Beyond the share button:

Challenges for social features in health & wellness interventions

Sean A. Munson





slides and references at smunson.com/talks/mebi590



Cookie Monster

I rowed 140,095 meters (87 miles) between 11/25 and 12/24, raising \$3.60 for charity through Concept 2's holiday challenge Exercise FTW!

11 minutes ago · Unlike · Comment



Cookie Monster

I spent 30 minutes on a stairmaster. 367 calories burned.



15 hours ago via Lose It! - Like - Comment



Cookie Monster

Just completed a 22.13 km run with RunKeeper. Feeling good!



RunKeeper stats and mapped route of my run Distance 22.13 km | Duration 2:04:39 | Calories Burned 1475

Average Pace 5:38 / km | Average Speed 10.65 km/h | Elevation climb 75 m.



44 minutes ago via RunKeeper - Like - Comment - Track your fitness



Cookie Monster

I feel like giving up

I was feeling really good until a few months ago. I was walking just about every day and even began Couch to 5k. First I got shin splints really bad and had to stop running and most walking. They healed; I started up again with high hopes; then my knee swelled up and I have constant back and hip pain. I also have chronic shoulder pain. Great. It seems like all of my efforts to get fit have only hurt my physical condition more. The harder I try, the worse my health gets. It's very hard to continue wondering what my next injury will be. I want to make myself stronger, not weaker!

Pounds lost: 0



Cookie Monster

Worried, depressed, upset

Okay...I am pressing the panic button:) I am about 150 lbs overweight. Last year I was diagnosed with Type 2 diabetes. Got that under control with Metformin and healthy eating most of the time. A1C was 6.5 last time. So, I go to the dr. last week to get a refill for my Meformin and he decides to check my blood pressure and it's 140/85!!! Too high! So, now I have to monitor it for 2 weeks and go back. I feel like crying...if it's not one thing it's another. I am worried, upset, and depressed about this.

Beyond the share button:

Challenges for social features in health & wellness interventions

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Challenges for social features in health & wellness interventions

How can social software best support health & wellness?

Using health & wellness applications as experiment sites, what can I learn about theories of influence?

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Using health & wellness applications as experiment sites, what can I learn about theories of influence?

Outline











Background: How do people use different online social spaces to meet their health needs?

Using health & wellness applications as experiment sites, what can I learn about theories of influence?

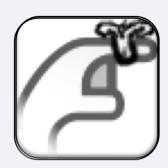
Outline











Exploratory work: When and how can sharing on *Facebook* be a nudge in health & wellness applications?

Using health & wellness applications as experiment sites, what can I learn about theories of influence?

Outline











Current work: Moving beyond the share button.

- Improved sharing & efficacy evaluation
- Social goals & Commitments



Background exploration:

Social support in Online Health Communities & Facebook

Newman MW, Lauterbach D, Munson SA, Resnick P, Morris ME. (2011). "It's not that I don't have problems, I'm just not putting them on Facebook": Challenges and Opportunities in Using Online Social Networks for Health, *CSCW 2011*.







































patientslikeme













online health communities

offer:

- Emotional Support
- Motivation and mutual accountability
- Experience-based information

Ability to connect with others anonymously and conveniently

Messaging, forums, profiles, tracking tools, produced content

Farnham et al 2002; Frost and Massagli 2009; Hwang et al 2010; Maloney-Krichmar and Preece 2005; Preece 2000; Skeels et al 2010. Connections to existing social network, including strong and weak ties from a variety of social contexts

Real-world identity

Can connect with strangers in Facebook apps

Messaging, groups, profiles, apps

Facebook; boyd 2008; Ellison, Steinfield, and Lampe 2008; Joinson 2008.





study design

Participants who:

- were members of at least one OHC and Facebook
- had posted ≥5 messages in the past month
- Recruited from OHCs for weight loss and diabetes management

90 minute interview with screen sharing.

participants

n = 14 (3 male; 11 female)

primary communities:

- SparkPeople (n=8)
- DiabetesDaily (n=2)
- FatSecret (n=2)
- TuDiabetes (n=1)
- Personal blog (n=1)

primary health concerns:

- weight loss (n=7)
- weight maintenance (n=4)
- Type II diabetes (n=3)
- arthritis (n=1)

time in community: 1.78 years

median: 1.75 years stdev: 1.14 years



findings
how participants met goals

----- emotional support

- accountability & motivation

-- advice

- impression management

emotional support
accountability & motivation
advice
impression management

emotional support

Online health communities valued over in-person: support any time of the day or night.

"[If] I am going through a rough patch, and I post it up, I can see **immediately** someone respond."

P3

emotional support

Connect with people who have been in the same situation – more likely to be understood and receive sympathy, less likely to be judged.

"... and just some of the people that I am friends with, they have not had that journey, so they don't quite understand"

P8

Trust that this can happen on OHCs vs. fear of "sarcastic" or "negative" or simply uninformed responses on Facebook.

emotional support

Strategies for what to put on Facebook vs. OHCs:

• don't post struggles to Facebook "I didn't want everybody on Facebook knowing that my butt muscle hurt today."

P6

• frame messages differently for each community e.g., details about frustrations to OHCs, brief updates to Facebook.

emotional support
accountability & motivation
advice
impression management

accountability preferences varied

"[My SparkFriends] were checking on me to make sure everything's okay. None of us wants each other to fall of the ladder. They all want me to be successful and stay fit."

P7

"... they're strangers, and so you don't know that you're going to see them the next day... so accountability doesn't quite work because you don't know the people."

P8, who recruited friends to her blog.

motivation

Role models, mentors, competitions were easier to identify or create in OHCs.

Need to avoid people who would bring them down, but the sense that others were there and struggling too – so long as they continued trying – also offered motivation.

Posts to Facebook as "nudging" others.

emotional support
accountability & motivation
advice
impression management

advice

Particularly important early in the process – e.g., shortly after diagnosis.

Advice/information-seeking often brought people to the online health community, but rarely why they kept coming back.

Need to share (& join) in order to get better advice.

emotional support
accountability & motivation
advice
impression management

impression management | Facebook as front stage

"like a standup comedy routine"

P2

"I have had people send me a private message of 'wow, your life is so great! You know you do this, this, and this and all these fun things happen' And I tend to think 'you know, you're only seeing what I want you to see.' ... It's not that I don't have problems, I'm just not putting them on Facebook."

impression management | Facebook as front stage

"On Facebook, I am not afraid to post anything about my running... I kind of like to 'out' my running ability now... I really like to talk about my running on Facebook, because I'm so darn proud of it...

"They're just so surprised I'm running and they'll say like 'fantastic' and 'when are you going to run?' And so yeah, I'm getting the feedback I want. I'm finally getting... some positive feelings from those people that I couldn't get back in high school."

impression management | Facebook as front stage

"There are some people I wouldn't care about if they saw [posts I might make about my health on Facebook] but I got people, you know, from my high school and that I am friends with that I haven't talked to in 25 years. And I have no desire for them to know about my weight issues or weight status."

P9

impression management | OHCs as back stage

Can let guard down, share frustrations and struggles (and need to in order to get support and advice on this) without fear of judgment or boring others.



findings
building and shaping the network to help meet goals

building and shaping the network

Join OHCs to not feel alone, find people who can motivate and offer needed support.

... this requires sharing.

"My page was never private... to me, if I'm new, I'm not going to have friends – because I don't know anybody. And if I'm new and I'm private on top of that, my chances of having friends is low."

building and shaping the network

Sometimes migrate OHC friends to Facebook.

- feel more connected
- increases accountability (they can reach you even if you stop visiting the OHC)

Also could stay connected to OHCs through Facebook pages.



How can existing social network sites help?

What are the opportunities associated with Facebook?

- Advice and support relevant to *your* context and personality
- People whose opinions matter
 - for accountability
 - for showing off successes & communicating and identity

Using health & wellness applications as experiment sites, what can I learn about theories of influence?

Outline



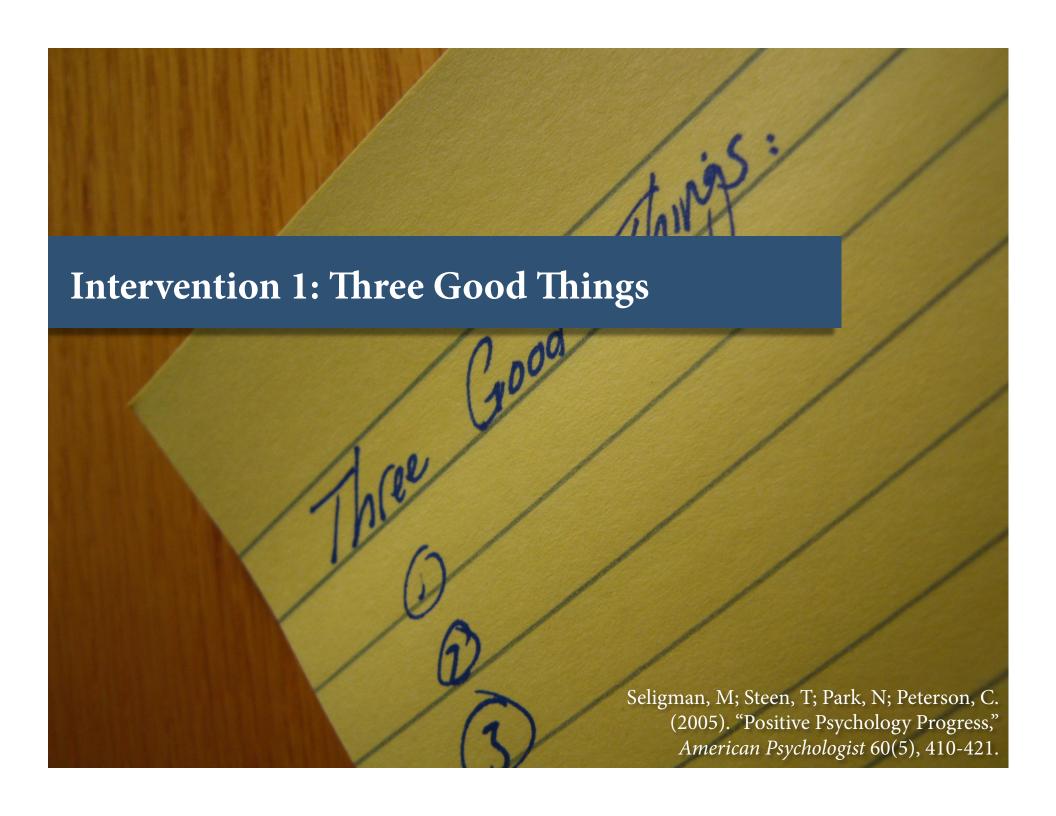








Exploratory work: When and how can sharing on *Facebook* be a nudge in health & wellness applications?





Share



Invite People to Join

Information

Category:

Just for Fun - Totally Random

Description:

Shit happens - but good stuff happens too. If you think about it, at least three good things occurred in your day.

There's a book about this concept but it's pretty simple really. Focus on things to be thankful for and

Three Good Things ...

Wall

Info

Discussions

Photos

Q

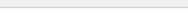
Write something...











- 2. I got to sleep in with the heater on
- 3. I got a free cupcake at uni.

May 25 at 3:44am · Comment · Like · Flag



- 2. my husband cooked dinner without buggering it up
- 3. best of all; my sons first parent teacher night... confirmed all the things we think (we're doing a good job as parents!) and we have nothing to be worrving about!

1. I finally figured out a solution to a problem.

Create an Ad

Give a Gift



The "Golden Goose" gift available now in the Gift Shop.

More Ads

Existing Facebook Groups

they need it.

Privacy Type:

Open: All content is public.

Admins

(creator)

Officers

Secretary of Happy

watched my kids open their xmas stockings.

3. Visited Grandma who now lives across town instead of across the country.

December 26, 2009 at 5:04am · Comment · Like · Flag



For yesterday:

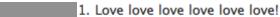
- 1. Had a super creamy pumpkin soup.. so good
- 2. Had roast vegies
- 3. Had a vegie burrito.

Great food day!

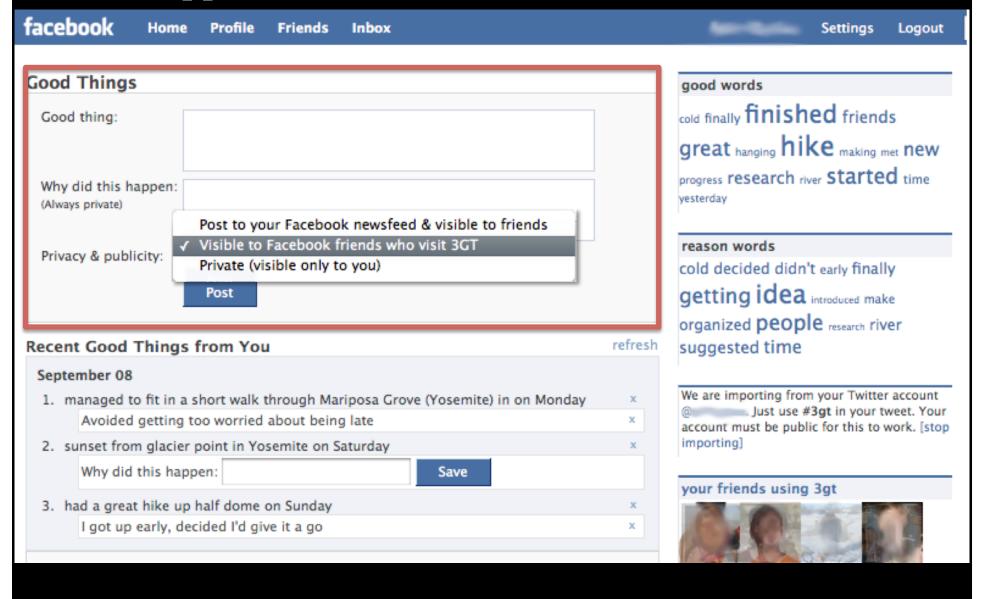
See More

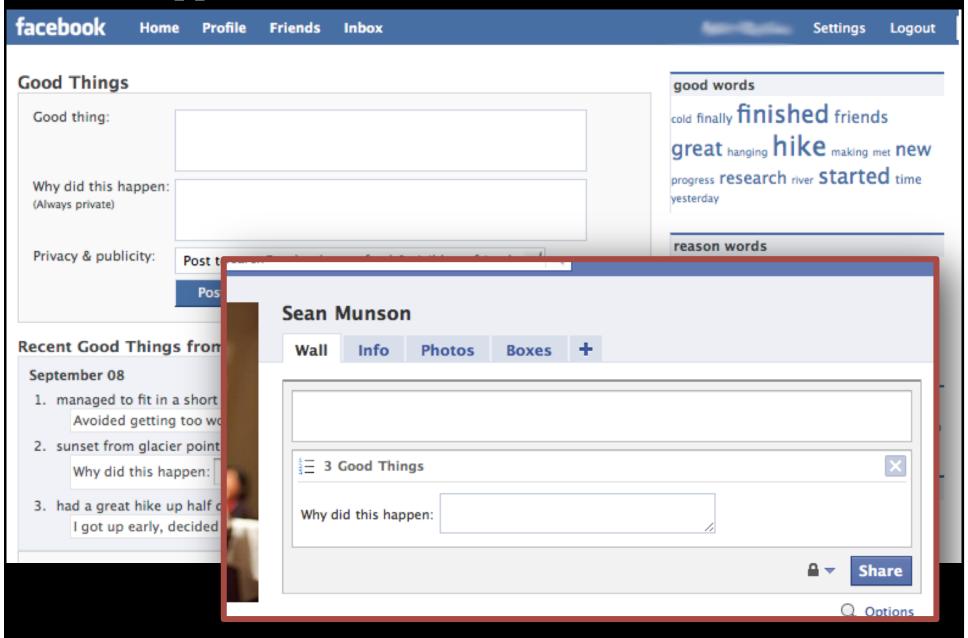
May 16, 2009 at 2:29am · Flag

Members



acebook Hom	e Profile Friends Inbox		Settings Logout
ood Things			good words
Good thing:			cold finally finished friends great hanging hike making met new progress research river started time
Why did this happen: (Always private)			yesterday
Privacy & publicity:	Post to your Facebook newsfeed & visible to friends		reason words cold decided didn't early finally
	Post		getting idea introduced make organized people research river
ecent Good Thing	s from You	refresh	suggested time
September 08			
_	a short walk through Mariposa Grove (Yosemite) in on Monday g too worried about being late	x	We are importing from your Twitter account account must be public for this to work. [sto
2. sunset from glaci	er point in Yosemite on Saturday	x	importing]
Why did this ha	ippen: Save		your friends using 3gt
3. had a great hike u	up half dome on Sunday	x	your menus using sge
I got up early,	decided I'd give it a go	х	

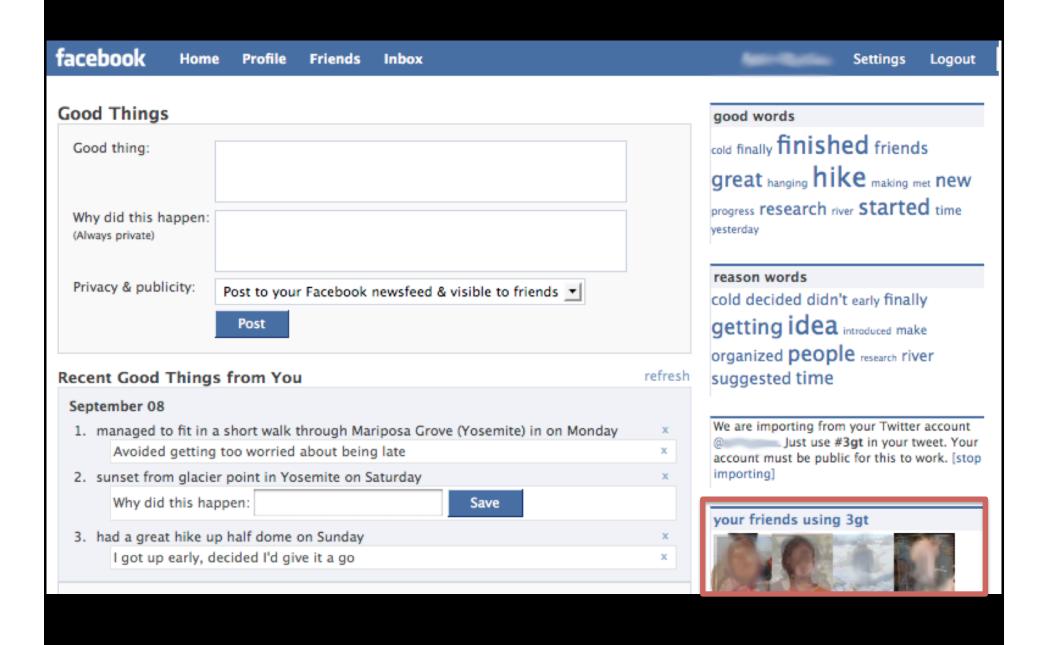




acebook Hom	e Profile Friends Inbox		Settings Logout
Good Things			good words
Good thing:			great hanging hike making met new
Why did this happen: (Always private)			yesterday
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	Post		getting idea introduced make organized people research river
ecent Good Thing	s from You	refresh	suggested time
_	a short walk through Mariposa Grove (Yosemite) in on Monday g too worried about being late	x x	We are importing from your Twitter account a Just use #3gt in your tweet. You account must be public for this to work. [sto
2. sunset from glaci	er point in Yosemite on Saturday	×	importing]
Why did this ha	ippen: Save		your friends using 3gt
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I got up early, decided I'd give it a go		х	

facebook Home I	Profile Friends Inbox		Settings Logout	
Good Things			good words	
Good thing:			great hanging hike making met new	
Why did this happen: (Always private)			progress research river Started time yesterday	
Privacy & publicity: Pos	t to your Facebook newsfeed & visible to friends 💌		reason words cold decided didn't early finally	
P	ost		getting idea introduced make organized people research river	
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September 08				
1. managed to fit in a short walk through Mariposa Grove (Yosemite) in on Monday		х	We are importing from your Twitter account	
Avoided getting too	worried about being late	х	account must be public for this to work. [stop	
2. sunset from glacier poi	nt in Yosemite on Saturday	х	importing]	
Why did this happen	Save		your friends using 3gt	
3. had a great hike up hal	f dome on Sunday	х	your memas using sign	
I got up early, decide	ed I'd give it a go	х		

facebook Home Profile Friends Inbox		Settings Logout
Good Things		good words
Good thing:		great hanging hike making met new
Why did this happen: (Always private)		yesterday
Privacy & publicity: Post to your Facebook newsfeed & visible to friends Post		reason words cold decided didn't early finally getting idea introduced make organized people research river
Recent Good Things from You	refresh	suggested time
September 08		
managed to fit in a short walk through Mariposa Grove (Yosemite) in on Monday Avoided getting too worried about being late	x	We are importing from your Twitter account @ Just use #3gt in your tweet. Your account must be public for this to work. [stop
sunset from glacier point in Yosemite on Saturday	×	importing]
Why did this happen:		your friends using 3gt
3. had a great hike up half dome on Sunday	x	The second secon
I got up early, decided I'd give it a go	х	



3 Good Things: Paul Resnick

May 28

1. Joyojeet Pal joining Michigan School of Information fa @sidisplay

May 27

1. Gettysburg battlefield tour on horseback, w/ Max's cl understanding the battle's tactical progression.

April 04

1. New draft of Motivating Contribs chapter of CLab Har won't have to read same version as last year.

#ict4d

itage for

Go to your 3 Good Things profile

Paul has not posted any good things for 3 days. Would you like to nudge him?

day fun great i'm max morning new paper pilates proposal sean

February 21

1. Gluing Warhammer Tyranids with M, and reading Speaker for the Dead to him.

Giveaway/throwaway day. Generated 3giant bags of c all family members contributing.

Spinning. Starting to build up stamina.

February 20

1. Morning at Liberty: swim with J, tennis with C and M,

February 16

- 1. Two-a-day workout: spinning early am to recorded of
- 2. Writing code for si182 programming exercises doesn of time, but it's fun.
- Writing code for si182 programming exercises doesn of time, but it's fun.



noticed that you haven't posted to 3GT recently, and wanted to send you a reminder to keep posting!



Chat (13)



February 15

Different sharing defaults



Share on newsfeed by default



Private by default

3GT App participants

Recruited through Facebook ads, Facebook application directory, posts elsewhere online, and invites from other 3GT users.

Signups 20 July 2009–21 February 2010.

No compensation to participate; \$20 for interview.

Demographic questionnaire at signup.

PARTICIPANTS

n

Signed up: 190

Active: 55

posted at ≥twice, at least a week

apart

Interviewed: 6

people who stopped participating lost to follow-up.

demographics

Age: 36.9 years

Gender: 7 men, 48 women



3GT

Positive psychology exercise around recording everyday good things.

Increase adherence & efficacy by sharing publicly & receiving feedback?

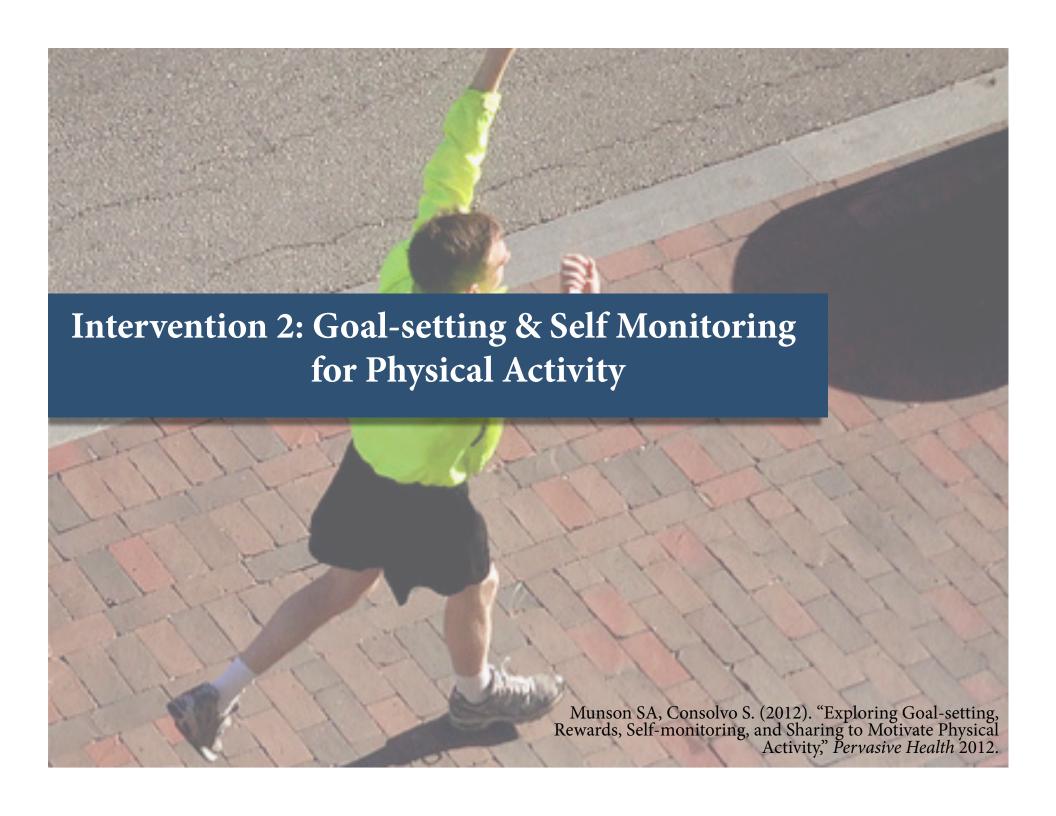
Field deployment, open enrollment.

Analysis of use logs and interviews with users.



threegthings.net

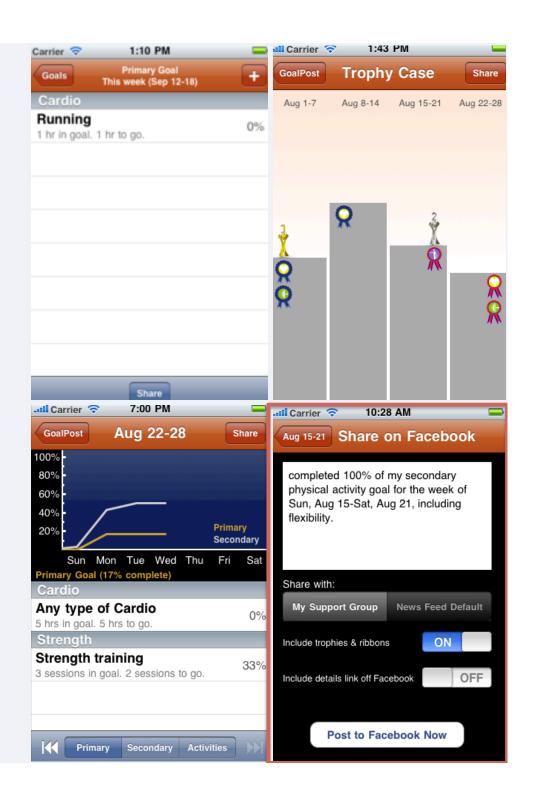
Munson SA, Lauterbach D, Newman MW, Resnick P. (2010). "Happier Together: Integrating a Wellness Application Into a Social Network Site," *Persuasive* 2010.



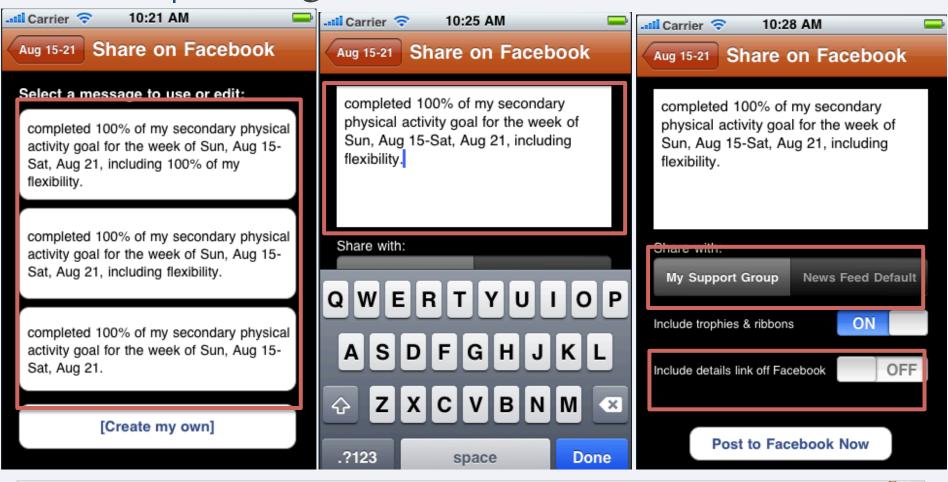
GoalPost



manual @ smunson.com/talks/mebi590



GoalPost | sharing





Patricia Ticker completed 100% of my secondary physical activity goal for the week of Sun, Aug 15-Sat, Aug 21, including flexibility.





8 minutes ago via GoalPost - Comment - Like

GoalPost study

23 subjects, Seattle metro area, gender balanced contemplation, prep, action stages of TTM

12 with sharing, 11 without21-49 years old

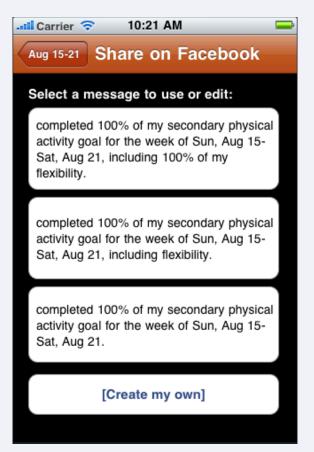
4+
week field trial

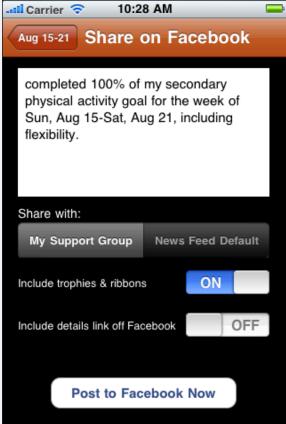
Office visit at beginning to install & introduce app 5 intra-study surveys
Semi-structured interviews after study

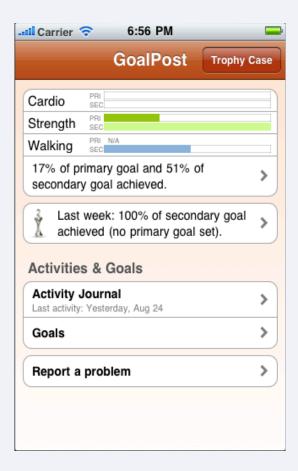


GoalPost

4-week field deployment, 23 professionally recruited participants 12 with sharing features, 11 without



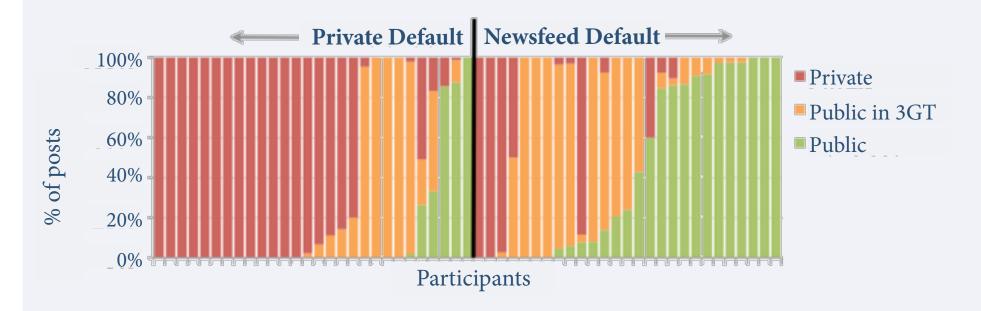




Results



3GT | by the numbers



posted to newsfeed	21%	40%
visible to friends in 3GT	23%	45%
private	56%	14%

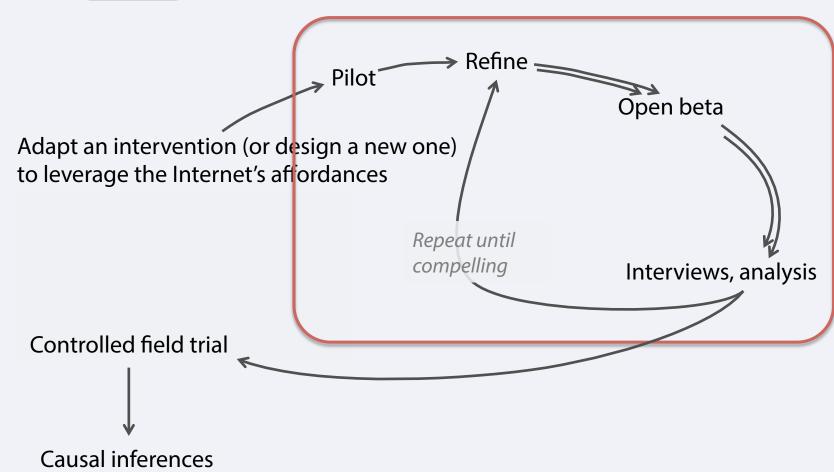
No IMPACT on post frequency or retention.

- 10 out of 12 shared at least once, but...
 - shared with only an empty support group

still limited by fears of violating norms, revealing weaknesses, or appearing boring or boastful.

3 configured a support group





SHARING AS A NUDGE

Receive:

- emotional support
- accountability & motivation
- advice
- impression management

But face challenges with:

- building, shaping, and selectively accessing one's network
- risk of violating norms
- managing impression while meeting health needs



Just completed a 8.12 mi run with RunKeeper

Duration 1:10:46 | Calories Burned 1281

Average Pace 8:43 / mi | Average Speed 6.88 mph | Elevation Climb 544 ft



🟂 Like - Comment - Track your fitness - 38 minutes ago via RunKeeper - 🎎

for fear of violating norms, revealing weaknesses, or appearing boring or boastful.

for fear of violating norms, revealing weaknesses, or appearing boring or boastful. "Mostly when I make things private, it's more because I think they'd be boring or insignificant to my friends, not because they're actually things I wouldn't want my friends to know about. I just don't want to clog up their Facebook with it.... A lot of the people I'm friends with wince about having games and other non-status update things all over their pages. And so I don't want to get winced about."

- 3GT participant

for fear of violating norms, revealing weaknesses, or appearing boring or boastful.

"It's just kind of embarrassing to me... I jogged for 20 minutes today, let me tell 200 people, many of which I haven't talked to in years ... Who cares?... I don't want to share with someone that I, you know, they comment on it, oh yeah I ran a marathon, good to go 20 minute runner guy."

- GoalPost participant 12

GOALPOST USER:

I'm really depressed. If Facebook can't save me, I don't know what will help me lose weight.

RESEARCHER:

Did you think Facebook was going to help?

GOALPOST USER:

I thought it was going to save me, yeah.

RESEARCHER:

Did it?

GOALPOST USER: No. And I'm so discouraged.

BUT WANTING SOMETHING SOCIAL

of the 55 active 3GT participants... **24** invited friends **25** looked at friend profiles

of 4188 3GT pageviews... 660 were of a friends' Good Things

1 of 12 GoalPost users found a new exercise partner & started going to the gym more.

BUT WANTING SOMETHING SOCIAL

"I got a TON of comments.... Lots of people said they liked that, and they responded to that and congratulated me... so yeah, people do definitely comment on them when they are created from Facebook and publicized [in newsfeeds]."

BUT WANTING SOMETHING SOCIAL

"It would have been cool to have somebody reacting to, like you said, the sort of social interaction over the content of the posts that I've done... To have some of these things – "oh, I see you posted something", or just some reaction. Because sometimes it feels like you're out there, putting stuff out in the world and you're not getting any feedback, you know?"

- 3GT Participant

Because she's **accepting** and she wouldn't get sick of my posts. When we were talking about this and choosing a support group, all I could think of was that *Farmville* thing where I'm always seeing that someone has a cow. **That is so annoying.** I didn't want to annoy another person.



GoalPost | sharing: support group

... my friend liked my post, my *GoalPost*, and that made me feel good that she was at least looking at it.

She was **the only one** out of my whole support group that looked at it.... I only got responses from my one friend that was here locally, even though I told [my support group] about it.

So I was kind of bummed. I was disappointed in my friends... it'd be really awesome if you could, you know, support me or help me do that when I post things. Nobody cared.

How can social software best support health & wellness?

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Outline











Current work: Moving beyond the share button.

- Improved sharing & efficacy evaluation
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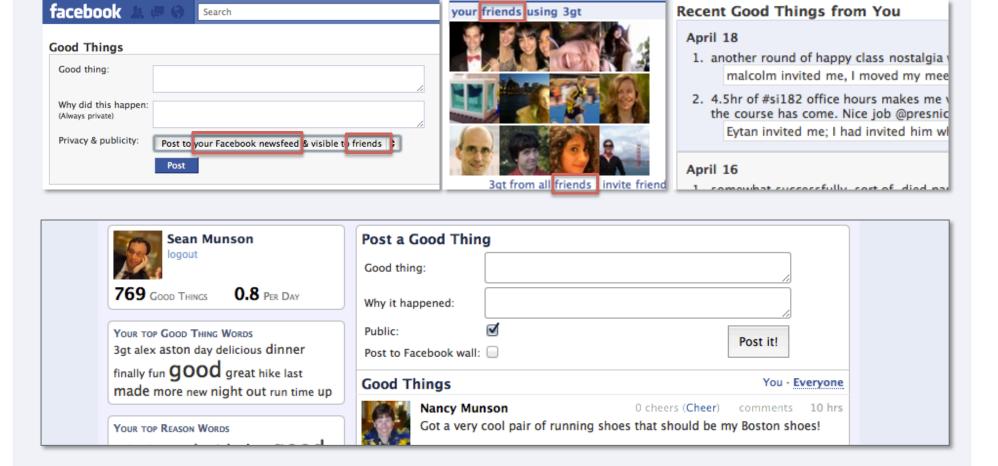
appropriate "selfcasting"

>> privacy



3GT

Social variation of positive psychology exercise around recording everyday good things.

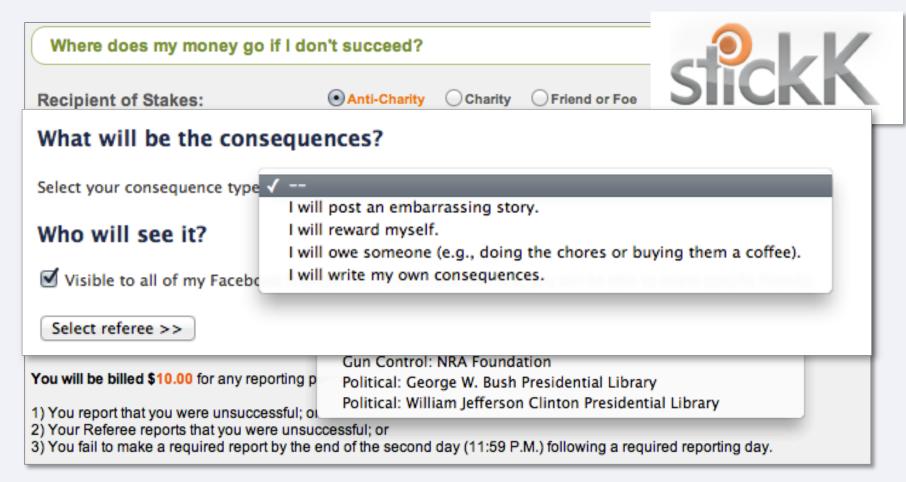




Commitments

Social variations of commitment contracts

(Giné, Karlan, Zinman 2008; Bryan, Karlan, Nelson 2010)





Commit to Steps

A test of public commitments.

with Paul Resnick, Caroline Richardson, Erin Krupka, & Michelle Draska

1. Make your commitment.

I will walk at least {{steps}} on {{days}} or more days this week.

2. Share.

Change sharing setting

Email & post this to my timeline when my commitment begins:



{{Name}} made a Steps commitment.

Please encourage me, or better yet, walk with me!

After one week, email and post this... ... if I succeed:



{{Name}} kept a Steps commitment.

Whew, made it!

I met my Steps goal by walking at least {{steps}} steps {{actualdays}} this week.

... if I succeed:



{{Name}} didn't keep a Steps commitment.

:-(Push me to do better next week!

I walked more than {{steps}} only {{actualdays}} this week, {{days actual days}} than my commitment.

Make my commitment

How can social software best support health & wellness?

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Existing social network sites can relevant support, accountability, a chance to communicate a healthy identity, and a way to connect with activity partners.

Barriers to effectively using them for health goals include not violating norms, getting the right kind of support, and connecting with the right people.

Current work:

- Improved sharing & efficacy evaluation
- Social goals & commitments

more at smunson.com/talks/mebi590

thanks!

Collaborators

Paul Resnick Mark W. Newman Margaret E. Morris Debra Lauterbach Caroline Richardson Sunny Consolvo Jeremy Canfield Brian Ford Peter Andrews Erin Krupka

Sean A. Munson

smunson@uw.edu @smunson

Funding

Intel sponsored research & PhD Fellowship University of Michigan Rackham Graduate Program – Research Grant

Interested in this work?

- Directed research group next quarter
- HCDE548 W13 special topics course on Nudges in Sociotechnical Systems

more at smunson.com/talks/mebi590