

Jean-François STICH

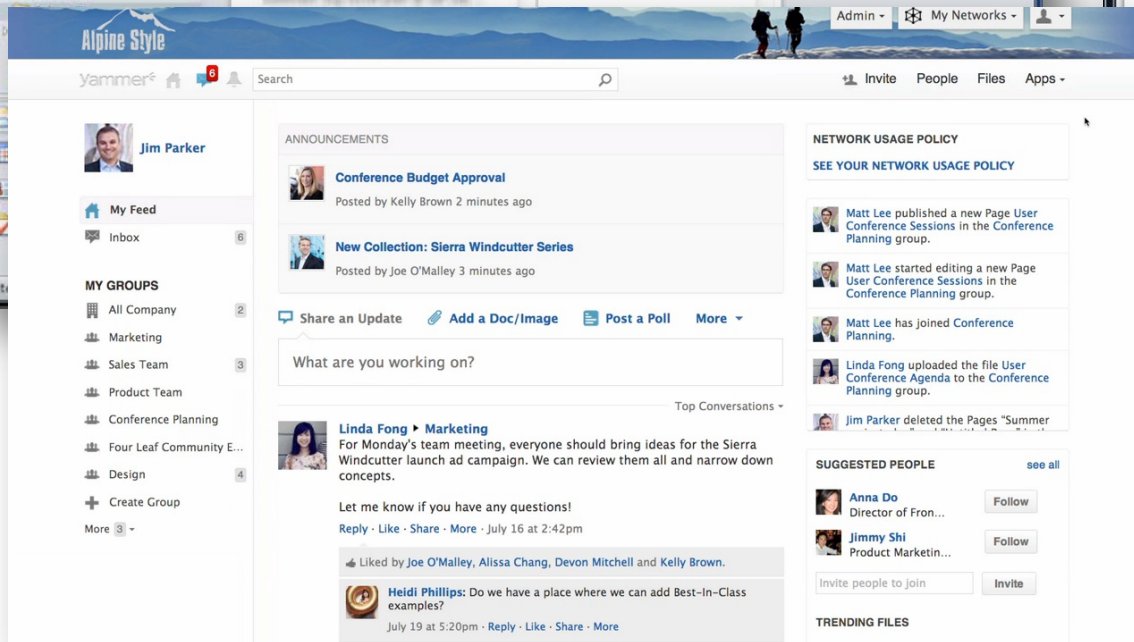
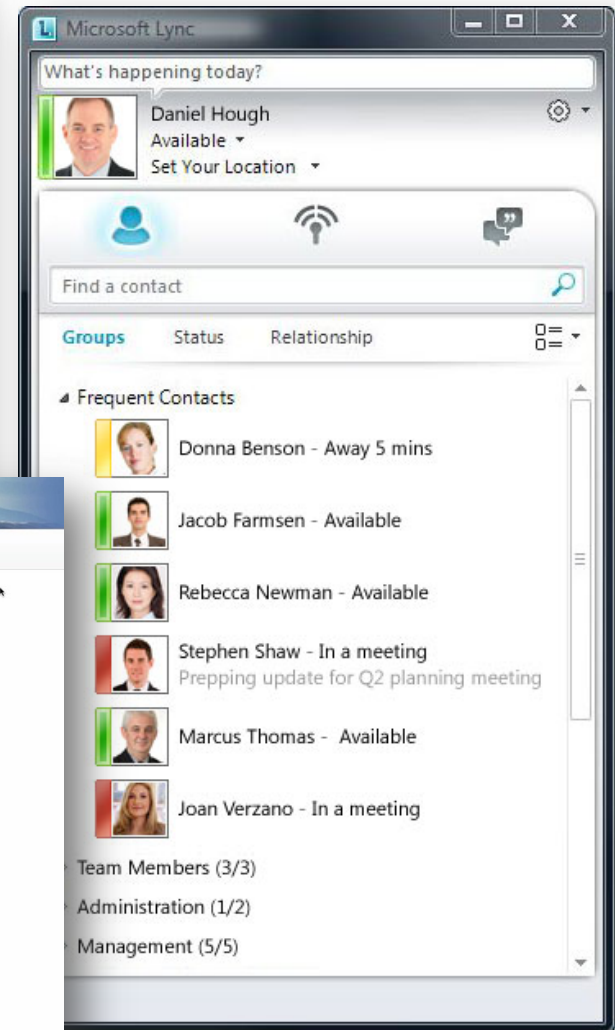
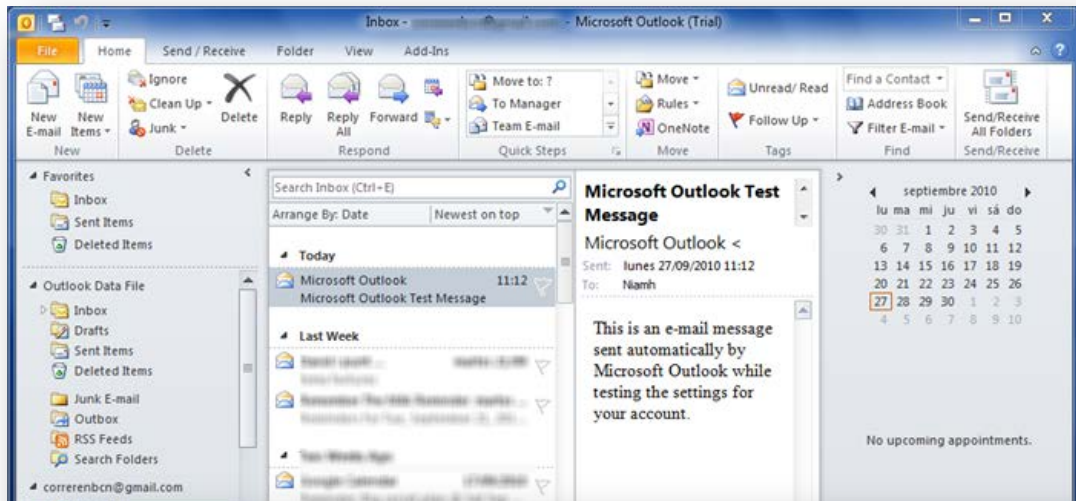
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Wellbeing, technology use and attitudes towards technology

The tools of the trade



Part 1:

Wellbeing and individual desires in terms of CMC

CMC Use and Wellbeing

- **CMC use impact on wellbeing**

- Workload (Barley *et al.*, 2011; Day *et al.*, 2012)
- Work-life conflict (Stich *et al.*, 2015; Wright *et al.*, 2014)
- Burnout, distress (Barber and Santuzzi, 2015; Mano and Mesch, 2010)

- **Example of measures**

- Email volume (Dabbish and Kraut, 2006; Mano and Mesch, 2010)
- Email interruptions (Jackson *et al.*, 2003; Barber & Santuzzi, 2015)
- Email checking frequency (Kushlev Dunn, 2015, Gupta *et al.*, 2011)
- Smartphone use (Derks *et al.*, 2016)

CMC use, Wellbeing and Preferences

1. Preferences as moderators

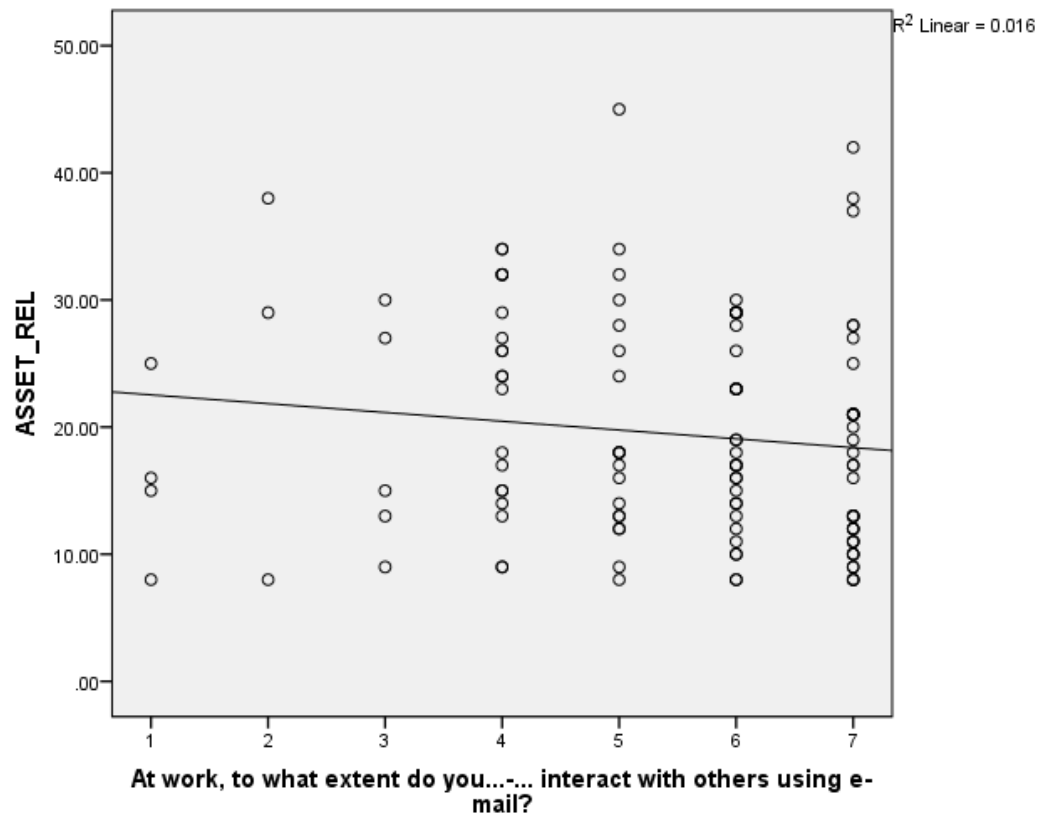
- Reduced work-life conflict for individuals viewing this constant availability positively (Wright *et al.*, 2014)
- Lowered email overload when **positive views** on e-mail as a business critical tool (Sumecki *et al.*, 2011)
- Email as a **source and symbol of stress** (Barley *et al.*, 2011)

2. Preferences clashing with use

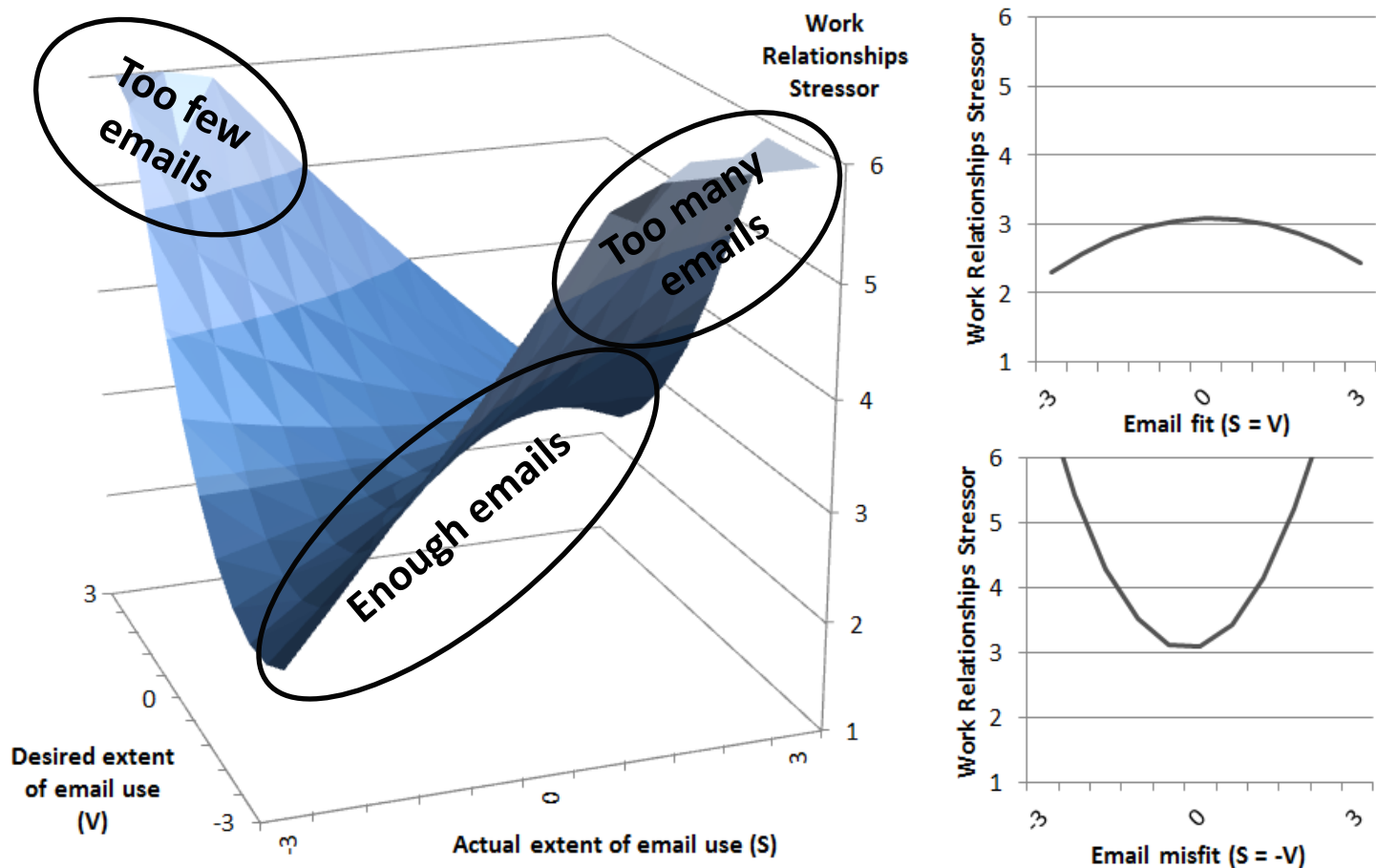
- **Email overload**: “users’ perceptions that their own e-mail use has gotten out of control” (Dabbish and Kraut, 2006, p.431)
- Pilot study: **Person-Environment fit**

Impact of the extent of email use only

- **Pilot study:** 118 U.S. workers
- *To what extent do you interact with others using emails?*
- No impact of extent of email use only on relationship stress



Person-Environment Fit



- Relationships stress when both **too many and too few emails**
- Less relationships stress when **interacting the way we want**
- **Only for emails** but worked for several stressors

Problems:

Not reproduced on a bigger sample
Only for emails, not for other media

**Yet there is something going on
with desired CMC use &
wellbeing...**

Joint impact actual-desired use

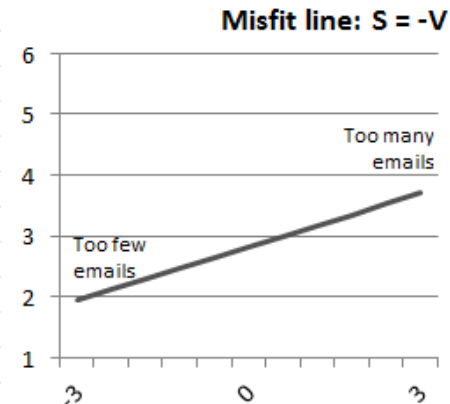
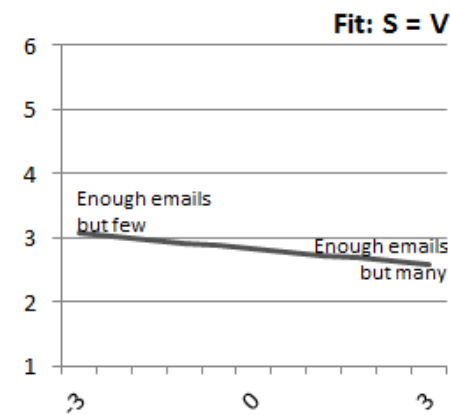
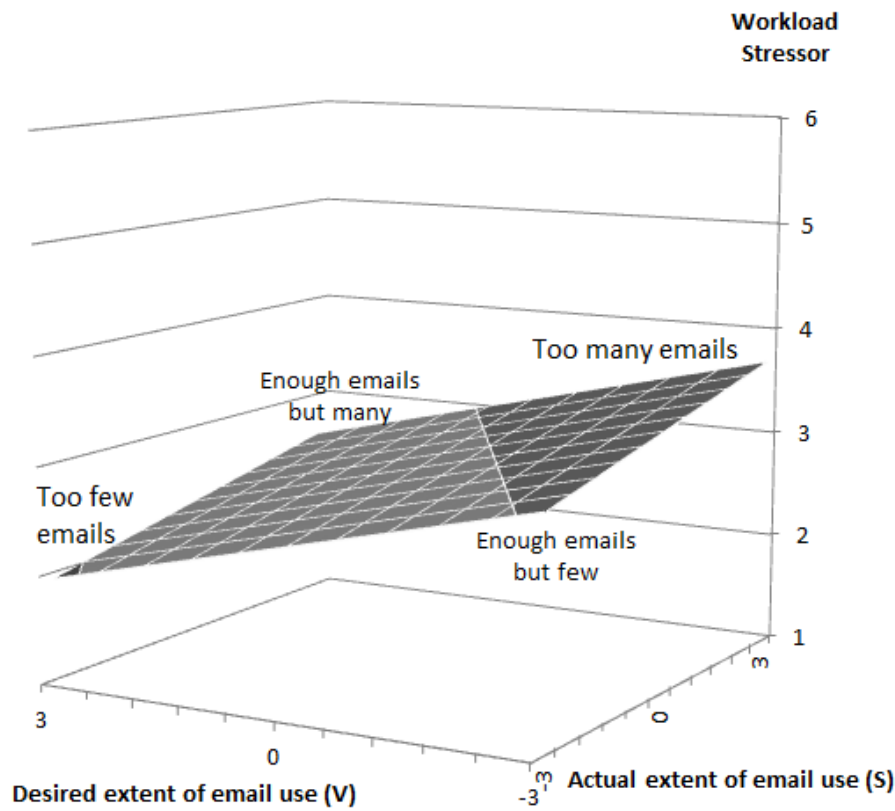
- **Main study:** 504 U.S. workers
- **For non-email media**, use alone to impact work-life conflict

Medium	Stressor	1. R ² Control	2. R ² Actual	3. R ² Actual, Desired	ΔR ² 1-2	ΔR ² 2-3
E-mails	Resources and Communication	.011	.013	.045***	.002	.032***
	Control	.013	.020	.066***	.007	.046***
	Work Relationships	.023	.027	.060***	.004	.033***
	Work Life Balance	.045***	.045	.052	.000	.007
	Workload	.005	.006	.026***	.001	.035***
	Job Security & Change	.021	.027	.060***	.006	.033***
	Job Conditions	.031**	.047**	.066***	.016**	.019**

- **For emails**, joint impact but no interaction and no PE fit
- Almost no impact for other stressors

What is going on? Linear effect

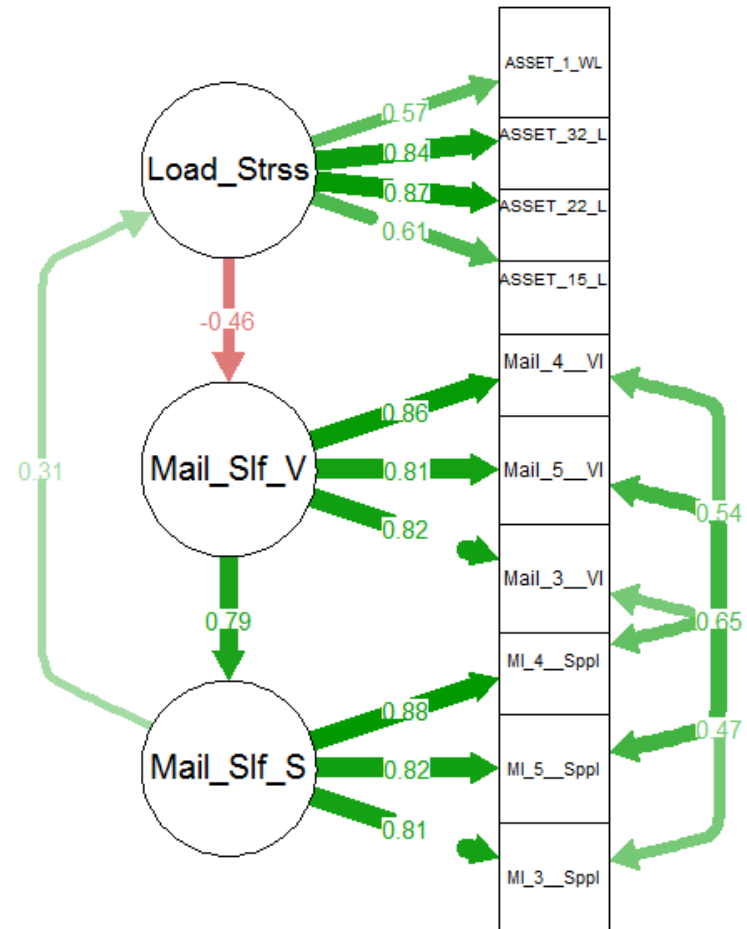
1. The more emails we have -> the more workload stress we have
2. The more emails we want -> the less workload stress we have
3. Or the fewer emails we want -> the more workload stress we have



Desired use as a consequence of stress?

- **Chi-Square 62.22*****
- **CFI .989**
- **RMSEA .048**
- **SRMR .040**
- **Load_Stress ~ Mail_Self_S .170*****
- **Mail_Self_V ~ Load_Stress -.803*****
- **Mail_Self_S ~ Mail_Self_V .827*****

1. **The more perceived email use, the more workload stress**
2. **The more workload stress, the less desired email use**
3. **The less desired email use, the less actual email use**



Finding #1:

**For emails, individual desires
need to be factored in**

Capturing individual desires

Problematic for Big Data...

Part 2:

Objective VS Perceived Use

Which impacts wellbeing?

The results and studies discussed
used
self-reported measures of use

Virtual interactions in the physical world



Big Data and Computer-Mediated Communication

- **Collecting objective measures of CMC use**
 - **Phone:** participants, duration... (Higgins et al., 1985)
 - **Email:** # messages in inbox, unread, read & sent messages, replies, response time...
 - Kalman Ravid (2015): Outlook addon
 - Jackson et al. (2003): video recording
 - Bellotti et al. (2005): email forwarding
 - **Smartphone:** screen on, phone calls... (Andrews et al., 2015)
 - **ESN:** most discussed, networks, influence...
- **But what to make out of them in terms of wellbeing?**

Distorted perceptions of use

- **Distorted perceptions**

- **Higgins et al. (1985)**: Understatement of very short phone calls, overestimation of call lengths
- **Andrews et al. (2015)**: Actual and reported smartphone use uncorrelated...

- **Main study**

- Perceived *extent* and Perceived *volume* of emails
- **Correlations Extent – Volume**

	Receive Actual	Sent Actual	Read Actual	Receive Desired	Sent Desired	Read Desired
Avg-Ext	.350**	.325**	.296**	.216**	.255**	.234**
Avg-24h	.872**	.753**	.863**			
Ext-24h	.254**	.261**	.249**			

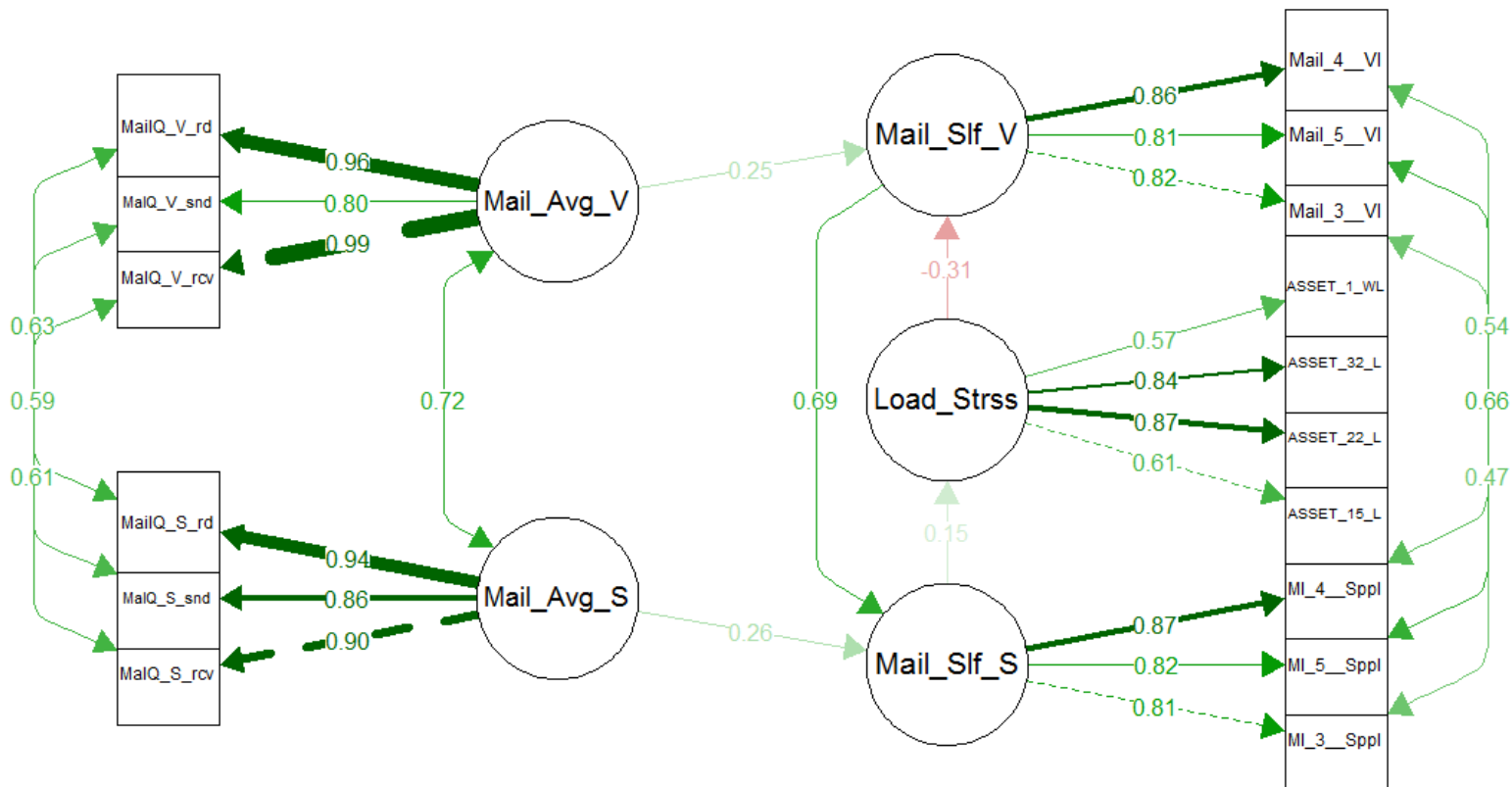
So how do **perceived extent and volume of email use** impact wellbeing?

Reported Extent on Workload

Chi-Square 229.34***

CFI .980

RMSEA .054

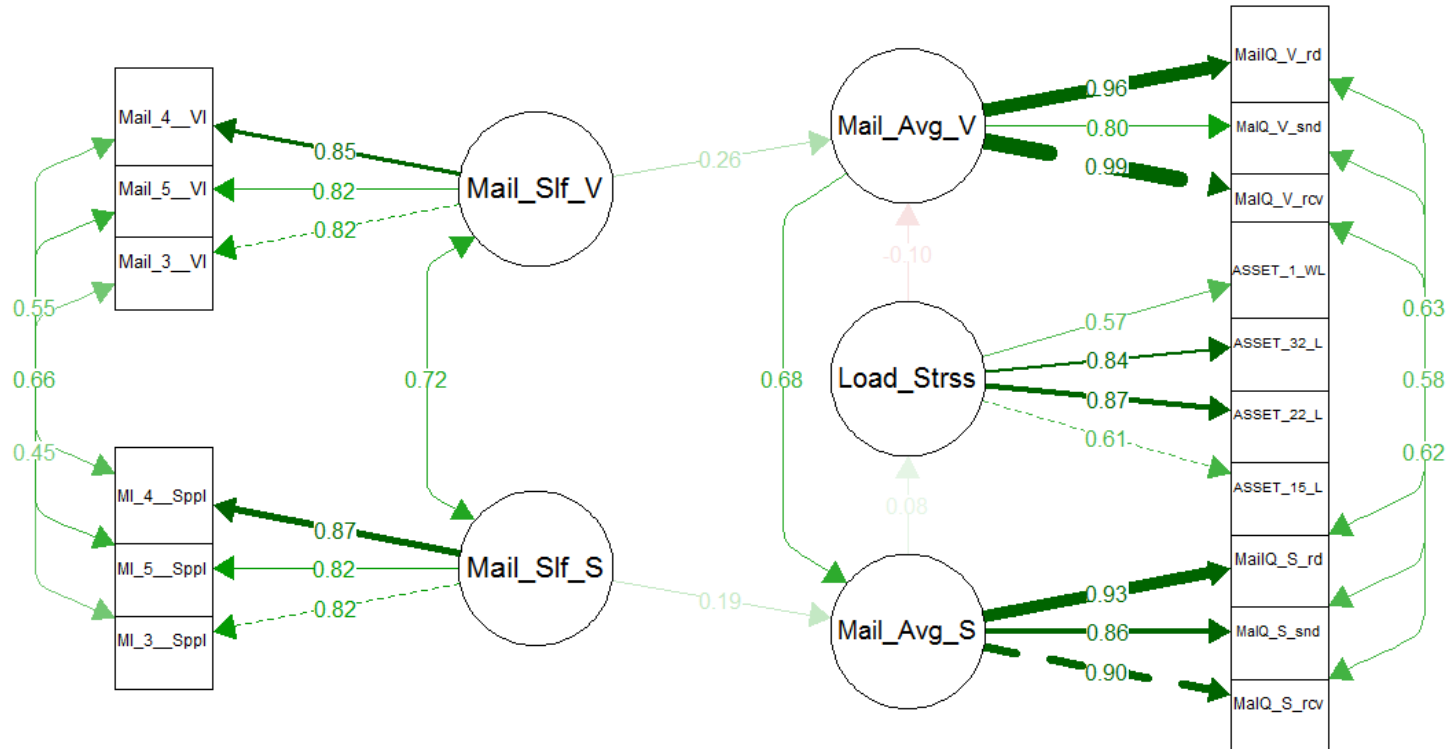


Reported Volume on Workload

Chi-Square 278.96***

CFI .972

RMSEA .063



Main problem: coefficients are not significant

	chisq	df	pvalue	cfi	tli	aic	bic	rmsea	srmr
Extent	229.337	92	.000†	.980†	.974†	40904.427†	41090.220†	.054†	.052†
Volume	278.926	92	.000	.972	.964	40954.015	41139.808	.063	.074

Finding #2:

Perceived extent > Perceived amount
(> Actual amount ?)

Perceived use might be more important
than actual use

Another problem for Big Data...

**So what do we do in terms of
Big Data?!**

CMC, Big Data & Wellbeing

- 1. Email: source and symbol of stress** (Barley et al., 2011)
 - For emails & wellbeing, subjectivity is involved
 - 2. Wellbeing is about perceived use more than actual use**
 - Perception of actual use: distorted and appraised first
- **Challenges for Big Data**
 - **Combine Big Data** with attitudinal results (diaries, surveys)
 - Use Big Data as a **potential** indicator, not as a predictor of stress
 - Find **new measures** to capture desires (behavioural...)
 - **For academics:** we first need access to Big Data...

Thank you

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