An investigation into the relationship between health literacy, eHealth literacy and online health information seeking behaviour

Susan Quinn, Raymond Bond, Chris Nugent

School of Computing and Mathematics

ulster.ac.uk

Overview

- Context and Background.
    - Online health information seeking.
    - Health literacy and eHealth literacy.

- Study aim.

- Methodology.
    - Health literacy and eHealth literacy tools.
    - Health questions.

- Key Findings.

- Conclusion.

Context and Background
Online Health Information Seeking

- Health information seekers are increasingly using online health information to answer health questions.
    - Oxford Internet Survey, 2009 - 68% have searched online for health information.
    - 61% of American adults have searched online for health information (D'Auria, 2010).

- The ability to evaluate and use online health information may be affected by an individual's level of health literacy and eHealth literacy.

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Context and Background
Online Health Information Seeking

- Health Literacy.
    - The ability to obtain, understand and apply health information (Smith et al., 2014; Joubert & Githinji, 2014; Nutbeam, 2008).

- eHealth Literacy
    - The ability to obtain health information from electronic sources, and to evaluate and use the information found (Norman & Skinner, 2006b).

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Aim of the study

The aim of this study was to investigate the relationships between how an individual searches for and uses online health information and their level of health literacy and eHealth literacy.

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Research Methodology
Health Literacy

- Newest Vital Sign (NVS) (Weiss et al., 2005; Rowlands et al., 2013).

    - Measures literacy and numeracy skills.

    - An ice cream nutritional label with 6 questions.

    - A score of >= 4 identifies adequate health literacy skills.

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Research Methodology
eHealth Literacy

- The eHealth Literacy Scale (eHEALS) (Norman & Skinner, 2006a).
  - Individual rates their knowledge, comfort and skill at finding, appraising, and utilising electronic health information.

- 2 supplementary items - to understand a consumer's interest in using eHealth.

Research Methodology
Demographic Information

- Gender.

- Age.

- Highest qualification.

- Discipline/subjects being studied.

- Postcode.

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Research Methodology
Health Questions

Medication

- You have a headache and buy a packet of Co-Codamol tablets from the chemist. Which are the two largest ingredients in Co-Codamol tablets?

- One widely publicised UK health message is that in most cases antibiotics should not be used to treat a common cold. Why is this advice given?

Diabetes

- Hypoglycemia (low blood glucose levels) is a complication of Diabetes. The unit of measurement for blood glucose level is Millimoles per litre (mmol/l). In terms of this measurement how is Hypoglycemia defined in the UK?

- Diabetic Retinopathy is an eye complication associated with Diabetes. Can you name 3 common symptoms of this condition?

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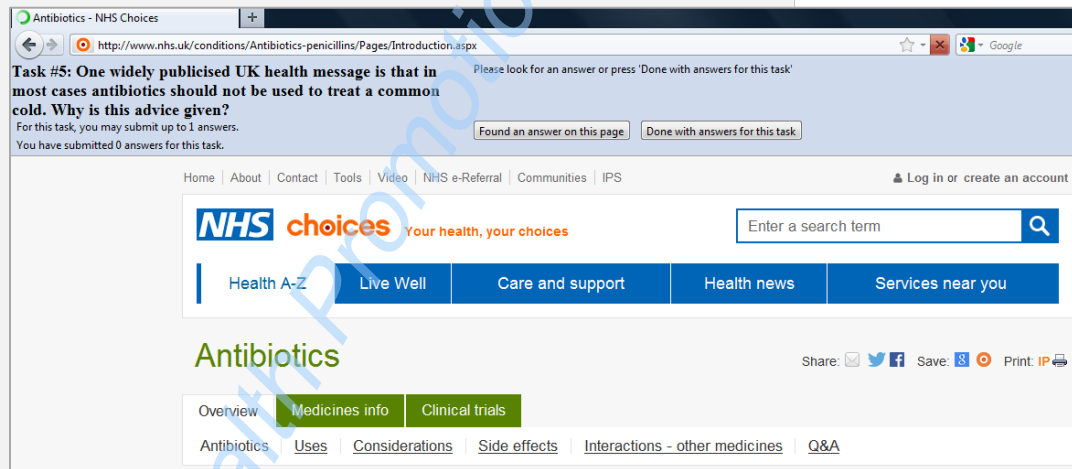University

Research Methodology
Health Questions

Weight & Nutrition

- Body mass index (BMI) is a measurement that indicates whether your weight is appropriate for your height. During a visit to your physician your BMI is determined to be 27. What category does your BMI fall into?

- The 5 A DAY message in the UK encourages people to eat five portions of fruit and vegetable every day. If you were to eat 5 portions of vegetables, of the recommended weight, in one day, how many grams of vegetables would you eat in total?

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Research Methodology
Health Questions

- Questions provided through HCI Browser (Capra, 2010).

  - Mozilla Firefox extension.

  - Can use browser to search for information or enter URL.

  - Data collected includes the web pages visited, search terms entered and answers to health questions.
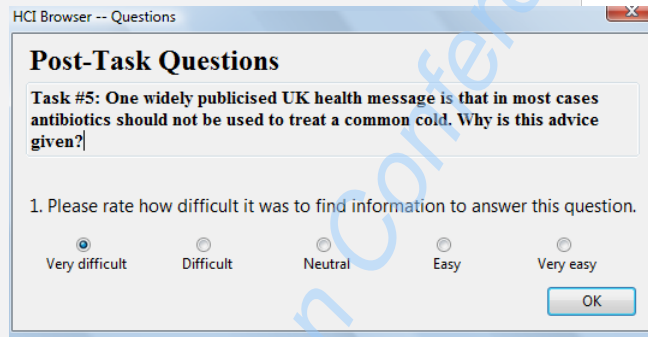
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Research Methodology
Health Questions

- Post-task question.

- Screen capture.

Research Methodology
Credibility of Health Websites

- A website was evaluated as a reliable source of information if it matched 1 or more of the following criteria.

    - Health On the Net Foundation HONcode certification (https://www.healthonnet.org/).

    - Information Standard certification (http://www.england.nhs.uk/tis/).

    - Accessible from MedlinePlus search facilities (http://www.nlm.nih.gov/medlineplus/).

    - A government or hospital website.

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Research Methodology
Participants

- 22 participants.
  - 64% male (n=14), 36% female (n=8).
  - Age range of 22 to 38.
  - Qualifications – PhD (n=5), Masters Degree (n=3), Honours Degree (n=13), A Level (n=1).

Qualifications of Participants

- PhD — 23%
- Honours Degree — 59%
- Masters Degree — 14%
- A Level — 4%

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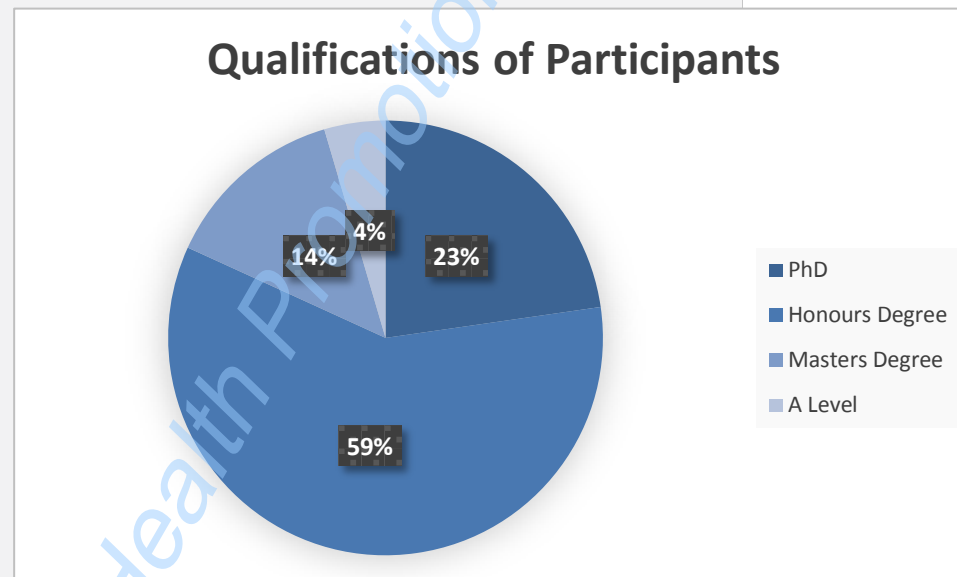
Key Findings
Newest Vital Sign

- 21 participants had adequate health literacy skills.
- Mean score was 5.27 (SD 1.12).

Frequencies of NVS Scores

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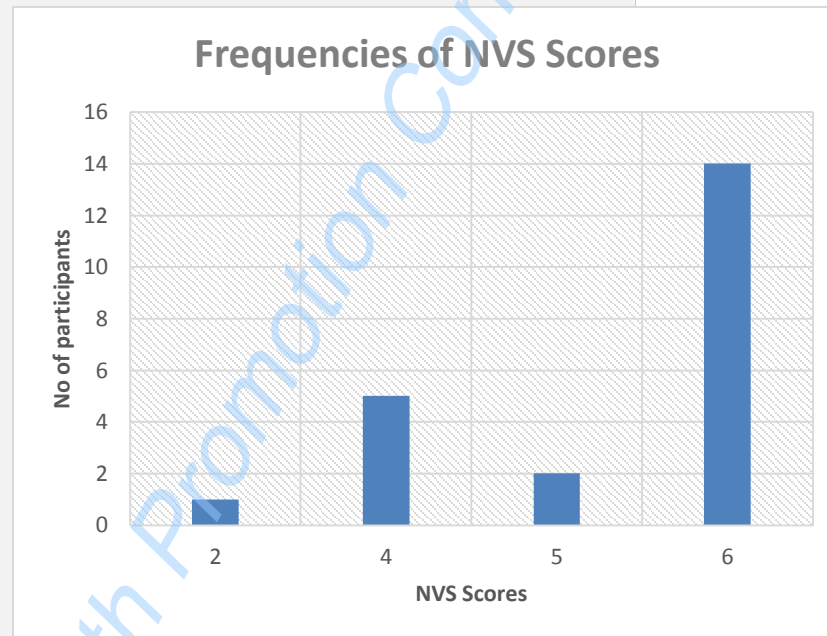
Key Findings
The eHealth Literacy Scale

- Mean score was 29.86 (SD 5.85).
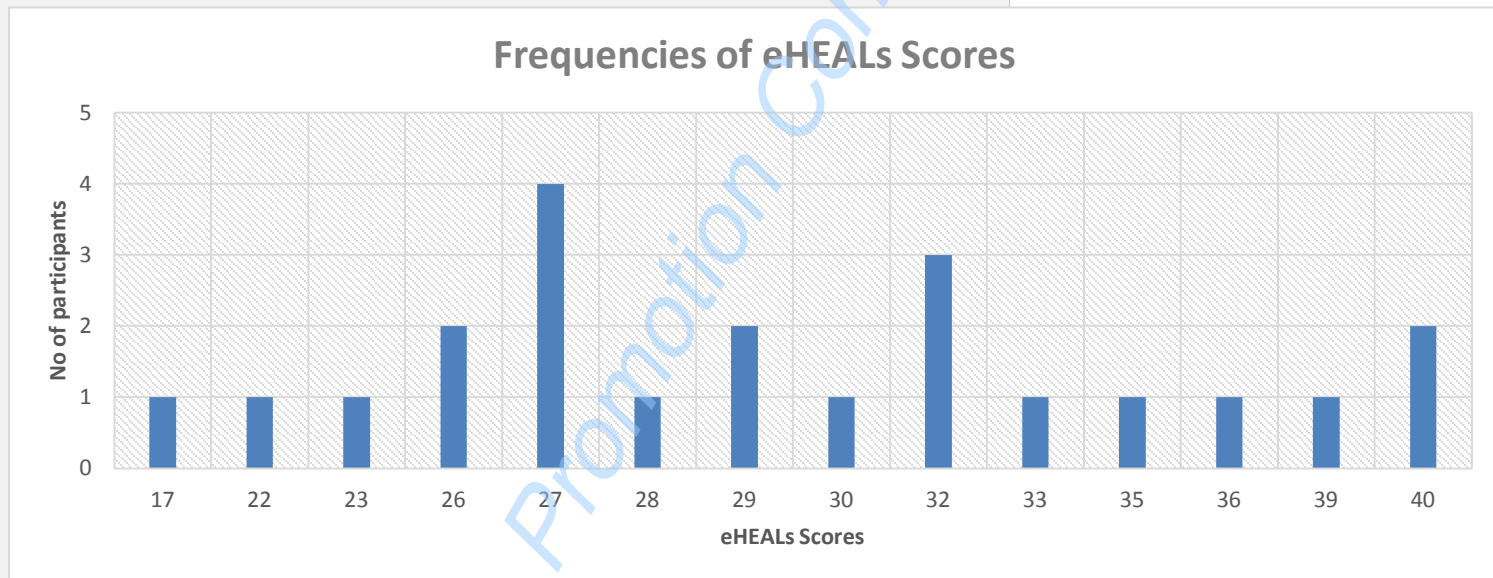
Key Findings
eHealth Literacy

- 72.7% (n=16) indicated that they had the skills required to evaluate health resources found on the Internet.

- 77.2% (n=17) agreed that they could distinguish between high and low quality online health resources.

- 72.7% (n=16) indicated that they were confident in using online health information.

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Key Findings
Health Questions

- All participants answered 3 or more health questions correctly.

Frequencies of correct answers

No of participants (y-axis: 0–10)

Total correct answers (x-axis: 3, 4, 5, 6)

(Bar chart: 3 → 3 participants, 4 → 5 participants, 5 → 9 participants, 6 → 5 participants)
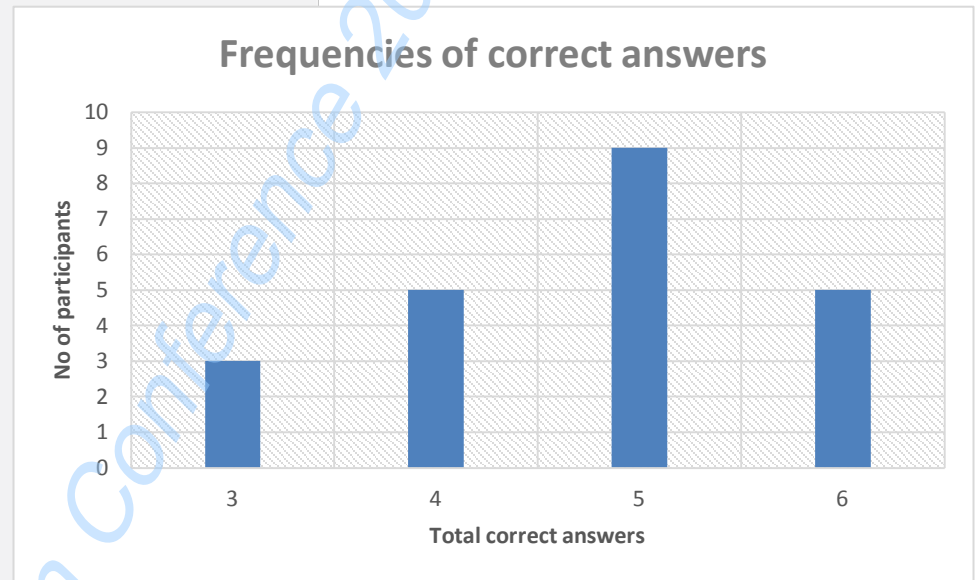
- 9% (n=2) used information solely from government or certified health websites to answer questions.

- 91% (n=20) utilised both certified and uncertified websites to answer the questions.

- 50% (n=11) used information gathered directly from a Google search results page to answer 1 or more questions.

Key Findings
Which question had the highest duration?

BOXPLOTS OF QUESTION DURATION
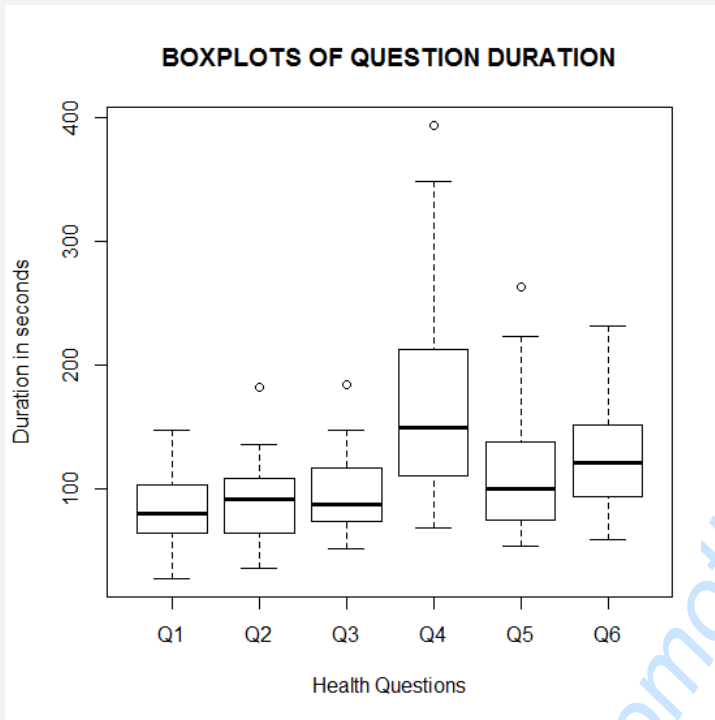
Question 4

The 5 A DAY message in the UK encourages people to eat five portions of fruit and vegetable every day. If you were to eat 5 portions of vegetables, of the recommended weight, in one day, how many grams of vegetables would you eat in total?

- Highest average duration - 175.64 seconds (2 minutes, 55.64 seconds).
- Lowest number of submitted answers (n=19).
- Lowest number of correct answers (n=13).
- Highest number of overall page visits (n=83).

Conclusion

- All the participants were able to use online health information to correctly answer health questions.

- Despite having adequate health literacy and eHealth literacy skills most individuals utilised both accredited and uncertified health information.

- The most frequent online seeking method for discovering health information was through search engine results.

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Questions?

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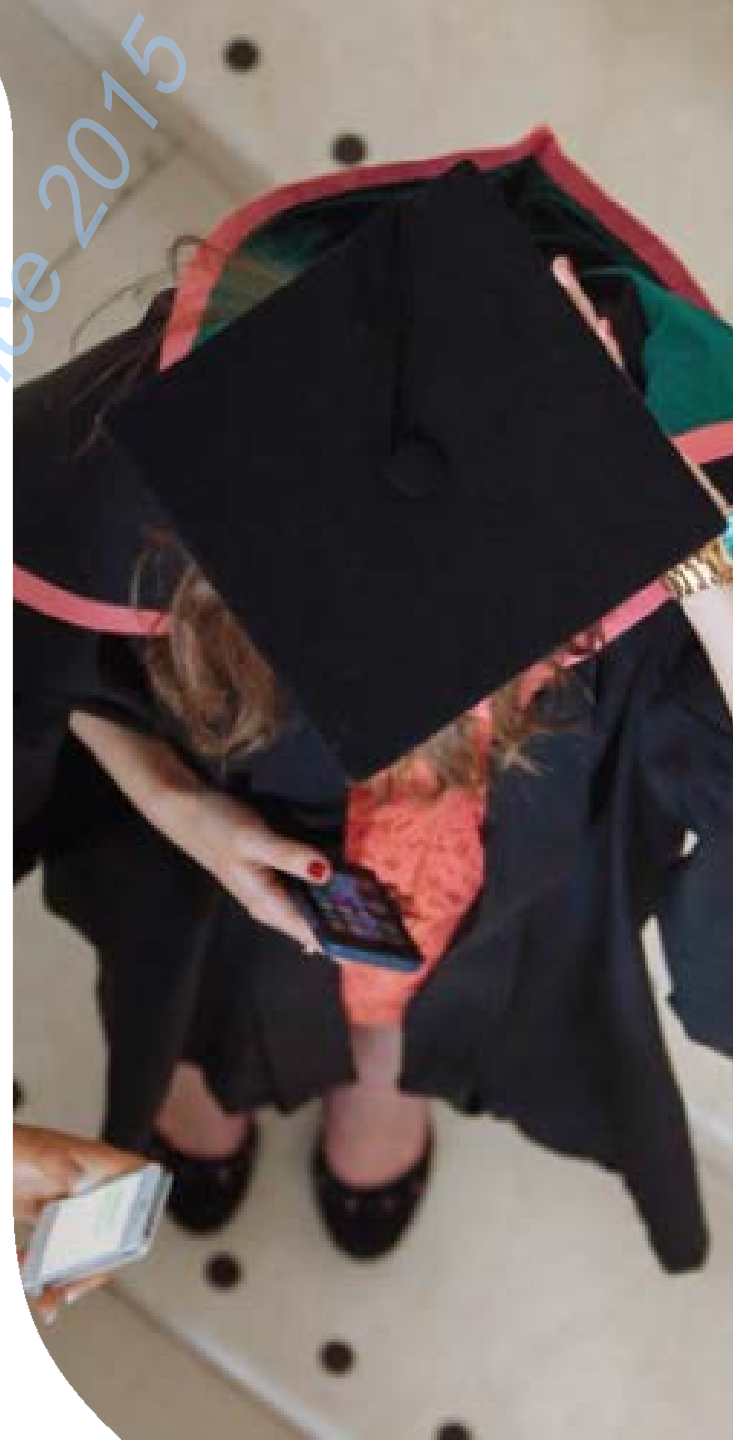
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