

TEAM IQ



AMOL SARVA

Team IQ

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The Team IQ Diet

Teams have an “IQ” a set of factors that are not about the team members individually but are about how they work together — and it makes a large difference on performance. More, different kinds of people get involved and contribute.

There are a handful of research-backed approach for creating teams that perform better by better including more members and points of view. The list below of team management norms are designed to help us create them.

DOCTOR SHOT Quarterly Rhythm

Roughly in sync with performance reviews, and we should ask on these metrics in reviews, a team leader should

- SERUM identify team cohesion (and non-reciprocal friendships) and invest in a team cohesion activity
- HEALTH check in on individual happiness and wellness 1-1 with teams
- ORGANS evaluate team composition - sameness v diversity? “blood”? what is the Charismatic Connector (“Glue”) count?
- TEMPO discuss the weekly and daily rhythms with the team for review

WORKOUT SET Weekly Rhythm

- SUSTAINED keep track of meeting compliance with teams
- EXPLORING create an exploration opportunity, and a sidebar peer like opportunity for the team
- THANKBACK mark a gratitude opportunity for your team

YOGA POSE Meeting Rhythm

- PERSONALIZED meet in-person
- ON-TIME hold the meetings regularly
- SEQUENTIAL set explicit norms on equal time (rotation?) and low interruption, moderate to aim for participation
- EMOTIONAL set social aims for meetings as well as content aims - e.g., equal time, engagement, face to face, and high energy

OFFICIAL HAND SIGNAL the hand triangle.

Official accessory: shell necklace

Team Dynamics Learnings and Notes

Outline

- What is this?
- What is the workplan?
- Team Dynamics summary
- Team Dynamics clippings
- Women Leaders notes
- Women Leaders clippings

What Is This

A plan for higher performing work culture: High Output and Team IQ.

What Is The Workplan

This is version 1 of a prescriptive “how to recruit and run your teams” tips and rules list, addressing teams generically and issues of diversity. (Oct 21, 2018 - Amol)

Team Dynamics Overview

High Output / Baseline: what we already know

Many workplaces have a team workstyle that works well for the initiated. This involves personal and collaborative styles around work habits (hours, task lists, timelines, standards of output, comfort in uncertainty) and social habits (meetings, project plan visibility, problem surfacing and problem solving, time horizons).

These are often called the X Way (McKinsey...Google...Military...Intel). Not all high performing organizations are similar in their process and objectives so we have to choose for Knotel what applies.

Some big picture aspects of our work culture are described by our Knotel Values, the way we work as a team, and other implicit productivity styles we have at Knotel, and some pragmatic advice based on Grove, Drucker, Heifetz and Code As Cards.

Let's call that **High Output**, to borrow from Andy Grove. More on them detailed below.

But these approaches do have some problems.

First, most high performing organizations have historically failed to consider how “initiation” filters out many talented people during recruiting, onboarding, and retention rather than developing them.

Second, many such organizations have the luxury of a “upper class” and “lower class” people hierarchy. Officers or Engineers or Consultants rule at the Marines or Intel or McKinsey. Can we say the same at Knotel? Or would we prefer a high performance culture that crosses the many

“cultures” of HQ and Market and Frontline, from finance to brand marketing to customer success?

Next level: this is the new layer of work styles proposed below

The research is below but the summary and proposal is summarized above: The Team IQ Diet.

To get more people involved and get the best from our teams, we can add protocols that achieve higher Team IQ, the quality of some teams to produce better outcomes even with the same members.

The measures of high Team IQ are simply better performance. Better outcomes.

The correlates that predict better team performance are diverse teams where everyone feels they can participate, they can take risks, they are connected to each other and to the outside world.

How can we cultivate these patterns rather than just waiting for them? These are some ideas below — protocols for hiring, training, 1-1s, task assignments, meeting formats, and reviews.

High Output, the Baseline

Our basic outline for high performance at Knotel is roughly composed of these ideas.

Values about how we work

- Fly your flag
- Outcomes not processes
- Don't look away
- Where is it engraved
- Get uncomfortable
- Share in the victory dance

Unstated, but we should state, these personal qualities

- Smart and knowledgeable
- Gets things done

How we think about our work, building repeatable systems:

- Building Machines — Goal —> Machine —> Output
- Do, Plan, Automate. How a department gets built. You do the job. Figure it out. By hand. Then you start laying out a process scheme and tools. And finally you have a Machine phase when tech and tools do all the work.

Prioritization

- Now, Soon, Later. Every task lives in one of these columns.
- Drucker on time management, solo time, face to face time, walking around time, and other Effective Executive themes. This includes budgeting time for Heifetz's "Get Up Off Of The Dance Floor and Onto The Balcony."

Visible progress, a concept most emphasized in Agile:

- Shared Task Lists create visible work and social pressure for individual progress.

Goals and continuous improvement

- OKRs: agree on key results/outcomes, write them down, and discuss them daily, weekly, monthly, quarterly. Outcomes not the how.

Managers have four tools: Leverage, Meetings, Decisions, Planning (Grove)

Meetings, how to: written agenda, state leader role, state format, leader speaks last, take clear decision, ask support of all parties, write next steps, meet again.

However, “No meetings.” In person we solve hard problems and develop Team IQ. “**No Meetings**” is how we move information one-to-many or one-to-one — we don’t move information in meetings primarily.

Delegation and motivation on outcomes is paramount

- Lazy General - hard work doesn’t mean good outcomes. Taichii Ohno calls that “Wasted Motion is Not Work”. Lazy and Smart is better than hard working and poorly thought out (von Moltke)
- Battles are not won at the green table - delegate! (von Moltke)
- But meanwhile, Fix the flags. Everybody takes out the trash. Grab it. (Danny Meyer) But the Dalio is “Taste the Soup.”
- Delegate to set yourself free. Need blocks of time dedicated to solo work/analysis, small group management and collaboration, and then social network-building and public facing identity (in the company, in the public).

Decisions.

- Be fast and clear. Post the decision.
- Be positive. Axiomatic Yes. We will find a way because that is how we get better.
- Disagree but commit. We don’t need consensus, even from the leader. But should support the decision drawn for real. (Bezos)

Planning.

Cards. Disaggregate.

- Journey of a thousand miles.
- Making lists longer vs. making lists shorter. (Pony Mode vs. Beast Mode)
- Code as Cards. If anyone tells you “it’s too abstract”, come see Amol. More below.

Code As Cards has a few key ideas. They are Amol’s remixes of other people’s ideas.

- Your time is paramount. Be selfish.
- Delegate everything. Be generous assuming their capability.
- Make work into small units (cards). Disaggregate.
- Visible Work (a tangible output) or there is no work. Show it.
- All time is measured in moving tangible work forward
- All big jobs are composed of small jobs
- Facetime is time-expensive. Use visible work, cards, coordination to create leverage
- Use Globalization and Technology to your advantage. Think of ways. Outsource. Automate. Write scripts. Outsource the writing of scripts. But don’t resist the future.

Trust yourself

- Use Thin Slices or Fast/System 1 (v Slow/System 2)

Hard problems. Tackle those first. (Let the fires burn, as in Hoffman's language.)

- Also Heifetz: Adaptive Leadership is about changing values and priorities collectively; while Technical Leadership is just applying the remedy. Adaptive is the hard stuff.
- 10x not 10%.
- L'audace, l'audace, toujours l'audace. (Frederick the Great via Patton). If unsure, advance!

How to assess our capabilities

- Task-relevant Maturity. From Grove. A person has a level of capability matched to the tasks at hand. It isn't a universal "are they good" measure.
- Rule of thumb: duty cycle time, e.g., 2 minutes, 2 hours, 2 days, 2 weeks...2 years.

Culture.

- All happy families are the same. All unhappy families are miserable in their own unique way. (Tolstoy.) At startups it is the opposite. All happy companies are happy in their own unique way. Ours is **#LovingKindness**.

More on [The Amol API knote](#) and [the Amol API writeup](#).

In general these are conventional ideas about productivity and efficiency. We didn't invent them but we should collect, add, refine, make them our own ("shmoop") and make them a culture.

Next Level

Research so far: What I have learned from the sources below in this memo

1. Good Teams like Tolstoy's Happy Families are all the same.
 - Pentland's three key variables (empathy, equal participation, women present) from his MIT work
 - Google Aristotle's and Psychological Safety (Amy Edmondson, Harvard)
2. Good Teams do better than Bad Teams, even with members that have all the same qualities. (Pentland call center handle times drop 20%)
3. Good Teams get along well together and are socially in tune. Obvious right?
4. But "Get Along" can be exclusionary or cliquey - bros for example - as we know from our experience.
5. There are more universal principles here though. Good Teams
 - Though rejecting the parliamentary Roberts Rules of Order https://en.m.wikipedia.org/wiki/Robert%27s_Rules_of_Order
6. Markers of good teams, aka "Safe" per Aristotle
 - Energy and Engagement (Pentland 2010, 2012)
 - Equal time (Pentland 2010, 2012)
 - Peerlike and sidebar (Pentland 2012)
 - Women present (Pentland 2010)
 - Explore outside (Pentland 2012)
7. How to make it happen (Pentland 2012)
 - Change the seating and space
 - Encourage f2f and equal exchanges
 - Add some people, new blood
 - Interrupt less
 - Use feedback to shape
 - Charismatic Connectors

Goals are a Team IQ recipe for

1. Quarterly
 - Team composition
 - Checkin on culture norms (what do I mean?)
 - Activity to create the team uniformity on norms
 - Happiness and wellness check; process
2. Weekly
 - Tracker on meeting compliance/ratings
 - Check “blood”
 - Feedback opportunity
 - Gratitude opportunity
 - Happiness meter
3. Every meeting
 - Ban interruptions
 - Meter for equal time
 - Orientation of the physical meeting
 - Meet in-person
 - Hold the meetings

TEAM DYNAMICS CLIPPINGS

Collective Intelligence

Pentland 2010

Evidence for a Collective Intelligence Factor in the Performance of Human Groups

Anita Williams Woolley,^{1*} Christopher F. Chabris,^{2,3} Alex Pentland,^{3,4}
Nada Hashmi,^{3,5} Thomas W. Malone^{3,5}

Psychologists have repeatedly shown that a single statistical factor—often called “general intelligence”—emerges from the correlations among people’s performance on a wide variety of cognitive tasks. But no one has systematically examined whether a similar kind of “collective intelligence” exists for groups of people. In two studies with 699 people, working in groups of two to five, we find converging evidence of a general collective intelligence factor that explains a group’s performance on a wide variety of tasks. This “c factor” is not strongly correlated with the average or maximum individual intelligence of group members but is correlated with the average social sensitivity of group members, the equality in distribution of conversational turn-taking, and the proportion of females in the group.

As research, management, and many other kinds of tasks are increasingly accomplished by groups—working both face-to-face and virtually (1–3)—it is becoming ever more important to understand the determinants of group performance. Over the past century,

psychologists made considerable progress in defining and systematically measuring intelligence in individuals (4). We have used the statistical approach they developed for individual intelligence to systematically measure the intelligence of groups. Even though social psycholo-

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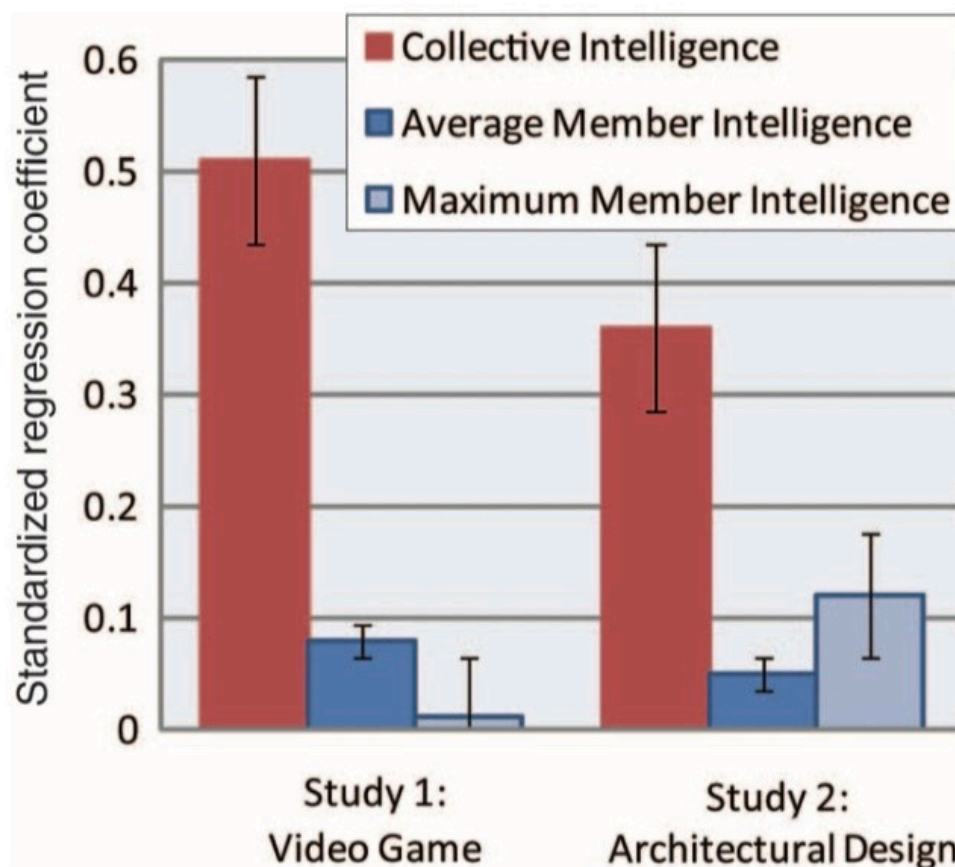
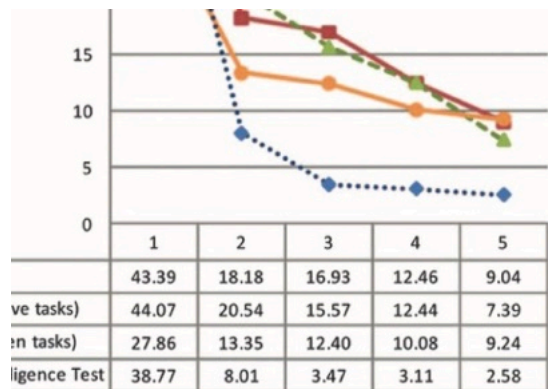


Fig. 1. Standardized regression coefficients for collective intelligence (c) and average individual member intelligence when both are regressed together on criterion task performance in Studies 1 and 2 (controlling for group size in Study 2). Coefficient for maximum member intelligence is also shown for comparison, calculated in a separate regression because it is too highly correlated with individual member intelligence to incorporate both in a single analysis ($r = 0.73$ and 0.62 in Studies 1 and 2, respectively). Error bars, mean \pm SE.



of group members, as measured by the “Reading the Mind in the Eyes” test (15) ($r = 0.26$, $P = 0.002$). Second, c was negatively correlated with the variance in the number of speaking turns by group members, as measured by the sociometric badges worn by a subset of the groups (16) ($r = -0.41$, $P = 0.01$). In other words, groups where a few people dominated the conversation were less collectively intelligent than those with a more equal distribution of conversational turn-taking.

Finally, c was positively and significantly correlated with the proportion of females in the group ($r = 0.23$, $P = 0.007$). However, this result appears to be largely mediated by social sensitivity (Sobel $z = 1.93$, $P = 0.03$), because (consistent with previous research) women in our sample scored better on the social sensitivity measure than men [$t(441) = 3.42$, $P = 0.001$]. In a regression analysis with the groups for which all three variables (social sensitivity, speaking turn variance, and percent female) were available, all had similar predictive power for c , although only social sensitivity reached statistical significance ($\beta = 0.33$, $P = 0.05$) (12).

These results provide substantial evidence for the existence of c in groups, analogous to a well-known similar ability in individuals. Notably, this collective intelligence factor appears to depend both on the composition of the group (e.g., average member intelligence) and on factors that emerge from the way group members interact when they are assembled (e.g., their conversational turn-taking behavior) (17, 18).

Friends and patterns

Pentland 2009

Tldr: Friends hang out together outside work.

Inferring friendship network structure by using mobile phone data

Nathan Eagle^{a,b,1}, Alex (Sandy) Pentland^b, and David Lazer^c

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Edited by Susan Hanson, Clark University, Worcester, MA, and approved July 1, 2009 (received for review January 15, 2009)

Data collected from mobile phones have the potential to provide insight into the relational dynamics of individuals. This paper compares observational data from mobile phones with standard self-report survey data. We find that the information from these two data sources is overlapping but distinct. For example, self-reports of physical proximity deviate from mobile phone records depending on the recency and salience of the interactions. We also demonstrate that it is possible to accurately infer 95% of friendships based on the observational data alone, where friend dyads demonstrate distinctive temporal and spatial patterns in their physical proximity and calling patterns. These behavioral patterns, in turn, allow the prediction of individual-level outcomes such as job satisfaction.

engineering-social systems | relational inference | social network analysis | reality mining | relational scripts

The field devoted to the study of the system of human interactions—social network analysis—has been constrained in accuracy, breadth, and depth because of its reliance on self-report data. Social network studies relying on self-report relational data typically involve both limited numbers of people and a limited number of time points (usually one). As a result, social network analysis has generally been limited to examining small, well-bounded populations, involving a small number of snapshots of interaction patterns (1). Although important work has been done over the last 30 years to analyze the relationship between self-reported and observed behavior, much of the social network literature is written as if self-report data are behavioral data.

There is, however, a small but emerging thread of research examining social communication patterns based on directly observable data such as e-mail (2, 3) and call logs (4, 5). Here, we demonstrate the power of collecting not only communication information but also location and proximity data from mobile phones over an extended period, and compare the resulting behavioral social network to self-reported relationships from the same group. We show that pairs of individuals that report themselves as friends demonstrate distinctive behavioral signatures as measured only by the mobile phone data. Further, these purely objective measures of behavior show powerful relationships with key outcomes of interest at the individual level—notably, satisfaction.

The Reality Mining study followed 94 subjects using mobile phones preinstalled with several pieces of software that recorded and sent the researcher data about call logs, Bluetooth devices in proximity of approximately five meters, cell tower IDs, application usage, and phone status (6, 7). Subjects were observed using these measurements over the course of nine months and included students and faculty from two programs within a major research institution. We also collected self-report rela-

purely from mobile phone “self-report” data.

We conducted three analyses of the relationship between self-reported and observed behavior. First, we analyzed whether mobile phone data that we collected were related to self-reported data that we studied the relationship between self-reported and observed behavior.

Results

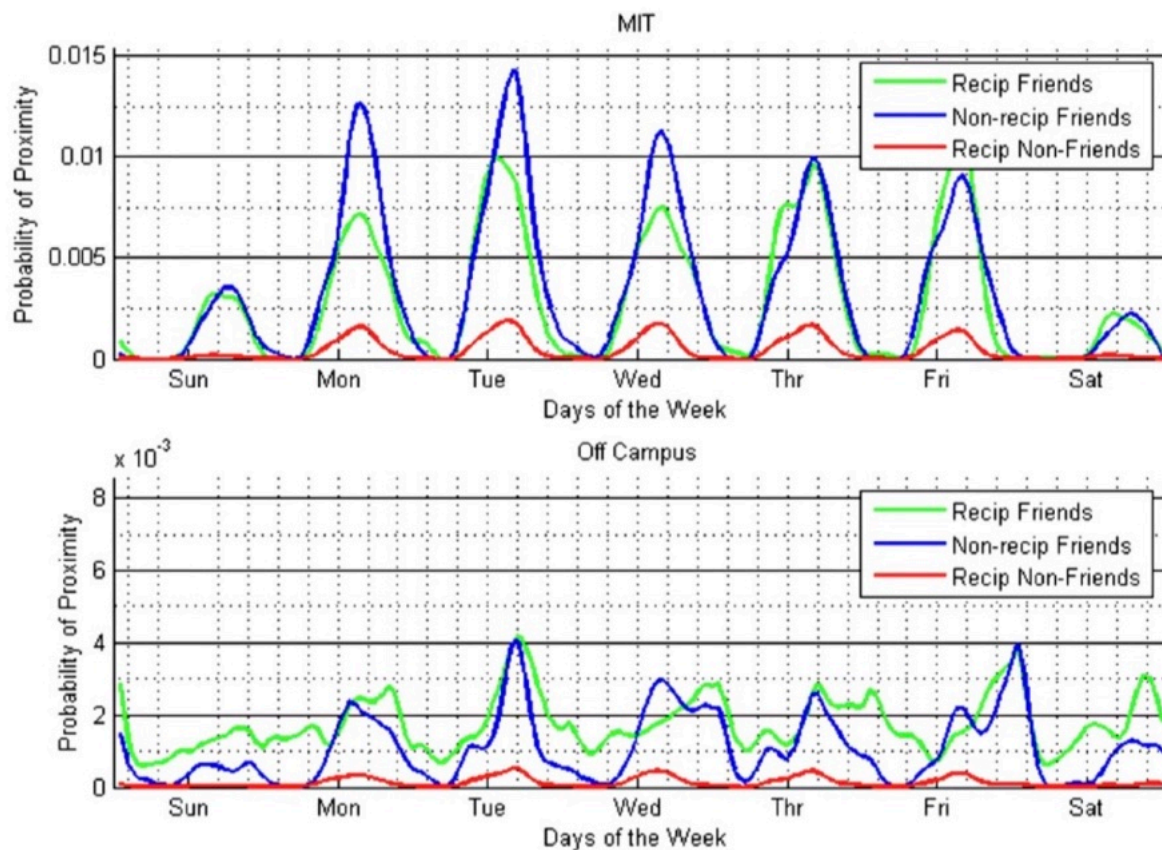
Behavioral Versus Self-Reported Data. We used measures for relationship strength over the last 30 years, standardized to the mean of the distribution in which it was found that self-reported data were weakly related to observed data. We examined multiple layers of cognitive and behavioral data. Subject reports a behavior that people are good at recalling. We examined structures (12). We examined recall that have been observed in human memory (13), specifically salience biases in recall of one where memories are biased is one where memories are biased. Here, we capture recency bias fixed period preceding the individual in question is a bias.

We test for recency bias by reported proximity to observed self-reports were biased. Specifically, subjects were the other individuals in the group compared with average distance scans. Although most (60%) reported as nonproximity, typically overestimated: 7 min per day whereas the average was 4 min per day. We also found much more accurate at recall in this case, there was a statistically significant difference between observed and reported relationship for friends ($r = 0.155$, $P < 0.001$), whereas for nonfriends ($r = 0.001$, $P > 0.05$) we found that when subjects reported proximity patterns, recent proximity

Author contributions: N.E., A.S.P., and D.L. conceived of the study; N.E. and D.L. contributed data; and N.E. and D.L. wrote the paper. The authors declare no conflict of interest.

Self-reports of time spent together exaggerate wildly to high side. Real friends get it right. But non-friends overestimate.

One-Way friends hang out a lot at the office. But real friends are after work or weekends. Blue line vs Green line. Red line is folks who mutually are not friends.



ximity. Proximity probabilities at work and off campus for symmetric friend, asymmetric friend, and nonfriend each hour in the week and is generally much higher for friends than nonfriends. However, it is also apparent that there are different temporal and spatial patterns in proximity, with symmetric friends spending more time together

Look how strong a predictor it is. 90%+ over those two factors.

Table 1. Factor analysis loadings

Variable name	Specific variance	Factor 1: Extra-role	Factor 2: In-role
Work proximity, weekdays, 8 a.m.–8 p.m.	0.005	–0.119	1.07
Work proximity, weekdays, 8 p.m.–8 a.m.	0.568	0.555	0.144
Work proximity, weekends	0.642	0.501	0.137
Off-campus proximity, weekdays, 8 a.m.–8 p.m.	0.310	0.691	0.195
Off-campus proximity, weekdays, 8 p.m.–8 a.m.	0.240	0.946	–0.123
Off-campus proximity, weekends	0.291	0.914	–0.119
Phone communication	0.806	0.469	–0.047

For relationship inference, based on a promax rotation, it is possible to divide the dyadic variables into the two factors above: in-role and extra-role communication. In-role communication consists of the behaviors typically associated with colleagues whereas extra-role communication corresponds to more personal behavior such as proximity on Saturday nights or at home.

New Science of Building Great Teams **Pentland HBR 2012**

The New Science of Building Great Teams

[Alex "Sandy" Pentland](#)

From the April 2012 Issue



The data also reveal, at a higher level, that successful teams share several defining characteristics:

- 1. Everyone on the team talks and listens in roughly equal measure, keeping contributions short and sweet.*
- 2. Members face one another, and their conversations and gestures are energetic.*
- 3. Members connect directly with one another—not just with the team leader.*
- 4. Members carry on back-channel or side conversations within the team.*
- 5. Members periodically break, go exploring outside the team, and bring information back.*

From Dream Teams by Shane Snow

Team IQ snippets / Aug 12

Example #1: Innovation vs Inclusion

In the course of research, I came across a statistic from Gallup that said that workers were more likely to do poorly if their managers ignored them than if their managers mainly focused on their weaknesses. I found this curious, and dug a pretty deep rabbit hole to learn about the damaging effects that exclusion, organizational silence, and superficial communication have on relationships—at work or in life in general.

My observation: Excluding people makes for unstable relationships.

My question: How does exclusion affect companies?

My hypothesis: Excluding people decreases the likelihood of producing breakthrough innovations or novel solutions to problems inside of a company.

My experiment: I decided to do a SurveyMonkey poll of American workers at fast-growing, innovative companies, and pit them against workers at slow-growing, non-innovative companies. SurveyMon-



High quality analytics thinking: overriding first impressions

<https://www.sciencedirect.com/science/article/pii/S0010027714001632>

This view is consistent with the methods that many researchers have used to measure analytic cognitive style. Good tests for analytic cognitive style assess whether people use conscious thought to *override* intuitive responses. Consider the following classic problem:

A bat and a ball cost \$1.10.

The bat costs one dollar more than the ball.

How much does the ball cost?

Almost everyone has the fast intuitive response *ten cents*. That, of course, is wrong, but people (including ones good at math) have this intuition anyway. So the measure of analytic cognitive style is whether people override their initial intuitions to give reasoned answers, like *five cents*.

It's thus possible to score low in tests of analytic thinking, despite the fact that one does *a lot* of conscious "reasoning"—as long as that conscious "reasoning" doesn't go against the initial intuitions one has. Otherwise put, being low in analytic cognitive style doesn't mean that one doesn't think consciously, it just



<https://www.philosophytalk.org/blog/puzzle-about-conspiracy-theorists-part-i>

Empathy

From Simon Baron-Cohen (famous research psychologist and Sascha's cousin)

Team IQ snippets / Aug 12

10:56 ↗



Below, I offer extra, point-by-point (on-line-only) commentary to respond more specifically to some of Bloom's points.

1. Bloom claims that I have claimed that people with Asperger Syndrome have difficulties in both cognitive and affective empathy. In fact, my book specifically argues against this: that people with Asperger Syndrome have impaired cognitive empathy but intact affective empathy. People with Asperger Syndrome frequently stand up for the underdog, against injustice. They may struggle to pick up social nuances, but they do care that others shouldn't suffer.

2. Bloom's attack on empathy uses a recent meta-analytic review that found measures of empathy do not predict more than 1 percent of the variation in aggression. I find this very hard to believe so would want to look more closely at how this review was done and how this conclusion was reached. Regrettably Bloom provides no citation to follow this up. If it is about the *variation in type* of aggression then perhaps that is because *all* aggression involves low empathy, so that empathy wouldn't predict which type of aggression is involved. But without being able to read the review and see how empathy was measured, or how the analysis was done, this claim is hard to interpret.

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3. Bloom suggests that it may be no coincidence that those who are super-high in empathy tend to be female, and that females are more prone to depression. However, just because women have higher rates of depression doesn't mean this is due to having high levels of empathy. Higher rates of depression in women could be for a number of reasons. For example, it has been argued that men experience the same rates of depression but that it is manifested differently between the two sexes. (In males, there may be more drinking, for example). Bloom cites Oakley's concept of "pathological altruism" but there is still very little data to support this

Response to Against Empathy- Baron-Cohen

by **Simon Baron-Cohen**, bostonreview.net
August 26, 2014

Paul Bloom's essay centers on a major error, arguing that we should use a rational, cost-benefit, "cold cognition" approach in place of an empathy-based approach to decision making. But these are not mutually exclusive, and there are serious dangers in leaving empathy out of decision making.

Bloom argues, "If you want to be good or do good, empathy is a poor guide." I strongly disagree. Consider Israeli Prime Minister Benjamin Netanyahu's decision: Should I command the Israeli Defense Force to bomb a rocket launcher that Hamas is firing from within a UN school, and in the process risk killing innocent Palestinian children?

Using the unempathic, rational cost-benefit calculation, Netanyahu might consider the costs to be children's lives, in-

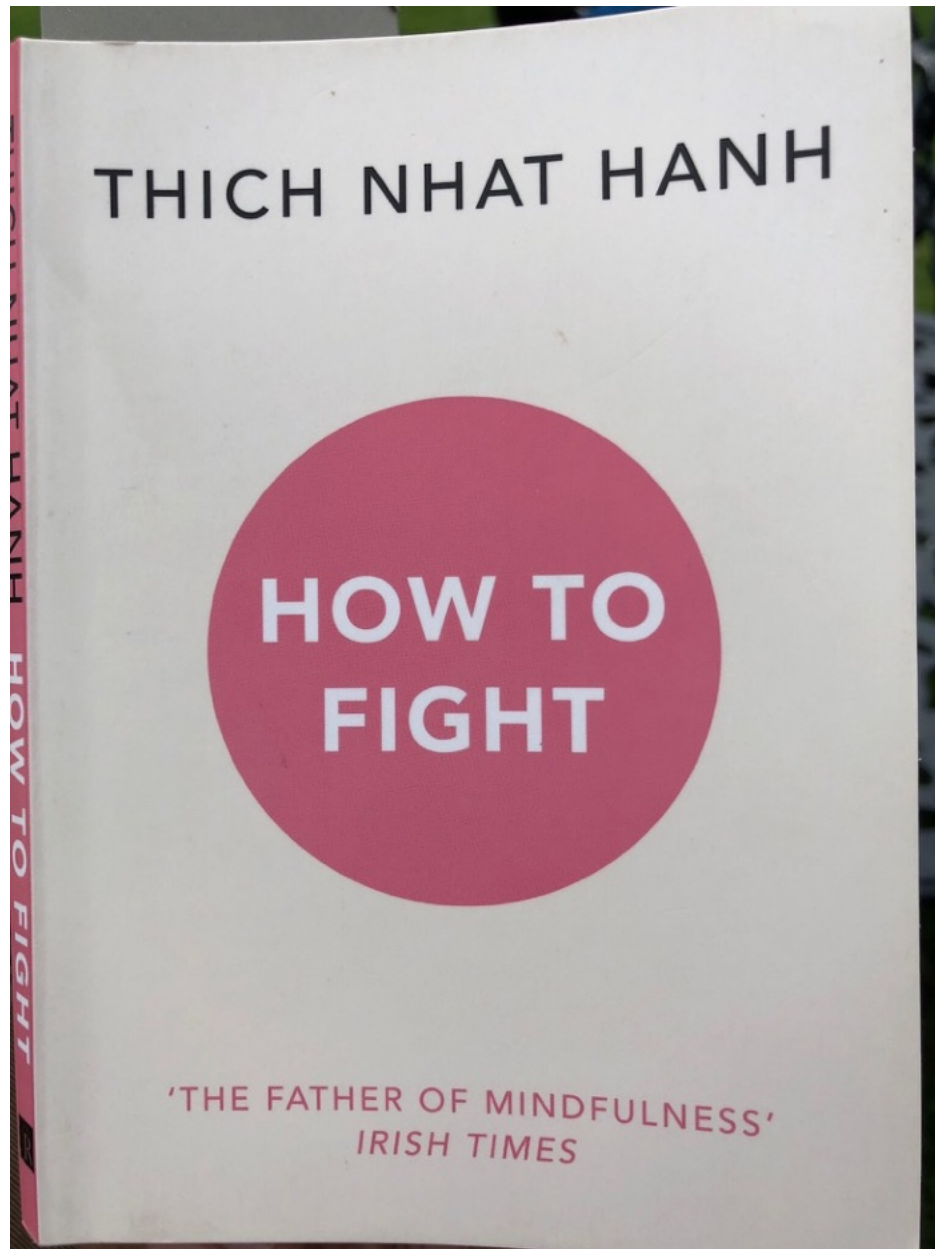
9. Bloom discusses empathy in a medical setting, suggesting that a doctor who is empathic would become upset at a patient's pain, which would be unhelpful. I agree with him that what a patient needs is a doctor who remains calm and confident in the medical setting. Bloom's error here is to assume that for a doctor to show empathy he or she must mirror the patient's feelings, which ignores a widely quoted definition of empathy: experiencing an *appropriate* emotion triggered by another person's emotion. It would not be appropriate for a doctor to become upset by their patient's pain, just as it would be inappropriate for a mother to burst into tears when her child falls over and hurts his knee. Her personal distress could make her child's distress even greater, so her job as a *sensitive*, empathic parent is to offer soothing comforting reactions, not to cry when he cries. That would arguably be selfish, not empathic.

10. Bloom argues that empathy and anger have a lot in common. He says they are both social emotions, but this ignores how much they differ. For example, empathy is a pro-social emotion, whilst anger is an anti-social emotion. He says that both empathy and anger are both moral emotions, but anger is really just a



Happiness in philosophy and science

In Aspen at Ideas Festival, I learned a bunch about the science research on happiness to date. And here in India, I have been reading Hindu and Buddhist authors on the same: Vivekananda, Ramakrishna, Buddha's followers including the contemporary Thich Naht Hahn. There are some overlaps. A lot. Here is what the Buddhists say, roughly.



WHERE THE FIGHT BEGINS

When someone says something unkind to you, you may want to retaliate right away. That is where the fight begins. This habitual way of reacting creates a well-worn pathway in your brain. When you travel a neural pathway over and over again, it becomes a habit. Very often that pathway leads to anger, fear, or craving. One millisecond is enough for you to arrive at the same destination: anger and a desire to punish the person who has dared to make you suffer. The mind and the brain are plastic in nature. You can change your mind, your brain, and the way you think and feel. With practice, you can create new neural pathways that lead to understanding, compassion, love, and forgiveness. Mindfulness and insight can intervene, redirecting you down a new neural pathway.

Partly based on Thich Nhat Hanh, and partly on Lyubomirsky's How of Happiness compendium.

Formulas for being happy, having friends, handling conflict, restoring others:

Being angry is a feeling you have. So you can calm it. Breathe. Walk. (Also validated in Lyubomirsky's summary.)

Forgiveness and apologizing. Something to give without asking for reciprocity. Just "sorry". Calms others. Face to face or phone or a letter or anything is better than nothing. (Also validated in Lyubomirsky's summary.)

Loving Speech and Compassionate Listening. A generous act that calms others. (Also validated in Lyubomirsky's summary.)

Thinking rightly is important as it will manifest. Have compassion in your thoughts. (Also validated in Lyubomirsky's summary.)

You may have to calm yourself before being ready to forgive, apologize, loving speech or listen compassionately. (Also validated in Lyubomirsky's summary.)

Telling the truth is important but a skillfully done job whose purpose is to help the other person not harm them.

Acting out or airing anger (or Freudian therapy...) doesn't help. It reinforces negative thinking. (Also validated in Lyubomirsky's summary.)

Nourishing happiness or nourishing suffering (eg cognitive behavioral therapy). (Also validated in Lyubomirsky's summary.)

Savoring. I am very happy right now. (Also validated in Lyubomirsky's summary.)

Questions it left for me:

Can a leader who struggles in face of a great challenge be at peace? And if the leader is not at peace can the followers expect to be presented with great generosity? Was Churchill kind? Could he have been? Gandhi?

In society and personal relations, everything points to happiness. Perhaps also in politics and business and war? Can we make happiness and peace the core principle as we endeavour to do very challenging things against opponents who resist our progress? Eg Buddhism vs Confucianism vs Sun Tzu? Would Sun Tzu have agreed that Loving Speech is needed across rivals?

Happiness and Teams / Aspen

Happiness. The most popular class at Yale ever. Professor Santos.

Background movements in psychology

Science of Positive Psychology

Science of Behavior Change

Plan of the class

Science - how it works - of the good life

Practice - experiences to change behavior eg gratitude, sleep, meditation

by Laurie.Santos@yale.edu

Outline of the argument

1. You can change your well-being level. It isn't innate. It isn't mostly heritable, eg Lyubomirsky best-seller. 50%. Control the rest.
2. Life circumstances don't matter that much. Eg lottery winners. And reverse like injuries. That's 10%.
3. Rest can be produced by intentional effort: daily work. Like the gym. Avoid the GI Joe Fallacy ("Knowing is half the battle.") <http://thehowofhappiness.com/>
4. Your mind is often lying about what makes you happy. Visual illusions lie about reality. Etc. Mind illusions about what will make us happy - eg money. 75k is enough per studies. People increase their cash desire increasingly as they have more money.
5. Socializing: Happy people spend more time with others, less time alone. By large margin, 1.5 to 2x. Epley and Schroeder - Connection condition, Solitary condition, Control/Be yourself. Connection happier; no lower productivity.
6. Helping Others. Dunn 2008. Give people money. Make them give it away. Makes them happier.
7. Gratitude ritual. Eg instead of Whinefest do a Celebfest. Or make a daily gratitude list. Express it publicly - through greater social

connection. Seligman 2005 - write a letter. The recipient of this message feels a huge positive effect for them. Lasts a month for both parties.

8. Healthy stuff matters more than you think like sleep and exercise. 30 min cardio = Xoloft Rx. Sleep - Dinges 1997 - 7.5 hrs vs 5 hrs — sleep restriction makes mood fall by half from 12 to 6 (clinical depression levels).
9. Being in the present. 49.6% of the time, mind is wandering. Not attending to what we do. Gilbert 2010. As mind wanders it is typically reducing well-being. How to address: Savoring. Meditation (mindful or loving kindness meditation).
10. Become wealthy in time not money. Have free time. Cancelled class; a surprise hour for the students. Take a walk, read a random book, savor a bubble tea, tell me what you did. “First hour off I have ever had.” “An hour they would remember for their whole lives”

To do list - family version vs work version

- Socialize
- Give money away
- Gratitude daily and publicly
- Exercise 30 min
- Sleep 7 hours
- Savor and Meditate in the present
- Time affluence. An hour back. No meetings.

Informal Survey of WellBeing.

National College Mental Health Survey

Course:

<https://www.coursera.org/learn/the-science-of-well-being>

Columbia Student Well-Being Survey | Columbia University Life

How to Be Happy: A Cheat Sheet

Teams

What about teams? What mechanics make a team work well?

- Jocko and the seals
- Parliamentary Rules of Order
- Military, eg Field Service Manual

High-Performing Teams Need Psychological Safety. Here's How to Create It

5 Research Backed Practices to Build a High Performing Team

Team Collective Intelligence Notes from Todd Hall

<https://www.drtooddhall.com/post/5-research-backed-practices-to-build-a-high-performing-team>

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WOMEN LEADERS NOTES / Deborah Rhode

Women's Leadership / Aspen / Teams

Deborah Rhode of Stanford Law School



Women do seem to lead in collaborative ways.

20% of women with professional degrees don't work vs 5% for men

Majority of women think their husbands create more work than they DO in the household

RBG: what a woman needs is a man who thinks her career is more important than his

Companies say they want to do better... but it seems to be hard

Many leadership qualities are masculine - driving, top down, assertive

Women are criticized for being too assertive or not assertive enough

Cartoon: Women's porn - man pushing a vacuum cleaner

Cartoon: yeah but if a women had his head cut off she would be a bitch

Heidi Roizen v Harold Roizen - survey driven "Heidi is a bitch"

Cartoon: that's a great point Ms T, let's just wait till one of the men makes it

What about fear of sexual harassment — no 1-1s with women —> what to do? Push back.

How can women solve work-life balance?

Gloria Steinem: Women can't until men want to

There is no evidence that training works. Probably because training is very uneven.

Mentorship and Sponsorship programs are really important.

Unconscious bias - how to handle?

Monitor and have people give reasons. Track numbers. Hold people accountable for progress.

Tech has made it easier to work at home. But also harder to not work all the time at home. Tethering to devices disrupts family life.

Sexual harassment. Only 5% report it. But if others have reported it, it is more likely. So a system that allows a victim to file anonymously

and wait to see if someone else files an issue then they can come forward - we do that at Stanford.

What about Pay Equity? More public data. Teaching negotiating skills. Women Don't Ask Book.

Women Don't Ask: The High Cost of Avoiding Negotiation--and Positive Strategies for Change https://www.amazon.com/dp/0553383876/ref=cm_sw_r_cp_api_FfKnBb1A4Q77G

Gloria Steinem: The truth will set you free but first it will piss you off

Relentlessly pleasant. Works in difficult patriarchal situations. Be extremely insistent...in the nicest possible way. Sugarcoating. Steel magnolias. A skill that works.

On-site daycare is cost effective for recruiting

All Girls Networks

Emily's List - 16k v 1k last year inbound

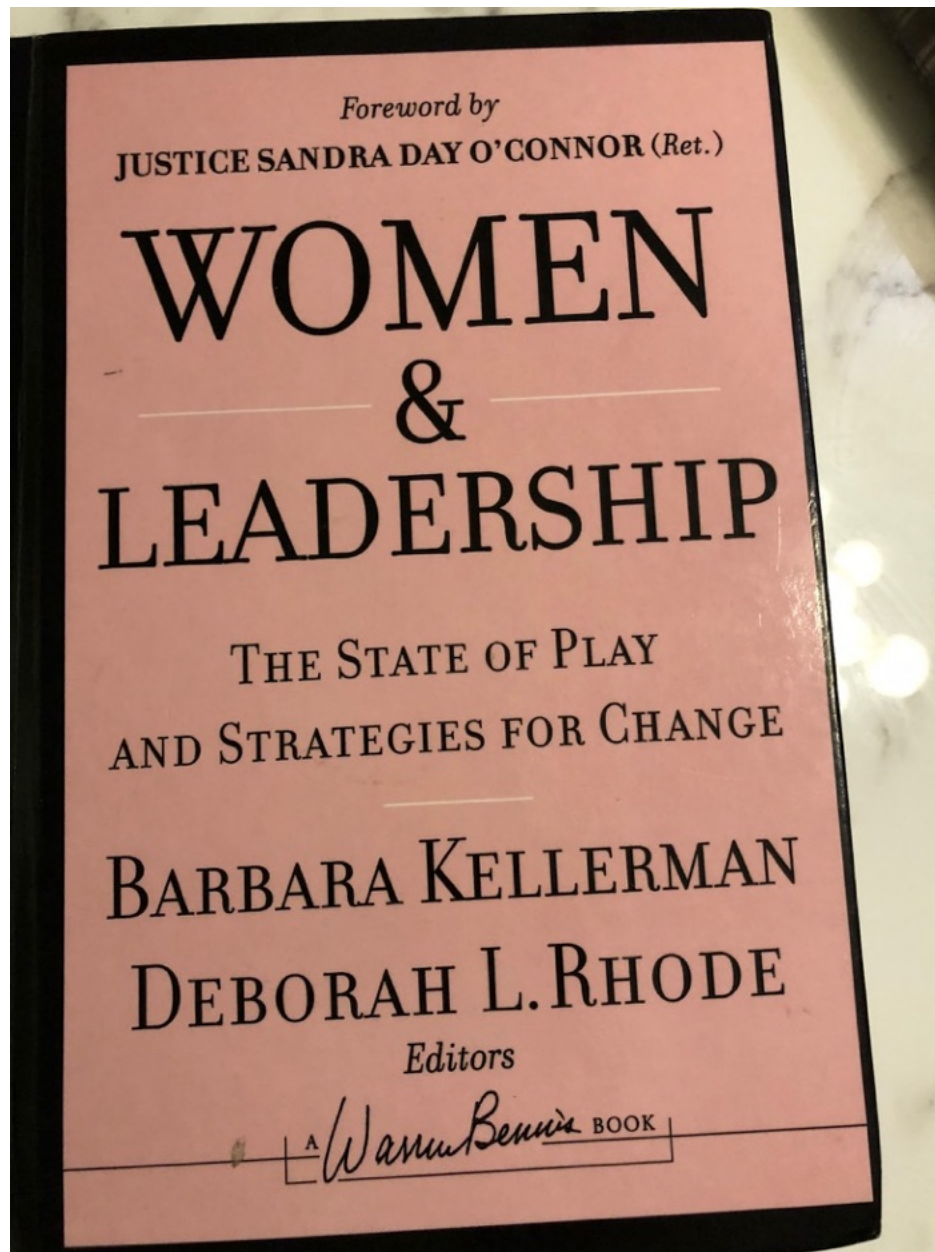
Women who run do just as well

The problem used to be

There will be a woman president. She won the popular vote.

We are not where we want to be. But we are not where we once were
- MLK

WOMEN LEADERS NOTES / Notes on Rhode Book



color, compared with 39 percent of white women and only 2 percent of white men, report being passed over for desirable work assignments.⁶⁴

A similar problem confronts potential leaders in other professional and political settings in the United States and abroad.⁶⁵ The relatively small number of women who are in positions of power often lack the time or the leverage, or in some cases the inclination, to assist all who may hope to join them. Differences across race, ethnicity, and culture compound the problem. White men who would like to fill the gaps in mentoring often lack the capacity to do so or are worried about the appearance of forming close relationships with women, particularly women of color.⁶⁶ Although a growing number of organizations are attempting to respond by establishing formal mentoring programs and women's networks, the playing field is still far from level.

Gender Roles in Family Settings

Ironically, the home is no more an equal opportunity employer than the workplace: only in domestic matters the presumptions of competence are reversed, which creates unequal family burdens. Women are, and are expected to be, the primary caregivers, especially of the very young and the very old. In principle most men support gender equality—but in practice they fail to structure their lives to promote it. Despite a significant increase in men's domestic work over the last two decades, women continue to shoulder the

HIGHLIGHTS FROM WOMEN AND LEADERSHIP

Often hard for women to help other women

Inequity at home exacerbates inequity in office

Great Steinem line responding to "what can women do..." "women cant unless men are asking the question too"

Need flexible work hours and locations, policies to protect same

Including women leaders means including some different views, even if it is unclear that all women are similar to each other

Generally thought that women are higher EQ, participatory, empathetic, supportive, collaborative - confirmed in small scale or self-report studies. But not confirmed in large scale work — where women and men appear the same. Socialization may distort the small studies. And societal norms are shifting toward collaborative leadership and men are adopting it.

Women in power sometimes advocate for women and raise women's issues. Other times they avoid this to avoid being labeled as feminist or abrasive.

Avoid self-help writers. They focus only on personal strategies like find a mentor and maintain work-life balance. Structural change is essential.

Structural change agenda

- Commitment and accountability
- Measurement and reporting
- Quality of life and Work-Family initiatives
- Mentoring and Women's Networks
- Leadership style: ask for hard assignments, have informal networks and mentors, be comfortable but also have authoritative style that works in the particular organization, have a style that works on men too
- Family-Home Balance: develop leverage and delegation at home; stay involved with professional world when taking time off with children; arrange flex around work schedule to balance with home.
- Read The Hidden Brain Drain
-

Dahlerup: globally, quotas work. Nothing else does. Based on research with parliaments.

Heifetz: Adaptive Leadership and women

Pitfalls for male supporters of change. Consequence is men avoid participating. (Eg at Knotel: Amit attitude or charges of tokenizing gender or minority roles)

Adaptive Leadership as a theory of leadership espouses traits often associated with women's style: leading without a directive or high-certainty agenda, leading without formal grants of authority/ influencing, and leading in a collaborative Let The People Do The Work style.

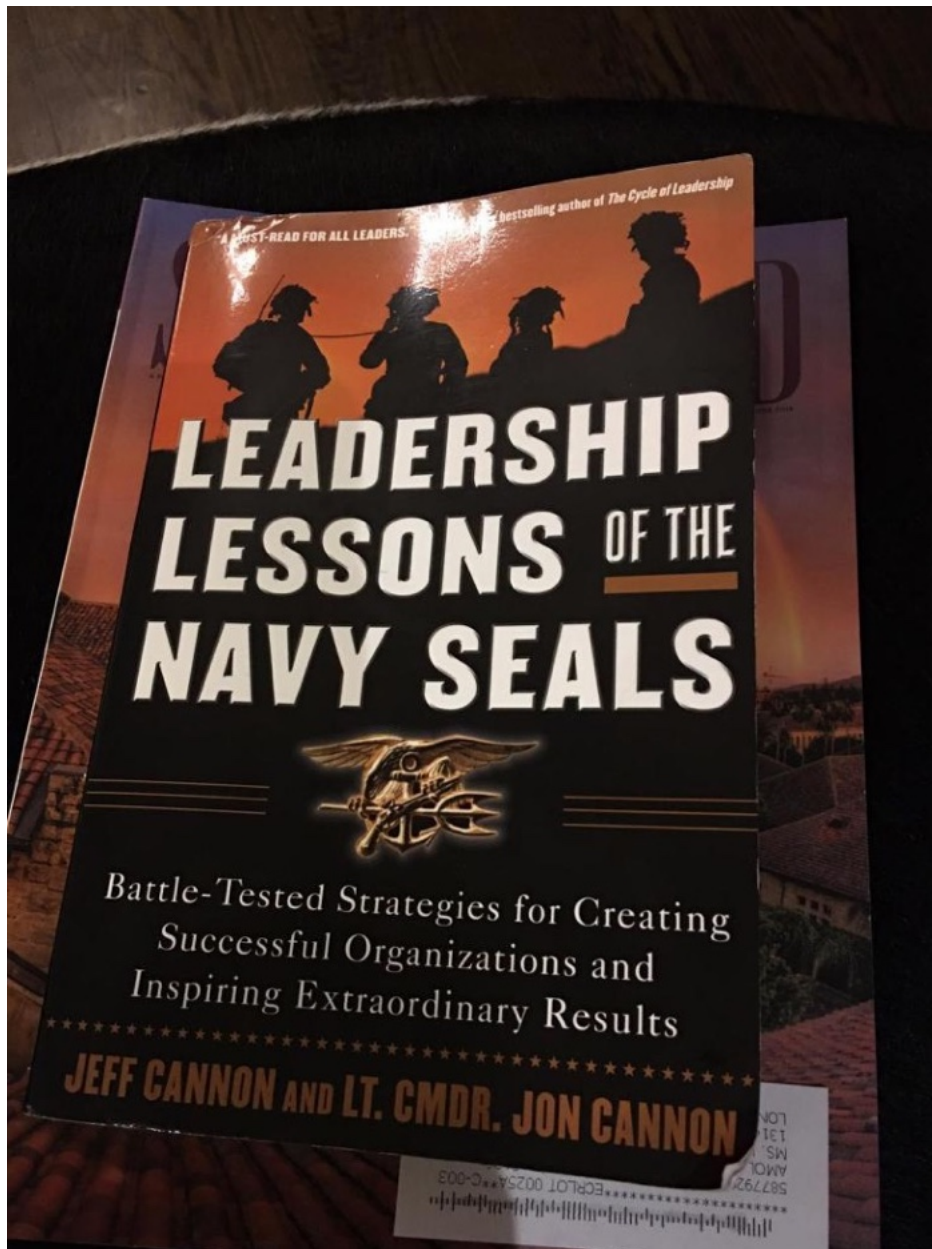
Missing from discussions: what do men have at stake? What will they lose if the world changes? Will it be a period of loss without a substitute value? Are there competing values being betrayed (tradition, reward for sacrifice, meritocracy)?

"People resist the various forms of loss that often accompany change."

Pittinsky et al: Women Leader Stereotypes

Some writers espouse a "women are better leaders" narrative. It says first that women are naturally different and second that this is better. Little evidence in research to support the difference here. And risks in putting women in a focus light with the "they are different" label.

Leadership Secrets of the Navy Seals



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Chapter 1 • Setting Goals

Lesson 1	Choose a Path or Take Your Chances	11
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High hopes here but kind of a shrill book. Bad writing I guess – formulaic, repetitive, uninteresting. The SEALs seem awesome but this isn't quite awesome.

You can learn everything it has to say from studying the chapter titles and thinking. So here they are:

A couple of topics were a little more complicated. These:

Types of managers (a menu):

Screamer – Volcano

Friend – Country Club

Rule follower – Accountant

Never satisfied – Stepfather

Rule breaker – Cowboy

→ use different styles for different situations. No always the same.

What you need to give people:

Responsibility – a mission

Authority – resources

Accountability – feedback

Sources of leadership authority that you can tap

Moral

Technical

Knowledge

Organizational

Inspirational

What people need

Pay – enough

Titles – authority

Respect – fairness

Recognition – good or bad

Loads – no B people to carry around

Trust – yours

And: It's notable that an organization whose onboarding most people fail to survive is considered very great. Most companies are afraid to let half or 90% of their new hires quit.

Melville on Leadership

'Twas not so hard a task. I thought to find one stubborn, at the least; but my one cogged circle fits into all their various wheels, and they revolve. Or, if you will, like so many ant-hills of powder, they all stand before me; and I their match. Oh, hard! that to fire others, the match itself must needs be wasting! What I've dared, I've willed; and what I've willed, I'll do! They think me mad-Starbuck does; but I'm demoniac, I am madness maddened! That wild madness that's only calm to comprehend itself! The prophecy was that I should be dismembered; and- Aye! I lost this leg. I now prophesy that I will dismember my dismemberer. Now, then, be the prophet and the fulfiller one. That's more than ye, ye great gods, ever were. I laugh and hoot at ye, ye cricket-players, ye pugilists, ye deaf Burkes and blinded Bendigoes! I will not say as schoolboys do to bullies- Take some one of your own size; don't pommel me! No, ye've knocked me down, and I am up again; but ye have run and hidden. Come forth from behind your cotton bags! I have no long gun to reach ye. Come, Ahab's compliments to ye; come and see if ye can swerve me. Swerve me? ye cannot swerve me, else ye swerve yourselves! man has ye there. Swerve me? The path to my fixed purpose is laid with iron rails, whereon my soul is grooved to run. Over unsounded gorges, through the rifled hearts of mountains, under torrents' beds, unerringly I rush! Naught's an obstacle, naught's an angle to the iron way!

Notes on Scrum by Sutherland from Jayson White

Scrum; Key Ideas.

1. Reframing the Ends of Management and the Mechanics of Teamwork.

The term comes from the Rugby scrum - team alignment, unity of purpose, clarity of goal come together. Sounds familiar, right?

However, traditional management theory aims for these ideals via 1) control and 2) predictability. Planning, charts and graphs are intended to eliminate risk and to make the future conform to present expectations. That never happens--and even less as the global/digital economy continues to unfold.

So, instead, frame teamwork around:

- 1) discovery of problems and
- 2) bursts of inspiration.

2. What's management about;

- Servant Leadership; Management's principal work is impediment removal for team performance. Eliminating wasted time, energy and ideas.

- Inspect and Adapt; Fail fast so you can fix early. Continuous Improvement by reframing goal development and day-to-day work around team insights
- Unlocking Greatness; Teams are mostly limited by outdated notions of productivity. Teams can realize categorical increases in team productivity (over and over)

"Planning Is Useful. Blindly Following Plans Is Stupid. It's just so tempting to draw up endless charts. All the work needed to be done on a massive project laid out for everyone to see—but when detailed plans meet reality, they fall apart. Build into your working method the assumption of change, discovery, and new ideas."

3. Teams; The best teams are;

- Transcendent; Focused on a sense of purpose larger than the simple task at hand. For us is this transformation of the commercial real estate industry? Innovation in the way companies use space to grow? Creativity in the built environment itself? Why are we here?
- Autonomous; Empowered and incented teams can achieve--and improve--goals without dependence on a pre-dictated outcome, timeline or budget. Teams report on completed projects, not excuses for why work didn't get done.
- Cross-Functional; Skill sets should cover the core competencies to complete (and rethink as needed) the objectives and the work. The empowered, capable, cross-functional team will escape the confines of hierarchy pretty quickly, it seems.

4. Scrum and the Strength of Seven-man Teams; "Brook's Law" in software development opines that "adding manpower to a late project makes it later." Teams of 3-7 get the same amount of work done as teams of 8-25. Its just science.

One reason - the human mind can really only retain info best in groups of 7 or less. (Phone numbers have seven digits for this reason, he claims.)

But the management principals at play really are the wastefulness of onboarding new team members and our limited ability to track inputs and outputs from more than 7 channels.

Creative vs Performance managers

<https://www.americamagazine.org/politics-society/2018/06/29/montessori-schools-are-exceptionally-successful-so-why-arent-there-more>

6:02 ↵



The idea that less-educated teachers are better because they take less initiative shocks us because we instinctively feel that teaching is, or ought to be, a creative activity in which teachers must deploy their spontaneity and innovative skills. But think about what that means. If you hear that a medical researcher working on an intractable disease has unleashed his creativity and thought outside the box, you will applaud. If you hear that your airplane's safety officer has decided to throw the rulebook out the window and express her inner creativity, you will demand to get off the flight. Human civilization advances not when a genius produces new knowledge but when novel insight gets translated into processes that enable non-geniuses to disseminate the product of that knowledge throughout society. It is not glamorous, but it is what actually changes the world. We know we have made progress not when a genius is able to do something new but when non-geniuses are able to repeat it.

**Not the Montessori Method;
the Scientific Method**




Small Group Interactions and Team IQ Literature

Group Cohesion Markers

Articles

Group Cohesion: Then and Now

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Lindred L. Greer¹

Abstract

Group cohesion is a topic that has long been important to small group research. In this special issue, we trace the evolution of group cohesion research from the past to the present day. We are reprinting four classic articles on group cohesion that all mark important turning points in the literature, and we conclude with a modern day review of cohesion in the sports context. Together, these articles span the decades of cohesion research, providing interesting insights into how cohesion has been viewed at different points in time, how the field has developed, and how research on group cohesion still can grow.

Keywords

cohesion, work groups, performance

A Historical View on Group Cohesion

While reviewing the cohesion articles that have appeared in *Small Group Research* over the years, several trends stand out. First, the topic of group cohesion has remained a remarkably popular research topic over the course of nearly half a century. While many topics come and go as hot topics for research, articles on group cohesion consistently find their place in academic journals. In total, 77 articles on the topic of cohesion have appeared in *Small Group Research* since the start of the journal in 1970, making it one of the

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most commonly appearing topics in the journal. At a broader cross-discipline level, entering the search term “group cohesion” in Google scholar yielded over 43,800 matches. Few topics in small group research can come close to rivaling the bulk of research on group cohesion.

Second, in addition to the sheer amount of research on group cohesion, the relative impact of articles published on the topic of group cohesion is remarkably high. Of the most-cited *Small Group Research* articles, the most commonly occurring topic is group cohesion (11 of the top 40 cited articles in the journal concern group cohesion). Indeed, all articles reprinted in this issue have been highly influential in the field; Evans and Dion's (1991) article is the second most-cited article in *Small Group Research*, and Gully, Devine, and Whitney's (1995) article the third most cited.¹

One of the potential reasons why group cohesion has had such a high impact on the field of small group research and beyond is that it is one of the few areas of small group research where the main conclusion from the literature—that cohesion is moderately positive for group performance—has remained relatively constant over the years, as evidenced by multiple meta-analyses (e.g., Beal, Cohen, Burke, & McLendon, 2003; Chiocchio & Essiembre, 2009; Evans & Dion, 1991; Gully et al., 1995). While the relative strengths of effects may vary based on context and task, in general, cohesion is a remarkably robust process in teams, which researchers have been able to apply across a variety of contexts and disciplines.

As cohesion research has spread across different domains of research, inconsistencies in definition and measurement have inevitably occurred over time. While researchers have reliably agreed over time that attraction to the group is an important element of group cohesion (from Festinger, Schachter, & Back, 1950, to Chiocchio & Essiembre, 2009), the exact dimensionality of cohesion continues to be a source of debate. In addition, the generalizability of cohesion and its effects across different team types and contexts is also still called into question (see Pescosolido, 2012, in this special issue). Therefore, while our theoretical understanding of cohesion across a variety of contexts has grown and become more nuanced over the years, room for future research remains in continuing to understand the differences in the nature and effects of cohesion across different types of groups and group contexts.

Paralleling the advances in the theoretical development of group cohesion over the last decades, the measurement of group cohesion has also substantially evolved. The spread of cohesion research across disciplines has meant that methods for researching group cohesion have had to evolve and fit different contexts. In addition, with increasing awareness of the importance of identifying and accounting for levels of analysis in small group research

(e.g., Bonito, Ruppel, & Keyton, 2012), cohesion research is increasingly conducted in a multi- or group-level manner, rather than utilizing individual-level analyses of individual perceptions.

While both theory and measurement of group cohesion have considerably developed over the years, important questions still remain. For example, since the beginning of cohesion research, theorists have pleaded for more theoretical and empirical attention to the dynamics by which cohesion evolves in groups and how cohesion may differ in different phases of group life. To this day, this is still cited as a future research direction in many articles on group cohesion (e.g., Chiocchio & Essiembre, 2009). The question then arises as to why this area of research has still yet to develop, and the answer undoubtedly lies in the complexity, both theoretically and empirically, of pulling apart the multilevel dynamics by which cohesion arises and changes over time in groups. However, with increasing methodological knowledge of how to model the evolution of dynamic group processes over time, there is hope that the next generation of cohesion research will begin to address this need in the literature.

You will undoubtedly see other trends, similarities, differences, and paradoxes when reading these classic cohesion pieces over the years (Carron & Brawley, 2000; Drescher, Burlingame, & Fuhrman, 1985; Evans & Dion, 1991; Gully et al., 1995), concluding with the present day review of cohesion in sports teams by Pescosolido (2012). Future submissions to *Small Group Research* that investigate these ideas would be welcome.

An Introduction to the Articles in the Cohesion Special Issue

The five articles contained in this issue each portray the field at a certain snapshot in time. Drescher et al.'s (1985) article offers an important overview of the first wave of research on cohesion in groups, identifying important parameters to consider when defining and operationalizing cohesion. Their framework helped provide clear boundaries and decision factors to consider that shaped cohesion research for years to come. Evans and Dion's (1991) article presents an important meta-analysis of the literature, in which they find that cohesion was moderately positive for group outcomes. Gully et al.'s (1995) meta-analysis, published several years later, provides important nuance to Evans and Dion's (1991) meta-analysis by showing that the relative strength of effects of cohesion on group outcomes may vary based on task interdependence and the level of analysis at which cohesion is operationalized and tested. Carron and Brawley's (2000) article addresses the large

Gully, S. M., Devine, D. J., & Whitney, D. J. (1995). A meta-analysis of cohesion and performance: Effects of level of analysis and task interdependence. *Small Group Research*, 26, 497-521.

In the years following Evans and Dion's (1991) meta-analysis, a growing wave of research investigated the generalizability of the positive effects of team cohesion across different team contexts. The next meta-analysis by Gully et al. (1995) provided important nuance to the conclusions from Evans and Dion's (1991) meta-analysis. In their meta-analysis, including 46 studies of group cohesion (compared to the 16 ultimately included in Evans & Dion's [1991] meta-analysis), Gully et al. (1995) find that while cohesion generally has a positive relationship with performance, this relationship is more complex than commonly assumed in the literature at that point. They document that cohesion is most strongly linked to performance on interdependent tasks, and that the effects of cohesion in performance are also largely shaped by variations in the level of analysis used to conceptualize and operationalize cohesion. Namely, they find that the effects of cohesion on performance are stronger when both constructs are measured at the group level of analysis. Together, their meta-analysis marks an important turning point in the field, from which point onward more attention was given to task type and the importance of the level of analysis in cohesion research (and small groups research more broadly).

Carron, A. V., & Brawley, L. R. (2000). Cohesion: Conceptual and measurement issues. *Small Group Research*, 31, 89-106.

In the years following Gully et al.'s (1995) article, cohesion research continued to grow in a variety of different disciplines. The article by Carron and Brawley (2000) provided an important foundation piece in understanding and thinking about how existing cohesion research should best be applied across different disciplines and types of teams. They suggest that the discipline in which cohesion is investigated matters, and that researchers should not assume that definitions and operationalizations appropriate for one type of team will necessarily apply for other types of teams. Rather, when applying cohesion research to new settings, the onus is on the researcher to adequately pretest both theoretical and empirical aspects of cohesion in the setting they wish to examine. Carron and Brawley (2000) give explicit guidelines on how both definitions and measurements of cohesion can best be pretested and adapted to new contexts. Their guidelines have been helpful to researchers across a variety of disciplines, as cohesion has become a popular topic in a variety of team types, ranging from consulting project teams to musical bands. Their guidelines provide a useful reminder of the theoretical and empirical considerations researchers need to make when conducting interdisciplinary research on group cohesion and other topics.

Pescosolido, T. (2012). Cohesion and sports teams: A review. *Small Group Research*, 43.

In the final article in this special issue on group cohesion, Pescosolido (2012) reviews the effects of cohesion in research on sports teams up to the present day. He follows up on the query of Carron and Brawley (2000) to explore the emerging trends in specifically the discipline of sports research. He concludes that cohesion does not necessarily operate fundamentally differently in sports teams as Carron and Brawley (2000) suggested, but rather that in sports teams, compared to other team types, there are different contextual factors present. In other settings where these factors do not exist in the same manner, the effects of cohesion may be clouded, or masked. Therefore, in future research, Pescosolido advocates the importance of taking into account contextual factors, such as interdependence, team identification, colocation, and feedback immediacy, to gain a clear picture of the effects of cohesion in sports teams and beyond.

Conclusion

We hope that this special issue on group cohesion, encapsulating classic turning points in the literature and concluding with a state-of-the-art theoretical review of the role of cohesion in a cross-discipline setting—sports teams—offers you the opportunity to further your own thinking about the continuing role of cohesion in small group research. Your comments, ideas, and responses are welcome.

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Note

1. For those interested, the number one most-cited article in the history of the journal is McGrath's (1991) theory paper on time and interaction in groups.

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Thin Slices Negotiation - What Can You Learn in Five Minutes

Searching

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Thin slices of negotiation:

Predicting outcomes from conversational dynamics within the first five minutes

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Thin slices of negotiation:**Predicting outcomes from conversational dynamics within the first five minutes**

Decades of research in social psychology illustrate the surprising power of first impressions. From contexts as diverse as evaluating classroom teachers, selecting job applicants, or predicting the outcomes of court cases, human judgments made on the basis of just a “thin slice” of observational data can be highly predictive of subsequent evaluations.

The term “thin slice” comes from a frequently cited article by Ambady and Rosenthal (1993; see also Allport, 1937; Funder & Colvin, 1988; Gladwell, 2005; Goffman, 1979), who had college students evaluate 30-second silent video clips of instructors teaching a class, and found high correlations between those evaluations and end-of-semester ratings of the same instructors by their respective students ($r = .76$). This result was replicated with high school teachers, and using even thinner slices of video (as short as six seconds for each instructor).

Earlier research found a similar pattern of results when examining decision-making behavior in the context of the employment selection interview (for a review, see Wright, 1969). That is, an interviewer’s impressions are formed in the early stages of the interview, and tend to persist throughout the interaction (Webster, 1964; also see Prickett, Gada-Jain, & Bernieri, 2000). Whereas most research on employment interviews uses the dichotomous hiring decision as the primary dependent variable, Webster (1982) likened the interview process to a conflict situation, and Rosenthal (1988) has argued that expectancy effects should be evident in the context of negotiations.

The current research explores the degree to which thin slices of an employment negotiation predict subsequent economic outcomes. More specifically, our study demonstrates the degree to which four conversational dynamics, occurring within the first five minutes of a two-party, simulated employment negotiation, predict the outcomes of that negotiation. We also explore how the status of the negotiating parties interacts with these conversational dynamics.

This study extends research and theory in a number of important ways. First, whereas the majority of research demonstrating the thin slices phenomenon applies to impression formation

and person perception, the present research applies the thin slices phenomenon to the behavioral outcome of a transactional negotiation. Second, whereas most thin slices research to date has tended to focus on the accuracy of intuition or snap judgments that may take many factors into account, the present research is based on formal micro-analyses of highly specific speech features. Third, whereas past research has demonstrated the predictive validity of human observers (or judges), the present research demonstrates the predictive validity of computers. Fourth, the present research provides preliminary evidence that conversational dynamics might play a critical role in negotiation, a role that appears to vary as a function of status differences in an organizational hierarchy. Finally, by using computer algorithms to explore the operation of thin slices phenomena within a negotiation context, we hope to provide a useful diagnostic instrument that might facilitate future research on negotiation processes as well as applications for training and evaluating negotiators.

Thin Slices Research

Thin slices of behavioral data have been shown to predict a broad range of consequences, including therapist competency ratings (Blanck, Rosenthal, Vannicelli, & Lee, 1986), personalities of strangers (Borkenau, Mauer, Riemann, Spinath, & Angleitner, 2004), and even courtroom judges' expectations for criminal trial outcomes (Blanck, Rosenthal, & Cordell, 1985; for reviews, see Ambady, Bernieri, & Richeson, 2000; Ambady & Rosenthal, 1992)

One of the most impressive examples of thin slices predicting important, long-term consequences is marital research conducted by Gottman and his colleagues (for a review, see Gottman & Notarius, 2000). For example, Gottman and Levenson (1992) carried out one of the first longitudinal studies predicting divorce among married couples based solely on the interaction of the couple during a dispute and their associated physiological responses. Even more striking, Carrère and Gottman (1999) were able to predict marital outcomes over a six year period based on human micro-coding of positive and negative affect over just the first 3 minutes of a marital conflict (i.e., an even thinner slice of expressive behavior). As in the employment

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interview context, the very *beginning* of the marital discussion (i.e., the “startup” phase) appears to have the most predictive power (Gottman, 1979).

Across a wide range of studies, Ambady and Rosenthal (1992) found that observations lasting up to five minutes in duration predicted their criterion for accuracy with an average effect size of $r = .39$. This effect size corresponds to 70% accuracy in a binary decision task (Rosenthal & Rubin, 1982). It is astounding that observation of such a thin slice of behavior can predict important behavioral outcomes such as professional competence, criminal conviction, and divorce, when the predicted outcome is sometimes months or years in the future. The key to success lies in understanding social signaling which is often nonverbal in nature (Blanck & Rosenthal, 1982; Blanck et al., 1985). We turn next to a brief review of that literature.

Social Signaling and Conversational Dynamics

Animals communicate and negotiate their position within a social hierarchy in many ways, including dominance displays, relative positioning, and access to resources. Humans add to that repertoire a wide variety of cultural mechanisms such as clothing, seating arrangements, and name-dropping (Dunbar, 1998). Most of these culture-specific social communications are conscious and easily manipulated.

However, in many situations, non-linguistic social signals (e.g., body language, facial expressions, and tone of voice) are as important as linguistic content in predicting behavioral outcomes (Ambady & Rosenthal, 1992; Nass & Brave, 2004). Indeed, some have argued that such vocal signaling originally evolved as grooming and dominance displays, and continues to exist today as a complement to human language (Dunbar, 1998; Provine, 2001).

While the human ability to judge outcomes from thin slices of behavior has been well documented, there is no complete theory of which signals participants might be employing to make those judgments. One method of building toward such a theory is to compare candidate signal features that have already been suggested in the literature with behavioral outcomes, to determine which signals (if any) have predictive power similar to that of human judges. Finally,

we can examine how these predictive social signals relate to existing theories of mental function and social interaction.

Toward this end, Pentland (2004) constructed four measures of vocal quality and conversational interaction which could possibly serve as predictive social signals. These four measures, which are designated activity, engagement, emphasis, and mirroring, were extrapolated from a broad reading of the voice analysis and social science literature in an attempt to find plausible candidates for predictive social signals. Below, we review these four general measures of conversational dynamics (or speech features), and hypothesize the relationship between each dynamic and its potential for influencing negotiation outcomes.¹ Within the Methods section, we describe the mathematical processes used to calculate each of the four measures.

Activity

Our simplest measure is activity, which is the fraction of time a person is speaking. Some individuals speak profusely and are quite animated in negotiations, whereas others adopt a more passive approach. Percentage of speaking time is known to be correlated with interest level (Dunbar, 1998) and extraversion (Nass & Brave, 2004). In the domain of negotiation, Barry and Friedman (1998) found a trend whereby extraversion correlated positively with individual outcomes in an integrative bargaining task similar to the one used in the present study.

In a recent meta-analysis, Schmid Mast (2002) found a high correlation between speaking time and individual dominance, particularly among same-sex groups and when dominance was operationalized as a function of role assignments (as opposed to personality traits). Indeed, in studies involving competitive settings similar to a negotiation, speaking time is positively correlated with dominance over the outcome (e.g., Bottger, 1984; Littlepage, Schmidt, Whisler, & Frost, 1995). Thus, more speaking time during the first five minutes should be correlated with better individual outcomes.

Hypothesis 1: An individual's activity level during the first five minutes of the negotiation will be positively correlated with his or her own individual outcome.

Engagement

Engagement is measured by the influence that one person has on the other's conversational turn-taking. When two people are interacting, their individual turn-taking patterns influence one another, and the whole can be modeled as a Markov process (Jaffe, Feldstein, & Cassotta, 1967; also see Thomas & Malone, 1979). By quantifying the conditional probability of person A's current state (speaking versus not speaking) given person B's previous state, we obtain a measure of person B's engagement (i.e., person B's influence over the turn-taking behavior). If two individuals are practically talking over one another, then both will have high engagement scores, whereas long pauses between speakers would lead to low engagement scores. One-sided engagement is when one person is energetically questioning another, and the other begins speaking only after the questioner ceases speaking.

An individual's engagement measure may be an indication of attention paid by the other participant. In one of the first studies to formalize the measure of conversational turn-taking, Jaffe, Beebe, Feldstein, Crown, & Jasnow (2001) found that timing of vocalizations between 4-month-old infants and their caregivers was predictive of infants' cognitive and social development as measured at 12 months. Choudhury and Pentland (2004) recorded all interactions among 24 individuals within their place of work for a period of 2 weeks (approximately 1,600 hours of audio data), and found a very strong correlation ($r = 0.90$) between a person's measured engagement and his or her betweenness centrality (Freeman, 1977; 1979)—i.e., the extent to which he or she played the role of a “connector” in the workplace social network (Gladwell, 2000). Indeed, influence over conversational turn-taking is popularly associated with good social skills or higher social status (Dunbar, 1998).

Recent evidence from research on competitive allocation tasks suggests that both power and status are linked to individual outcomes, and that this relationship is mediated by partner's attention (Proell, Thomas-Hunt, & Fragale, 2006; see also Solnick & Schweitzer, 1999). In a study on negotiation, individuals who were primed with the recollection of a time when they felt dominant or powerful tended to wield more influence over the early stages of the negotiation

process (e.g., making the first offer to gain an anchoring advantage, Galinsky & Mussweiler, 2001), and in so doing, they achieved superior individual outcomes (Magee, Galinsky, & Gruenfeld, 2006). Influence over conversational turn-taking during the early stages of a negotiation could signal control over influential factors such as the agenda, which could yield a strategic advantage (Pendergast, 1990). Thus, influence over conversational turn-taking during the first five minutes of a negotiation should be associated with influence over the outcome.

Hypothesis 2: An individual's level of engagement during the first five minutes of the negotiation will be positively correlated with his or her own individual outcome.

Emphasis

Emphasis is measured by variation in speech prosody—specifically, variation in pitch and volume. Prosody refers to speech features that are longer than one phonetic segment and are perceived as stress, intonation, or rhythm (Werner & Keller, 1994; also see Handel, 1989). If an individual's voice has a large dynamic range (e.g., from a whisper to a shout), this results in a high emphasis score.

The concept of prosodic emphasis has appeared in research on child development. For instance, Fernald and Mazzie (1991) argued that mothers' use of exaggerated pitch peaks to mark focused words may aid infants in their speech processing. As speech prosody often is used to communicate emotions (Frick, 1985; Thompson, Schellenberg, & Husain, 2004), our emphasis measure may therefore be an indication of the importance a speaker attaches to the interaction.

In a negotiation, emotionality can be a sign of desperation. One of the primary reasons people use negotiation agents is because agents tend to be more emotionally detached (Thompson, 2005). Cohen (2003) argues that one of the greatest liabilities in negotiation is conveying to the other side that you "care too much" about the outcome. Indeed, a negotiator's level of influence is negatively correlated with one's own feeling of dependence (Giebels, De Dreu, Van de Vliert, 2000), and positively correlated with one's perception of the counterpart's dependence (Rinehart & Page, 1992; also see Emerson, 1962). Thus, vocal stress during the first

five minutes, because it might signal emotionality or dependence on the other side, should represent a liability in negotiation.

Hypothesis 3: An individual's level of emphasis during the first five minutes of the negotiation will be negatively correlated with his or her own individual outcome, but positively correlated with the counterpart's individual outcome.

Mirroring

When the observable behavior of one individual is mimicked or "mirrored" by another, this could signal empathy, and has been shown to positively influence the smoothness of an interaction as well as mutual liking (Chartrand & Bargh, 1999). The nonconscious mimicry of others' overt behaviors (e.g., body movements, facial expressions, or speech) seems to serve an adaptive social function (for a review, see Chartrand, Maddux, & Lakin, 2005). For example, Van Baaren, Holland, Steenaert and Van Knippenberg (2003) found that when waitresses mimicked the speech of their customers, they received higher tips than when they did not mimic their customers' speech. In our study, the distribution of utterance length was bimodal. That is, sentences and sentence fragments typically occurred at several-second and longer time scales, whereas time scales less than one second tended to be short interjections (e.g., "uh-huh"), but also back-and-forth exchanges typically consisting of single words (e.g., "OK?", "OK!", "done?", "yup."). We treated the occurrence of short back-and-forth exchanges (i.e., reciprocated short utterances) as a proxy for vocal mimicry, which we call "Mirroring."² Based on the results of Van Baaren et al. (2003), mirroring behavior during the first five minutes of a negotiation should be associated with improved individual outcomes.

Hypothesis 4: An individual's frequency of mirroring during the first five minutes of the negotiation will be positively correlated with his or her own individual outcome.

The results of both models are presented in Table 3. The regular regression predicting to joint points showed no significant effect of speech features. However, the APIM analyses predicting to individual points yielded a number of significant effects.⁶ Using the method prescribed by Raudenbush and Bryk (2002), we compared the residual variance in the “unconditional” model (i.e., with no predictor variables) versus the “conditional” model (i.e., including predictor variables) to obtain relevant measures of *R*-squared (also known as “pseudo *R*²”). Including all four speech features, the model predicted a total of 30% of the variance in individual points (*R*² for Middle Managers = .36, *R*² for Vice Presidents = .23). The effect of each speech feature on individual points is discussed below.

Activity. Hypothesis 1 proposed that activity level would be positively correlated with individual outcomes. This effect was confirmed for Vice Presidents ($\beta = .32, p < .05$), but not for Middle Managers ($\beta = -.20, ns$). The relevant role by activity interaction was significant ($\beta = .52, p < .05$), indicating that speaking time during the first five minutes was related to individual outcomes differentially for Middle Managers and Vice Presidents. Middle Managers who spoke more tended to have Vice President counterparts who earned better individual outcomes, as illustrated by the Vice President partner effect ($\beta = .36, p < .05$). However, the activity level of Vice Presidents was not associated with Middle Manager individual outcomes ($\beta = -.11, ns$). The relevant role by activity interaction was significant ($\beta = .47, p < .05$), indicating that counterpart's speaking time during the first five minutes also was related to individual outcomes differentially for Middle Managers and Vice Presidents.

Engagement. Hypothesis 2 proposed that engagement (i.e., influencing the other side's conversational turn-taking) would be positively correlated with individual outcomes. This hypothesis was not supported for Vice Presidents ($\beta = .13, ns$) or for Middle Managers ($\beta = -.28, p < .10$), yet the relevant effects suggest what might be, if there were sufficient power, a role interaction similar to that seen with activity level—i.e., one in which engagement is related to individual outcomes differentially for Middle Managers and Vice Presidents. Nevertheless, the relevant role by engagement interaction was not statistically significant ($\beta = .42, p < .10$).

Engagement by one's counterpart was not related to one's own individual points (Middle Manager $\beta = .04$, *ns*; Vice President $\beta = .19$, *ns*), and this result did not vary by role ($\beta = .14$, *ns*).

Emphasis. As predicted by Hypothesis 3, prosodic emphasis during the first five minutes was negatively correlated with one's own individual outcomes ($\beta = -.28$, $p < .05$), and positively correlated with the individual outcomes of one's counterpart ($\beta = .42$, $p < .01$). Neither of these effects interacted with status ($\beta = .19$, *ns* and $\beta = -.02$, *ns*, respectively).

Mirroring. Hypothesis 4 proposed that mirroring would be positively correlated with individual outcomes. Indeed, Middle Managers earned better individual outcomes when vocal mirroring was high (at the dyad level) in the first five minutes ($\beta = .30$, $p < .05$). However, Vice Presidents' individual outcomes were not related to mirroring ($\beta = -.08$, *ns*). The role by activity interaction was not statistically significant ($\beta = -.38$, $p < .10$), yet once again the relevant effect sizes suggest what might be, if there were sufficient power, a role interaction. Because of the multicollinearity issue (mentioned above), partner effects could not be calculated for this feature.

Sex and Role Effects. Although not the primary focus of the current investigation, sex (male = 0, female = 1) and role (Middle Manager = 0, Vice President = 1) were included as control variables in our analyses. Table 4 presents economic outcomes as a function of sex and role. No sex differences were found in individual or joint points ($\beta = -.02$, *ns* and $\beta = .05$, *ns*, respectively).⁷ However, we did find a considerable role effect whereby Vice Presidents generally outperformed Middle Managers ($\beta = .64$, $p < .01$).

Discussion

Four conversational dynamics (or speech features) occurring within the first five minutes of a negotiation were highly predictive of subsequent individual outcomes. In fact, the overall effect sizes demonstrated in this study ($r = .60$ for Middle Managers and $r = .48$ for Vice Presidents) were considerably higher than the average effect size from past thin slices research ($r = .39$, Ambady & Rosenthal, 1992). Moreover, most past studies relied on human intuition to generate predictions, whereas the present study used exclusively computer algorithms. As a

result, the present study identified specific features of thin slices which correlated with subsequent behavioral outcomes.

Perhaps the most striking finding was that conversational dynamics associated with individual success among high-status parties tended to be different from those associated with individual success among low-status parties. For example, proportion of speaking time was associated with individual outcomes for Vice Presidents but not for Middle Managers.

Conversely, vocal mirroring during the first five minutes benefited Middle Managers, yet not Vice Presidents.

The only speech feature for which such an interaction did not emerge (at $p < .10$) was prosodic emphasis. Indeed, prosodic style is among the most powerful of social signals, even though (and perhaps because) people are usually unaware of it (Nass & Brave, 2004). The use of prosodic emphasis during the first five minutes appears to be a liability in negotiation, as it was associated with worse outcomes for oneself and better outcomes for one's counterpart.

Although we did not expect to find status differences in the effects of conversational dynamics, such differences can be explained theoretically on the basis of previous research. For example, Tiedens and Fragale (2003) found complementarity between dominant and submissive nonverbal behaviors within dyads, and argued that such behaviors contribute to hierarchical differentiation. Gregory and Webster (1996) found that the low-frequency band of the voice communicates differences in perceived social status. Regarding the present study, with respect to activity level, previous research has found positive correlations between verbal participation rates and emergent leadership (for a review, see Stein & Heller, 1979). Thus, in the organizational context of the present study, it might have been less normative, and hence less efficacious, for low-status parties to speak too much. Similarly, previous researchers have suggested that influence over conversational turn-taking might be more efficacious among those who have high social status (Choudhury & Pentland, 2004; Dunbar, 1998). With regard to mirroring, since mimicry behaviors tend to be used by those who seek to affiliate (Lakin & Chartrand, 2003), mirroring might be more efficacious among lower status job seekers than

features would result in improved negotiation outcomes, and (2) whether negotiators could alter their own speech features consciously.

However, even without answers to these questions, technology based on the algorithms used in the present research could offer early predictions about the likely outcome of a negotiation. One of the central questions facing individuals at any point in a negotiation is whether to persist or whether to give in. Persisting for too long at a failing course of action is a common psychological trap (also known as “escalation of commitment” or “the sunk cost fallacy”; Arkes & Blumer, 1985; Brockner, Shaw, & Rubin, 1979; Staw, 1976) which could result in wasted time or damaged relationships. Conversely, giving up too early might forfeit a potential opportunity. Thus, having a reliable yet early indicator of performance could save negotiators time and energy.

Finally, our findings have implications for research on Artificial Intelligence. The Artificial Intelligence community has studied human communication at many levels, such as phonemes, words, phrases, and dialogs. While semantic structure and prosodic structure have been analyzed, longer-term, multi-utterance structure associated with social signaling has received relatively less attention (Handel, 1989). The present investigation suggests that such systematic analysis of social signaling, even when applied to a “thin slice” of behavior, can lead to remarkable predictive validity.

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Studying Microscopic Peer-to-Peer Communication Patterns

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ABSTRACT

This paper describes first results of an ongoing research effort using real time data collected by social badges to correlate temporal changes in social interaction patterns with performance of individual actors and groups. Towards that goal we analyzed social interaction among a team of employees at a bank in Germany, and developed a set of interventions for more efficient collaboration. In particular, we were able to identify typical meeting patterns, and to distinguish between creative and high-executing knowledge work based on the interaction pattern.

Keywords (Required)

social networks, social badges, organizational behavior, communication flow, network structure

INTRODUCTION

Thanks to satellite-controlled Global Positioning Systems (GPS), geographical navigation has become much simpler. A GPS in the car will even influence our future driving behavior, by telling us about traffic jams and directing us to take alternate routes. Unfortunately, until now no such systems exist for the much thornier task of social navigation. As a newcomer in a group, company, or community one has no way of knowing who knows whom, likes whom, wants to collaborate, etc.

The increased prevalence of group work in organizations today creates a need to closer examination of the relationship between structural properties of groups and performance (Cummings & Cross, 2003). Up to now, only a few studies (e.g. Sparrowe et al., 2001; Reagans & Zuckerman, 2001; Cummings, 2004; Balkundi & Harrison 2006) have empirically linked structural properties of a network to the performance of that collective (Cummings and Cross, 2003). Also Balkundi and Harrison (2006) emphasize that we still do not know much about how internal configurations of social networks might facilitate (or inhibit) team efficiency, despite the results they obtained in their meta-analysis. Furthermore, although recent studies employing social network analysis make a significant contribution, they also have a number of weaknesses (for more details, see the literature review in the next section). In part, these shortcomings stem from the type of interaction being analyzed: For good reasons the mining of electronic interaction archives has become a widely used tool for analyzing communication networks. While this approach has provided important insights into how organizations function and what

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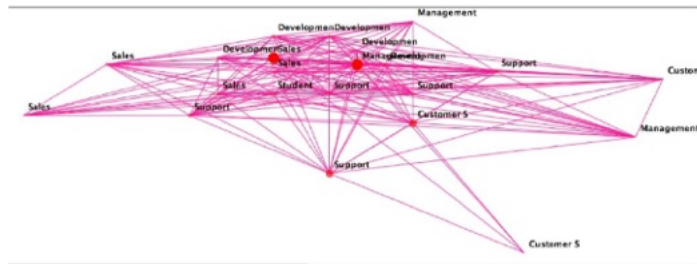


Figure 2. Face-to-face network, collected through IR sensor interaction

As figures 1 and 2 illustrate, there are substantial differences between the e-mail and face-to-face interaction network. There are people who are highly central in the e-mail network, but peripheral in the face-to-face network, and the other way round. Note for example the peripheral position of the customer service representative at the lower right in the face-to-face network in figure 2. Interestingly, the e-mail network is more cohesive, there are no such outliers as in the face-to-face interaction network. We can speculate that this might also be because the secretary and the managers send cc-messages to all employees, therefore integrating otherwise isolated employees into the information flow of the department.

Combining the e-mail and face-to-face network leads to a more complete depiction of collaborative relationships. As figure 3 illustrates, there is a core cluster of well-connected people (the large red circle). The department head is right in the center of this cluster. The department is split into two sections (with this split indicated by the red dotted line), one consisting of the support and customer services team members, the other of the sales and development team members. The customer services team is separated from the rest of the department, with the support team members acting as gatekeepers. The sales and development team are well integrated. Both parts of the department include a core group (blue circles), on the one side made up by the support team, on the other side consisting of the core development and sales team members. Interestingly, the two other managers besides the department head are quite peripheral.

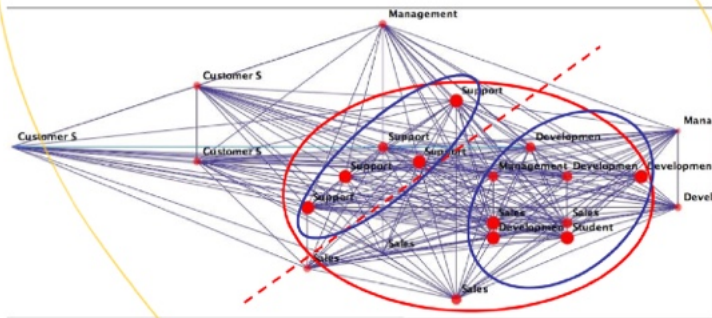


Figure 3. Combined social network of 22 people department over one month

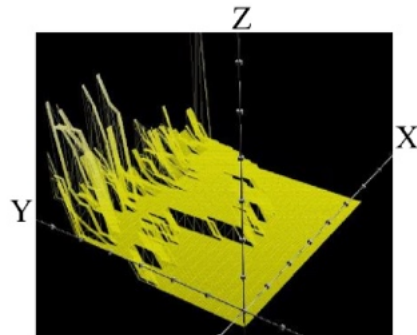


Figure 5. Temporal Social Surface of an "all hands" department meeting

As figure 5 illustrates, the department meeting is happening in a quite democratic way, with strong fluctuations in betweenness centrality, and with different group sizes of active people. Phases of centralized control, where a few people control interactions with high centrality, alternate with phases of wide group activity, where many team members interact with each other with low betweenness centrality. As we have shown in an earlier study (Kidane & Gloor, 2006), such communication patterns are indicative of creative work.

IDENTIFYING CREATIVE AND HIGH-EXECUTING ACTORS AND TEAMS

In prior work (Kidane & Gloor, 2006) we have found a clear separation between high performing and highly creative knowledge workers: high creativity of an actor correlates with fluctuating betweenness centrality over time, high performance correlates with steady betweenness centrality. In other words, a team with a stable communication structure is better suited for high-executing, more repetitive tasks, while a team where communication structures change continuously is better suited for creative work.

Figure 6 illustrates that department members display widely different communication patterns. The betweenness curves of the actor in the top left window with strong fluctuations both in e-mail and face-to-face interaction indicate creative activities, the steady pattern of the actor in the lower right window is indicative of a person communicating very little in a continuous way, most likely in a more repetitive high-executing type of role. Looking at all 22 communication patterns permitted us to make a separation between "high executors" and "creatives". Interestingly, this separation corresponded well with the split of the department into the high-executing top half of figure 3, and the creative bottom half of the department in figure 3.

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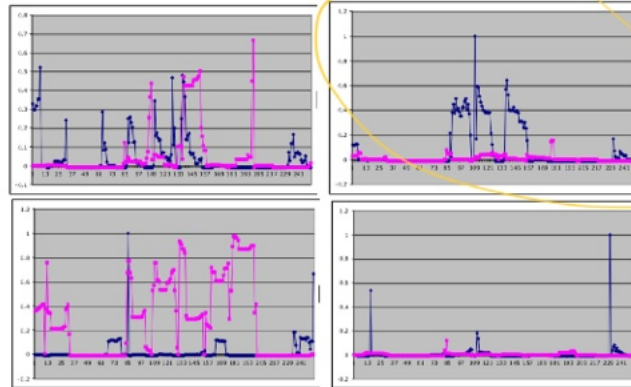


Figure 6. Top left actor has fluctuating e-mail and face-to-face interaction, top right actor has fluctuating face-to-face, but steady e-mail interaction, bottom left actor has steady face-to-face, but fluctuating e-mail interaction, bottom right actor as steady face-to-face and e-mail interaction (blue line: betweenness over time of actor's face-to-face interaction, measured by IR, purple line: betweenness over time of actor's e-mail interaction)
(x-axis: time in hours, y-axis: betweenness)

We can repeat the same analysis we did for the individual actors on the group level. Teams have now been condensed into one virtual actor by combining the actors of each team into one social network node. Figure 7 shows communication between different teams on the condensed team level. The development and the sales team are communicating the most with each other, management communicates most with the development, and then with the sales and support team.

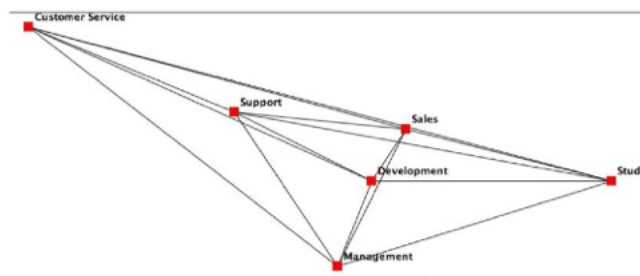


Figure 7. Communication between different teams

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Looking at the changes in betweenness centrality over time, we can clearly distinguish between “high executing” and “creative” teams. Figure 8 shows the fluctuations in betweenness of 4 teams on the team level, i.e. with the 6 virtual actors of figure 7, taken with Condor with a time window of 30 minutes.

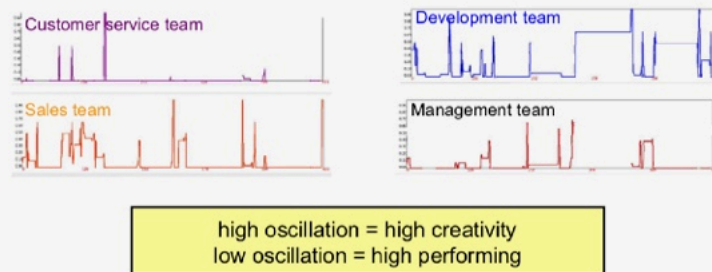


Figure 8. Fluctuations in betweenness centrality of teams

As figure 8 illustrates, we get confirmation of the split of the department into creatives and high-executors as shown in figure 3. Individual team members with a “creativity pattern” work in creative teams, team members with a high-executing communication pattern work in high-executing teams. The customer service team, having the repetitive task of processing new contracts, is the most high-executing, with a steady communication pattern with little change over the observation period of 30 days. This is in contrast to the highly fluctuating communication patterns of the sales and development teams, which are responsible for planning Web marketing campaigns and planning and developing the corporate Web site. Management also displays a creativity pattern, although less accentuated than that of the sales and development teams.

SUMMARY AND DISCUSSION

In the literature review in section 2 we identified four major methodological weaknesses of previous studies. Our approach addresses these weaknesses as follows: First, the social network used for analysis was constructed by using *social badges*, which allow statements about the face-to-face communication behavior between actors. In doing so, biases due to social desirability or media disruption can be avoided. Second, we took into account temporal aspects of network formation/performance by conducting a longitudinal study. Furthermore, we used a novel software tool, *TeCFlow/Condor* that allows for dynamic analysis of network formation. Third, the inclusion of social badges allows for comparisons between different types of communication networks (e.g. face-to-face network, e-mail network, telephone network). Fourth, the developed software is adequate to conduct analysis on the whole organizational level, particularly if e-mail archives are used as data input (though the analysis in this study was undertaken in a department with a few dozen members, and not in an entire enterprise with thousands of members).

As with any empirical study that makes use of social network analysis, this work is subject to limitations. First, the study does not try to answer certain questions of causality. We cannot discern whether certain social structures within teams lead to an improved team performance, or whether better performance induces certain social structures. Meta-analytic data as well as theory, however, show that integrative network structures are more strongly positioned as antecedents to team performance rather than as by-products of it (Balkundi and Harrison 2006). A second limitation is that the study was a field study and not conducted as a laboratory experiment. On the one hand, there are indications that the impact of integrative social structure on team task performance weakens over time and team members become more familiar with each other. In the end, familiarity might even neutralize network effects (Balkundi and Harrison, 2006). Since team members in the study were very familiar to each other, this might bias our results.

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Our study contributes to research on social network analysis and group performance by giving insights to practitioners involved in decisions about team composition. Up to now, managers often used demographic characteristics as their basis of decision making. However, Reagans and Zuckerman (2004) compare the social network approach vs. the demographic approach for evaluating the potential of a work group. They find that these approaches are not interchangeable, although homophily theory suggests that actors with similar demographic characteristics build similar networks.

Our preliminary study findings suggest that the e-mail network does not reflect the communication behavior within an organization. This confirms our earlier research in an Italian research lab (Grippa et al 2006), where e-mail and face-to-face interaction was negatively correlated. This is contradictory to Wellman (2001) who found that e-mail communication is a sufficiently good approximation for the real communication behavior inside an enterprise. Future research should examine the properties of different kinds of communication networks (e.g. face-to-face network vs. e-mail network) inside enterprises in more detail.

The study findings might also provide useful insights to related research in psychology examining the relationship between group cohesion and group performance (e.g. Beal et al., 2003; Mullen and Cooper 1994) or how group goals might influence group performance (O'Leary-Kelly et al. 1994).

This paper describes first results of a project aiming to identify high-performing interaction patterns of knowledge workers by measuring social interaction at the microscopic level. The study illustrated the use of *social badges* in several work groups in a bank. Analyzing the face-to-face network is a more objective way of doing social network analysis, which enables identification of hidden gatekeepers, connectors, and influencers. The long-term goal of our research is to develop a set of interventions and recommendations that can lead to better individual and group performance. Towards that goal, this study and its proposed methodology can help to obtain generalizable insights about the relationship between social network and performance. We hope that research projects like ours will assist others in conducting this kind of study and form the basis for substantial future research dealing with social networks or performance of individuals, groups and/or organizations.

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Abstract

Observing social changes in organizations and their effects on how employees feel about their jobs at a micro scale has been extremely difficult due to the lack of measurement tools. Using wearable sensors, e-mail data and daily surveys, we were able to study in detail how job satisfaction is affected by changes in communication patterns. The results from a month-long study in the marketing division of a German bank support our hypothesis that denser face-to-face communication is strongly linked to increased job satisfaction, while e-mail communication patterns do not relate to changes in job satisfaction. This has profound implications for the use of e-mail as a primary collaboration tool, since it implies that management interventions will have a greatly diminished effect if they can only effect electronic interactions.

Burning learnings, learnings from Burning Man via Goldberg.

What Jonathan reported:

MOOP. You can't spit. Total consumption equilibrium. ("Shmoop", my malappropriation of this term - Amol, Oct 2018)

LEDs at night.

Wild-side of the MSFT engineer.

City goes away. The city changes all the time. Nothing is permanent.

Scavenging.

Consumption equilibrium.

Wet wipes.

Community. Vocabulary.

Playa Names. ThreeHundy.

Art Cars. Dept of Mutant Vehicles.

Construction together. Camaraderie. Hard work together.

Map of the customer.

Project Total Design.

Knotel signature on finished spaces. Personalized for them but also our sign. Mosaics that mark the team that built it.

How our team bonds with each other and with the customer, and then expresses that in the finished project.

Techniques that create surreality, carnival of the mind. Willingness to take a chance and explore because disinhibited. The job of the setting in that experience.

Undermine my own value by not participating. My own stripping away.

Other stuff becomes normal. Portapotty. No bathing. Things you don't need strip off. A clementine -- I tasted it like I never tasted it before.

Hugs. "Welcome Home." The truth and sincerity of that.

Burning the man is a party. Saturday.

On Sunday, they burn the temple in complete silence.

The initiation. Journey ,drive, checkpoints, the welcome, the gong, the rolling in the dust, the announcement "I am a burner".

An orchestra at the subway station.

Hiking. Camping. Cirque de Soleil. Experiential products. Disney. Camp. Clubs and initiation. Marrakech. Desert Blues.

(-- How We Gather, from Divinity School - Jones)

BCG Ventures guy, the dutch guy from SF.

The Playa Provides.

"Women Don't Ask" by Lisa Babcock

ENTITLEMENT
SOCIAL SANCTIONS
BACKLASH
DOMINANCE VS. SOCIAL STYLE NEGOTIATING
#s V. TOKENISM
STEREOTYPE THREAT / IMPOSTORS / INFERIORITY
CONFIDENCE
ANXIETY
RISK-TAKING
OPTIMISM
CONTROL / DYSTER V TURNIP
HIGH GOALS, HIGH FIRST OFFERS
CONFLICT + COMPETITION
AGENCY V. COMMUNAL (RELATIONSHIP)
BOASTING SANCTION
LIKABILITY SANCTION
NORM-CONFORMANCE
TAG QUESTIONS
HEDGES
PRIMING FOR FAIRNESS
SATISFACTION W/ LESS
LESS INFORMATION
WORK HARDER, BETTER, FASTER
NETWORKS: INSTRUMENTAL / WEAK V. STRONG
STRUCTURAL HOLE
FUNDAMENTAL ATTRIBUTION ERROR
TEND. BEFRIEND VS. FIGHT OR FLIGHT

WPM
WOM

https://docs.google.com/spreadsheets/d/1BF3bsr7gRz0LdapgmQUxCowSLuw1SWb_UMUJ_Jj_3tk/edit#gid=1575276564

<https://knote.com/k/msKjM3QKwx2x4PyyD>

More snippets to come. But People is reading the book.

SCRUM, Sutherland's Agile book (hat tip: CeeCee)

On happiness:

- People aren't happy because they're successful. They're successful because they're happy.
- Happiness metric = effective way of getting what the *kaizen* (improvement) should be or which *kaizen* will make people the happiest. At the end of each sprint, each person on the team answers these questions, and then the team takes the top improvement and makes it the most important thing to do in the next sprint with acceptance tests (=how can you prove you've made that improvement? you need to define what success is in a concrete, actionable way)
 1. On a scale of 1-5, how do you feel about your role in the company?
 2. On a scale of 1-5, how do you feel about the company as a whole?
 3. Why do you feel that way?
 4. What one thing would make you happier in the next sprint?
- Happiness is a predictive factor. When happiness falls, it precedes a drop in velocity or productivity by weeks. If there's a team-wide drop in happiness, even as productivity is increasing, you know you have an issue you need to address.
- What makes people happy? autonomy, mastery, purpose, sense of achievement/progress, transparency

More To Dos

<https://rework.withgoogle.com/guides/understanding-team-effectiveness/steps/introduction/>

More on Google's recommendations for others

People can change personality and habits through practice

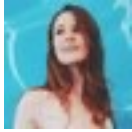
[https://www.thecut.com/2018/11/you-cant-change-your-personality-just-by-wanting-to.html?](https://www.thecut.com/2018/11/you-cant-change-your-personality-just-by-wanting-to.html?utm_medium=s1&utm_campaign=nym&utm_source=tw)

[utm_medium=s1&utm_campaign=nym&utm_source=tw](https://www.thecut.com/2018/11/you-cant-change-your-personality-just-by-wanting-to.html?utm_medium=s1&utm_campaign=nym&utm_source=tw)

Including the Big Five

<http://psycnet.apa.org/record/2018-53132-001>

Like replacing “sorry!” with “thank you”:



Emily Murnane

[@emily_murnane](#)

· [Oct 19, 2018](#)

Every work email I send:

Hey!

Sorry to bug you!

Was just wondering

(If it's not too much trouble)

Would it be possible to do thing you said you'd do?

Totally fine if not!

Prob my fault anyway I'm an idiot :)

Sorry to bother you!

Sorry I exist!

So sorry!

Just let me know!

Emily



Lisa Frame

[@LisaFrame](#)

Fun trick. Say “thank you” instead of sorry.

Sorry to bug you = thanks for reading this

Sorry I'm late = thank you for waiting

Sorry to ask again = thanks for clarifying in advanced

Dumb we are even having this convo but it's helped me persevere
my work email dignity

4:38 PM - Oct 19, 2018

-

1,653

-

212 people are talking about this