

Effects of Power
on Team Processes and Performance:
Does the Way in which Power is Used
Make a Difference?

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Problemsolving in Organizational Teams

Reasons for Popularity

- Managing complexity
- Integration of different areas of knowledge

Q u e s t i o n s

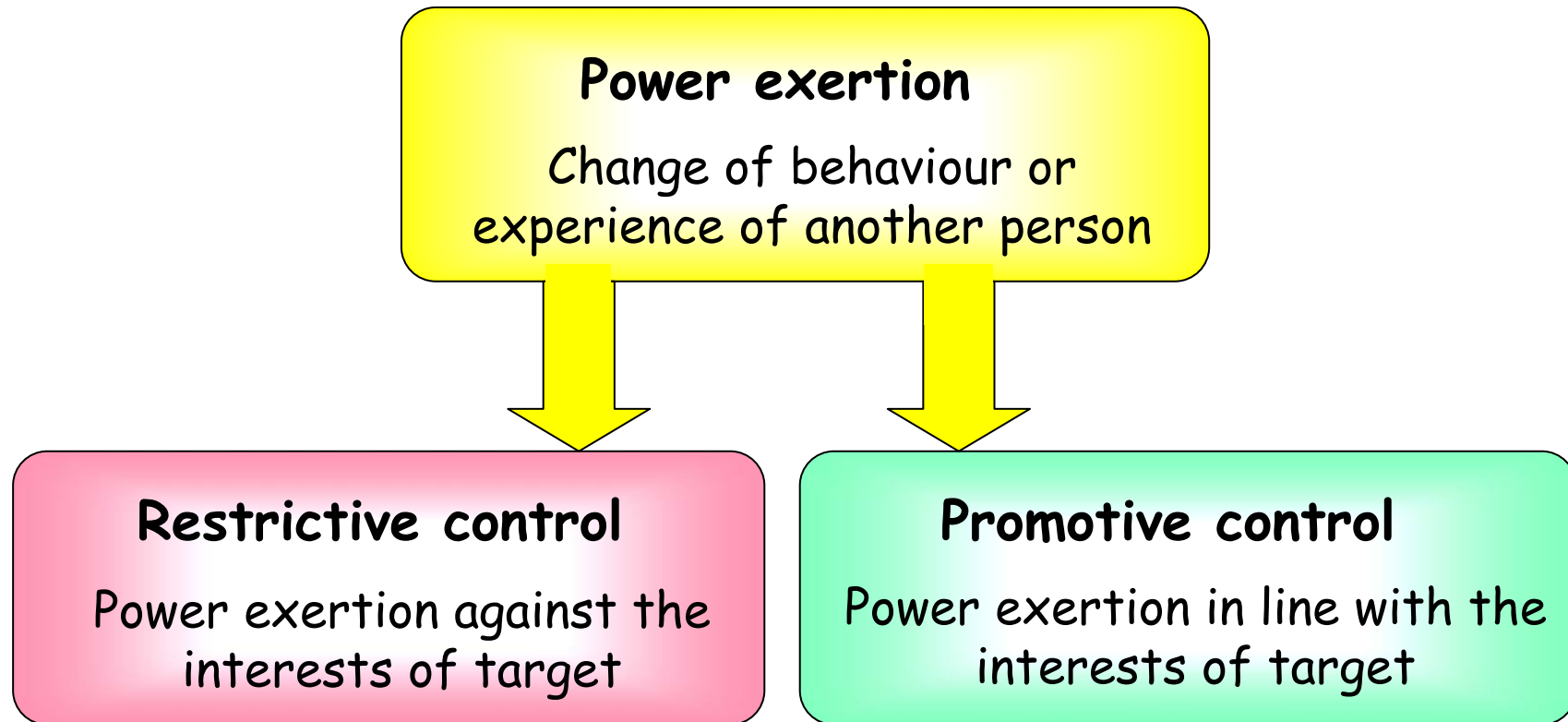
?

1. How can the acquisition and application of knowledge in teams be promoted?
2. Does the kind of power exertion make a difference?

?

Two Modes of Power Exertion

(Scholl, 1991)



- In organizational field studies, **restrictive control** correlates negatively with knowledge acquisition and effectiveness (Buschmeier, 1995; Scholl 1996).

Aims of the Present Study

1. Identifying mediating processes

- *Why* might negative effects of power result if it is used **restrictiveley**?

2. Clarifying area of validity

- Are the effects of control mode (**restrictive** vs. **promotive**) valid independently of the power base?

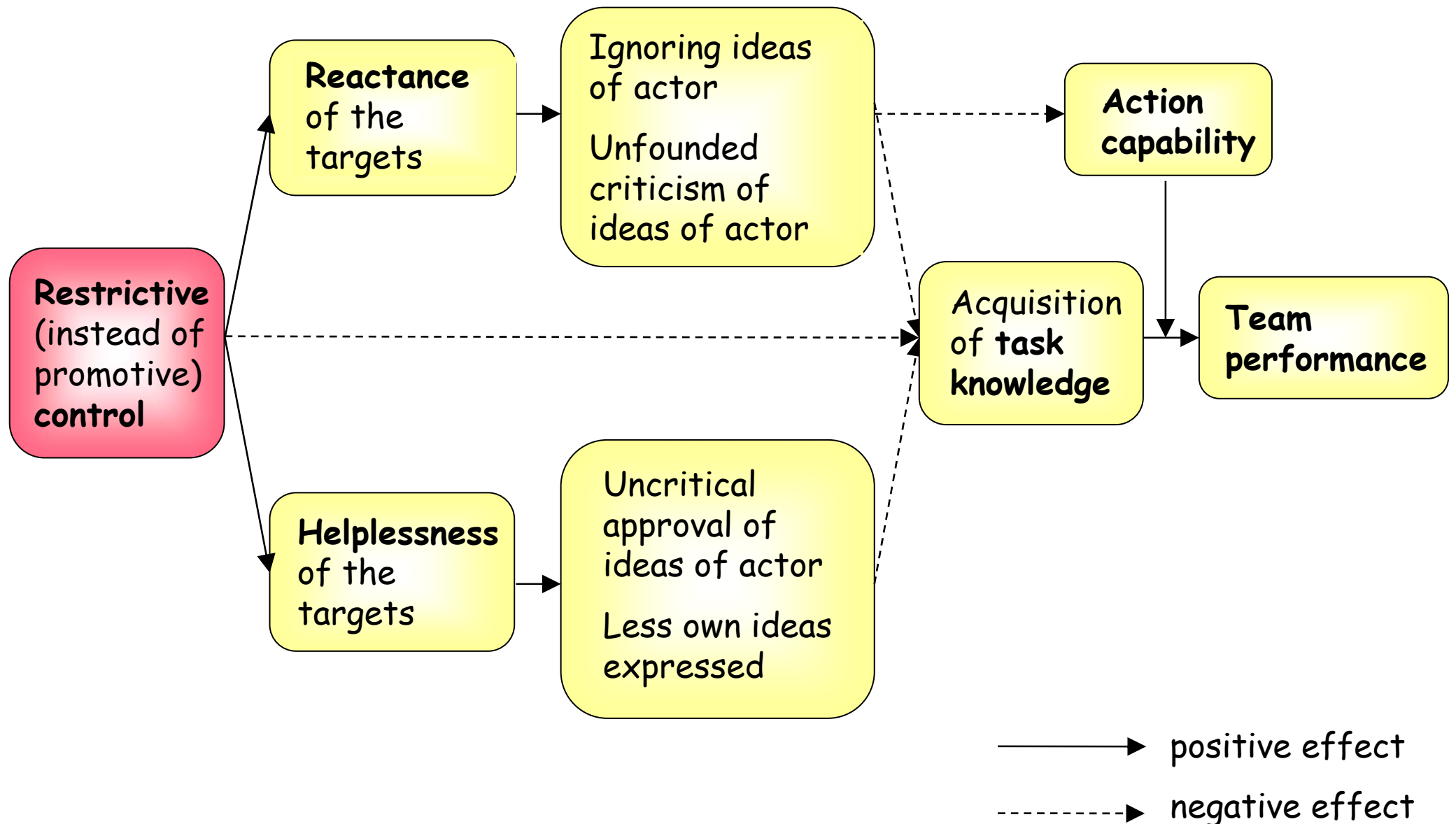
3. Maximizing ecological validity

- Study should be applicable to real expert teams in organizations

4. Ensuring causal interpretations

- Methodological weaknesses of available correlational field studies should be prevented

1. Aim: Identifying Mediating Processes



2. Aim: Clarifying Area of Validity

Bases of Social Power

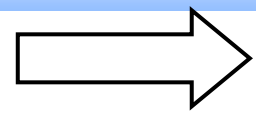
(Raven, Schwarzwald & Koslowski, 1998)

- Coercive
- Reward
- Legitimate: **position**, reciprocity, equity or dependence
- **Expert**
- Referent
- Informational

Assumption: Effects of control mode (**restrictive** vs. **promotive**) are independent of the **power base**.

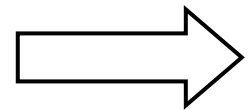
⇒ Tested for position and expert power.

3. Aim: Maximizing Ecological Validity



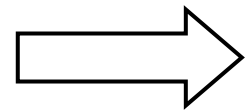
Heterogenous sample

- 82 % students from a lot of different disciplines, only 11 % psychology, mean age = 27 years (SD = 5 years), 54 % females
- 223 participants in 62 mixed-gender teams of three or four members



Sincerity

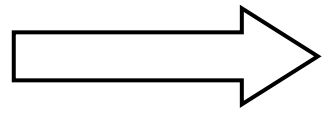
- „Assessment Centre exercise”: Possibility of receiving feedback on performance and team behaviour
- Compensation depending on team performance (600 € in total)



Complex group task with face to face interaction

- computer-simulated shirt company (*Schneiderwerkstatt*)
- Goal: Maximize capital
- Possible interventions: Purchase machines, hire or fire workers, change advertising expenditure, etc.

4. Aim: Ensuring Causal Interpretations



Experimental design

		Second independent variable: Control mode	
		Restrictive	Promotive
First indep. var.: Power base	Expertise	16 teams	16 teams
	Position	15 teams	15 teams

- After 30 teams: Experimental manipulations improved => **two sets of experiments**
- Experimental analyses: 110 participants in 31 teams of second set
- Regression analyses: total sample

Selection of the Actors

(second set of experiments)

Assessment of the following indicators by a pre-mailed questionnaire:

1. Grade of the Abitur (university entrance exam) + last grade in mathematics while at school
2. Leadership experience and attitude
3. Propensity for exertion of restrictive and ...
4. ... promotive control in fictitious situations

Only males with highest values on all indicators were selected (multiplying the four indicators).

Manipulation of the Power Base

(second set of experiments)

Expert power	Position power
<ul style="list-style-type: none"> • Actor got expert text about shirt company • „Shirt company is owned by all team members“ 	<ul style="list-style-type: none"> • One „company owner“ (the actor) + two to three employees • Actor was allowed to delegate tasks and make decisions on his own • Actor got PC keyboard

Manipulation Check

- Effect of power base on expert power perceived by targets ($\eta^2 = .45$, $p < .001$)
- as well as perceived position power ($\eta^2 = .33$, $p < .01$).

Manipulation of the Control Mode

(second set of experiments)

Role Instruction for the Actor

- Request to exert power **restrictively** or **promotively** resp. (with examples of relevant behaviour)
- Announcement of additional raffle tickets depending on convincing representation of instructions

Manipulation Check

- Effect of control mode on **restrictive control** perceived by the targets ($\eta^2 = .24$, $p < .01$)
- For perceived **promotive control**, expected effect only under position power (onetailed $p < .10$)

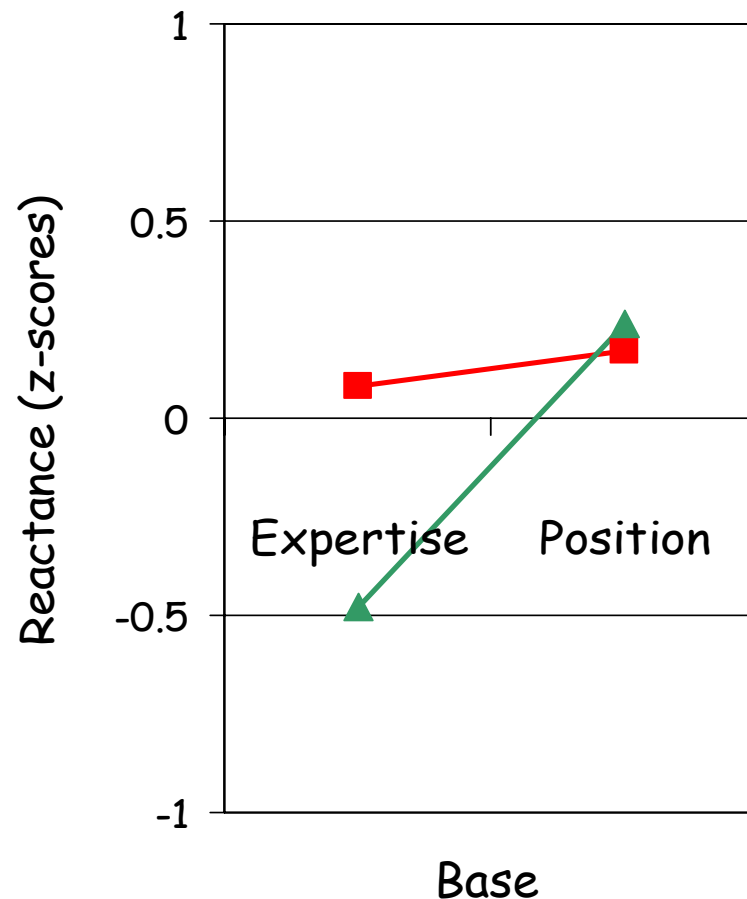
General Information about the Analyses

- Pretest-posttest-design
- Pretests of dependent variables (and sometimes additional variables) ...
 - as covariates in experimental analyses
 - as additional predictors in regression analyses

Assumption: Restrictive Control \Rightarrow Reactance

Item Examples *Reactance* (Cb. Alpha = .83)

- Thoughts and beliefs: „What rubbish!“
- Feelings: „irritated“
- Intentions: „to interrupt him“



	<i>Eta</i> ²
Mode: restr. vs. promot.	.05
Base	.09
Mode x base	.04

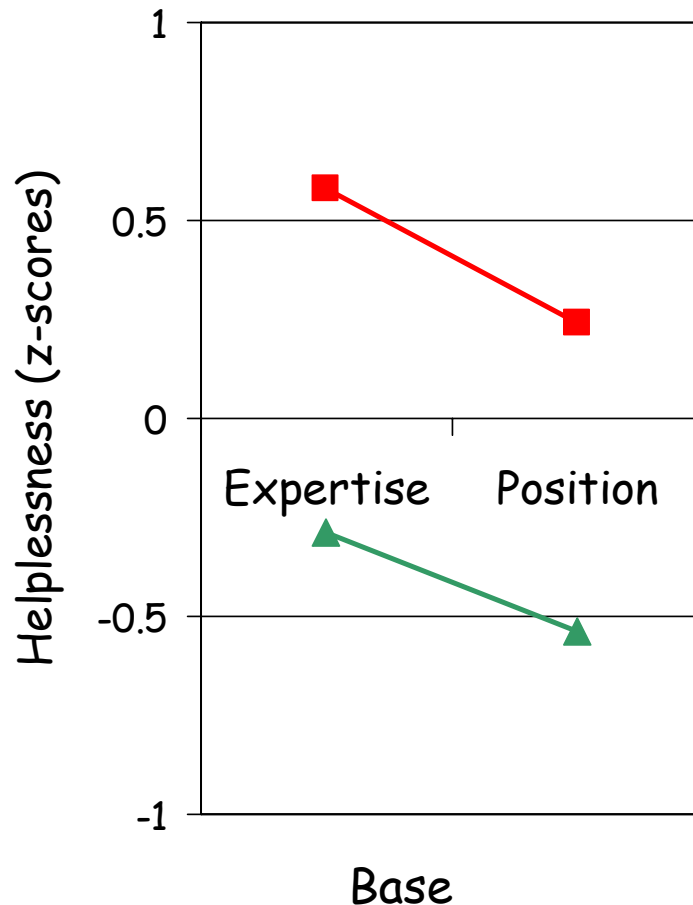
- Mode-contrast (onetailed $p < .10$) under expert power

\Rightarrow Assumption partially confirmed

Assumption: Restrictive Control \Rightarrow Helplessness

Item Examples *Helplessness* (Cb. Alpha = .86)

- Thoughts and beliefs: „I can't concentrate.“
- Feelings: „intimidated“
- Intentions: „I felt as if I were paralysed.“



Mode: **restr.** vs. **promot.**

Base

Mode x base

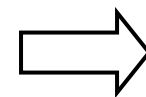
Eta^2

*** .27

.05

.00

*** $p < .01$

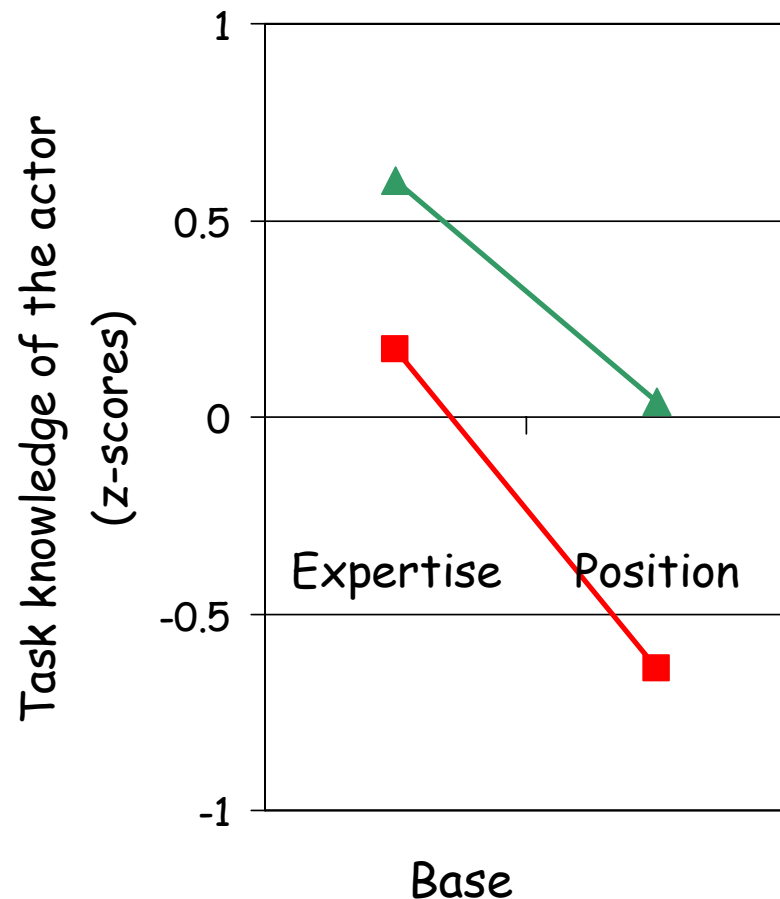


Assumption confirmed

Ass.: Restrict. Control \Rightarrow less Task Knowledge

Knowledge test about the shirt company (Kersting and Süß, 1995)

- System knowledge and action knowledge
- Cb. Alpha = .69



Mode: Restr. vs. Promot.

Base

Mode x base

Eta^2

** .21

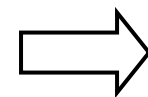
*** .29

.02

** $p < .05$

*** $p < .01$

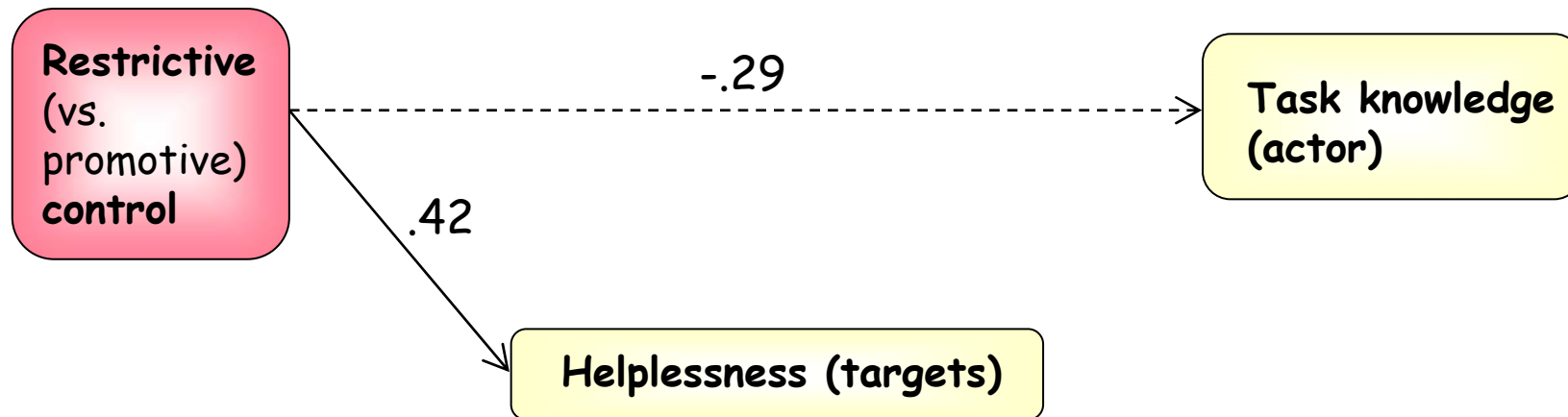
No effects for the targets.



Assumption partially confirmed

Why less Task Knowledge after **Restr. Control**?

Can the effect be explained by reactance or helplessness?

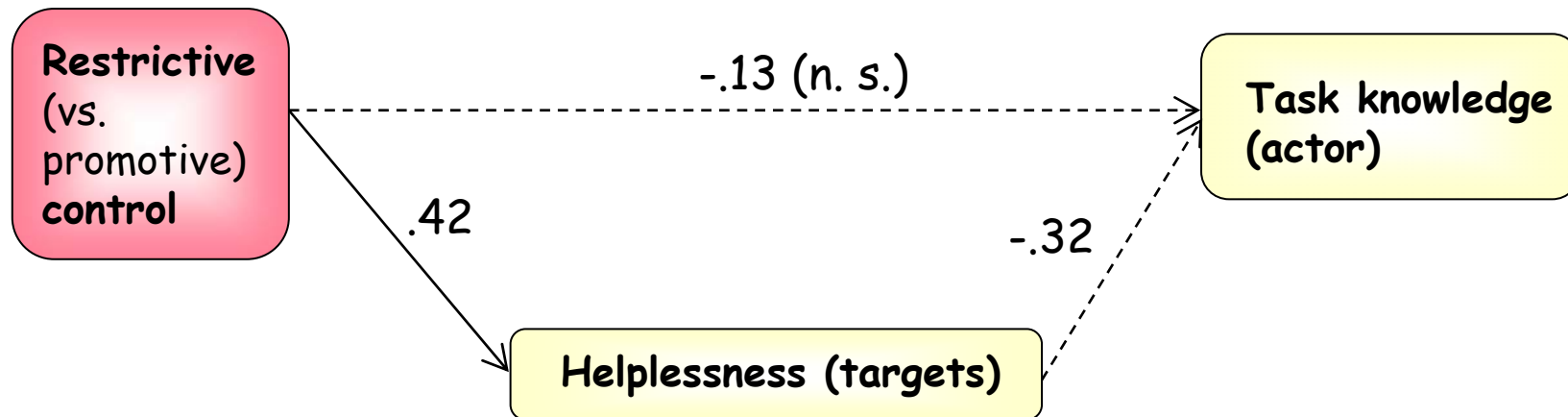


————> Positive regression effect
-----> Negative regression effect

Numbers: Stand. Beta ($p < .05$),
second set of exp., $N = 31$

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Why less Task Knowledge due to Helplessness?



—— positive correlation

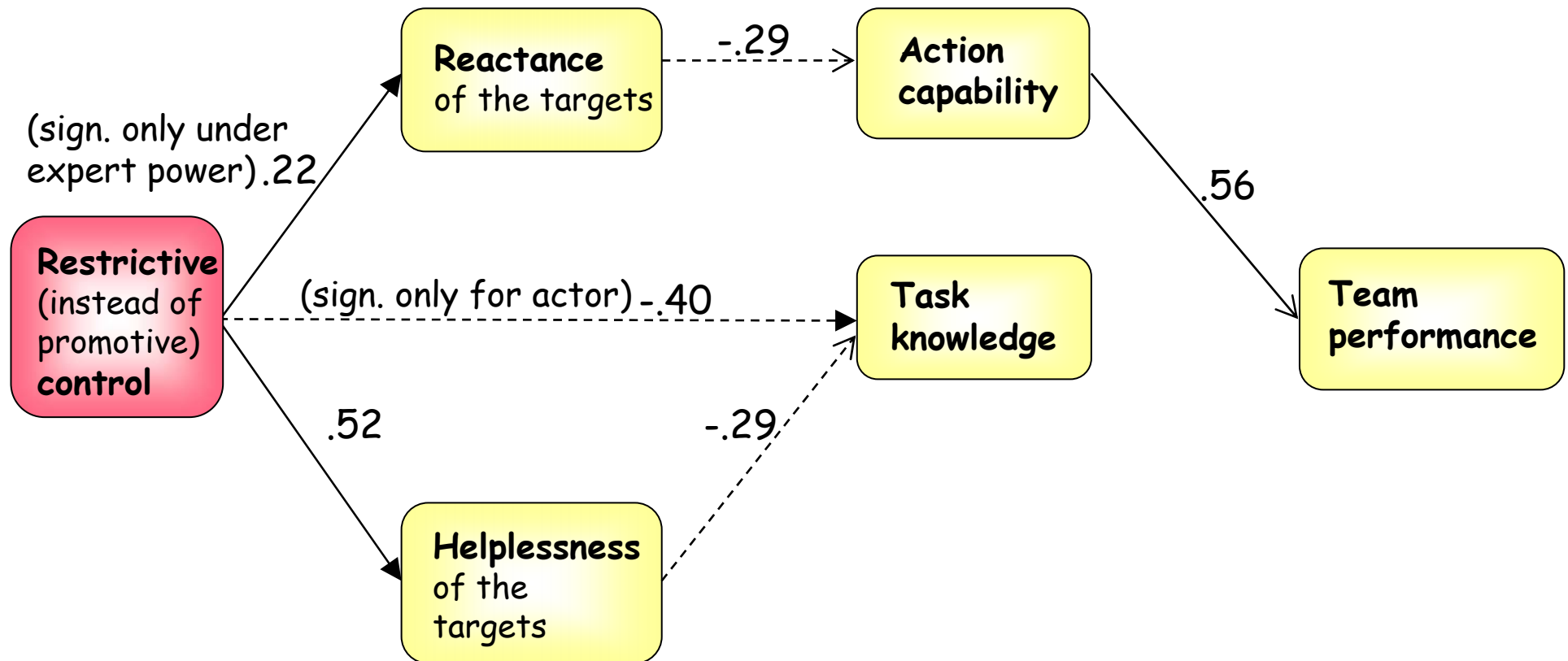
- - - - - negative correlation

after partialling out pretests of
criterion variables

$p < .10$; $N = 22$

➡ **Restrictively controlling** actors learned less from the targets because they react helpless and thus contribute more unfounded simple ideas.

Experimental and Regression Results



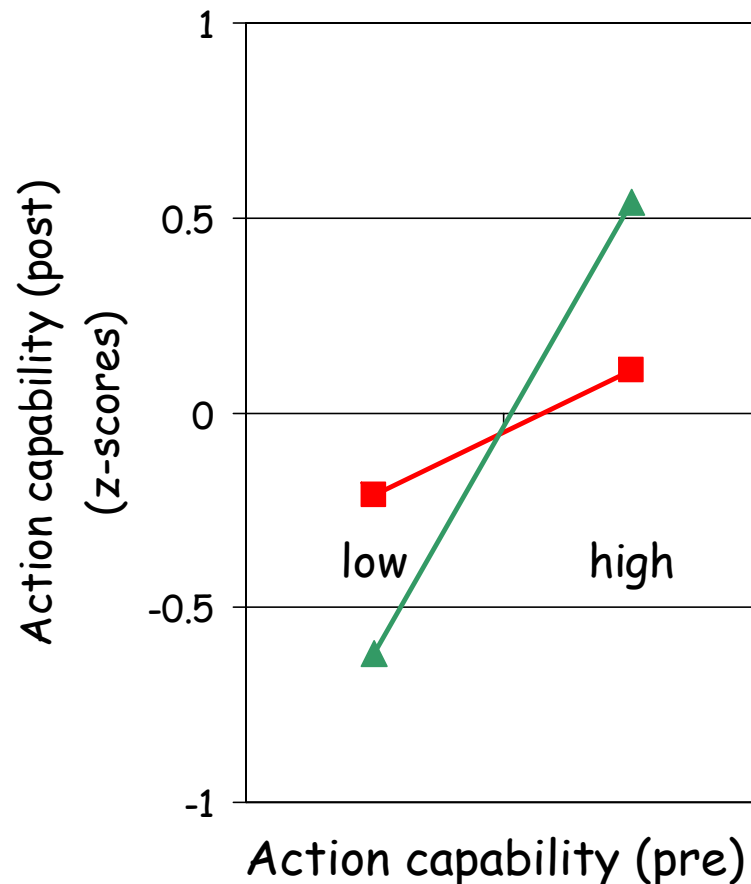
→ **Regression effect:** Stand. Beta (onetailed $p < .05$), total sample, $N = 62$

→ **Experimental effect:** Eta (onetailed $p < .10$), second set of exp., $N = 31$

Moderator Assumption: Negative effect of **restrictive control** on action capability is stronger for high prelevels of action capability.

Item Examples *Action Capability* (Cb. Alpha = .71)

- „.... clear decisions were made.“ / „.... made decisions were translated into action.“



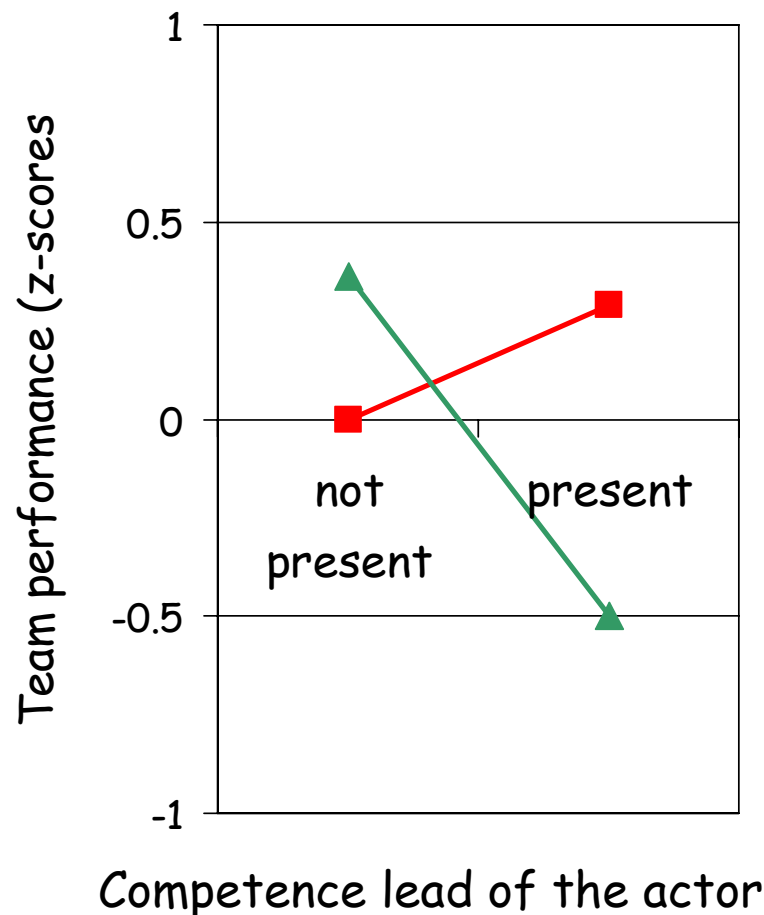
Multiple regression:

- Stand. *Beta* of product term of action capability (pre) and mode (**restr.** vs. **promot.**) is $-.24$ (onetailed $p < .10$)

⇒ Assumption confirmed

Moderator assumption: Negative effect of **restrictive control** on team performance is stronger if the actor has no competence lead.

Based on results of leadership research (Scully, Kirkpatrick & Locke, 1995; Murphy, Blyth & Fiedler, 1992)



Multiple Regression:

- Stand. *Beta* for product term of competence lead of the actor and control mode (**restr.** vs. **promot.**) is .23 (onetailed $p = .130$)

⇒ Tendency for the assumed effect

Conclusion

- It is important, *how* power is used: against (**restrictively**) or in line with (**promotively**) the interests of the targets.
- **Restrictive control** does harm the actors themselves:
They do not benefit from the knowledge of the targets, because targets react helpless and make more „helpless“ contributions.
- This effect is independent of the power base (expertise or position).
- **Promotive control** is especially important if ...
 - targets' knowledge and active involvement is crucial
 - action capability is not threatened

Thanks for your attention!