Symposium:
Using smartphones to reduce harmful drinking

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Selecting intervention components for a smartphone app (‘Drink Less’) to help people reduce hazardous and/or harmful drinking

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Background

Excessive alcohol consumption
- Highly prevalent among adults in the UK
- Health, crime, lost productivity costs

Brief interventions
- Effective in primary care
- But <10% excessive drinkers receive advice from their GP

Digital interventions
- Effective
- Overcome a number of barriers to brief interventions
- E.g. smartphone applications
Background

**Advantages of apps:**

- Low incremental costs
- Greater reach
- Highly convenient
- Reduce issues of accessibility & availability
- Able to engage users in real-time & everyday situations

*Need for an app based intervention grounded in theory & evidence...*
To select intervention components most likely to be effective at reducing hazardous and/or harmful alcohol consumption in a smartphone app (‘Drink Less’).
Methods

1. Behavioural analysis

2. Reviewed relevant behaviour change theories
   1. Reviewed types of alcohol interventions and digital interventions from other behavioural domains
   2. Formal consensus-building exercise with alcohol and behaviour-change experts on “best bets” for a smartphone intervention

3. Content analysis of the most frequently used components included in popular alcohol reduction apps
Methods

1. Behavioural analysis

2. Reviewed relevant behaviour change theories

*COM-B model of behaviour change*

*PRIME theory of motivation*
Methods

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Methods

Personalised digital interventions for reducing hazardous and harmful alcohol consumption in community-dwelling populations (Protocol)


Behavior Change Techniques in Popular Alcohol Reduction Apps: Content Analysis

Monitoring Editor: Gunther Eysenbach
Reviewed by David Conroy and LeGarjour Le Garjean

David Crane, MSc, Claire Garnett, MSc, James Brown, PhD, Robert West, PhD, and Susan Michie, DPhil

Identification of Behavior Change Techniques and Engagement Strategies to Design a Smartphone App to Reduce Alcohol Consumption Using a Formal Consensus Method

Monitoring Editor: Gunther Eysenbach
Reviewed by Donna Spruijl-Metz and Kim Dorey

Claire Garnett, MSc, David Crane, MSc, Robert West, PhD, Jamie Brown, PhD, and Susan Michie, DPhil

This article has been cited by other articles in PMC.

Abstract

Background

Digital interventions to reduce excessive alcohol consumption cost-effectively. Although there is little information about the behavior change techniques to which they are based on evidence or theory and how this varies across apps, there is increasing evidence for their effectiveness. However, there is a lack of research on how popular alcohol-related apps available in the United Kingdom that
Methods

- Synthesised the results of these different methodologies
- Used as a basis for selecting the intervention components for the Drink Less app

EASY ACCESS TO LOTS OF USEFUL INFORMATION

The dashboard shows how your drinking is changing, how close you are to achieving your goals and some simple things you can do today to drink less.
Results

Five intervention components selected:

1. Normative feedback
2. Feedback and self-monitoring
3. Identity change
4. Action planning
5. Cognitive bias re-training

Each component was designed in two versions:

i. Intensive

ii. Minimal credible
Normative feedback

• Rationale
  – Social Norms theory
  – Normative misperceptions common in heavy drinkers/students
  – Providing comparisons with others effective
  – Identified in expert consensus exercise as “best bet”

• Key features
  – Feedback on how drinking actually compares
  – Feedback on how they think drinking compares
Self-monitoring/feedback

• Rationale
  – Proven effective in health behaviour change
  – Consistent with Control Theory
  – Identified in expert consensus exercise as “best bet”

• Key features
  – Allow users to monitor their consumption
  – Provides feedback on consumption
  – Feedback on consequences of consumption (mood, productivity, sleep)
Identity change

• **Rationale**
  – PRIME theory
  – Empirical evidence from smoking cessation literature

• **Key features**
  – “I am...” looking at aspects of user’s identity of importance to them and how drinking relates
  – Memos to highlight discrepancies between behaviour and intentions
  – Flipsides of drinking to link negative alcohol consequences to positive alcohol expectancies
Action planning

• Rationale
  – Effective in health behaviour change
  – Consistent with Control Theory
  – Identified in expert consensus exercise as “best bet”

• Key features
  – Allow users to create/review action plans
  – Provides examples of action plans
  – Rationale for creating action plans
Cognitive bias re-training

• Rationale
  – PRIME theory
  – Automatic biases been found to predict alcohol use
  – CBR effective at changing biases and some studies found an effect on subsequent alcohol consumption
  – Identified in expert consensus study as “best bet”

• Key features
  Retrain approach biases to alcohol
  – “push” alcohol pictures away = No thanks
  – “pull” soft-drink images towards = Yes please
Discussion

• Drawing on theory and empirical evidence, the Drink Less app was designed around five intervention components

• Qualitative usability testing including a think-aloud study will inform the final version of the app

• The final version will be evaluated in a full factorial RCT to test the effects of the five intervention components
Thank you for listening.

Any questions?

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