Individuals, behaviour change and the Web

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Outline of session

1. What does psychological theory and research tell us about human behaviour?
2. How can psychological theory and research be applied in web science?
   a) understanding and predicting responses to the web
   b) experimentally manipulating responses to the web (with illustration)
What is the aim of psychological theory and research?

- to understand people’s behaviour (and what influences it)
- to predict people’s behaviour
- to change people’s behaviour
What will promote condom use to reduce risk of HIV infection?

• Information about the positive benefits of using condoms
• Information about the negative consequences of HIV infection – ‘fear appeal’
• Interpersonal skills training in how to bring the topic of condom use up with your partner
• Providing condoms and training in their use
• Online information about personal likelihood of getting HIV from current sexual behaviour
• Information about the positive benefits of using condoms
  Yes, but only if help given to implement positive attitude
• Information about the negative consequences of HIV infection – ‘fear appeal’
  No – not effective
• Interpersonal skills training in how to bring the topic of condom use up with your partner
  Yes for women – negative effects on men!
• Providing condoms and training in their use
  Important, but mainly for men!
• Online information about personal likelihood of getting HIV from current sexual behaviour
  No – resulted in 50% sample logging off

D. Albarracin et al. (2005) Psychological Bulletin, 131; 856-97
Theory of Planned Behaviour

Attitude
- Instrumental (rational)
- Affective (emotional)

Subjective norm
- what you think others think you should do

Perceived Behavioural Control

Intention

Specific Behaviour
(e.g. always use condom)

Social Cognitive Theory

Types of information that influence behaviour:

• persuasive – information/arguments
• vicarious – observing others’ actions/outcomes
• enactive – personal experiment to try it out

Q: Behavioural interventions – what are they?
A: Interventions to promote behaviour change by means of (motivational) advice and (preferably) longitudinal support to overcome ‘intention-behaviour gap’

- eat a healthy diet
- learn parenting skills
- use less energy at home
- work more efficiently
Traditional methods of delivering behavioural interventions

a) face-to-face, e.g. teacher, therapist, manager
   • expert, personalised
   • effective but resource intensive

b) print format, e.g. leaflet
   • generic, no support
   • cheap but low impact
Key components of effective behavioural interventions

1. Delivering advice, ‘tailored’;
   • use ‘diagnostic’ questions to select relevant advice from extensive expert resources
   • use motivational techniques

2. Providing longitudinal support, e.g.
   • plans, reminders
   • progress monitoring
   • progress-relevant feedback
   • social support (therapist, peers)
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Understanding and predicting responses to the web

Usability testing (from human-computer interaction) analyses
• cognitive and perceptual/motor barriers to task completion
• user ‘acceptability’ and ‘satisfaction’

Often minimal, superficial, poor methodology
If done well can uncover important issues with wider relevance (e.g. older people response to hardware/content)

Need in-depth analysis, link to social science theory/research
e.g. understanding how/why some users respond in particular ways in some contexts – to inform future design)
Experimentally manipulating responses to the web – ‘persuasive technology’


Test effects on users of theory-based web-delivered behaviour change techniques
Advantages of the LifeGuide

Current situation: most internet-delivered behavioural interventions are programmed individually – and then you are stuck with whatever you have created!

Developing software to allow researchers to flexibly create and modify interventions will:

a) have immediate pragmatic benefits
b) create the potential for more rapid and powerful development of behavioural science
The scientific potential of the LifeGuide

• Each modification/evaluation cycle tests theories on which intervention components are based

• Networks of researchers can
  a) share intervention components
  b) collaboratively collect much larger datasets allowing mediation and moderation analyses of effects of intervention components
Longer-term scientific potential of the LifeGuide

Foundation for a future ‘population laboratory’; semantically enriched, adaptive grid using automatic data collection to continuously model/refine interventions.
Planned initial functionality of LifeGuide

1. Delivering tailored advice and motivational techniques
2. Providing longitudinal support, e.g.
   - reminders (e.g. automated emails)
   - planning, progress monitoring (e.g. longitudinal graphing)
   - progress-relevant feedback (tailored)
   - social support (e.g. emails, discussion board, peer comparisons, chat room sessions)
3. Facilities for carrying out evaluations (RCTs)
   - screening and multi-user registration
   - stratified randomisation
   - automated baseline and follow-up assessment
   - monitoring throughput and adherence
   - output all data to Excel, SPSS etc.
Intervention manager:
session data page with route map
Example interventions

The following slides are taken from the beta version of the lifeguide.

The URL has been deleted from the public version of theses slides because the LifeGuide product has not yet been publicly released.
Welcome to the 1st session of your cold and flu prevention website

Through **weekly sessions** you will be given all the information you need to learn how to protect yourself from colds and flu. **This site will present you first with the information that matches your particular situation. Afterwards you can search the site for other information if you want to.**

The weekly sessions will cover:

- Personalised information for you and the people you live with
- Medical facts about viruses to help explain how you catch them
- Practical advice on how to protect yourself from cold and flu viruses
- Support and tips on how to make these ideas easier
- Ongoing feedback and help with your progress
Sign up for weekly sessions

To access each weekly session you will need to log in using details we will send you. To do this, and to help you remember to log in each week, we will contact you by email.

First we need your email address and your consent to contact you.

► We do not share this information or any other data you enter with anyone else. However, it may be used by the website team to help with our research on preventing colds and flu.
► All information will be anonymous and confidential.
► If you wish to withdraw from the sessions at any time, just email: s.miller@soton.ac.uk.

I would like to have access to the weekly sessions for cold and flu prevention.

I give my consent for you to contact me using my email address (please select)

Please contact me using the following email address:
The website has been put together by Professor Paul Little and his team. Paul is a GP and sees patients every week. As well as having daily experience of treating people with colds and flu, he is an international expert on these infections. He works with the Department of Health and other leading bodies, advising them on colds and flu.

The team is made up of health experts from UK Universities who are working together to find ways of preventing the colds and flu that people suffer each year.

The website is funded by the Medical Research Council.

More detailed information on the research aims and the people involved will be available in session 2.
This first session won’t take more than 5 minutes to read, but it contains lots of important information that you need to know.

For this session (and the first parts of your future sessions) to move through the pages you just scroll down to the bottom and click on ‘next’.

After you have clicked through the pages we have designed for you, then you will be able to you can move around the website freely in the same way as other websites you may have used.

For more interesting facts you can click on this symbol throughout the website.

These pages contain extra information such as scientific evidence, and advice from international health groups.

You will be able to print off or save all the information on this website at the end.
Your household

Before we start, we would like to make sure that the information is relevant to you.

Please can you tell us how many people live in your house (other than yourself):

Please choose the correct number from each of the drop down boxes

- Children under 16 years old
- Adults (16 and over) who are related to you, including partner/spouse
- Adults (16 and over) who are not related to you

next
Why Try to Lower the Risk of Catching Colds and Flu?

No-one likes getting colds or flu, but we get used to putting up with them. If you use the simple ideas on this website you can actually cut down on how many colds you and your family get each year, and how bad they are.

Cut down on colds and flu now!

Protect your health
This is really important if anyone in your house is more at risk from colds and flu – for example young children, older people, or people with poor health or breathing difficulties such as asthma.
It will take a bit of practice for you and your family to use the ideas on this website. But once you have learnt them they will become habits that you’ll do easily. And they will help protect you from catching colds and flu every year.
Experts in the NHS and other international health groups agree that a new type of flu virus is likely to appear soon. They think the problem is not whether this will happen, but how soon it will happen, and how bad the virus will be.

When the new virus appears it will spread across the world, and become a pandemic. You need to know how to lower the danger of you and your family catching pandemic flu because:

► everyone will be at risk - no-one will be immune to it
► if you catch flu first there is a high risk that you could give it to your family
► if you catch flu from family members who are ill you will not be able to look after them
► pandemic flu could cause serious illness – in the past it has led to the deaths of healthy adults as well as children and older people
► GPs and hospitals may be so busy that only the worst cases can be treated
► the virus is likely to take only a few weeks to spread across the world – and there may not be time to develop a vaccine to protect people
► medicine usually given for flu may not work as well on pandemic flu
Over the last century there were flu outbreaks in 1918, 1957 and 1968.

**This means that we have had the longest gap between pandemics to date (now 40 years), and so it could be any time, and we certainly can't afford to assume it won't happen soon.**

In the last major outbreak of flu, in 1918, over 40 million people died worldwide. The next pandemic might not be so bad, but it could be worse - there is no way of telling before it starts.

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**Teach your children**

*It is especially important to try to teach children how to protect themselves from catching flu before the pandemic happens. They will be much more likely to learn good habits if you provide a good example to them - they will naturally copy you.*
Catching a cold or flu

Obviously it is impossible to avoid cold and flu viruses completely – so most people think it is purely luck whether they catch a cold or flu.

But you don’t catch an infection from just one virus – you get ill when the number of viruses that enter your body is more than it can cope with.

Less viruses = less illnesses

The more viruses that enter your body at once, the harder it is for your body to cope, and the worse your symptoms will be. If you reduce the number of viruses you have contact with then your body will be able to fight off the infection better.
You can’t avoid picking up all viruses, but if you come into contact with less your body will have a chance to fight back.

This means you don’t have to avoid ALL viruses. But by avoiding more you can cut down the number of times you catch colds and flu, and how bad they are.
Viruses live for hours outside the body:
► they settle on surfaces after being breathed out
► they get on infected people’s hands when they touch their face, or cough and sneeze
► they are on surfaces touched by infected people’s hands

You can pick them up by:
► touching an infected surface such as: a cup, door handle, stair rail, computer keyboard, shop counter, money
► then touching your face either: consciously - like scratching an itch
   or automatically - like rubbing your eyes
It is very easy to touch your face without noticing you are doing it. If your fingers have viruses on them and then you touch your mouth, nose or eyes you are likely to infect yourself. Our eyes have tear drains that flow into the nose and so can pass a virus down to it.

This is why you need to wash your hands often, as you may touch your face at any time without realising you are doing it.

**Wash your hands with soap or gel**

To stop viruses being passed from your hands to your eyes, nose and mouth, you need to wash your hands regularly

- using soap and water
- or an antibacterial hand gel.

It is vital to use either of these - water alone doesn’t kill viruses. This is one of the most effective ways of preventing the spread of infection – this is why it is the main method used to fight infection in hospitals.
**How Often Do You Wash Your Hands?**

Think about how much you have washed your hands over the last week. Then click on the circle that fits each activity best.

WASHING YOUR HANDS INCLUDES USING A HAND GEL OR USING SOAP AND WATER

<table>
<thead>
<tr>
<th>I washed my hands with soap or gel:</th>
<th>almost never</th>
<th>some times</th>
<th>quite often</th>
<th>very often</th>
<th>almost always</th>
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<tbody>
<tr>
<td>before I ate a meal</td>
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<tr>
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<td>(e.g. crisps, sweets, fruit)</td>
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Your Cold and Flu Prevention Plan

Now you can choose a hand washing plan to protect you and your family from colds and flu.

The purpose of this plan is to help you wash your hands MORE than you do already:

► by committing to washing your hands at certain times
► and helping to remind you when to wash your hands

Not sure when to wash your hands?

Click here to find out when they have the most viruses on them.
This is an example of how your cold and flu prevention plan might look:

Our Cold and Flu Prevention Plan

I commit to washing my hands with gel or soap and water:

► VERY OFTEN before I eat a meal
► SOMETIMES before I eat snacks

► ALMOST ALWAYS when I go to the toilet
► VERY OFTEN when I come into the house
► QUIET OFTEN when I have been close to someone who has a cold or flu
► SOMETIMES after blowing my nose or sneezing/coughing on my hands

Signed __________________     ________________
________________     ________________

“It’s all common sense. But because it is so basic we have forgotten we know it, therefore we don’t use it, so we do need to be made aware of it. I think posters would be a good idea, just to keep people focussed on it, so it becomes a way of life.”

(Brian, Burton-on-Trent)

Now you just follow these 3 simple steps on the next 3 pages:

1 Choose your plan: make a commitment to wash your hands

2 Use it to remind you to wash your hands

3 Print your plan
Step 1 - Choose Your Plan, Make a Commitment to Wash Your Hands

Look at the survey below. It shows how much you washed your hands up to now.

Now think about how much you want to wash them IN THE FUTURE and CHANGE it by CLICKING ON A NEW CIRCLE to improve your handwashing.

Remember: Washing your hands includes using a hand gel or using soap and water

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Warning!

This plan aims to help you wash your hands MORE than you already do.
You have chosen to wash your hands the same amount as you ALREADY do for all the activities.

Remember: The more you wash your hands, the better protected you and your family are from cold and flu viruses.

Have another go at making your commitment, and think about the activities when it would be easiest to wash your hands a bit more.

For example: if you usually wash your hands ‘sometimes’ before snacks why not try washing them ‘quite often’ from now on?
INSTRUCTIONS PAGE

The warning message will be based on how they filled out the ‘how often do you wash your hands?’. If all the categories selected in the plan are the same (or less) than the ‘how often...’ the warning message will show. There will be a cut off point so that any actions from ‘how often ...?’ that were ‘very often’ or ‘almost always’ will not be expected to improve. and the ‘A Good Plan’ message will be displayed even without improvement on those items.

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A Good Plan!

You have chosen a plan that will help to protect you and your family from cold and flu viruses.

Now you can move on to the next step to help remind you to keep to your commitment.
Step 2 - Reminding You to Wash Your Hands

Now decide how you would like to use your plan to remind you to wash your hands.

For example:

► Put it up around your house
► Print it off, sign it and keep a copy
► Show it to someone else and ask them to help remind you
Step 3 - Printing Your Plan

If you would like to print your plan out, please follow these instructions:

Please select the number of copies you would like to print from this box:  
(drop down box 1-10)

Now click on the ‘print’ button, or use the print symbol on your tool bar.

The plan will work best if everyone in the family does it, so get everyone to sign it, or email them an invitation to use this website too.

Just enter their email addresses below and they will automatically receive the invite when you click on ‘next’.

Email address:  
Email address:  
Email address:  

Click here to send more emails.

finish
“Thank you for taking the time to read this website. By following the advice in here you can make a difference to your family’s health”

Professor Paul Little, GP

If you would like to print or save the information in the website please click here: print  save

In a week you will receive an email asking you to log on to the website for your next session.

If you would like to look at the information again before then, or show it to the rest of your family, you can log on anytime.

► more tips on how to avoid colds and flu
► extra advice if you have been finding it difficult to keep to your prevention plan
► more information from scientific research
► the chance to compare your handwashing against other people

Please remember to fill in your diary if you get ill in the mean time.

To leave the website either click on ‘exit’, or close your web browser as normal.