Supervisory Messages as Leverage for Safety Climate Improvement

Dov Zohar
Technion - Israel Institute of Technology
dzohar@tx.technion.ac.il

ORP Conference, Zaragoza, Spain 2014

Why is safety climate important?

- Study of 413 high-risk workgroups: only 19% of daily discussions and 66% of observable operations were safety-oriented by the companies' own rules *44% at-risk behaviors* (Zohar & Luria, 2005)

⇨ Failure to use protective gear provided at work accounts for 30% of lost workdays (WHO, 2010)

➢ Strong tendency for workarounds (at-risk behavior) under routine conditions (managers & workers alike)

Where is it coming from & how can it be reversed?

Answer: Safety climate can reverse this tendency

How can safety climate reverse this tendency?

It's the reward system, stupid (Clinton's 1992 campaign)

Background information:

- Most jobs can be successfully performed at different safety levels: Safety constitutes an independent, yet not-necessary performance dimension (i.e. an add-on).
  Example: Drive more or less safely from A to B without accident
- Safety entails investment of non-productive individual effort + org. resources, coupled with low injury chances *("won't happen to me"). Examples: Use 3 cables for lifting heavy loads; Invest **$** in machine guards or in rusty pipe replacement; Work by the rules even under time-pressure (fall behind schedule)*

Safety climate: worker perceptions of managerial intent to reward safe behavior even in situations of time/costs pressures – countering the tendency for workarounds

What is the significance of safety climate?

- Workers safety climate perceptions appraise org. reward structure, affecting their choices of safe/unsafe behavior – managerial reward practices as key for worker safety
- Answer questions such as: (1) Is meeting deadlines more important than complying to safety rules? (2) Is it better for me to cut (safety) corners in order to work faster?
- Consequently, safety climate is a robust predictor of safe behavior & injuries. SC meta-analysis of 202 studies: r_c=0.53 for safety compliance; r_c=-0.24 for injury variance (Nehrgang, et al., 2011)

If safety climate predicts injury, how we can improve it?

Discourse-based safety climate improvement

A speech or language-based strategy

Why focus on daily discourse?

Supervisor-worker exchanges

- Given that most org. processes are discourse (speech) driven, climate perceptions often depend on safety messages embedded in daily work-related exchanges
- Challenge: Safety messages are weak & transient, *e.g. what has been said vs. what has been left out; text (explicit) vs. sub-text (implicit); formal vs. informal messages*

Examples:

"Take a break if you're tired" (Safety)

"This job must be completed on time" (Speed)

"Can you tell Ben & Al about it tomorrow morning?" (Team)

Climate intervention project

Zohar & Polachek, JAP, 2014

Midsize heavy manufacturing plant (364 workers)

Exp & Control groups (14 paired work groups)

	Before	**After**
Exp. Group		
Control Group		

Measure safety climate & safety behavior 2 months before & after intervention (compare Exp & Control groups)

Climate intervention project

Zohar & Polachek, JAP, 2014

Methodology

- Call randomly selected workers & use brief checklist to spot supervisory messages on last exchange (5 min)
- Use 7-9 exchanges to derive individual FB data per supervisor; Offer 2 FB sessions in the Exp. group
- Offer individual FB for supervisors in the Control group by the end of intervention

Checklist items on next slide

Perceived supervisory messages

Supervisory messages checklist

Use 2 items per message type & a 3-point scale

1. Safety and reliability

Made me feel that he cares about my safety

2. Speed and efficiency

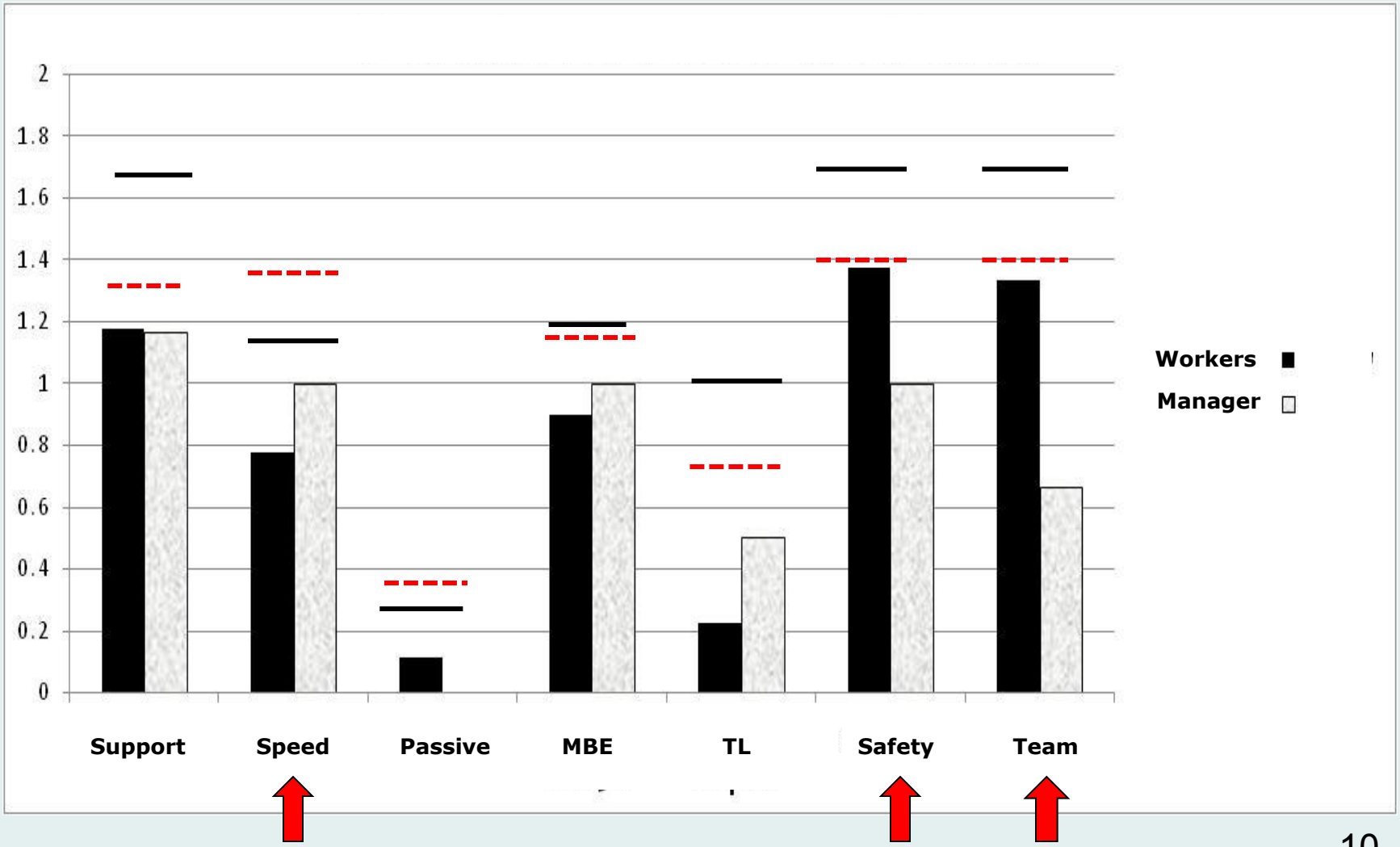
Spoke about timetables, working harder, or making progress

3. Team communication & coordination

Indicated that we have to share information & work as a team

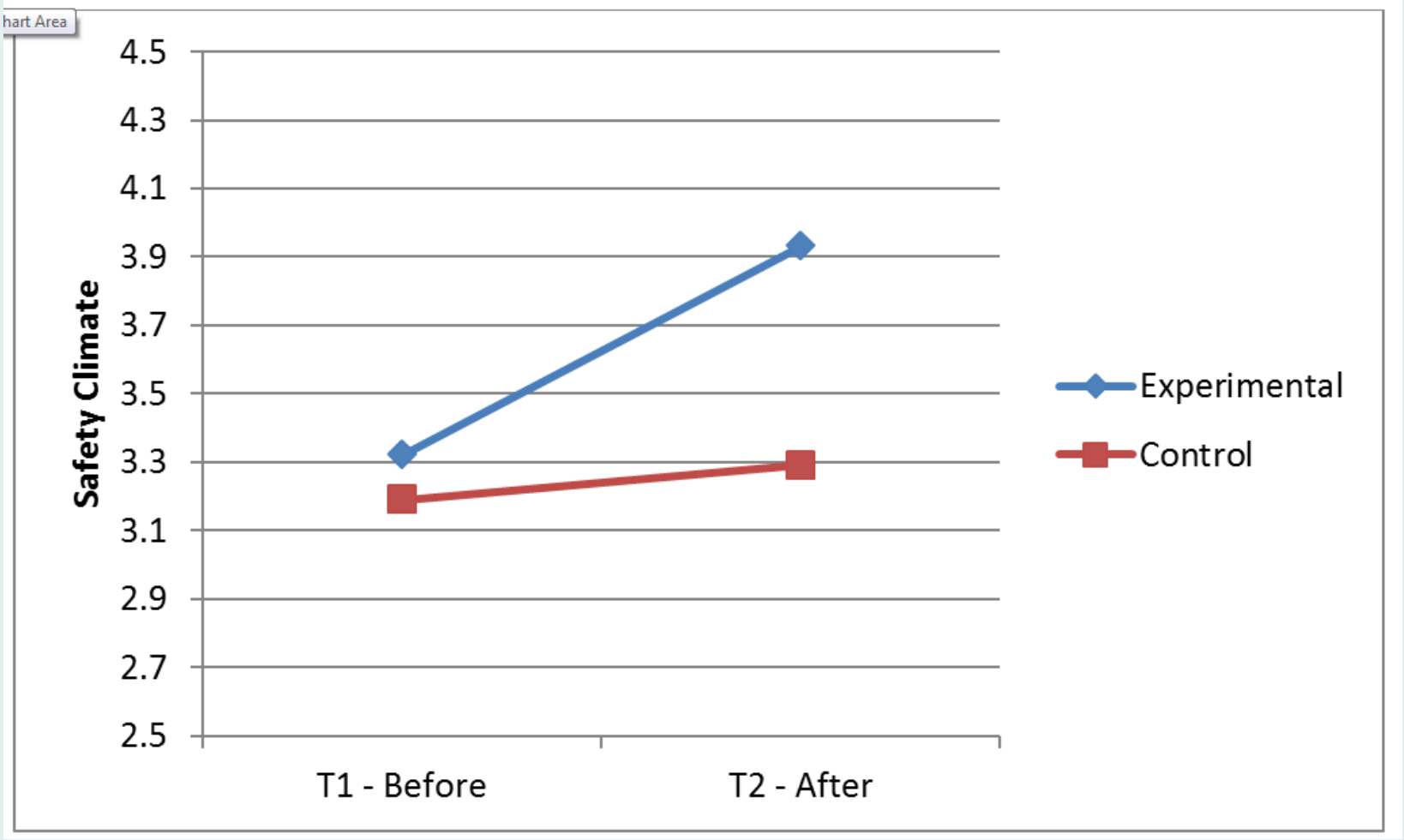
Personal FB#1: received & sent (self-reported) **messages**

Message types + Individual goals (—) + Org means (---)



Effect of intervention on safety climate

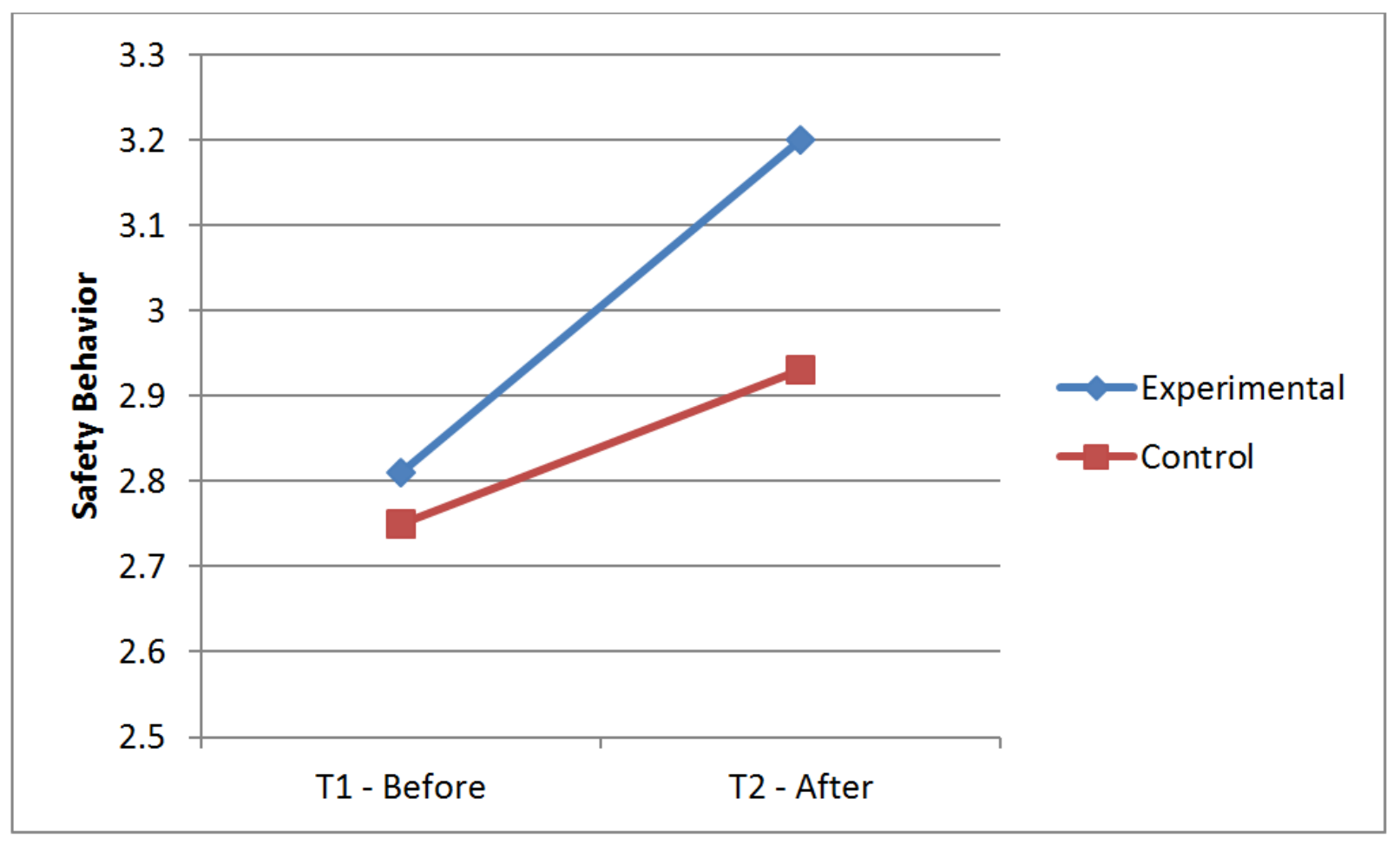
8 weeks before & after intervention



Note: 14 Experimental & 14 Control workgroups

Effect of intervention on safety behavior

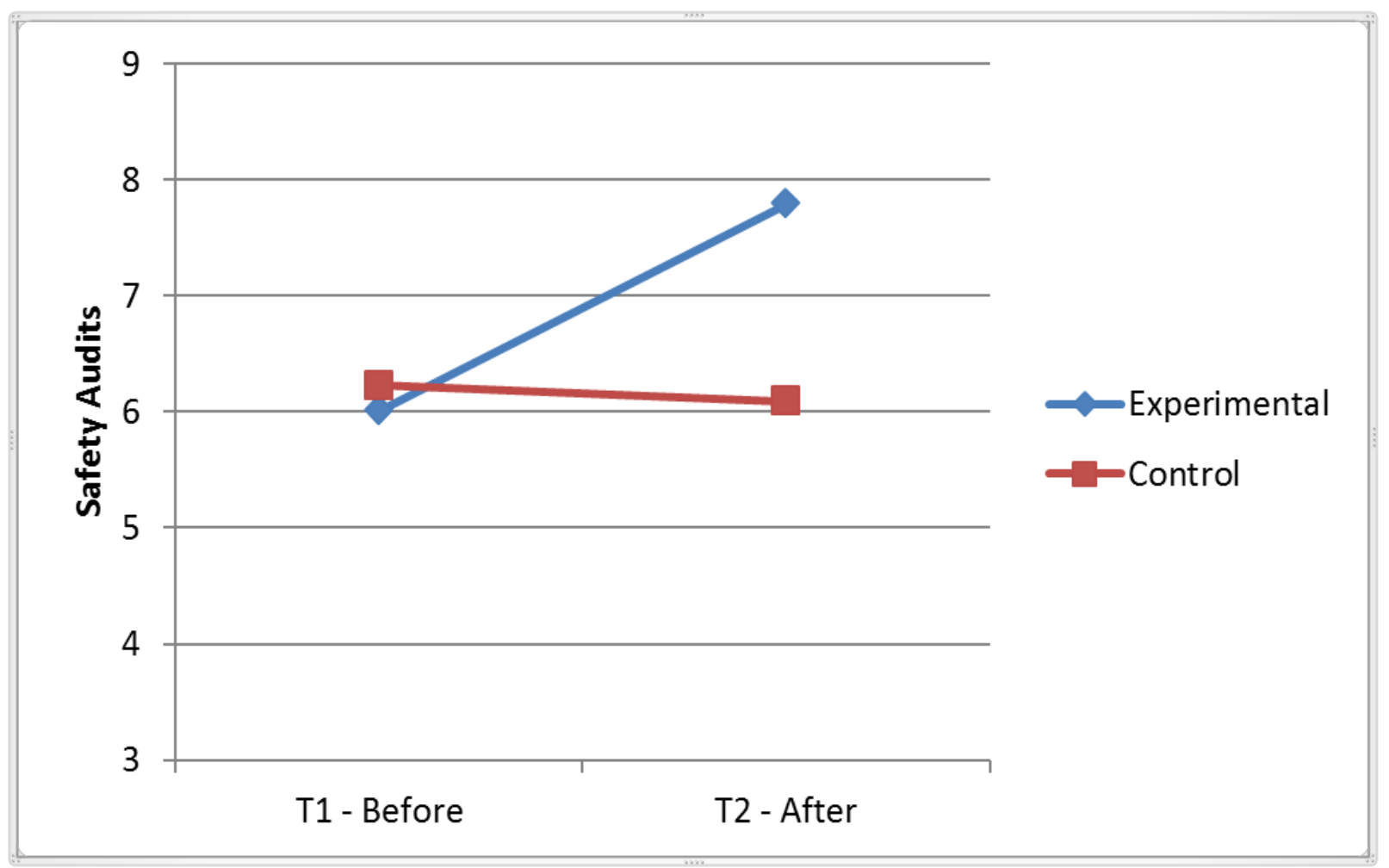
Scale: Griffin & Neal (2000)



Note: Contrary to expectations, resulting from project methodology

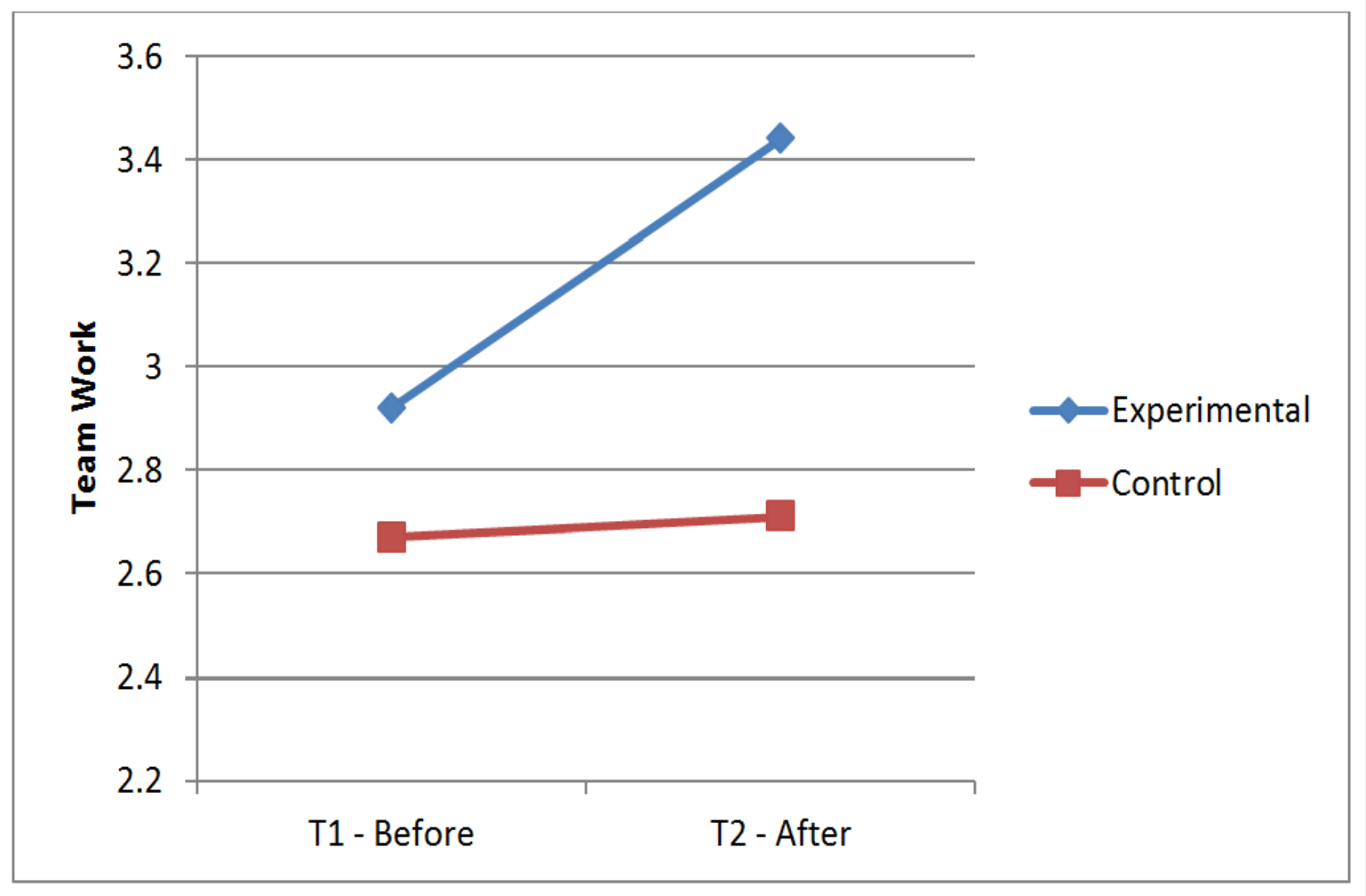
Effect of intervention on safety audits

Use 2 double-blinded safety experts



Effect of intervention on team work

Scale: Anderson & West (1998)



Conclusions

- Intervention strategy: SC can be improved using supervisory safety messages as leverage for change
- Experimental (vs. correlational) design of field studies allows testing of causality among model variables
- Cost-effectiveness: intervention used 2 individualized FB sessions offered by graduate students, using bar-graphs based on data collected by undergrad students
- Intervention has a large range of application based on adjustment of the checklist to different industries (e.g. manufacturing, transportation, mining, or health care)

Thank you

dzohar@tx.technion.ac.il