

Online Social Support for Chronic Disease Management : Expression and Reception in Computer-Mediated Communication

Woohyun Yoo

Assistant Professor
Survey and Health Policy Research Center
Dongguk University

October, 16, 2015

The 59th Annual Scientific Meeting of the Korean Society of Cardiology

The Emergence and Growth of Online Support Groups for Chronic Diseases

- ◎ **The size and number of online support groups available to chronically ill patients have risen quickly in recent years** (Lieberman & Winzelberg, 2009)
- ◎ **Key features of online support groups**
 - ✓ Asynchronous text-based discussion groups
 - Anonymity
 - Connectivity
 - Convenience

UW-CHESS (Comprehensive Health Enhancement Support Systems)

- ◉ **Web-based interactive health care system**
- ◉ **Intervention:** CHESS “Coping with Breast Cancer: A Network of Support”

The screenshot shows a web browser window displaying the 'Coping With Cancer - A Network of Support' website. The browser's address bar shows the URL: <https://www.chess.wisc.edu/bco/home/home.asp>. The website header includes the title 'Coping with Breast Cancer A Network of Support' and a search bar. The main content area is divided into three columns: 'information', 'support', and 'tools'. The 'information' column lists 'Cancer & Caregiving Topics', 'Ask an Expert', 'Resources', 'Caregiver Tips', and 'Cancer News'. The 'support' column lists 'Discussion Group' and 'Personal Stories', with a quote: 'Life is not measured by the number of breaths we take but by the moments that take our breath away.' The 'tools' column lists 'Easing Distress', 'Healthy Relating', 'Calendar', 'Contact List', 'Treatment Decision', 'Respite Planning', 'Action Plan', and 'My Journal'. At the bottom, there are three sections: 'Health Status' with 'Update Health Status' and 'View Health Changes'; 'Your Messages' with 'Discussion Messages' and '1 message from the expert'; and 'Your Website' with 'View your help calendar.'. A footer at the bottom reads: 'Copyright © 2010 CHESS by the Board of Regents of the University of Wisconsin System.'

CHESS Discussion Group: PC-Based Breast Cancer Support Group

The screenshot displays the CHESS website interface. At the top, there is a navigation bar with the text "Coping with Breast Cancer A Network of Support" on the left, and "CHESSMarks Dictionary Search: [input field] GO Exit" on the right. Below the navigation bar, the main content area is titled "Discussion Group" with a "Need Help" link. There are four tabs: "Choose Group", "View Messages", "Write Message", and "Past Messages". The "View Messages" tab is active, showing a list of messages for the "Group: Prayer and Meditation". Above the message list, there are three filters: "New! Read From Last Two Days (0 found)", "Week Read From Last Week (0 found)", and "All Read All (203 found)". The message list is a table with columns: From, Date, Time, Msg Id, and Topic. The messages are listed in chronological order from top to bottom.

Group: Prayer and Meditation

From	Date	Time	Msg Id	Topic
LoriBernard	05/13/08	10:09	30452	Hello to all
Susan	02/18/08	10:34	29640	NEW CHESS website address
JP080135	11/08/07	08:20	28514	Hello everyone
Suzanne	08/06/07	12:29	27393	Next logical message
Suzanne	04/02/07	14:50	25623	Faith
5253	03/07/07	17:54	25112	Hello
Susan	03/05/07	08:21	25062	Danny
Isla	03/03/07	13:20	25050	Danny
Susan	02/20/07	08:01	24825	Spring
Suzanne	02/12/07	15:44	24662	Spring
Pipo	12/24/06	15:42	23310	Health up date
BigBob	12/24/06	13:52	23306	Holidays
mshcais	12/21/06	22:10	23239	Health up date--for-misty

The background image shows a person's hands typing on a white keyboard in front of a computer monitor. The monitor displays the NIH Senior Health website, which features a search bar, navigation tabs for 'Home' and 'Health Topics A-Z', and various content sections including 'Health Topics by First Letter', 'Categories', and 'Featured Topic'. The text is overlaid on a semi-transparent white diagonal shape.

Expression and Reception of Social Support in PC-Based Cancer Support Groups

Study I

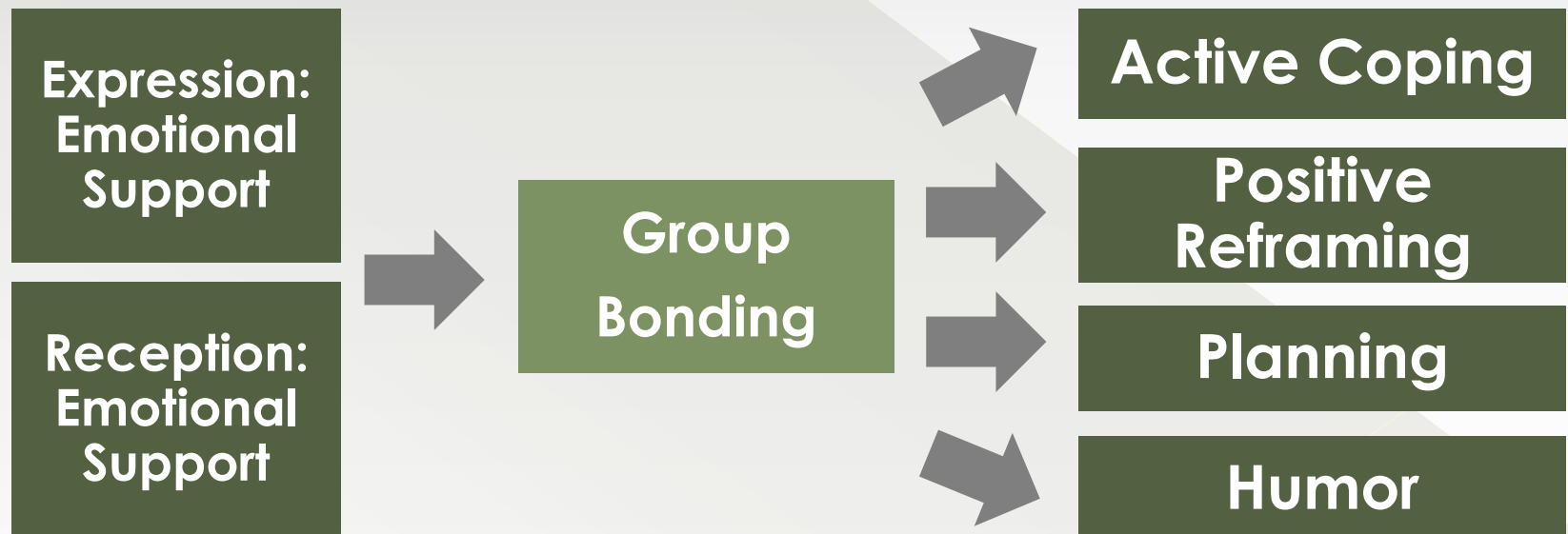
OXFORD JOURNALS Journal of the National Cancer Institute. Monographs

J Natl Cancer Inst Monogr. 2013 Dec; 2013(47): 169–174. PMID: PMC3881999
Published online 2013 Dec 26. doi: [10.1093/jncimonographs/igt033](https://doi.org/10.1093/jncimonographs/igt033)

The Effects of Expression: How Providing Emotional Support Online Improves Cancer Patients' Coping Strategies

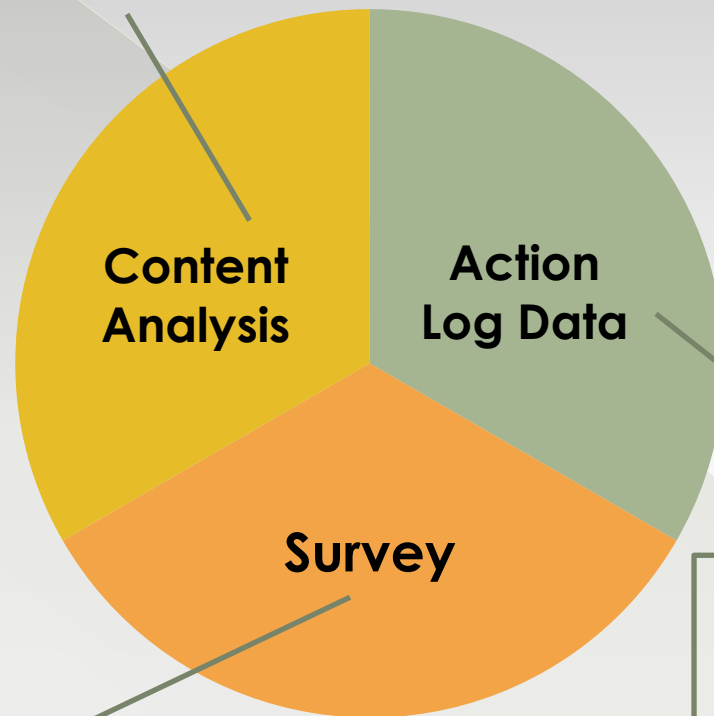
[Kang Namkoong](#), [Bryan McLaughlin](#), [Woohyun Yoo](#), [Shawnika J. Hull](#), [Dhavan V. Shah](#), [Sojung C. Kim](#), [Tae Joon Moon](#), [Courtney N. Johnson](#), [Robert P. Hawkins](#), [Fiona M. McTavish](#), and [David H. Gustafson](#)

Research Model



Data Construction

- **Computer-Aided Content Analysis: InfoTrend**
- **18,064 Discussion Posts from CHESS BC Support Group**
- **Social Support: Emotional Support**



- **325 Women with Breast Cancer**
- **Pre and Post tests (2, 6, 12, & 24wks)**

- **Time-Stamped Usage Data**
- **Writing (Expression) vs. Reading (Reception) Messages**

Results

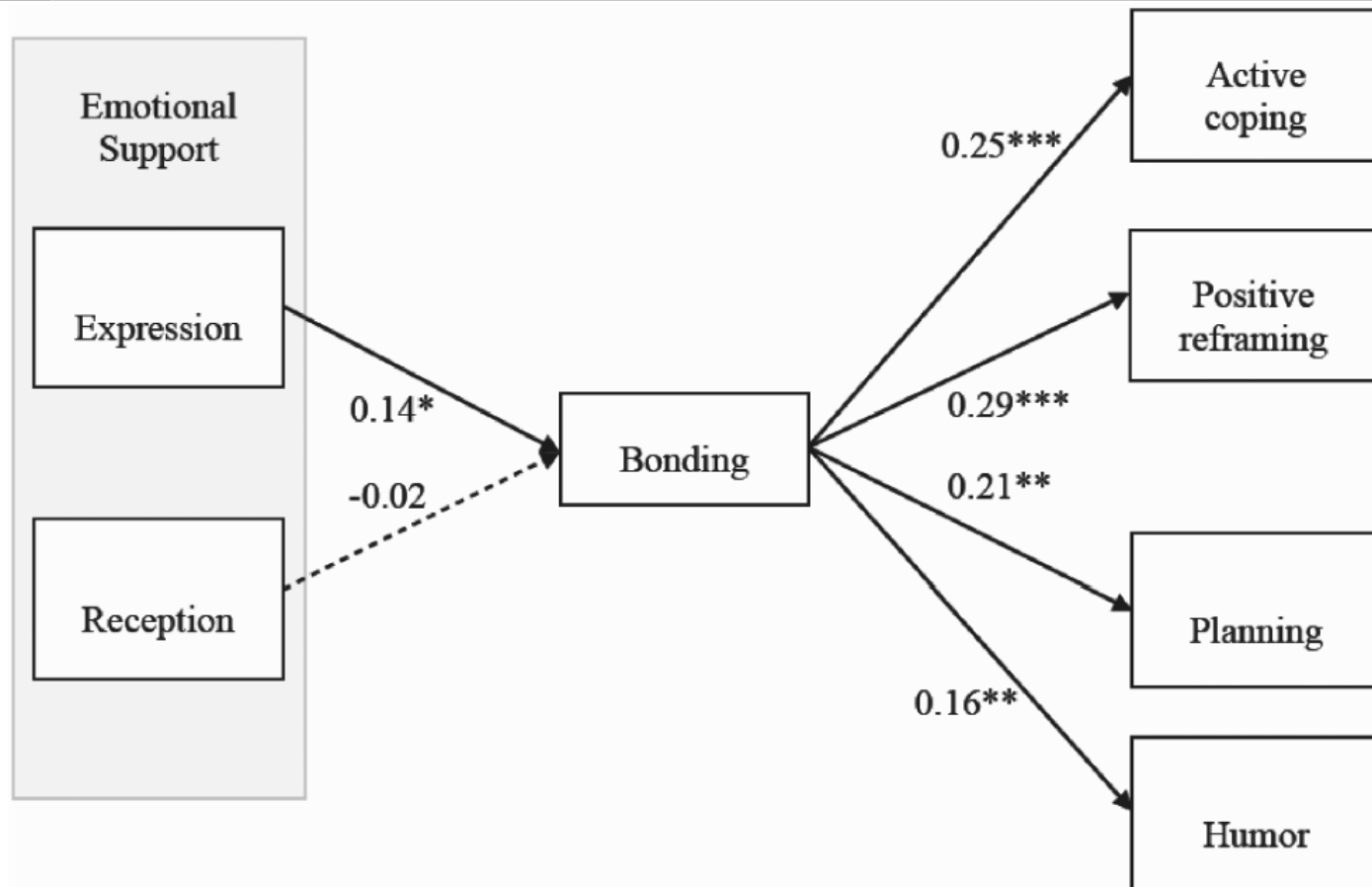


Figure 2. Structural equation model of emotional support exchange, bonding, and coping strategies (Model 2). Model fit information: $\chi^2 = 34.83$ ($df = 20$), $P = .02$, root mean square error of approximation = 0.06, standardized root mean square residual = 0.02, and comparative fit index = 0.97. * $P < .05$, ** $P < .01$, and *** $P < .001$.

Study II

Computers in Human Behavior 30 (2014) 13–22

Contents lists available at ScienceDirect

Computers in Human Behavior

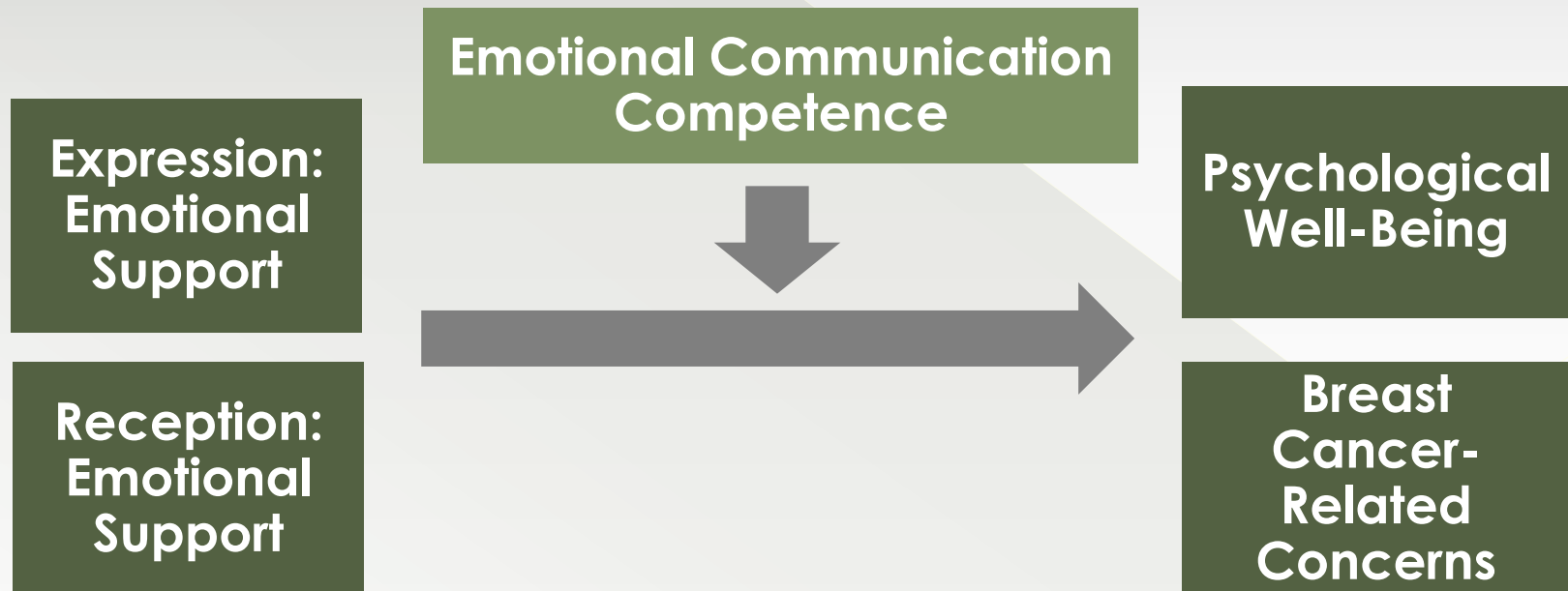
journal homepage: www.elsevier.com/locate/comphumbeh

Giving and receiving emotional support online: Communication competence as a moderator of psychosocial benefits for women with breast cancer

Woohyun Yoo^{a,*}, Kang Namkoong^b, Mina Choi^c, Dhavan V. Shah^{a,d}, Stephanie Tsang^a, Yangsun Hong^a, Michael Aguilar^a, David H. Gustafson^d

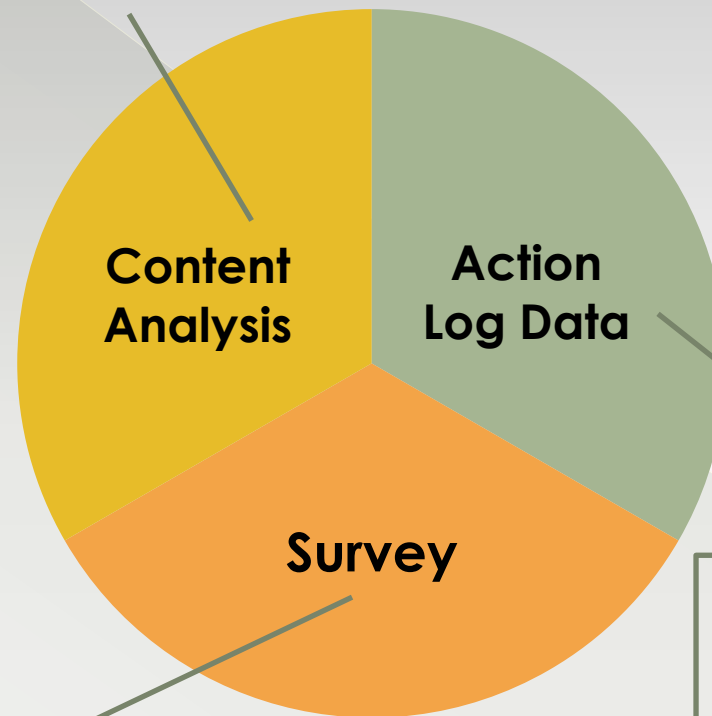
^a School of Journalism and Mass Communication, University of Wisconsin-Madison, 5115 Vilas Communication Hall, 821 University Avenue, Madison, WI 53706, USA
^b Department of Community and Leadership Development, University of Kentucky, 500 Garrigus Building, Lexington, KY 40546-0215, USA
^c Department of Communication Arts, University of Wisconsin-Madison, 6164 Vilas Hall, 821 University Avenue, Madison, WI 53706, USA
^d Center for Health Enhancement Systems Studies, University of Wisconsin-Madison, 1513 University Avenue, Rm 4120, Madison, WI 53706, USA

○ Hypotheses



Data Construction

- **Computer-Aided Content Analysis: InfoTrend**
- **18,064 Discussion Posts from CHESS BC Support Group**
- **Social Support: Emotional Support**



- **325 Women with Breast Cancer**
- **Pre and Post tests (2, 6, 12, & 24wks)**

- **Time-Stamped Usage Data**
- **Writing (Expression) vs. Reading (Reception) Messages**

Results

Table 4

Hierarchical regression analysis predicting emotional outcomes.

Criterion variables	Psychological well-being (posttest)	Breast cancer-related concerns (posttest)
<i>Block 1. Control variables</i>		
Pretest value of each outcome variable	.57***	.43***
Age	-.07	-.01
Education	-.04	-.02
Income	.03	-.01
Time (diagnosis to intervention)	-.09	.06
Surgery experience (yes = 1)	.12	-.20**
Full CHES group (yes = 1)	-.06	.09
CHES + mentor group (yes = 1)	-.08	-.002
Total time spent in CHES	.08	-.16*
ΔR^2 (%)	33.7***	20.3***
<i>Block 2. Moderator variable</i>		
Emotional communication competence (pretest)	-.03	.11
ΔR^2 (%)	0.1	1.1
<i>Block 3. Main effects</i>		
Expression of emotional support	-.09	.001
Reception of emotional support	.06	-.11
ΔR^2 (%)	0.8	1.1
<i>Block 4. Interaction effects</i>		
Emotional communication competence (pretest) \times Expression of emotional support	.17*	-.07
Emotional communication competence (pretest) \times Reception of emotional support	-.06	-.17*
ΔR^2 (%)	3.0*	2.9*
Total R^2 (%)	37.6	25.4

No Main Effects

Interaction Effects

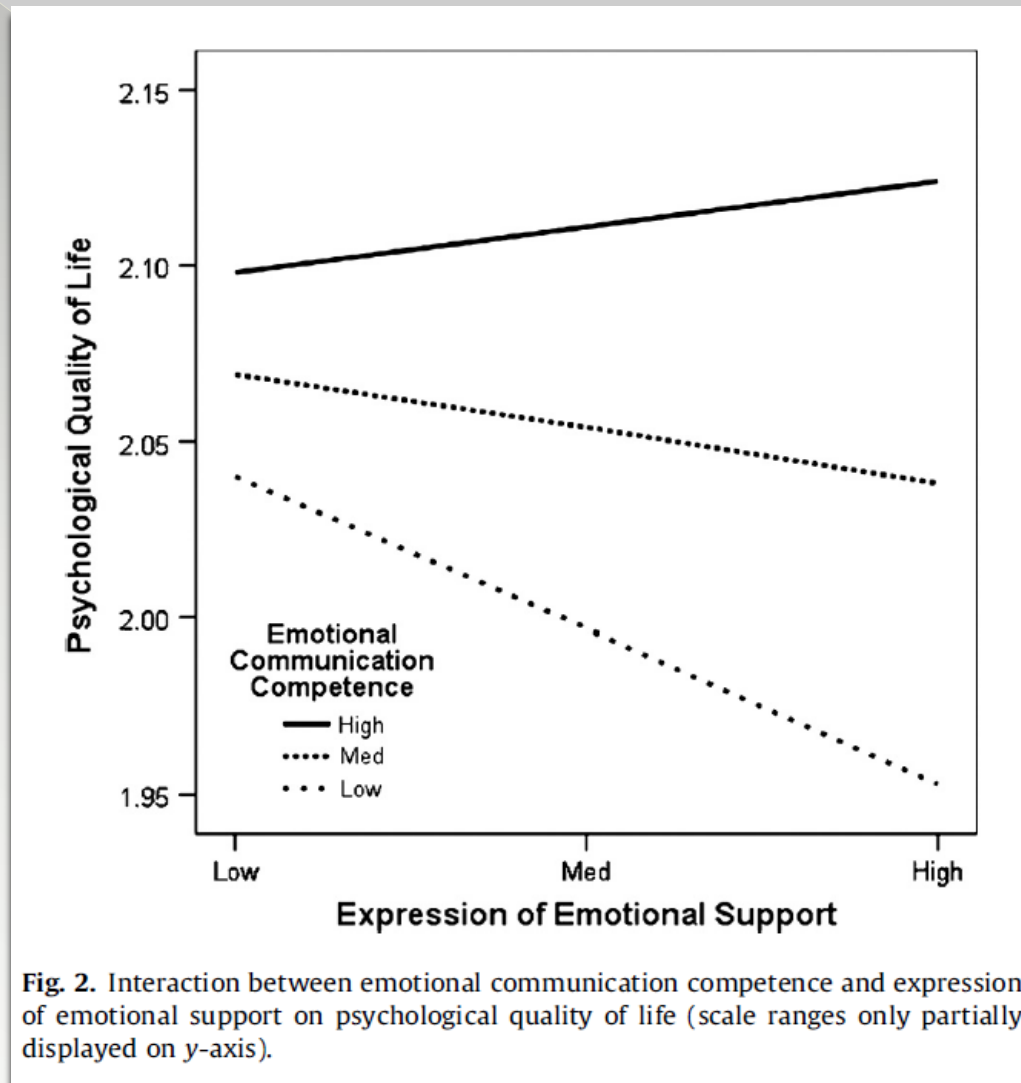
Note: Cell entries are before-entry standardized regression coefficient for Block 4 and final standardized regression coefficients for Blocks 1, 2, and 3.

* $p < .05$.

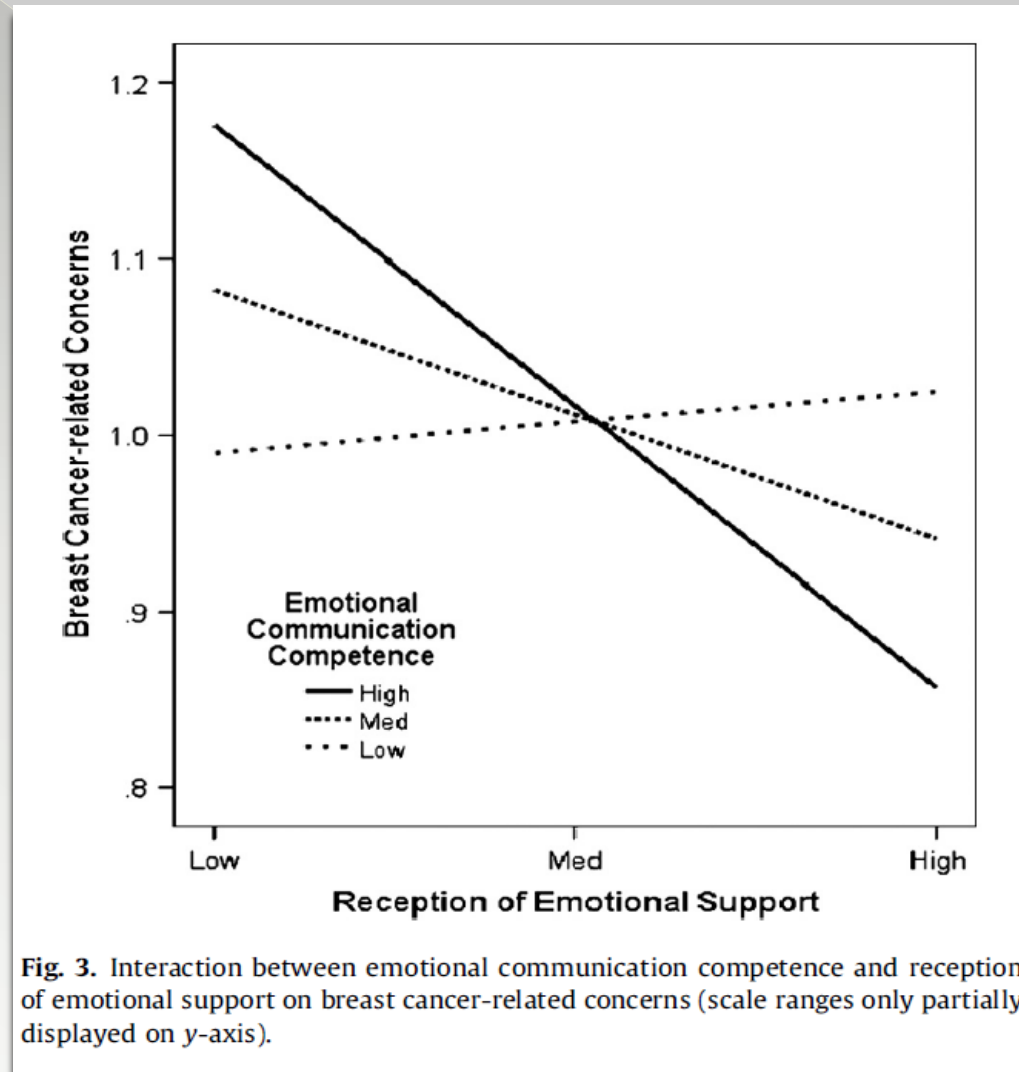
** $p < .01$.

*** $p < .001$.

Interaction Effect between Emotional Support Expression and Emotional Communication Competence



Interaction Effect between Emotional Support Reception and Emotional Communication Competence



Importance of Individual Differences

- ⦿ **Not all patients benefit from the expression and reception of social support**
- ⦿ **Individual differences matter**
- ⦿ **Need to consider individual characteristics when testing the expression and reception effects of online social support among people with chronic diseases**

Major Implications

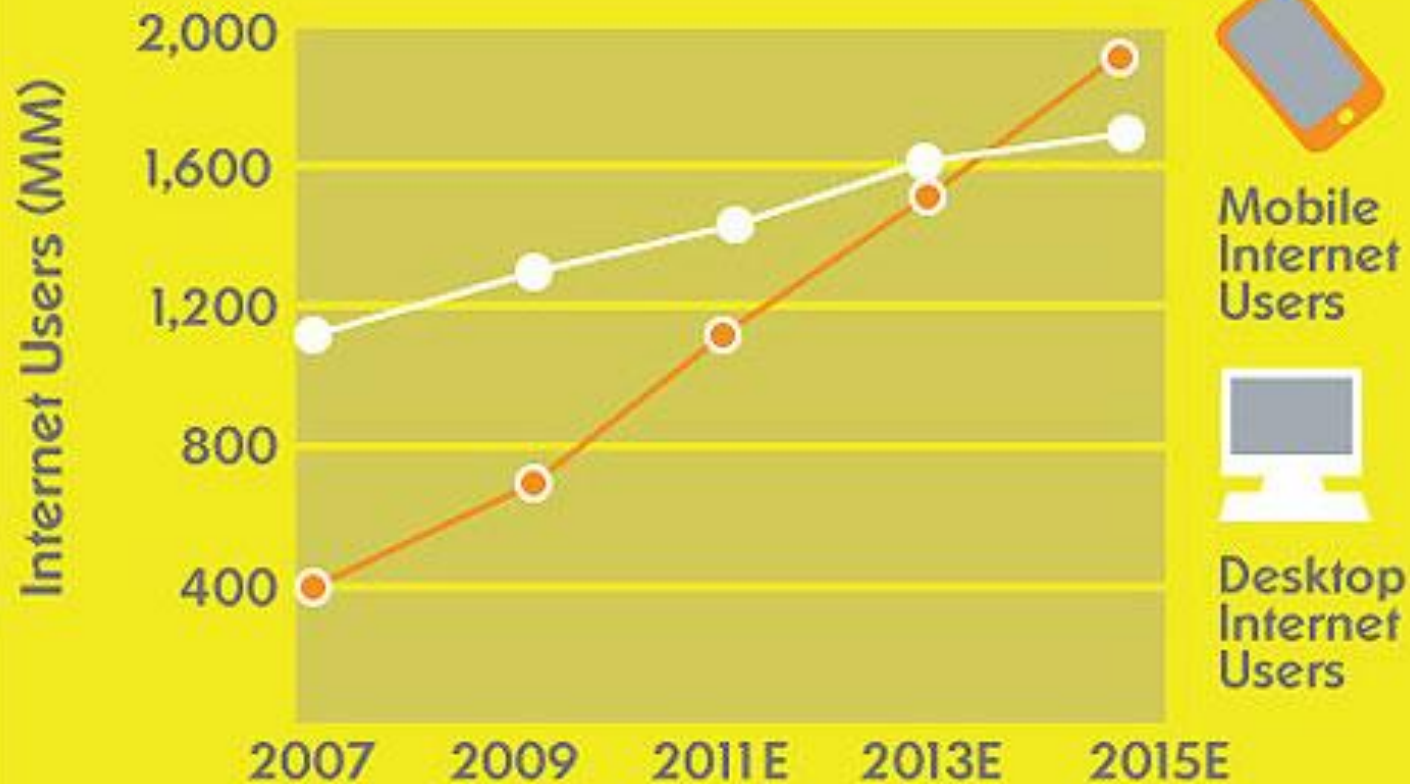
- **Psychological differences are important in the effects of expression and reception of online social support**
- **Need components that boost communication competence**
- **How to manage online support groups composition to encourage beneficial exchange of social support**
- **Deeply understand users and provide individualized social support**

A 3D rendering of a complex maze with white walls and a light blue floor. A person in a dark suit stands in the center, looking thoughtful with one hand on their chin. A ladder leans against the wall on the right side. The text "Future Research" is overlaid in the center.

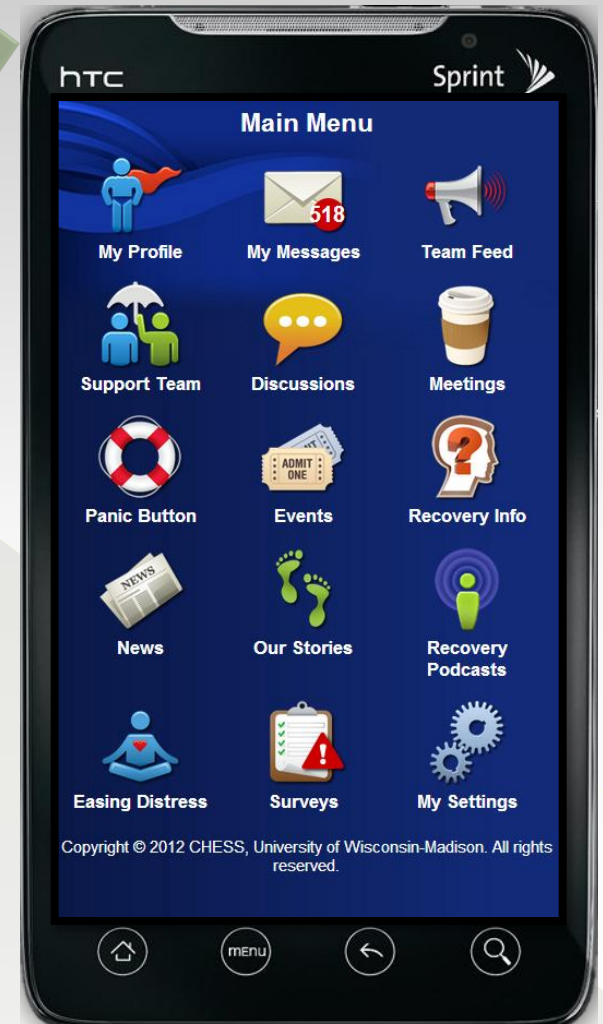
Future Research

Online Support Groups Are Going Mobile

Global Mobile vs. Desktop Internet User Projection, 2007 - 2015E



M-CHESS (Mobile-Comprehensive Health Enhancement Support System)



M-CHESS Discussion Group: Smartphone-Based Social Support Group



Evolving Challenges and New Research

- **Potentials of new communication platforms as viable places for communicating social support**
- **How to attract participants and keep them actively involved in the group**
- **Patient-to-provider interaction for online social support**

Study III

Telemedicine and e-Health

[About This Journal...](#)

[Subscribe...](#)

[Buy Article...](#)

Patient–Clinician Mobile Communication: Analyzing Text Messaging Between Adolescents with Asthma and Nurse Case Managers

To cite this article:

Yoo Woohyun, Kim Soo Yun, Hong Yangsun, Chih Ming-Yuan, Shah Dhavan V., and Gustafson David H.. Telemedicine and e-Health. January 2015, 21(1): 62-69. doi:10.1089/tmj.2013.0359.

Published in Volume: 21 Issue 1: January 19, 2015

Online Ahead of Print: November 17, 2014

- ◎ **To explore the content of text messaging between clinicians and adolescents with asthma**
- ◎ **Mobile texting messaging promotes not only active interaction, but also patient-centered communication with clinicians**

