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2016 KENT CYBER SECURITY SURVEY

This is the Third Edition of the traditional Kent Cyber Security Research Centre's Annual Survey. In it, we try to get responses and figures from the UK public to assess their experiences, practices and opinions regarding a number of cybersecurity related topics. This year, we get British citizens' opinion on issues as relevant as the treatment of their personal health data by third parties, how they deal with smartphone application requests for permissions, new security measures they want to implement in their devices, their experience with cybercrime, ransomware, cryptocurrencies, as users of the darknet, and how they think it is best to react to data breaches.

All figures, unless otherwise stated, are from YouGov Plc. Total sample size was 2022 adults. Fieldwork was undertaken between 5th - 8th August 2016. The survey was carried out online. The figures have been weighted and are representative of all GB adults (aged 18+).

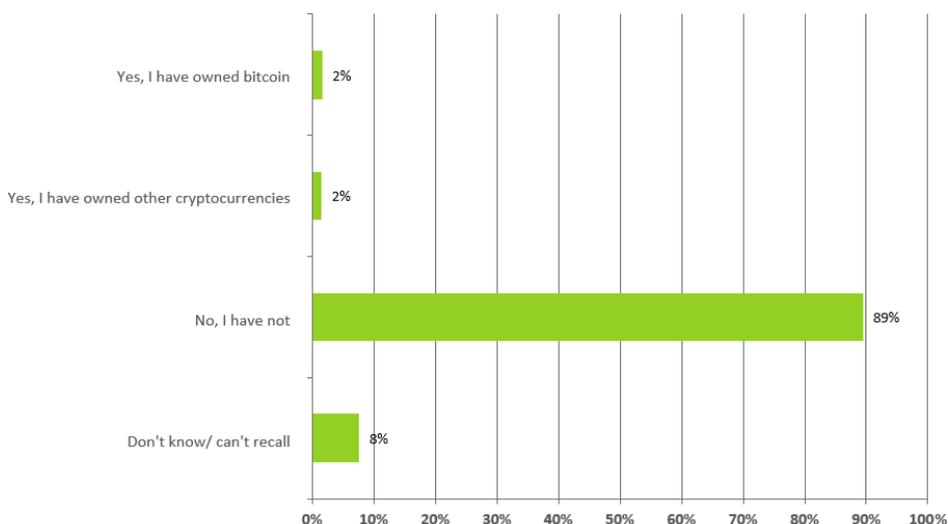
Main findings

Use of bitcoins and other cryptocurrencies

When asked whether they had ever owned bitcoin or other cryptocurrencies, 2% of the GB adults answered that they had held bitcoins, another 2% that they have owned other cryptocurrencies, 89% responded in the negative and curiously, 8% picked the option 'I don't know/can't recall'. As expected, the prevalence of cryptocurrency usage decreases with age: we observe 4% of 18-24 users owning bitcoins (5% other cryptocurrencies), but only 3% in the 25-34 and 35-44 age ranges (2% each for other cryptocurrencies). This prevalence of ownership drops from 1% in the 45-54 range to 0% in the 55+ group.

Crypto-Currency

QUC_Q3m. For the following question, by "crypto-currencies" we mean digital or virtual currencies that are solely traded online. These currencies, such as bitcoin, use cryptography for security purposes and are not issued by a central authority (e.g. Bank of England)... Have you ever owned bitcoin or any other crypto-currencies? (Please select all that apply)



Unweighted base: All GB adults online (2022)



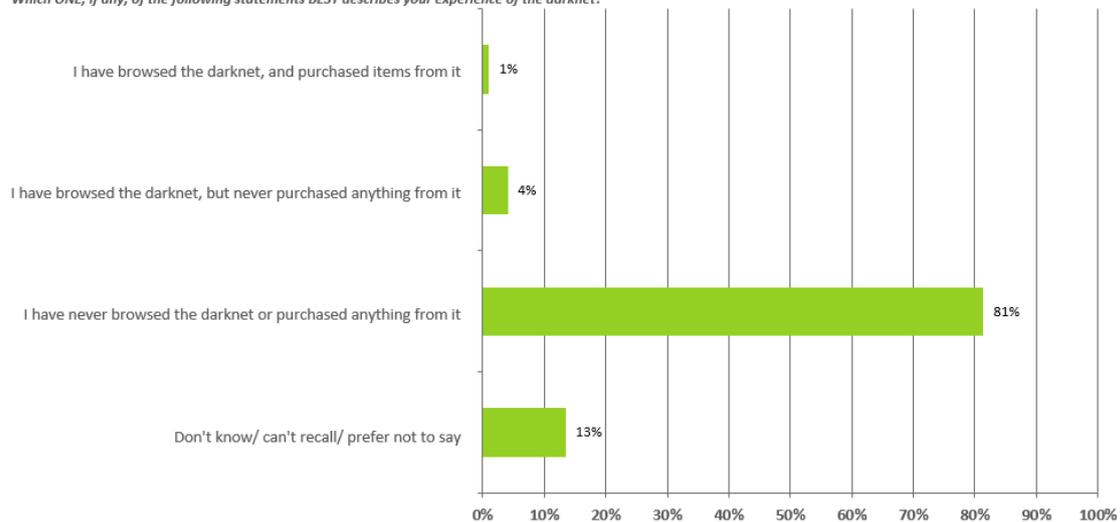
Darknet experience

When asked about their darknet experiences, only 5% acknowledged having browsed it, with 81% stating that they had never browsed it and 13% preferring the "Don't know/Can't recall/Prefer not to say" option. This is understandable, as some of the darknet contents and items for sale can be illegal. Of the 5% that had browsed it, roughly 20% (or 1% of the total sample) acknowledged they had not only scanned but also purchased items.

It is curious to note that answers to this question varied quite significantly with gender. For example, males (6%) pick the answer “I have browsed the darknet, but never purchased anything from it’ disproportionately more frequently than females (2%). Age also plays an interesting role, with younger respondents in the 18-24 age range being significantly more likely to have bought items in the darknet (3%) or browsed it without purchasing (14%). London seems to be the region with more active buyers (3%) and browsers (3%).

Darknet

QUC_Q8. Please remember that all your answers are always treated confidentially and are never analysed individually. For the following questions, by darknet we mean areas of the internet which are not search indexed (e.g. will not appear in search engines) and require specific software (e.g. Tor), configuration, or authorisation to access. The darknet may be used for various reasons, such as; to better protect privacy rights, whistleblowing, file sharing, sale of restricted goods etc. Which ONE, if any, of the following statements BEST describes your experience of the darknet?



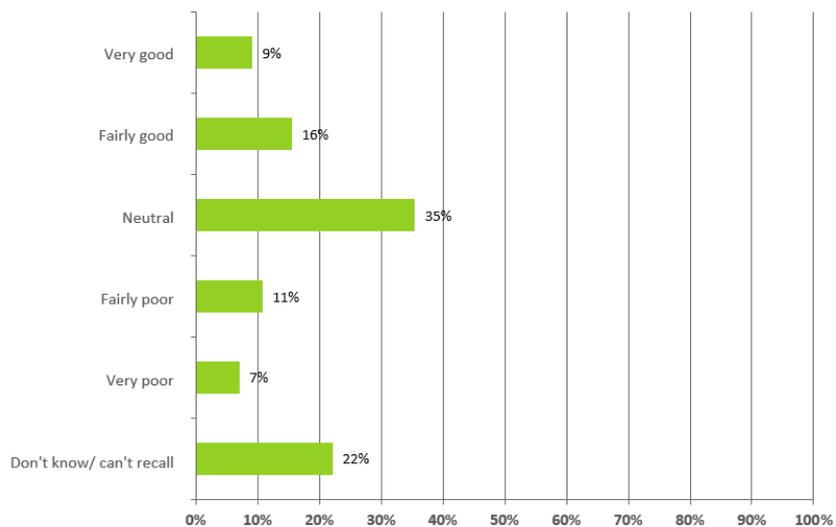
Unweighted base: All GB adults online (2022)

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When those who had browsed or purchased items in the darknet were questioned about their overall experience, 25% of them rated it as very good or fairly good, 35% as neutral and only 18% as fairly poor or very poor. 22% picked the ‘Don’t know, can’t recall’ option. These responses can be seen in the next figure.

Darknet – Experience

QUC_Q8a. You said that you have browsed and/ or purchased items from the darknet...
In general, how good or poor would you say your overall experience of the darknet was?



Unweighted base: All GB adults online who have browsed/ purchased items from the darknet (97)



Data breaches

With the increasing number and impact of data breaches in the UK in the last two years, we wanted to gain an idea of what the general public think about how to best tackle them and where to place responsibility. In this particular case, we gave responders the option to tick all responses they thought applied, so figures don't add up to 100%.

A sizable proportion of the respondents seems to agree with the statement 'I think the companies who have a data breach should pay large fines' (an average of 40%) – adopting the new European data protection legislation in this respect would seem to have significant public support. There is not a big difference in agreement with this statement between males and females, but it is quite noticeable what impact age has on this. Agreement with this recommendation increases systematically with age, from the 28% in the 18-24 range to 33% in the 25-34, 38% in the 35-44, 42% in the 45-54 and a very significant 48% for the 55+. Surprisingly, there is also more support for this measure among middle class (44%) citizens (ABC1) than within the working class (C2DE) (36%).

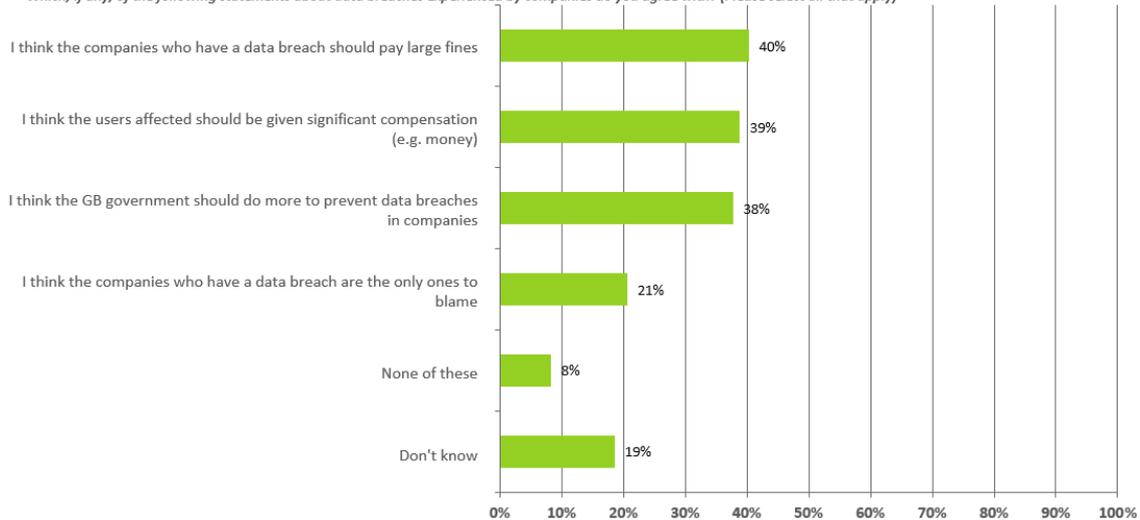
The second most popular option among the answers provided was 'I think the users affected should be given significant compensation (e.g. money)', with an average of 39%, followed by 'I think the GB government should do more to prevent data breaches in companies' with a 38%. Less popular answers were 'I think the companies who have a data breach are the only ones to blame' with 21%

ticking this option, and 'None of these' with 8%, showing that most respondents were in agreement with at least one of the available options.

Data Breaches

QUC_Q6m. For the following question, by "data breach", we mean any occasion where sensitive, protected, or confidential data (e.g. personal identifying information, health records, credit card data) is compromised. This means that it may have been viewed, stolen, or used by someone who is not authorised to do so (e.g. someone outside of the company entrusted with the data).

Which, if any, of the following statements about data breaches experienced by companies do you agree with? (Please select all that apply)



Unweighted base: All GB adults online (2022)

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Ransomware

Ransomware has gone from being practically unknown to becoming in the last three years one of the most dangerous threats for users, SMEs, and even large businesses and government organisations. Thousands of cases are reported on a weekly basis across the world, but there is a certain lack of reliable statistics for the UK, in particular covering some fundamental questions as its prevalence, what percentage of victims decide to pay the ransom, and whether they manage to recover their files afterwards. To address these issues, we included two questions, which we analyse in the following.

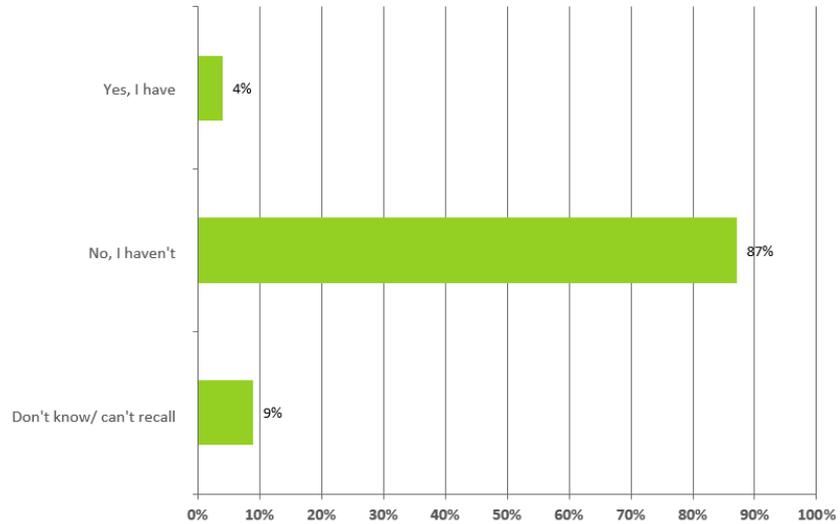
To the central question of 'Have you ever experienced ransomware?' in which we try to estimate the prevalence of ransomware in Britain, 4% of respondents answered in the positive, with 87% saying 'no'. It is curious that approximately 9% opted for the 'Don't know/can't recall' option.

Of the 4% that experienced ransomware, 26% paid the ransom to try and recover their files or devices. But paying doesn't guarantee recovery, as shown by the fact that approximately 35% of those who paid didn't recover anything.

More positive news come from the figures that show that 62% of the respondents that experienced ransomware were able to recover their files without paying the ransom, presumably by using backups, or obtaining the keys from any of the free recovery services online such as the No More Ransom project <https://www.nomoreransom.org/>.

Ransomware

QUC_Q9. Please remember that all your answers are always treated confidentially and are never analysed individually. For the following questions, by "experienced ransomware", we mean occasions where your digital files (e.g. images, documents) are encrypted by individual(s) and they ask you for money in order to restore access to the files etc. This does NOT include occasions where one file has been stolen and you are being asked for money to prevent publication or experiences of online identity fraud... Have you EVER experienced ransomware?

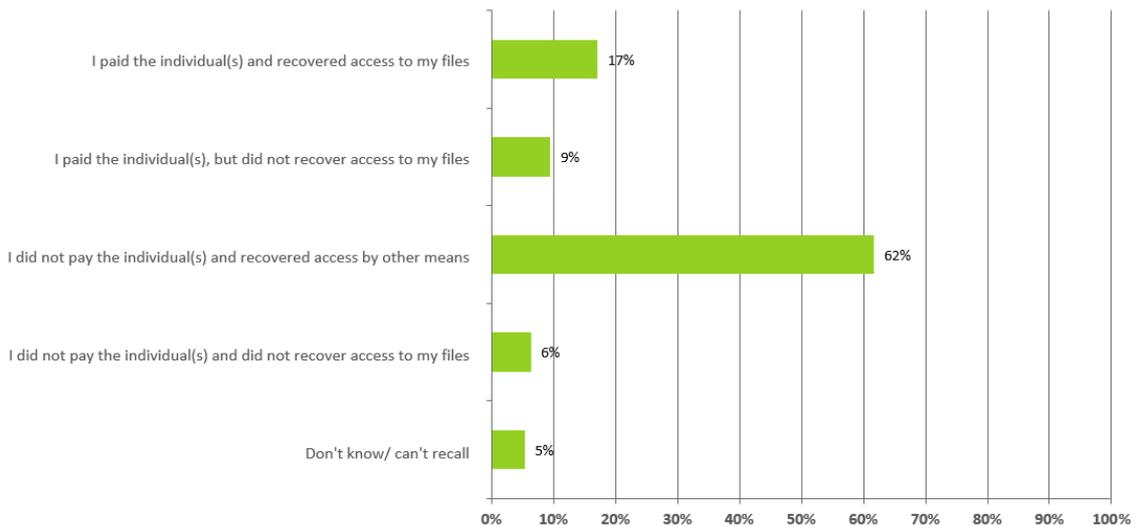


Unweighted base: All GB adults online (2022)



Ransomware - Outcome

QUC_Q9a. You said that you have experienced ransomware. If you have experienced this on more than one occasion, please think about the most recent time... Which ONE, if any, of the following best describes the outcome of your experience with ransomware?



Unweighted base: All GB adults online who have experienced ransomware (73)



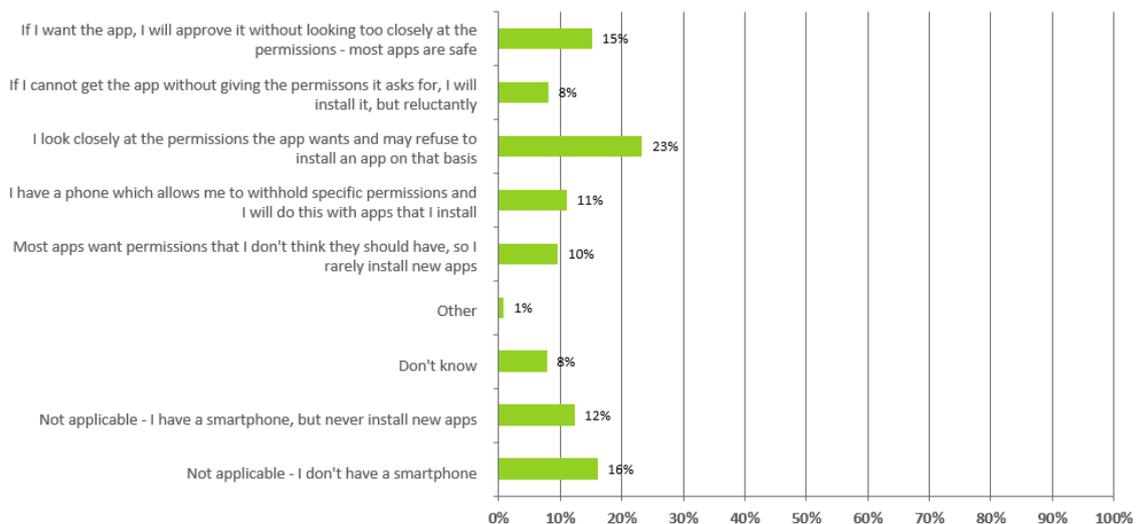
App permissions

We asked about people’s behaviour with regards to permissions that new apps on their smartphones requested. For most categories of respondents, attitudes are fairly evenly spread across a wide range of possible behaviours: ignore the issue and just install; check permissions carefully and then install – or not; rarely install because of permissions issues; withhold permissions at the point of use; or not install apps ever. However, students (and in general the 18-34 age categories) stand out on the response ‘If I want the app, I will approve it without looking too closely at the permissions - most apps are safe’: 32% versus 15% for the entire population.

Apps & Permissions

QUC_Q5m. For the following question, please think about when, if ever, you install new apps on your smartphone and the permissions you grant upon installation. If you don't have a smartphone or never install new apps, please select the relevant "Not applicable" option.

Which, if any, of the following describes your attitude towards installing apps and app permissions? (Please select the options that best apply)



Unweighted base: All GB adults online (2022)



Notable but not surprising is also that retired people (and 55+ in general) are more likely to not own a smartphone (35% vs. 16% overall) or have a smartphone but never install apps (20% vs. 12% overall). Students without a smartphone are of course rare, at 3%. There are also regional differences: in London, only 10% say they don’t own a smartphone; for other regions this is higher, highest at 22% in the East and 21% in Yorkshire & Humber.

Sharing Health data

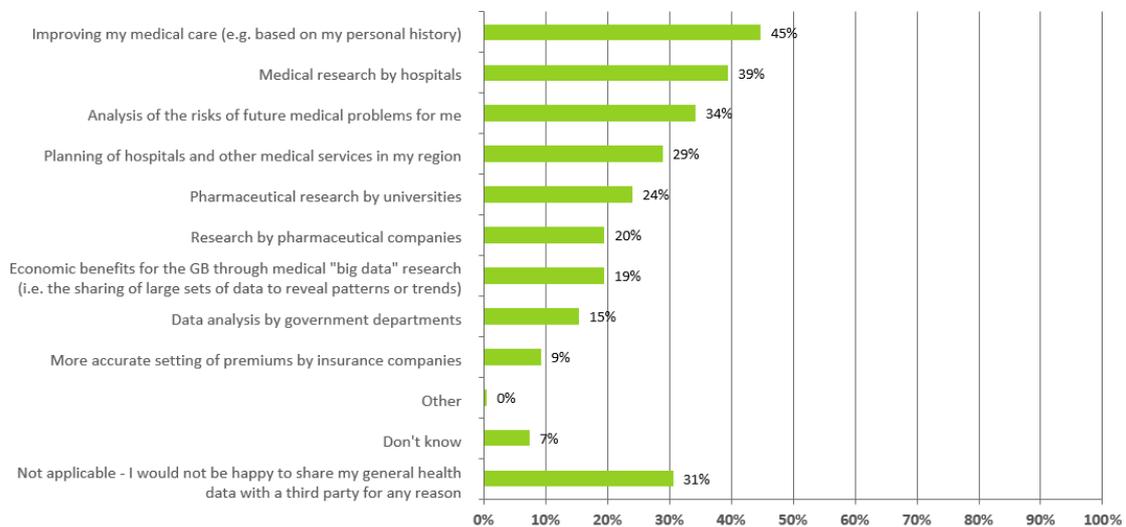
We presented a number of scenarios in which people’s health data might get shared with third parties, and asked respondents for each of those whether they found it acceptable. As expected, improving their own medical care was most popular, but still only achieved 45% acceptance. Self-

interest does not explain it fully, as 'Medical research in hospitals' scored nearly as high at 39%, whereas 'Analysis of the risks of future medical problems for me' achieved a lower 34%.

Commercial use of medical data remains unpopular. General economic gain through "big data" convinced 19% of respondents to share their data. Pharmaceutical research was seen as a valid reason by 20% if companies undertook it; maybe surprisingly, 'Pharmaceutical research in universities' scored barely higher at 24%. Insurance companies' setting of premiums would still be an acceptable use for 9%.

General Health Data

QUC_Q4m. Thinking about your general health data (e.g. medical history, current prescriptions etc.)... For which, if any, of the following reasons would you be happy to share your general health data with a third party? (Please select all that apply. If you would not be happy to share your general health data with a third party for any reason, please select the "Not applicable" option)



Unweighted base: All GB adults online (2022)



The NHS, and government more broadly, may have their work cut out in convincing the public that they need more medical data sharing for organisational reasons. 'Planning of hospitals and other medical services in my region' was seen as valid by only 29% of the respondents (with higher social grades more supportive), and the more general 'Data analysis by government departments' even less so, at 15%.

Roughly a third of people did not want to share for *any* purpose, with a notable dip in this to 21% for the 25-34 age group and 18% of full-time students. Regular users of LinkedIn are also notable compared to users of other social networks and the overall population: only 22% of them would refuse all sharing, and they are happier than the general public to share data for *any* purpose listed, in all scenarios by some 10% (absolute) more.

This is a brief Executive Summary of the most relevant findings of the Survey.

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The raw survey files, as provided by YouGov, can be shared on request (email jch27@kent.ac.uk).