
Income: Below £28,800 per annum	£15.64 (N=723)	£9.09 (N=469)
Employed (including self-employed and part-time)	£21.44 (N=656)	£9.94 (N=322)
Unemployed	£11.78 (N=66)	£10.85 (N=50)
Student	£20.57 (N=121)	£9.86 (N=49)
Retired	£17.56 (N=259)	£12.36 (N=213)
Inactive/unpaid family worker	£17.23 (N=142)	£6.98 (N=96)

Note: Willingness to pay between different income groups was divided at the median income level across the sample.

We find that mean WTP for library services is consistently higher among library users, as would be expected. On average WTP for library users is about double that of non-users. The highest differences between user and non-user WTP values are among parents with dependent children. The highest levels of WTP can be found among library users who are parents with dependent

children (£24.54). People under 45 and those with higher levels of education also valued library services higher. The lowest WTP amounts can be found among library non-users who are inactive or unpaid family workers, and among non-users with dependent children. As we discuss below these findings are likely to be driven to some extent by the low relative economic status of these groups.

The results in Table 5 represent estimates of how much different types of people are willing to pay for library services, but it would be incorrect to conclude that it was solely the socio-demographic characteristic that was driving the WTP values. These differences in WTP may be driven by some other confounding factor here – for example the higher level of WTP for people with higher levels of education may be due partly to a generally higher level of income among this group since income drives WTP.

Drivers of WTP – quality and level of service

The values in Tables 4 and 5 relate to values for maintaining all current library services. We would hypothesise that the level of WTP would depend on the presence of the services at the local library and their quality. As they are, the values in these tables represent the WTP for maintaining the current level of services at the current level of quality found in England.

Here we undertake some additional analysis to look at how different services impact on WTP. We first assess how quality and level of service impacts on WTP. We do this by using local authority expenditure as a proxy, although we recognise that spend is one of many factors that may contribute to library service levels and quality. We matched library names and addresses provided by 1,146 respondents in the survey to local authority spending using the UK government public library contact information[9]. To assess the effect of service quality, we ran the WTP equation (1) including local authority library expenditure as a continuous log variable. The expenditure variable was a positive but insignificant driver of willingness to pay (we excluded this variable from the full WTP regression analysis below because of the risk of skew from the missing data for three local authorities). **Service quality and level, therefore – insofar as it can be measured through library expenditure – does not seem to impact on WTP.**

Drivers of WTP – types of service usage

Next we assess how WTP varies depending on the services that the respondent uses. Respondents are asked to state all services that they use at their local library. They can choose between 20 different services. The difficulty in estimating WTP across different service users here is that people can use more than one service. We, therefore, estimate a regression model whereby WTP is regressed onto all of the services as dummy variables. In this set-up the constant term represents the underlying average level of WTP for someone who does not use any of the services and the statistically significant coefficients for services represent the additional value of that service. This is because they show the increased WTP for maintaining the current services for people who use a certain service: if they value that service highly, the respondent will be willing to pay more to maintain all services. Table 6 presents the results.

[9] For library expenditure data we used the Chartered Institute of Public Finance and Accountancy (CIPFA) Public Library Statistics (2012-13: http://www.cipfastats.net/news/newsstory.asp?content=14508). Where data was missing for local authorities we supplemented it with 2011-12 CIPFA data. Data was missing for Cambridgeshire, Cornwall and Middlebrough across both CIPFA datasets, and hence people from those counties were dropped in this analysis. We calculated expenditure per 1,000 of the population by using statistics on net expenditure per local authority (including capital charges).

Table 6. WTP and library service usage

Variable	Coefficient	Standard error
Access to internet/computer	-0.899	2.133
Accessing information	0.46	1.942
Adult literacy course	7.84	7.433
Adult training course on computer skills	9.488	6.701
Bibliotherapy activities	0.41	6.213
Borrowing adult or children's books or e-books	-2.224	2.12
Borrowing other items (CDs, DVDs, computer games, talking books)	1.717	2.148
Café/shop	-4.093	3.697
Children activities (eg story time, Summer Reading Challenge)	-5.122	3.654
Health services offered in the library (eg health checks, health information and advice, exercise classes)	20.849**	8.486
Lectures/readings/special events	10.898**	5.285
Photocopying/printing/faxing	0.43	2.212
Reading group	5.136	5.789
Room hire	7.749	8.939
Socialising	8.258*	4.773
Space to wait/relax	-3.103	2.262
Space to work or study	-1.995	2.601
Other service	-3.6	3.928
Constant	18.182***	2.51
Observations	1,250	
r2	0.084	

*Notes: OLS regression model. *** <1% significance; ** <5% significance; * <10% significance. Sample includes only those respondents who have used their local library in the last 12 months (n= 1250). Services with small sample sizes (n<50) excluded from the analysis. Heteroskedasticity-robust standard errors.*

The results for most services are not statistically significant which means that users of those services are willing to pay £18.18 per year to maintain those services. However, users of health services are willing to pay £39.03 per year to maintain all services at their local library. For people who attend lectures and other events, the WTP is £29.08 per year to maintain all services at their local library. And people who use their library as a space for socialising are willing to pay £26.44 per year to maintain all services at their local library. Thus, in sum, **people who use health services, go to lectures and other similar events, and use libraries as a place for socialising have a higher WTP to maintain library services.**

Drivers of WTP – characteristics of library services

Table 7 presents the results for multiple regression (see footnote 7) between agreement with statements about the services provided by local public libraries in England, on a scale of 1-5, where 1 was 'strongly disagree' and 5 was 'strongly agree'. The results are divided between library users and non-users.

Agreement with the statements that *local library staff are customer-friendly and professional,* and *the local library is the heart of the local community,* are significant and positive drivers of WTP for library users. This suggests that good quality customer service and community-focused libraries

increase the value of libraries to people. The statement that *local libraries are an important place for organising community activities* is a significant and positive driver of WTP for non-users. The fact that people who do not regularly use their local libraries consider it important for the wider community suggests that we are capturing an element of non-use value. This may be driven by an altruistic desire for others in the community to improve their welfare through the use of library facilities, or an appreciation of the existence of libraries as a facilitator of community engagement and cohesion.

The statement that *local libraries provide a very important service for local people* is a significant negative driver of WTP among library users. This would suggest that those who see local libraries as important are willing to pay less to support them, which is counterintuitive to our expectations, and may be a spurious result given that all other variables are found to impact on WTP in the intuitively 'right' direction.

Drivers of WTP – attitudes towards culture and libraries

Table 7 also presents the results for multiple regression between prioritisation of top three areas where they felt government funding should be allocated, including 'heritage, libraries, arts, museums and culture' alongside education, environment and the economy, on a scale of 1-5, where 1 was 'strongly disagree', and 5 was 'strongly agree'. The results are divided between library users and non-users.

Choosing heritage, arts, museums and culture, and the environment among the top three priorities for public spending is a significant positive driver of WTP for both library users and non-users. Placing the economy amongst the three top priorities for public spending was a significant negative driver of WTP among library users. This suggests that the consideration of alternative allocations of public funding is being taken into consideration by these respondents.

Table 7. Attitudes towards culture and libraries and WTP

	Library user		Non-user	
	Coefficient	SE	Coefficient	SE
Heritage, arts, museums and culture among the three top priorities for public spending (%)	9.257***	2.642	7.988*	4.827
Education among the three top priorities for public spending (%)	2.63	1.998	2.628	1.822
Environment among the three top priorities for public spending (%)	6.647**	2.93	5.260*	3.157
The economy among the three top priorities for public spending (%)	-3.470*	1.883	-1.713	1.523
Local libraries provide a very important service for local people (on a scale of 1-5, where 1 is strongly disagree and 5 is strongly agree)	-5.680**	2.311	-1.652	1.506
Local library staff are customer-friendly and professional (on a scale of 1-5, where 1 is strongly disagree and 5 is strongly agree)	2.473*	1.475	0.83	1.24
Local libraries offer access to a wide range of stock and resources (on a scale of 1-5, where 1 is strongly disagree and 5 is strongly agree)	0.736	1.631	1.581	1.147

Local libraries are an important place for organising community activities (on a scale of 1-5, where 1 is strongly disagree and 5 is strongly agree)	-0.008	1.663	3.262**	1.278
The local library is the heart of the local community (on a scale of 1-5, where 1 is strongly disagree and 5 is strongly agree)	2.245*	1.221	-0.163	0.803
Local libraries only have a value for those who use them (on a scale of 1-5, where 1 is strongly disagree and 5 is strongly agree)	0.596	0.503	0.517	0.43
The extra services that libraries provide (such as children's centres, reading groups, jobs advice etc) can be found elsewhere (on a scale of 1-5, where 1 is strongly disagree and 5 is strongly agree)	0.135	0.553	-0.721	0.519
Local libraries are not important to me (on a scale of 1-5, where 1 is strongly disagree and 5 is strongly agree)	0.679	0.904	0.159	0.537
Constant	-8.392	11.104	-26.989***	7.688
Observations	1229		723	
r2	0.088		0.091	

*Legend: *** <1% significance; ** <5% significance; * <10% significance. Note that we dropped two variables ('local libraries provide safe and trusted space' and 'local libraries are a good place to meet people' because of their similarity to/correlation with other statements in the model. All models control for standard socioeconomic variables (not included in table).*

4.1.3. Validity tests

In this section we assess the validity of the WTP findings and provide supporting evidence that the WTP results can be interpreted as reflecting the welfare changes associated with visiting local libraries and the range of services they provide. We discuss content validity and theoretical validity.

Content validity

Content validity tests look at the adequacy, realism and neutrality of the survey instrument as well as at respondents' understanding, perception and reactions to the questionnaire. Additionally, the rate of protest provides valuable information on how respondents reacted to the scenarios.

We conducted stakeholder meetings at the project inception stage with Arts Council England and a number of senior library representatives from across England to discuss the contingent valuation scenarios. We undertook extensive testing of the draft survey instrument using an online pilot survey with cognitive follow-ups on key parts of the questionnaire with 65 panel respondents, mimicking the conditions in which the final survey would be implemented.

On the online pilot survey, in terms of difficulty, 97 per cent of respondents found the survey to be 'ok' or 'easy', with none describing it as 'very hard'. Roughly 86 per cent didn't think there were any questions that were too sensitive. Finally, the cognitive debriefing showed that 89 per cent of respondents found the survey length to be 'ok'.

Pilot respondents were asked their views on key and potentially complex parts of the questionnaire, such as the valuation. Some 86 per cent of the sample found the scenario of government cuts to be 'realistic' or 'quite likely'. When asked about their certainty of paying the amount stated, 36 per cent said they would definitely pay, 45 per cent said they would most likely pay, and 18 per cent were not sure. Crucially, 97 per cent of the sample did not find it hard to select a monetary value that they would be willing to pay as an additional council tax to support the services provided by their local library.

In terms of the valuation section, 95 per cent of respondents agreed that the survey provided enough information about the services offered by local libraries to answer the CV questions, and 67 per cent found the library photos used in the survey instrument helpful for picturing its work and activities.

These findings indicate that our pilot survey instrument was generally well received and was not difficult to understand. Only minor changes were deemed to be required at this stage.

Theoretical validity

The credibility of estimated values from CV studies is commonly assessed by examining their theoretical validity (Bateman et al., 2002). Theoretical validity examines whether the relationship between WTP and other indicators is in accordance with expectations. Some of these indicators are predictors from economic theory, while others reflect empirical regularities, which seem intuitively correct, from introspection and reasoned thought, and which hold across a large number of studies (Bateman et al., 2002). The former typically include examining the relationship between WTP and income. The latter concerns the effect on responses of indicators such as use of libraries or attitudes towards libraries.

We tested the main determinants of the general research population's willingness to pay extra council tax, controlling for a range of factors. The results of estimating the WTP model in equation (1) are reported in Table 8. We find that the WTP responses are affected by theoretically relevant factors, such as income, and in the right direction, providing support for the theoretical validity of our findings.

Table 8. Determinants of WTP for library services

Variable	Coefficient
Library user	2.871**
Gender (male)	6.163***
Age (log)	-0.839
Education (university)	2.614*
Income (log)	3.271***
Children	4.286**
London resident	2.362
Reading frequency	2.292***
Familiar with library services	3.212***
Membership of other organisations	2.851
Agreement: 'Local libraries provide a very important service for local people'	-1.214
Agreement: 'Local libraries are not important to me'	0.472

Public spending on heritage, arts, museums and culture as priority	8.378***
Constant	-12.893*
Observations	1,947
r2	0.101

*Notes: OLS regression model. *** <1% significance; ** <5% significance; * <10% significance. Sample includes users and non-users.*

Income was a significant and positive driver of higher willingness to pay. This is an expected result and consistent with theoretical expectations (Bateman et al., 2002; Carson, 2012; Mourato et al., 2002). This provides validity to our results, since we would expect those who have higher income to be willing to pay a higher figure in the hypothetical scenario.

The differences in WTP between users and non-users conform with our prior expectation that those who use their local library should value its services more. Being a library user was a significant positive driver of willingness to pay. Having dependent children was a significant positive driver of willingness to pay. This supports the idea that a large part of the value that local libraries offer is in the provision of children's books and other children's activities that they organise. It may also be that we are capturing an element of non-use value behind the general public's valuation of libraries, specifically a bequest value for the next generation. We also found that being male was a significant positive driver of willingness to pay for libraries.

Those who were more familiar with the services offered by their local library were, other things being equal, more willing to pay a hypothetical increase in council tax to support those services. People who read more frequently were significantly more likely to be willing to pay to support their local library.

4.2. Secondary benefits – the health-related exchequer benefits of libraries

4.2.1. Results

Table 9 shows the association between library engagement and good general health conditioning on the main determinants of health estimated from the Taking Part dataset. This is the empirical estimation of the health model in equation (2). The statistically significant libraries variables are highlighted in blue. This shows that visiting libraries in the past 12 months is positively associated with good general health after controlling for the main determinants of health[10]. However, this does not explain how use of different library services affects general health. Out of the 10 library services in Table 9, only attending events/exhibitions at libraries is positively associated with good general health after controlling for the main determinants of health. No other library services were significantly associated with health and on some occasions this may be due to small sample sizes. There is reason to believe, however, that this single positive result is spurious, given that no other library service is significant and that the size of the coefficient on attending events/exhibitions is very large (eg it is more than twice the size of the impact of important factors such as employment

[10] These are gender; age; ethnicity; marital status; parental status; employment status; smoker; income; housing tenure; religion; education; region; month of survey.

on health). We, therefore, do not recommend using the library services variables to estimate secondary benefits.

Table 9. The association between library engagement and good general health

Variables	Coefficient	SE	Coefficient	SE
Constant	2.494***	0.191	2.606***	0.497
Male	0.012	0.046	0.063	0.118
Age	-0.079***	0.007	-0.090***	0.02
Age2	0.001***	0	0.001***	0
Ethnicity	-0.181***	0.058	-0.16	0.135
Children	0.206***	0.051	0.095	0.135
Employed	0.869***	0.048	0.869***	0.116
Married	0.101*	0.061	0.182	0.151
Separated	0.149	0.093	0.473**	0.234
Divorced	-0.002	0.071	0.064	0.175
Widowed	0.101	0.124	0.196	0.339
Smoker	-0.528***	0.045	-0.555***	0.111
Income	0.071***	0.011	0.067**	0.027
Social housing	-0.236***	0.047	-0.300**	0.117
Religion	0.046	0.051	0.003	0.141
Higher education	0.236**	0.093	0.135	0.24
Some higher education	0.156	0.101	0.136	0.258
A-level	0.048	0.089	0.037	0.241
Professional qual	-0.079	0.117	-0.113	0.344
High GCSE	0.061	0.088	0.033	0.237
Low GCSE	-0.058	0.095	0.13	0.262
Northeast	-0.108	0.091	0.128	0.233
Northwest	-0.087	0.087	0.049	0.223
Yorkshire & Humber	-0.081	0.087	-0.084	0.216
East Midlands	-0.169*	0.091	-0.482**	0.221
West Midlands	-0.102	0.084	-0.182	0.204
East England	-0.098	0.088	-0.157	0.212
Southeast	0.004	0.084	-0.076	0.201
Southwest	-0.041	0.088	0.043	0.219
Feb	0.03	0.101	0.133	0.242
Mar	0.121	0.098	0.192	0.239
Apr	0.205**	0.103	0.417	0.274
May	-0.01	0.098	0.219	0.245
Jun	0.021	0.098	0.301	0.238
Jul	0.079	0.098	0.083	0.225
Aug	0.132	0.095	0.621***	0.229
Sep	0.085	0.099	0	0.235
Oct	0.077	0.097	0.263	0.243
Nov	-0.02	0.095	0.347	0.252
Dec	0.08	0.111	0.216	0.29
Library visits				

Visit libraries	0.077*	0.043		
Library services				
Borrowing adult or children's books or e-books			-0.005	0.118
Borrowing other items (CDs, DVDs, computer games, talking books)			-0.043	0.167
Children activities (eg story time, Summer Reading Challenge)			0.202	0.162
Access to internet/computer			-0.085	0.132
Passing by			0.482	0.487
Accessing information			0.121	0.202
Lectures/readings/special events			1.104*	0.674
Reading group			0.078	0.147
Use other facilities			-0.7	0.509
Space to work or study			0.292	0.266
Sample size	13,353		2,321	
R2				

*Notes: Logit model. Coefficient represents impact on log-odds ratio. *** <1% significance; ** <5% significance; * <10% significance. Statistically significant library variables highlighted in blue. Reference case for library users is non-library users. Heteroscedasticity-robust standard errors used.*

Instead we estimate the secondary benefits of general library usage. The results in Table 9 relate to the impact on the log-odds ratio. This is converted into a probability impact at the sample average values for the other independent variables in the logit model. We find that **being a library user is associated with a 1.4 per cent increase in the likelihood of reporting good health.**

We ran some additional analysis to look at how associations for the library visit variables change across different population groups. This was undertaken using interactive variables in equation (1), whereby the library usage variable was interacted with age, income and education. We found that interacting with income and education did not have an effect and therefore there is no sign of difference in health impacts of library engagement across different income and education groups. However, we found a statistically significant effect for the age-library use interactive variable: **the positive association between library visits and general health is being driven to a large extent by the older population (60 years of age and above).**

As discussed in section 3.2. improvements in general health are associated with reductions in GP visits, which lead to a cost saving. Fujiwara et al. (2014) found that people who report good health are 25.4 per cent less likely to visit GPs six or more times per year. Under the assumption that on average people who visit six or more times per year visit the GP 10 times per year and that each GP visit has an average cost of £37 to the NHS, we can calculate the predicted cost savings associated with library engagement. **Being a library user is associated with a reduction in GP-related medical**

costs of £1.32 per person per year.[11] These results are consistent with the findings in Fujiwara et al. (2014), which were based on the Understanding Society dataset.

We note that this is likely to represent just a subset of the secondary health benefits of libraries if other medical services and costs are also impacted upon. It is out of the scope of this study to assess other medical service usage impacts due to lack of data. However, although the financial implications are small on a per person basis, they accumulate once cost savings across all library visitors over many years are added up. It is possible to aggregate NHS cost-savings across the library-using English population to estimate an average cost saving of £24.7million per year[12].

5. Conclusion

In this study we estimate **two types of benefit related to library services and library engagement**. The **primary benefits** of library services are those that accrue directly to the individual in terms of the value associated with improvements in the individual's quality of life. The primary benefits of engagement in library services are measured through a large contingent valuation study of around 2,000 respondents. This value captures the primary benefits that individuals (both users and non-users) receive directly from library services.

The **secondary benefits** relate to impacts that benefit society more widely which at some point may be an indirect benefit to the individual as well. This mainly encompasses impacts on the economy and public purse. We look at the health-related secondary benefits of library engagement. We valued the secondary benefits to society using exchequer cost savings estimates of the health benefits of library services. We calculated the potential savings due to reductions in medical service usage from improvements in general health.

Table 10. Summary valuation results

Survey	Benefits	Valuation variable	Mean	Median
User	Primary	Increase in council tax	£19.51	£6
Non-user	Primary	Increase in council tax	£10.30	£3.50
User	Secondary (health)	Reduction in GP-related medical costs	£1.32	-

Annual mean willingness to pay (WTP) to maintain current services among library users is £19.51 per year in increased council tax. The amount that library users stated they were on average willing to pay represents just over 1.3 per cent of the average annual council tax payment in England.[13] It is possible to aggregate use value across the library-using English population to estimate a national

[11] This is calculated as (0.014*0.254)*(£37*10) = 1.32.

[12] Using ONS 2013 estimates of English population and conservative estimates that 35 per cent of the UK population visit libraries on an annual basis (DCMS, 2014). This is calculated as (53,493,600 * 0.35)*£1.32 = £24,714,043.20.

[13] The average council tax band is Band D and for England in 2014-15 the average level of council tax in this band is £1,468 (Department for Communities and Local Government, July 2014: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/335851/Council_Tax_Levels_set_by_Local_Authorities__Revised__August_2014.pdf).

average WTP for library services of £365.3 million per year.[14] We can also aggregate a value for non-users in the English population to estimate a national average non-use WTP for library services of £358.1million per year.[15] In total this provides a combined annual WTP for local library services of £723.4million across library users and non-users in England.

People who use health services, attend lectures and other events, and who use their library as a space for socialising are willing to pay more than the average user to maintain all services at their local library. Libraries are valued for the range of services they provide, but these services in particular contribute to the value of libraries to quality of life.

We also find evidence that local libraries are valued more highly by certain sections of the population. In particular, among library users, those with dependent children were willing to pay more to support the maintenance of their local library services. People under 45 and those with higher levels of education also valued library services higher. The lowest WTP amounts can be found among library non-users who are inactive or unpaid family workers, and among non-users with dependent children. Low willingness to pay may be driven by a combination of library non-use and the low relative economic status of these groups. The fact that some of these groups are those who were found to gain most value from library services among regular users suggests that efforts designed to extend use of local libraries to these groups would yield greater quality of life benefits.

Future research should focus on why certain groups benefit from and value library services differently.

When assessing library service quality we find no association between library expenditure at the local authority level and respondents' willingness to pay for library services, although this finding may be influenced by limitations in the data available. However, we found separate evidence in the data that certain characteristics or aspects of library service provision, in particular good-quality customer service and community-centred services, increase the value that users place on their local libraries.

Library use is positively associated with subjective wellbeing after controlling for a wide range of other factors, with library users having higher life satisfaction, higher happiness and a higher sense of purpose in life compared to non-users (although they also had higher levels of anxiety too). These results suggest that libraries generally have an important role in users' quality of life and wellbeing, which provides supporting evidence that the WTP results from the contingent valuation survey can be interpreted in part as reflecting primary benefits stemming from welfare changes associated with library engagement.

Those who had not used their local library in the last year report a lower willingness to pay to maintain current services at £10.30 per year, around half that of library users. This figure captures the non-use value that members of the general public attach to local libraries, even though they use the services very rarely or not at all. The reasons that libraries carry considerable non-use values may be altruistic in nature, meaning that individuals consider the services that libraries offer

[14] Using ONS 2013 estimates of English population and conservative estimates that 35 per cent of the UK population visit libraries on an annual basis (DCMS, 2014). This is calculated as (53,493,600 * 0.35)*£19.51 = £365,281,047.60.

[15] Using ONS 2013 estimates of English population and conservative estimates that 65 per cent of the UK population do not visit libraries on an annual basis (DCMS, 2014). This is calculated as (53,493,600 * 0.65)*£10.30 = £358,139,652

to others in the local community to be important, even if they do not themselves use them. They may also be influenced by a desire to bequest the resources and services that libraries offer to other generations, and the option value of maintaining local libraries for use now or in the future. These results conformed with prior expectations from the contingent valuation literature that those who use their library should value its services more.

We valued the secondary benefits of libraries to society using an established method of exchequer cost savings due to reductions in medical service usage through improvements in general health. Visiting libraries in the past 12 months was positively associated with good general health compared to non-users. Based on reductions in GP visits caused by this increase in the likelihood of reporting good health, we calculate the predicted medical cost savings associated with library engagement at £1.32 per person per year. Secondary benefits are important to policymakers because they demonstrate the wider societal impacts of local libraries. This contributes to the current political debate around allocation of public resources, and the impacts of public funding decisions on other policy areas. The cost savings identified in this study are confined exclusively to medical costs. There are likely to be other areas where the secondary benefits of local libraries may be felt, such as social care, education, skills training and employment. These figures therefore represent just a subset of the secondary benefits that local libraries provide.

Combining aggregate figures for the primary and secondary benefits at the national level gives a total value of £748.1million per annum from local library services in England.[16] We note that this figure is based on the assumption that people's stated levels of WTP do not incorporate (i) any perceived benefit of avoided costs associated with reduced health service usage, nor (ii) the secondary health benefits that libraries provide in exchequer cost savings (ie, we assume that people's WTP is not influenced by the perceived financial benefits to themselves or to the state).

In sum, library services play an important role in the quality of life of both library users and non-users. As for society as a whole, library usage is associated with reduced medical expenditures. Ultimately these benefits should be assessed against the costs to society of running and maintaining library services, but the evidence presented here suggests that extended or increased provision of library services should have a valuable positive effect on the lives of people in England.

[16] This is calculated as primary benefits (library user WTP (£365,281,047.60) + library non-user WTP (£358,139,652) = £723,420,699.60) + secondary benefits ((53,493,600 * 0.35)*£1.32 = £24,714,043.20) = £748,134,742.80

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Annex

Table A1. General population quota targets and survey sample for gender

Gender	Target population	%	Survey sample	%
Female	1016	50.8	1,024	51.3
Male	984	49.2	972	48.7
Total	2000		1,996	

Table A2. General population quota targets and survey sample for age

Age	Target population	%	Survey sample	%
16-19	120	6.0	126	6.4
20-24	166	8.3	182	9.2
25-29	167	8.4	164	8.3
30-34	166	8.3	159	8.0
35-39	152	7.6	157	7.9
40-44	173	8.6	170	8.6
45-49	180	9.0	182	9.2
50-54	167	8.3	160	8.1
55-59	144	7.2	138	7.0
60-64	136	6.8	136	6.9
65-69	135	6.7	137	6.9
70-74	98	4.9	105	5.3
75 and over	197	9.8	169	8.5
Total				

Table A3. General population quota targets and survey sample for region

Region	Target population	%	Survey sample	%
London	166	8.3	175	8.3
East England	238	11.9	250	11.9
East Midlands	180	9.0	191	9.1
Northeast	98	4.9	108	5.1
Northwest	278	13.9	296	14.1
Southeast	299	15.0	331	15.8
Southwest	290	14.5	285	13.6
West Midlands	221	11.1	226	10.8
Yorkshire & Humber	224	11.2	238	11.3
Total				

Table A4. General population quota targets and survey sample for library use in the last 12 months

Library use	Target population	%	Survey sample	%
Library user	1200	60	1,254	62.8
Library non-user	800	40	742	37.2

Table A5. Sample socio-economic characteristics

	Library users		Library non-users		English population (ONS)
	Mean	Sample	Mean	Sample	Mean
Male (%)	47	1330	50	770	49
Age (mean)	45	1330	49	770	44
Household income (£, mean)	30,000	1246	27,000	735	26,500
Council tax (£, mean)	1,339	1243	1,120	735	1,468
Dependent children under 16 years (%)	35	1242	16	734	13
Married/with partner (%)	44	1249	41	736	43
University level education (%)	37	1248	30	735	31
In employment (full-time, part-time, self-employed) (%)	53	1248	44	735	51
Living in London (%)	10	1330	6	770	8.3
Health (good, very good, excellent) (%)	71	1236	64	731	-
Member of the British Library Trust (%)		1330	1	770	-
Member of National Trust (%)	12	1330	8	770	8
Member of other conservation or environmental org (%)	6	1330	5	770	-
Ever campaigned for local library (%)	5	1330	1	770	-
Ever volunteered for local library (%)	2	1330	0	770	-

Notes: Gross annual household income; averages computed using the midpoints of the income and age categories.

Table A6. Library visits information

	User	Non-user
Visited their local library at least once in the last 12 months (%)	100	0
Owns library card (%)	86	36
Likely or very likely to visit their local library in the future	61	18
Frequency of visit to the library (on a scale of 1-6 where 1 is once or twice a year and 6 is weekly)	4	-
Satisfaction with overall library services (on a scale of 1-5 where 1 is not at all satisfied and 5 is very satisfied)	4.20	
Familiarity with basic library information (very or extremely familiar) (%)	31	10
Visited other libraries in last 12 months (%)	28	13
Use of books/ebooks/audiobooks (on a scale of 1-5 where 1 is never and 5 is daily)	4	3
Total	1,330	770

Table A7. Most commonly used library services and satisfaction level (library user sample)

	Number selecting service as one they have used at their local library	%	Mean satisfaction on a scale of 1-5, where 1 is not at all satisfied, and 5 is extremely satisfied	Rank by satisfaction
Borrowing adult or children's books or e-books	842	63	4.36	7
Access to internet/computer	545	41	4.23	16
Accessing information	518	39	4.38	3
Borrowing other items (CDs, DVDs, computer games, talking books)	317	24	4.27	13
Photocopying/printing/faxing	319	24	4.29	12
Space to wait/relax	109	18	4.26	14
Space to work or study	221	17	4.13	21
Socialising	149	11	4.23	16
Café/shop	121	9	4.16	20
Children activities (eg story time, Summer Reading Challenge)	116	9	4.46	1
Lectures/readings/special events	119	9	4.24	15
Reading group	85	6	4.31	11
Adult training course on computer skills	60	5	4.37	6
Bibliotherapy activities (eg books on prescription, therapeutic reading groups, computer-based cognitive behavioural therapy)	60	5	4.22	18
Health services offered in the library (eg health checks, health information and advice, exercise classes)	63	5	4.17	19
Other	59	5	4.32	10
Adult literacy course	53	4	4.42	2
Adult training course on employment skills (eg job-searching and CV writing)	47	4	4.38	3
Adult training course on financial skills training (eg managing your money)	47	4	4.36	7
Room hire	42	3	4.38	3
Services for groups with special needs (eg housebound/visually impaired)	30	2	4.33	9
Sample size	1,290			

Table A8. Reasons for using local libraries (library user sample)

	%
Free service	74
Easy to access/get to	66
Easy to use	63
Range of books or other resources available	60
Staff are helpful/friendly	49
Comfortable, nice place to visit	44
Likely to meet friends	15
Other reason[17]	4
Sample size	1,282

Table A9. Reasons for not using local libraries (non-user sample)

	%
I have not felt the need to use a local library	63
I get most of the information I need from the internet	42
I like to buy my own books or e-books	37
I don't read much	19
My local library is not in a convenient location	12
I don't need to use any of the services offered by local libraries	11
I used the local library in the past with children but now they have grown up	9
I can get the services offered by local libraries elsewhere	6
Inconvenient opening hours	5
I use other types of libraries	4
I don't know where my local library is	4
Poor stock	3
I don't like my local library	2
Sample size	765

[17] Other reasons for visiting the local library included 'quiet', recorded n=6 times, 'friendly/welcoming' n=4 times, and support for the existence of the library, such as 'use it or lose it' and 'Wanting to use service so it will exist in future too' (n=6).

Table A10. Attitudes towards culture and libraries

	Library user	Non-user
Heritage, arts, museums and culture among the three top priorities for public spending (%)	23	9
Local libraries provide a very important service for local people (on a scale of 1-5, where 1 is strongly disagree and 5 is strongly agree)	4.5	4
Local libraries provide a very effective service (on a scale of 1-5, where 1 is strongly disagree and 5 is strongly agree)	4.3	3.8
Local libraries provide safe and trusted space (on a scale of 1-5, where 1 is strongly disagree and 5 is strongly agree)	4.3	4
Local library staff are customer-friendly and professional (on a scale of 1-5, where 1 is strongly disagree and 5 is strongly agree)	4.2	3.8
Local libraries offer access to a wide range of stock and resources (on a scale of 1-5, where 1 is strongly disagree and 5 is strongly agree)	4.2	3.8
Local libraries are an important place for organising community activities (on a scale of 1-5, where 1 is strongly disagree and 5 is strongly agree)	3.9	3.6
Local libraries are a good place to meet people (on a scale of 1-5, where 1 is strongly disagree and 5 is strongly agree)	3.8	3.3
The local library is the heart of the local community (on a scale of 1-5, where 1 is strongly disagree and 5 is strongly agree)	3.8	3.1
Local libraries only have a value for those that use them (on a scale of 1-5, where 1 is strongly disagree and 5 is strongly agree)	3.5	3.5
The extra services that libraries provide (such as children's centres, reading groups, jobs advice etc) can be found elsewhere (on a scale of 1-5, where 1 is strongly disagree and 5 is strongly agree)	3.3	3.2
Local libraries are not important to me (on a scale of 1-5, where 1 is strongly disagree and 5 is strongly agree)	2.2	2.8
Sample size	1,274	757

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