

# SOCIAL PRESENCE AND USE OF INTERNET-DELIVERED INTERVENTIONS: A MULTI-METHOD APPROACH

RIK CRUTZEN, PhD - [www.crutzen.net](http://www.crutzen.net)

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## PAPER

**Rik Crutzen, Maastricht University**

**Dianne Cyr, Simon Fraser University, Canada**

**Hector Larios, Simon Fraser University, Canada**

**Rob Ruiten, Maastricht University**

**Nanne K. de Vries, Maastricht University**

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# PROBLEM DESCRIPTION

## EFFECTIVENESS?

Review

Computer-delivered interventions for health promotion  
and behavioral risk reduction: A meta-analysis  
of 75 randomized controlled trials, 1988–2007

David B. Portnoy <sup>a,\*</sup>, Lori A.J. Scott-Sheldon <sup>b,\*</sup>, Blair T. Johnson <sup>a</sup>, Michael P. Carey <sup>b</sup>

**“Participants who received a computer-delivered intervention improved health behaviors (nutrition, tobacco use, substance use, safer sexual behavior, binge/purge behaviors)”**

## HOWEVER

### **Server statistics of an intervention promoting heart-healthy behaviors**

- 285,146 unique visitors in a 36-month period
- 56.3% of them left the intervention website within 30 seconds!

## SYSTEMATIC REVIEW

### **Strategies to Facilitate Exposure to Internet-Delivered Health Behavior Change Interventions Aimed at Adolescents or Young Adults: A Systematic Review**

**Rik Crutzen<sup>1</sup>, Jascha de Nooijer<sup>1</sup>, Wendy Brouwer<sup>2</sup>, Anke Oenema<sup>2</sup>, Johannes Brug<sup>3</sup>, and Nanne K. de Vries<sup>1</sup>**

## WHAT IS NEEDED?

**Theory-development regarding attrition/actual use**

**Experimental research to increase evidence-based insight  
into effectiveness of factors to prevent attrition/stimulate  
actual use**



### **1b. Title of research proposal**

**Improving the public health impact of Internet-delivered interventions**

## SOCIAL PRESENCE

## SOCIAL PRESENCE

**Social presence can be seen as the extent to which a medium is perceived to convey a feeling of human contact, sociability, and sensitivity**

**Previous studies: Social presence positively affects attitude towards shopping websites (Hassanein & Head, 2007) as well as intention to purchase (Weisberg, Te'eni, & Arman, 2011) and to future use of a website (Cyr, Hassanein, Head, & Ivanov, 2007)**

**Hypothesis: social presence is expected to increase website use in a public health context**

## WORKING MECHANISMS

**Social presence positively affects perceptions of both effectiveness and enjoyment regarding shopping websites (Cyr, Hassanein, Head, & Ivanov, 2007; Cyr & Head, 2008; Hassanein & Head, 2007)**

**Interest besides enjoyment: Although interest is sometimes defined as feelings of enjoyment (Chen, Darst, & Pangrazi, 2001), interest and enjoyment differ in critical ways (Silvia, 2006)**

# ATTENTION

Do social presence elements attract attention?

Previous studies successfully applied eye-tracking with regard to perceptions of health-related information (Smerecnik et al., 2010) and websites (Cyr, Head, Larios, & Pan, 2009)

General agreement on the strong association between eye movements and attention (Rayner, 1998)

# SOCIAL PRESENCE ELEMENTS

The screenshot shows the HepatitisInfo website interface. The main content area is titled "Hepatitis B - consequences" and contains two paragraphs of text. A red box highlights the main text area. To the right of the text is a small image of a person's face with a pixelated overlay, and a testimonial quote. A red box highlights the testimonial area. The website has a blue header with the "HepatitisInfo" logo and a navigation menu on the left with categories for Hepatitis A, B, and C, each with sub-links for Transmission, Consequences, and Prevention. The testimonial is attributed to Daniel, 22.

**HepatitisInfo**

WELCOME

HEPATITIS A  
TRANSMISSION  
CONSEQUENCES  
PREVENTION

HEPATITIS B  
TRANSMISSION  
CONSEQUENCES  
PREVENTION

HEPATITIS C  
TRANSMISSION  
CONSEQUENCES  
PREVENTION

**Hepatitis B - consequences**

In first instance, health complaints such as fatigue, bad appetite, stomach complaints, and (symptoms of) fever are prevalent in about 40% of all people. Even if there are no health complaints, Hepatitis B can still affect one's liver.

The Hepatitis B-virus disappears in 9 out of 10 people within six months. If somebody holds the virus over six months, it is denominated as chronic Hepatitis B. In that case, the virus is still present in the human body and can be transmitted to others. Even people who have chronic Hepatitis B, often do not suffer from health complaints.

*I had no health complaints at all. The diagnosis of chronic Hepatitis B came as a shock to me. This website definitely helps in raising awareness!*

Daniel, 22

Main text

Social presence elements

## PREPARATORY STUDY

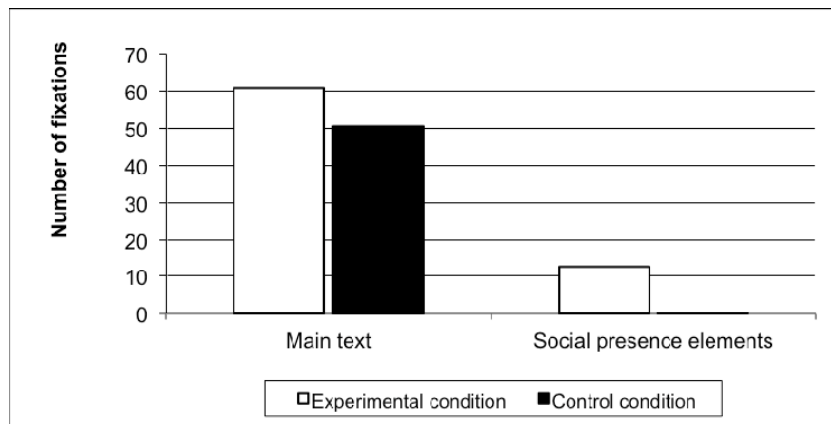
**Experimental condition: Main text + social presence elements**

**Control condition: Main text only**

**Participants in the experimental condition scored higher on perceived social presence (M = 4.6 vs. 3.1, Cohen's d = 1.22)**

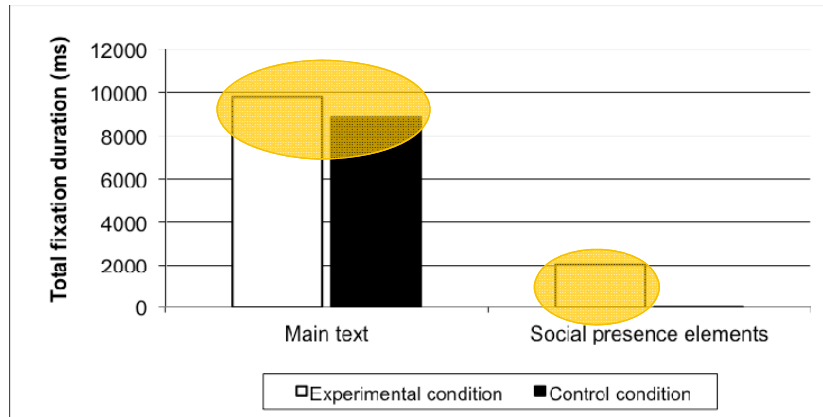
## NO. OF FIXATIONS

$F(1, 98) = 40.34, p < .001$

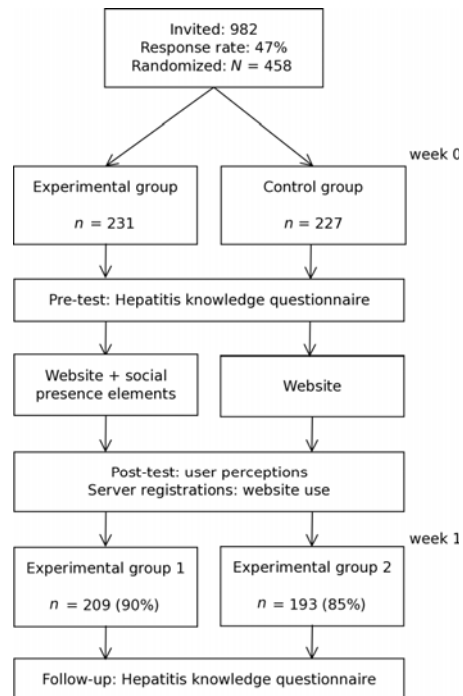


## DURATION

$F(1, 88) = 39.99, p < .001$



## DESIGN MAIN STUDY



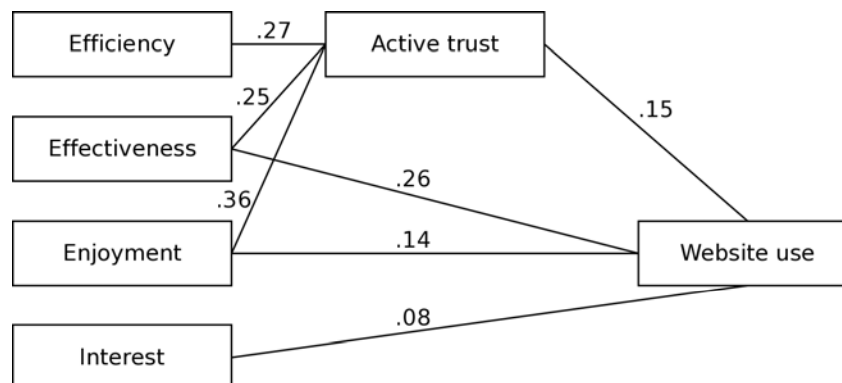


## RESULTS

Participants in the experimental condition scored higher on perceived social presence in comparison with the control condition ( $M = 4.9$  vs.  $4.4$ ,  $t(456) = 4.11$ ,  $p < .001$ , Cohen's  $d = 0.38$ )

Variable	Experimental condition		Control condition		$t$	$p$	Cohen's $d$
	M	SD	M	SD			
1. Number of pages (0-12)	7.5	4.0	8.0	3.8	1.44	.15	0.14
2. Time on website (sec)	151.0	117.4	150.8	107.8	.01	.99	0.00
3. $\Delta$ Hepatitis knowledge	1.8	2.8	2.0	3.0	.85	.40	0.08

## USER PERCEPTIONS



## WHY?

**Attention for social presence elements, but limited in comparison with main text**

**Utilitarian versus hedonically oriented websites**

**Smaller effect size in main study: in vitro versus in vivo**

**Intention-behavior gap**

**Tailored to/targeted at target group?**

## QUESTIONS?

