Kompetanse for omstilling

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Which jobs will be obsolete in 20 years and which are likely to survive?

economist.com

The rise of the machines means you will never finish your education

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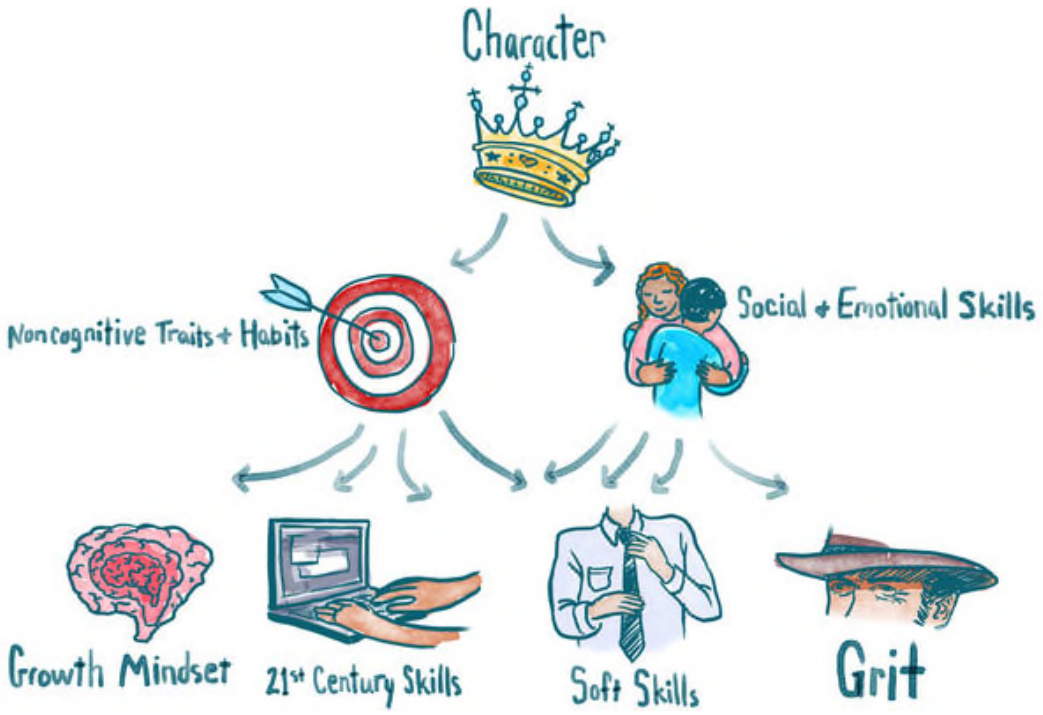
Omstillingskompetanse

- tillit til at en kan lære nye ting og mestre nye oppgaver
- ikke være redd for nye utfordringer
- ikke være redd for å gjøre feil
- evne til å tilpasse seg og samarbeide med nye medarbeidere
- evne til å være fleksibel
- evne til å tenke kreativt om anvendelsen av egne kompetanser
- evne til å ta initiativ for å skape seg nye muligheter



From www.npr.org: *Nonacademic Skills Are Key To Success. But What Should We Call Them*? May 28. 2015

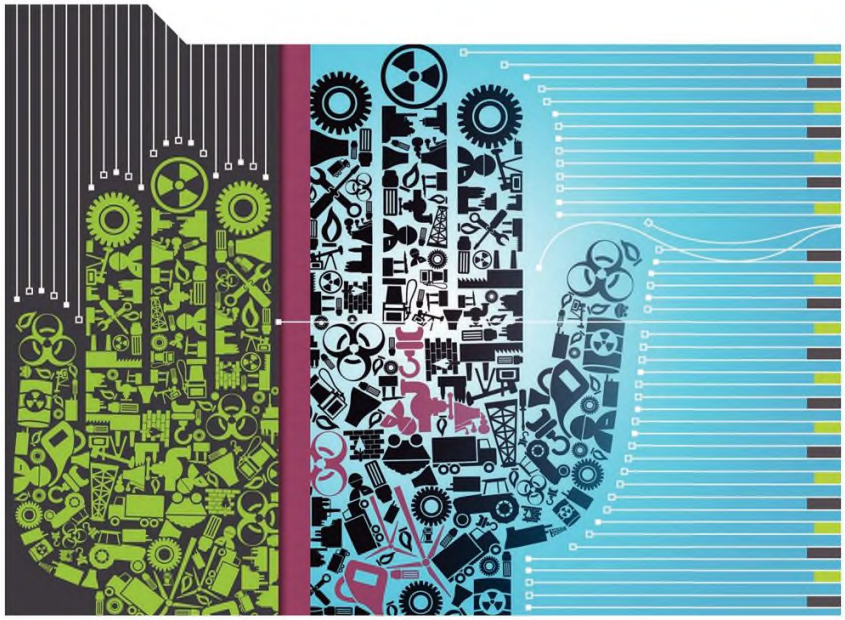
Heckman, James J., and Tim Kautz. "Hard evidence on soft skills." *Labour economics*

Forskningsoppsummering: Sosial og emosjonell kompetanse hos barn og ungdom har like stor betydning som iq for hvordan man senere lykkes med utdannelse og arbeid

OECD Skills Studies

Skills for Social Progress

THE POWER OF SOCIAL AND EMOTIONAL SKILLS



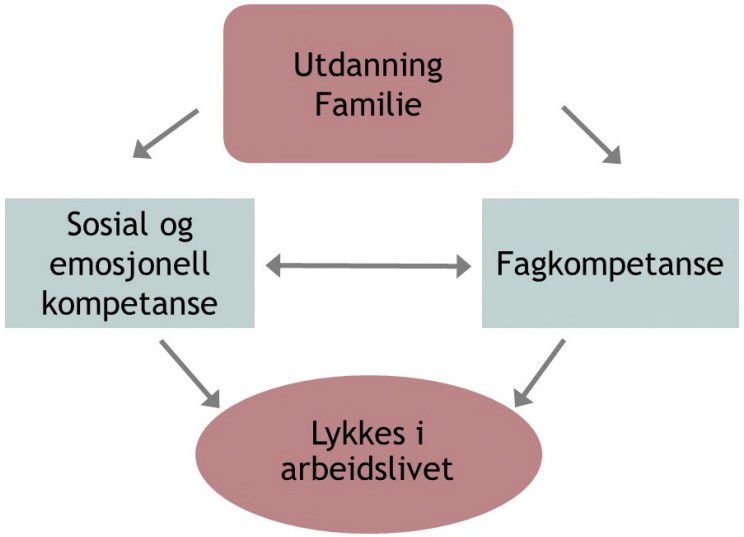
OECD

Ludvigsenutvalget

«Hard Evidence on Soft Skills»

(Heckman)

- Betydning for elevenes faglige læring, og for hvordan de lykkes med utdanning og arbeid
- Urettferdig fordelt
- Blir stadig viktigere på arbeidsmarkedet
- Kan utvikles og læres !



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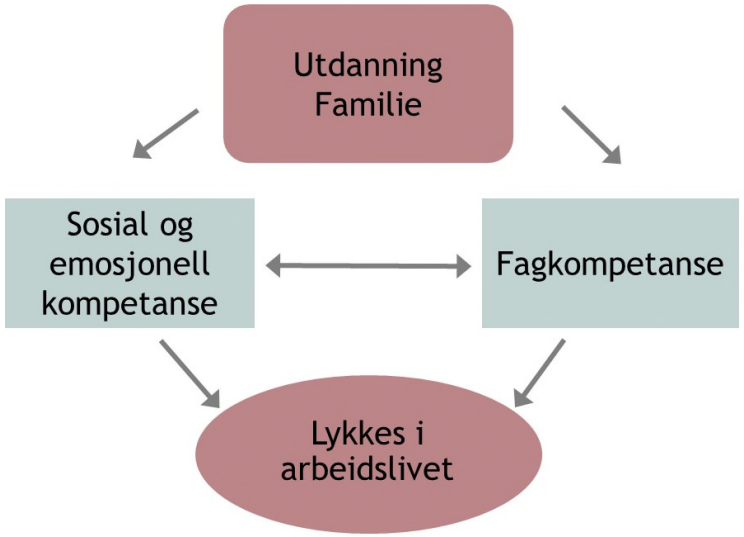
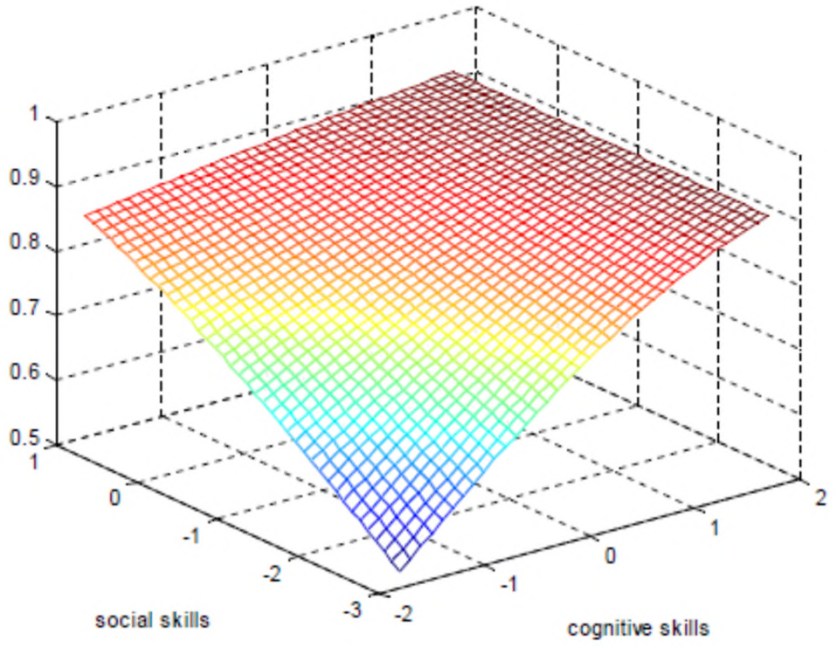


Figure 4 **Employment status (at age 42) as a function of social and cognitive skills at age 11**



Pedro Caneiro, Claire Crawford and Alissa Goodman, 2007 , «The Impact of Early Cognitive and Non-Cognitive Skills on Later Outcomes»

«Hard Evidence on Soft Skills»

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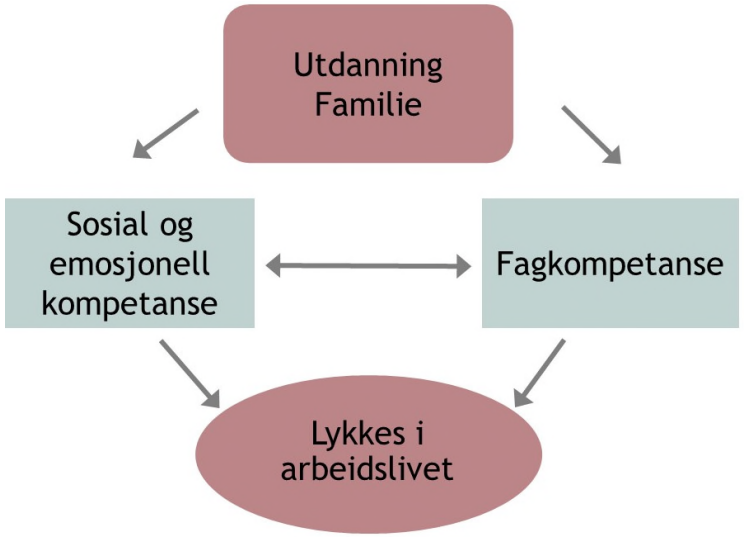

Table 17 Impact of family background and the home environment on social and cognitive skills at ages 7 and 11

	Age 7		Age 11	
	Social skills	Cognitive skills	Social skills	Cognitive skills
Female	0.282 [0.015]**	0.033 [0.011]**	0.211 [0.016]**	-0.049 [0.009]**
Father's years of education	0.006 [0.006]	0.02 [0.004]**	-0.001 [0.006]	0.02 [0.004]**
Mother's years of education	0 [0.007]	0.032 [0.005]**	0.011 [0.007]	0.033 [0.004]**
Father's social class - professional	0.104 [0.028]**	0.205 [0.020]**	0.081 [0.029]**	0.188 [0.017]**
Father's social class – non-manual	0.052 [0.019]**	0.1 [0.014]**	0.055 [0.020]**	0.051 [0.012]**
Mother shows little interest in child's education	-0.445 [0.030]**	-0.265 [0.022]**	-0.09 [0.031]**	-0.041 [0.018]*
Father shows little interest in child's education	-0.312 [0.031]**	-0.211 [0.022]**	-0.036 [0.032]	-0.089 [0.019]**

Pedro Caneiro, Claire Crawford and Alissa Goodman, 2007 , «The Impact of Early Cognitive and Non-Cognitive Skills on Later Outcomes»

«Hard Evidence on Soft Skills»

(Heckman)

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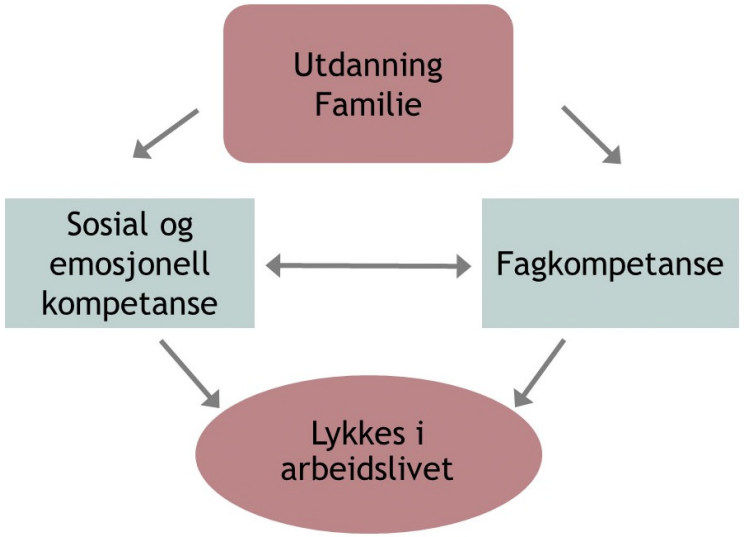


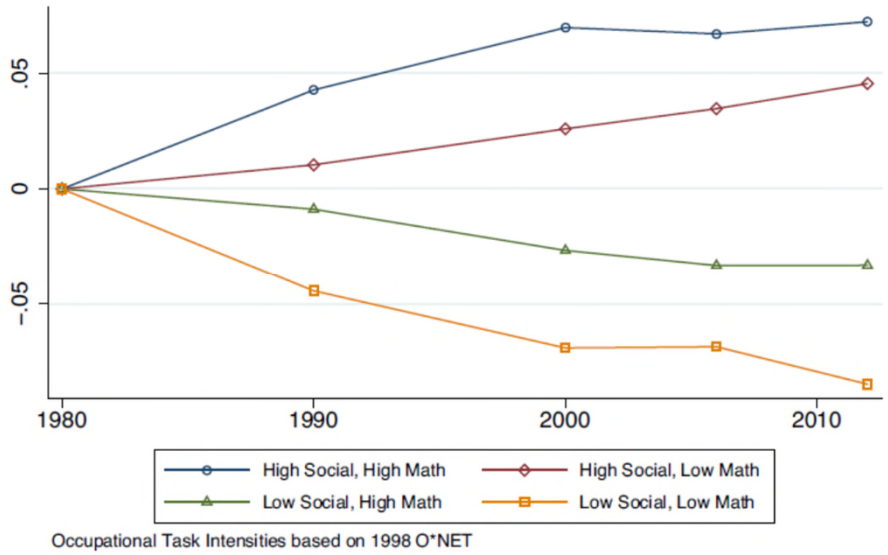
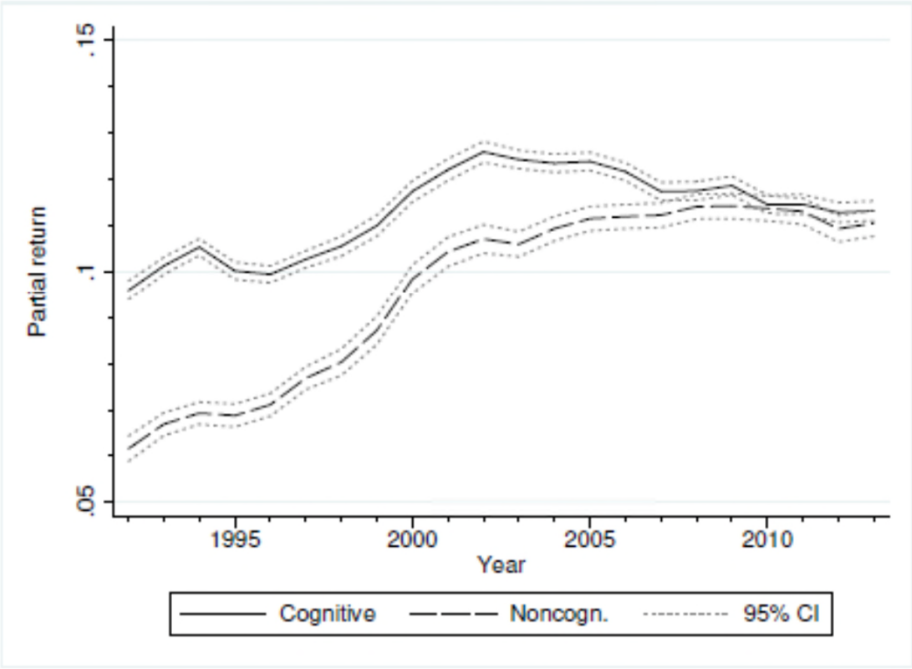


FIGURE IV

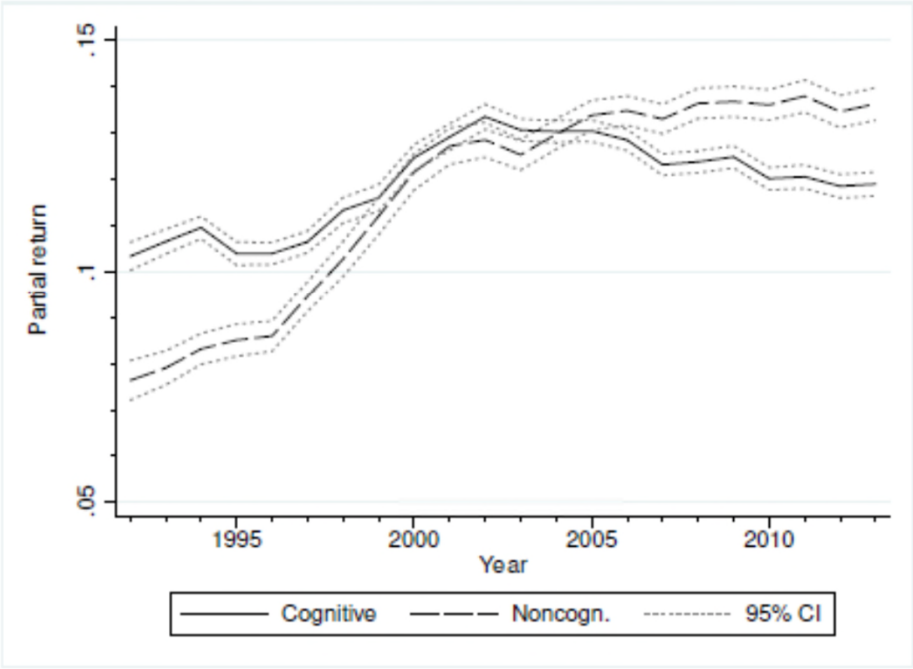
Cumulative Changes in Employment Share by Occupation Task Intensity, 1980–2012

Deming, David J. "The growing importance of social skills in the labor market." *The Quarterly Journal of Economics* 132, no. 4 (2017): 1593-1640.

(a) All workers



(b) Private sector workers



Peter Fredriksson, Per-Anders Edin, Martin Nybom, and Björn Öckert, The Rising Return to Non-cognitive Skill, working paper

«Hard Evidence on Soft Skills»

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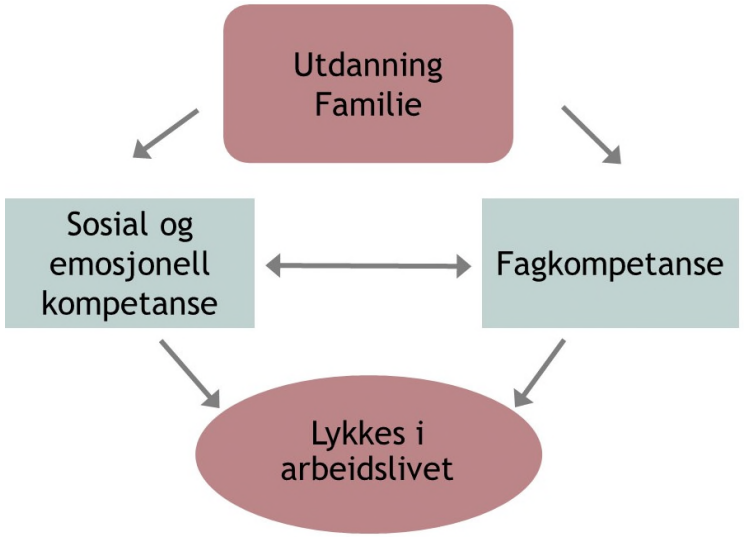

Table 2
Mean Effects and .05 Confidence Intervals at Post for Total Sample and Each Intervention Format

		Outcomes					
		SEL skills	Attitudes	Positive social behavior	Conduct problems	Emotional distress	Academic performance
Group							
Total	ES	0.57*	0.23*	0.24*	0.22*	0.24*	0.27*
sample	CI	0.48 to 0.67	0.16 to 0.30	0.16 to 0.32	0.16 to 0.29	0.14 to 0.35	0.15 to 0.39
	N	68	106	86	112	49	35
Class by	ES	0.62*	0.23*	0.26*	0.20*	0.25*	0.34*
Teacher	CI	0.41 to 0.82	0.17 to 0.29	0.15 to 0.38	0.12 to 0.29	0.08 to 0.43	0.16 to 0.52
	N	40	59	59	53	20	10
Class by	ES	0.87*	0.14*	0.23	0.17*	0.21	0.12
Nonschool	CI	0.58 to 1.16	0.02 to 0.25	−0.04 to 0.50	0.02 to 0.33	−0.01 to 0.43	−0.19 to 0.43
Personnel	*N*	21	18	11	16	14	3
Multicomponent	ES	0.12	0.23*	0.19	0.26*	0.27*	0.26*
	CI	−0.35 to 0.60	0.15 to 0.31	−0.02 to 0.39	0.17 to 0.34	0.07 to 0.47	0.16 to 0.36
	N	7	26	16	43	15	22

*$p \leq .05$.

Durlak, Joseph A., et al. "The impact of enhancing students' social and emotional learning: A meta-analysis of school-based universal interventions." *Child development* 82.1 (2011): 405-432.

Omstillingskompetanse

- **tillit til at en kan lære nye ting og mestre nye oppgaver**
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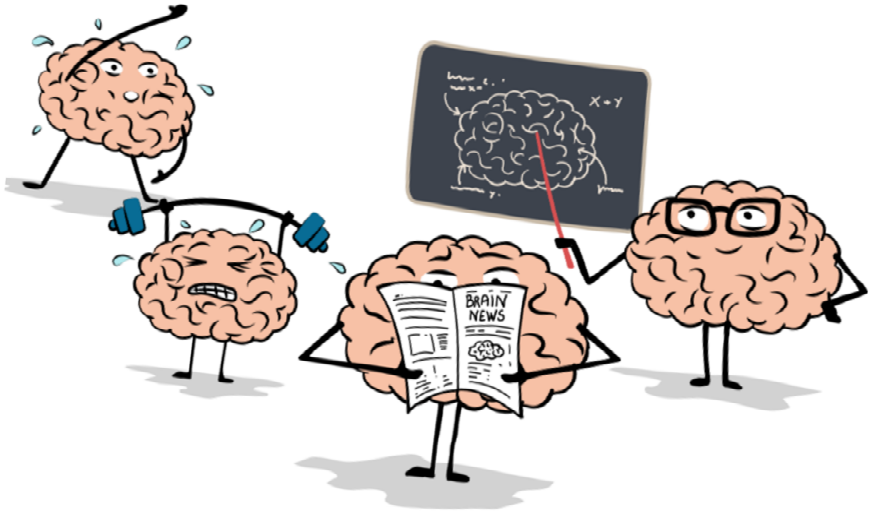
- evne til å tenke kreativt om anvendelsen av egne kompetanser
- evne til å ta initiativ for å skape seg nye muligheter

Lærende tankesett
- tro på muligheten til å lære



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American Psychologist

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How Can We Inspire Nations of Learners? An Investigation of Growth Mindset and Challenge-Seeking in Two Countries

AQ: au
AQ: 1

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The University of Pennsylvania

David S. Yeager
University of Texas at Austin

Here we evaluate the potential for growth mindset interventions (that teach students that intellectual abilities can be developed) to inspire adolescents to be "learners"—that is, to seek out challenging learning experiences. In a previous analysis, the U.S. *National Study of Learning Mindsets* (NSLM) showed that a growth mindset could improve the grades of lower-achieving adolescents, and, in an exploratory analysis, increase enrollment in advanced math courses across achievement levels. Yet, the importance of being a "learner" in today's global economy requires clarification and replication of potential challenge-seeking effects, as well as an investigation of the school affordances that make intervention effects on challenge-seeking possible. To this end, the present article presents new analyses of the U.S. NSLM (N = 14,472) to (a) validate a standardized, behavioral measure of challenge-seeking (the "make-a-math worksheet" task), and (b) show that the growth mindset treatment increased challenge-seeking on this task. Second, a new experiment conducted with nearly all schools in 2 counties in Norway, the U-say experiment (N = 6,541), replicated the effects of

Mari Rege, Department of ***, University of Stavanger; Paul Hanselman, Department of ***, University of California, Irvine; Ingeborg Foldøy Solli, Department of ***, University of Stavanger; Carol S. Dweck, Department of ***, Stanford University; Sten Ludvigsen, Department of ***, University of Oslo; Eric Bettinger, Department of ***, Stanford University; Robert Crosnoe and Chandra Muller, Department of Psychology, University of Texas at Austin; Gregory Walton, Department of ***, Stanford University; Angela Duckworth, Department of ***, The University of Pennsylvania; David S. Yeager, Department of Psychology, University of Texas at Austin.

AQ: 6 This article uses data from two experimental studies. First, we use data from the *National Study of Learning Mindsets* (PI: David S. Yeager; Co-Is: Robert Crosnoe, Carol S. Dweck, Chandra Muller, B. Schneider, and Gregory Walton; https://doi.org/10.3886/ICPSR37353.v1), which was made possible through methods and data systems created by the Project for Education Research That Scales (PERTS), data collection carried out by ICF (Project directors: Kate Flint and Alice Roberts), meetings hosted by AQ: 7 the Mindset Scholars Network at the Center for Advanced Study in the Behavioral Sciences, assistance from M. Levi, M. Shankar, T. Brock, C. Romero, C. Macrander, T. Wilson, E. Konar, E. Horng, H. Bloom, and M. Weiss, and funding from the Raikes Foundation, the William T. Grant Foundation, the Spencer Foundation, the Bezos Family Foundation, the Character Lab, the Houston Endowment, and the President and Dean of Humanities and Social Sciences at Stanford University. Preparation of the manuscript was supported by National Institute of Child Health and Human Development (Grant 10.13039/100000071 R01HD084772-01). Second, we use data from the *U-Say* experiment in Norway (PI: Mari Rege; Co-Is: Ingeborg Foldøy Solli, Sten Ludvigsen, Eric Bettinger). We are grateful to Elin Svensen in the Rogaland County school district who implemented the RCT and facilitated data collection, and to Leigh Lauritzen and Nettopp – UiS, for helping us adapt the National Study computer program to the Norwegian context and give it a new visual layout. We acknowledge the RCN (260407) and the Norwegian Ministry of Education for funding.

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Increasing perseverance in math: Evidence from a field experiment in Norway☆

Eric Bettinger[a,c], Sten Ludvigsen[b,c], Mari Rege[c,*], Ingeborg F. Solli[c], David Yeager[c,d]

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ABSTRACT

Research by psychologists and economists demonstrates that many non-cognitive skills are malleable in both children and adolescents, but we have limited knowledge on what schools can do to foster these skills. In a field experiment requiring real effort, we investigate how schools can increase students' perseverance in math by shaping students' beliefs in their abilities to learn, a concept referred to by psychologists as "mindset." Using protocols adapted from psychology, we experimentally manipulate students' beliefs in their ability to learn. Three weeks after our treatment, we find persistent treatment effects on students' perseverance and academic performance in math. When investigating subsamples, we find that students, who prior to the experiment had less of a belief in their ability to learn, generate the treatment effect. The findings suggest that a low-cost intervention focused on students' mindset can improve students' engagement and performance.

1. Introduction

Non-cognitive skills, such as self-control and perseverance, predict success in education and in labor markets (Borghans et al., 2008; Heckman et al., 2006; Roberts et al., 2007). While researchers are still trying to understand the causal mechanisms, there is strong evidence that individuals with higher non-cognitive skills are more likely to graduate from high school, have higher rates of college attendance and completion, higher wages and better employment, and even better health outcomes (Carneiro et al., 2007; Kautz et al., 2014). Moreover, research by psychologists and economists demonstrates that many non-cognitive skills are malleable (Alan et al., 2016; Durlak et al., 2011; Kautz et al., 2014). Still, however, we have limited knowledge on what schools can do to foster these skills.

While non-cognitive skills may be acquired through motivation or self-regulation programs relying on direct instruction and repetitive practice, *meta*-analyses find that this approach has mixed results. It works reasonably well with young children,

☆ We are grateful to Elin Svensen in the Rogaland County school district who has facilitated the RCT and given valuable suggestions regarding intervention design and implementation. We are also grateful to Leigh Lauritzen and Nettop 4.0.5 for making the computer program for the field experiment, and to the principal, teachers and students at the high school at which the field experiment was implemented. Finally, we acknowledge the RCN (227004 and 260407) and the Norwegian Ministry of Education for funding.

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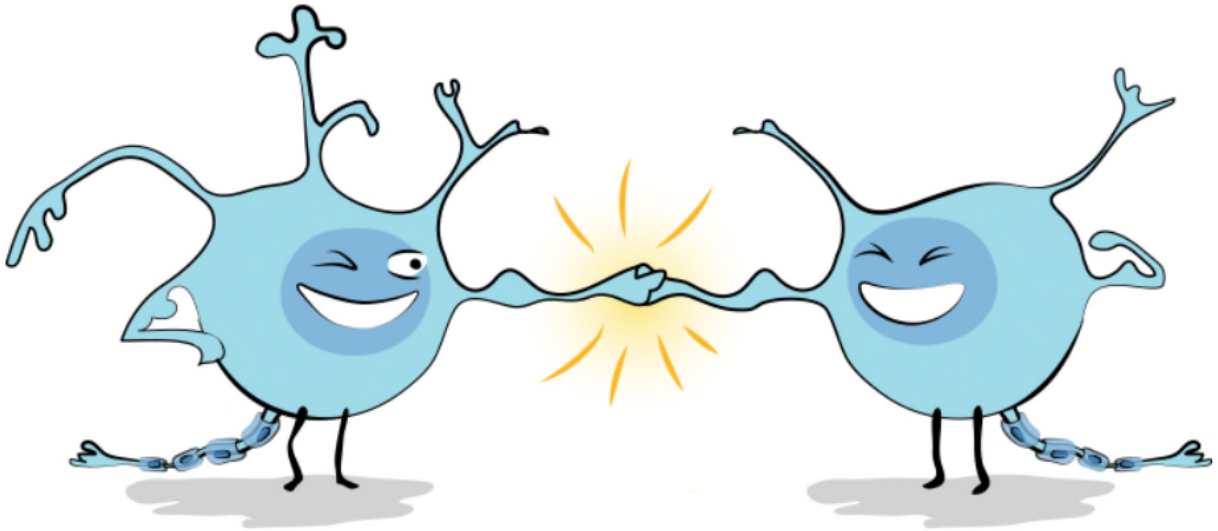

Sterkere forbindelser gjør hjernen smartere

Forbindelsene mellom nervecellene kan være svake eller sterke. Når du jobber hardt for å lære deg noe nytt, som for eksempel med matematikk på skolen, blir forbindelsene i hjernen din sterkere. Dette kan på sikt øke hjernekapasiteten din.

«Hard Evidence on Soft Skills»

(Heckman)

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- Urettferdig fordelt
- Blir stadig viktigere på arbeidsmarkedet
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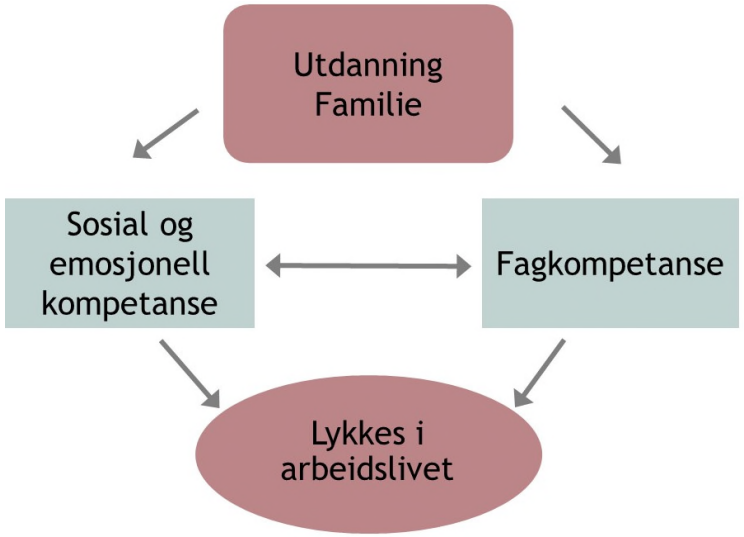

Hvor enig eller uenig er du i følgende påstand?

Du har en viss mengde intelligens, og det er egentlig ikke noe særlig du kan gjøre for å endre på den.

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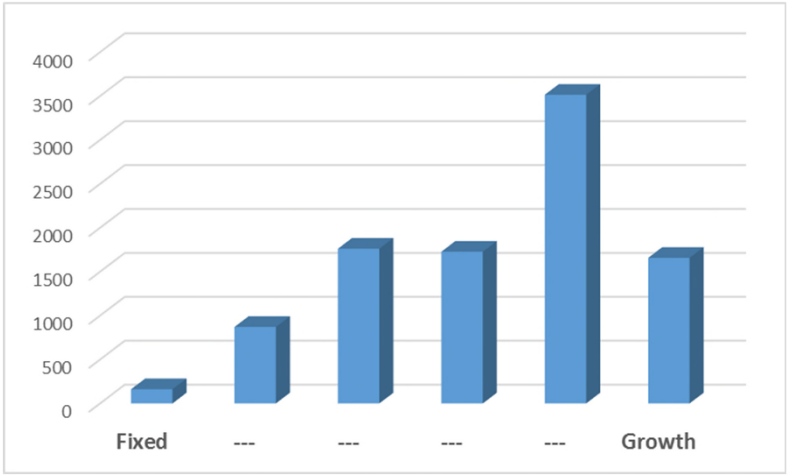
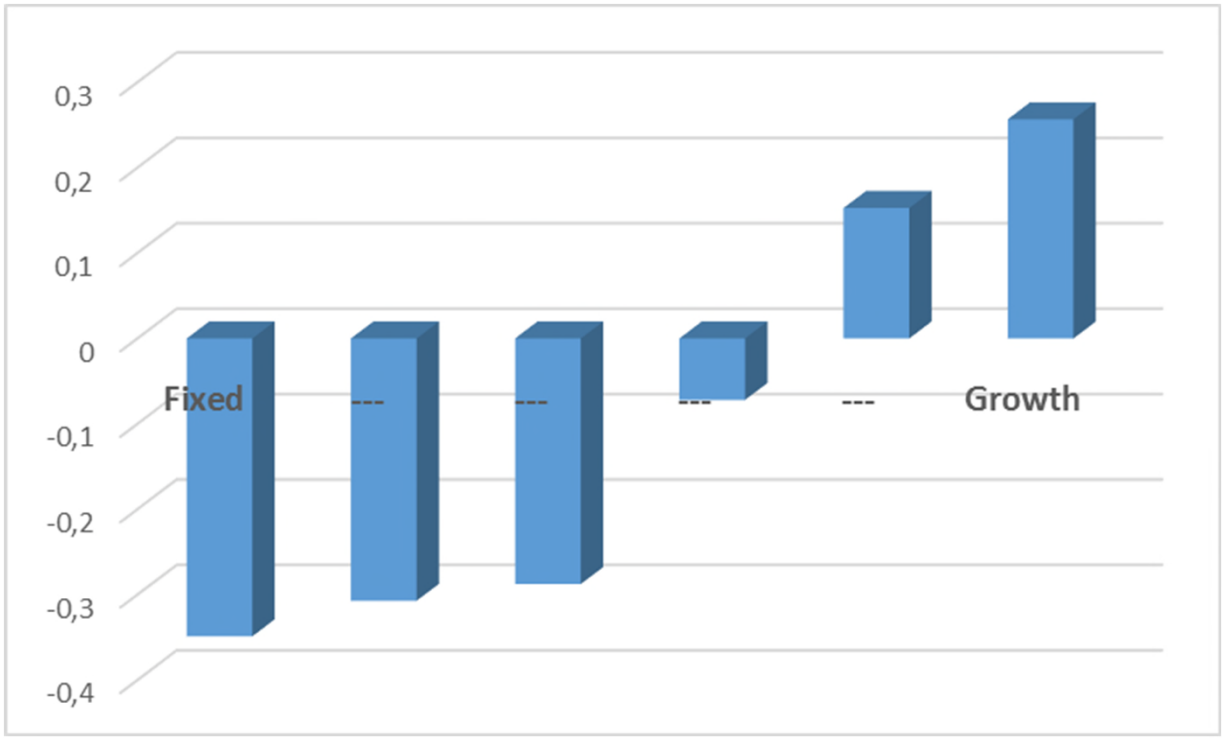
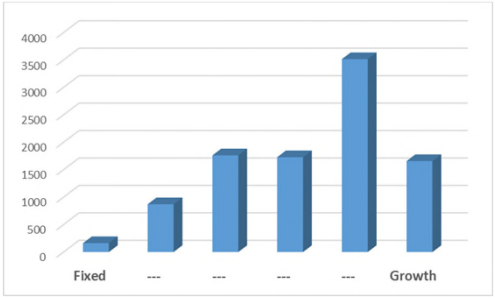
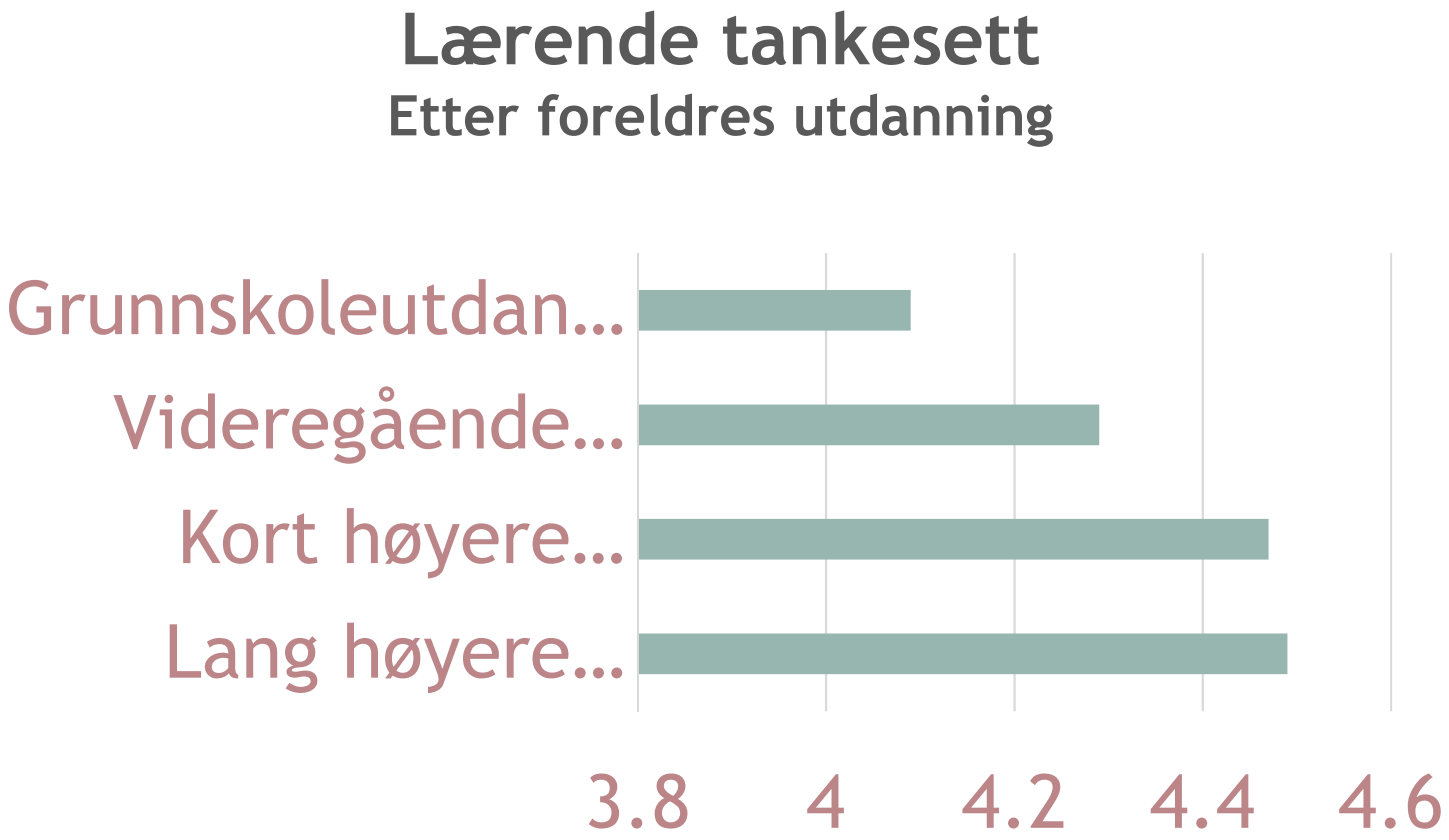


Fixed mindset ---------- | ---------- Growth mindset

10th grade GPA and mindset



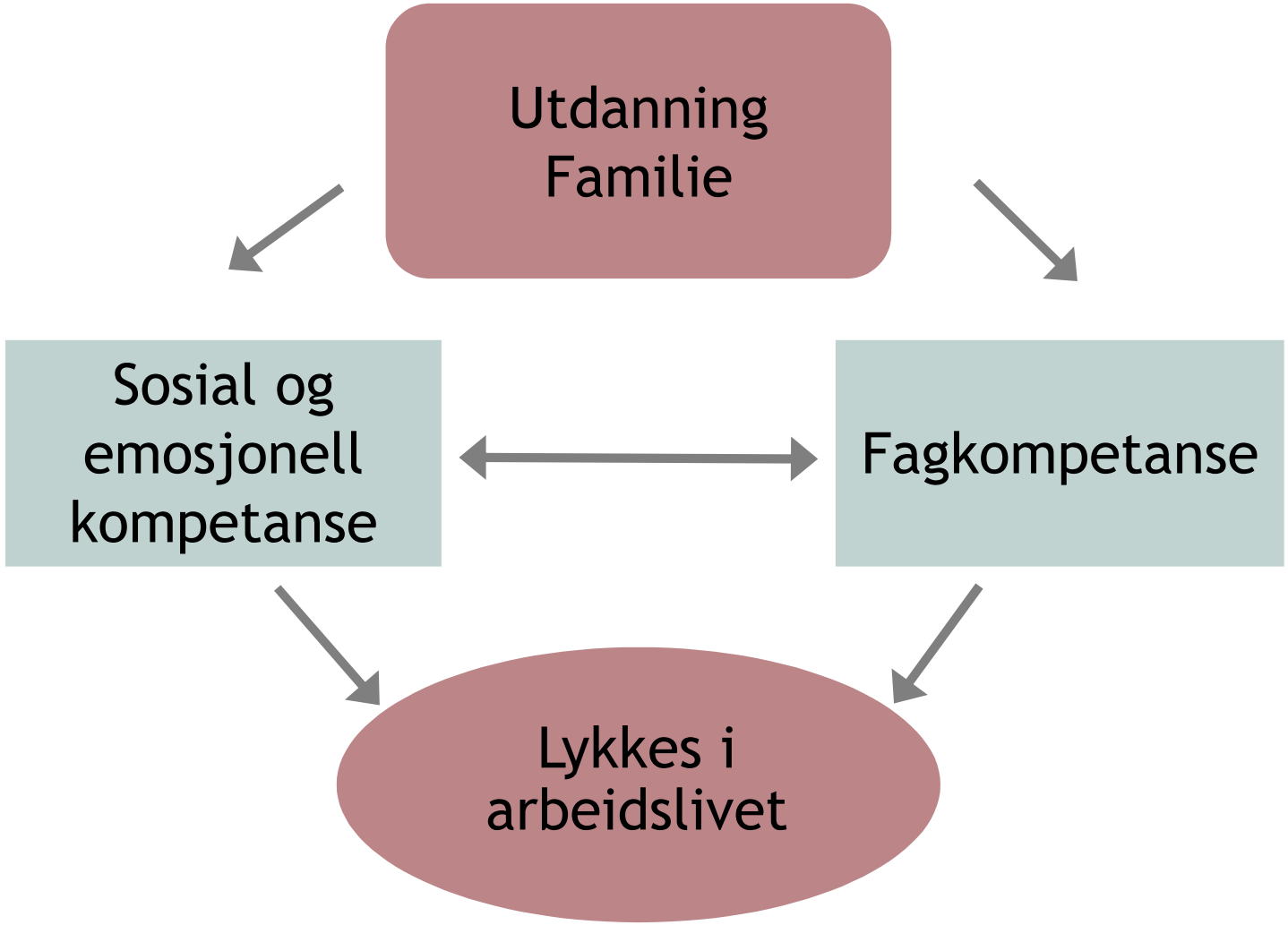


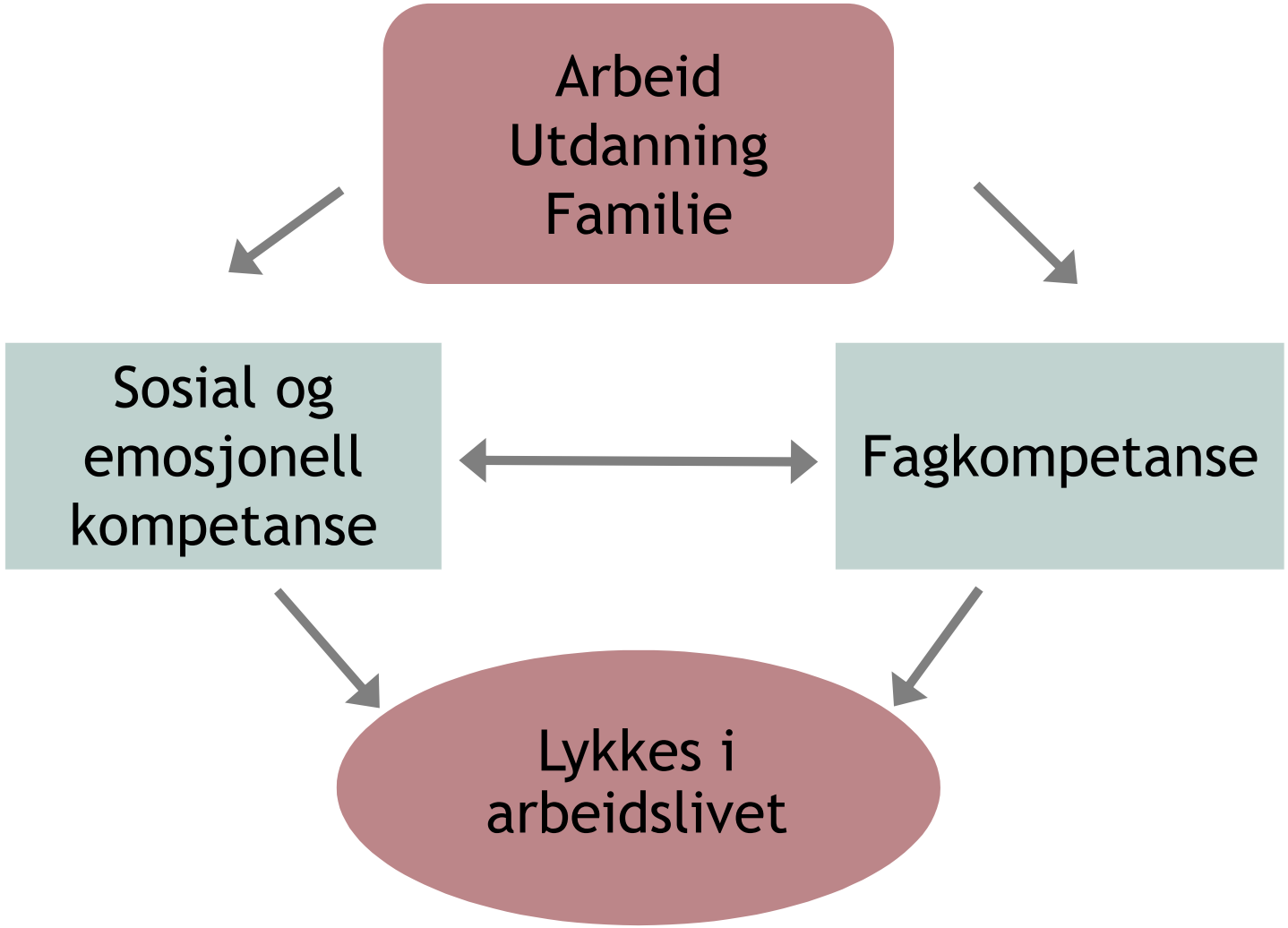


Kilde: Stipendiat Elin Svensen sitt doktorgradsarbeid (offentlig PhD)

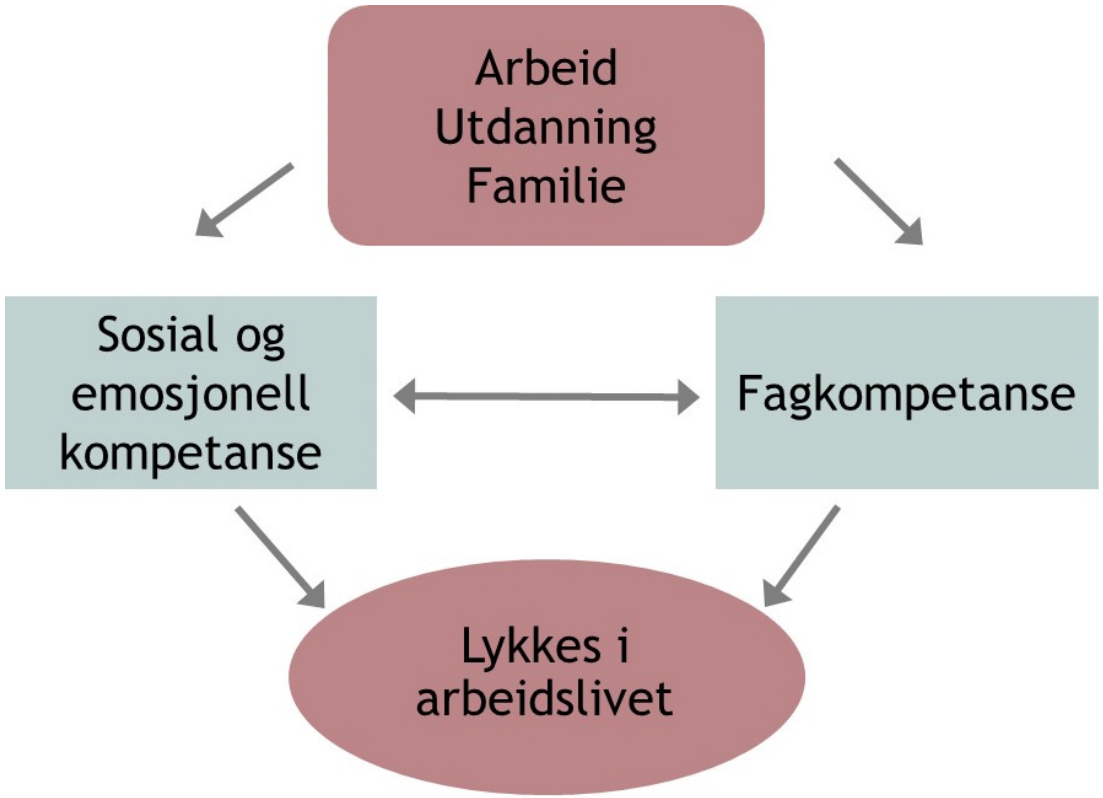
Tankesett formes - bevisst og ubevisst!

- Foreldre
- Familie
- Venner
- Lærer
- Rektor
- Skolekultur
- Jobbkultur


Utdanning
Familie
Sosial og emosjonell kompetanse
Fagkompetanse
Lykkes i arbeidslivet

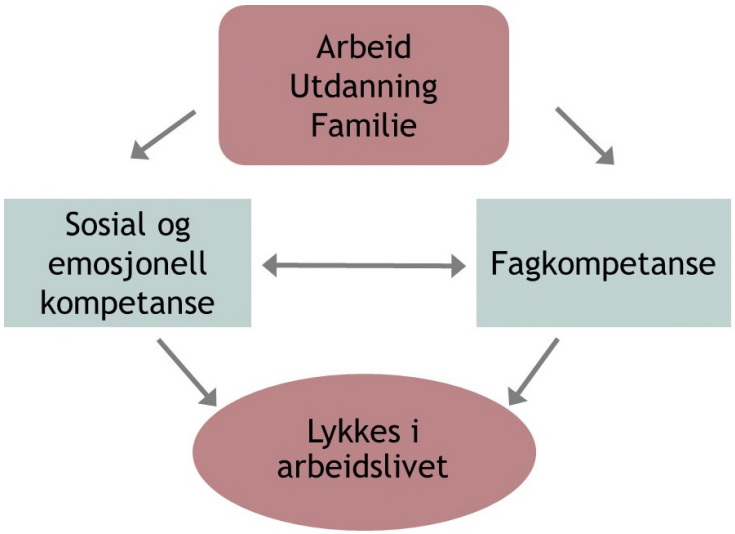

Arbeid
Utdanning
Familie
Sosial og emosjonell kompetanse
Fagkompetanse
Lykkes i arbeidslivet

Arena for tilhørighet, mening og mestring



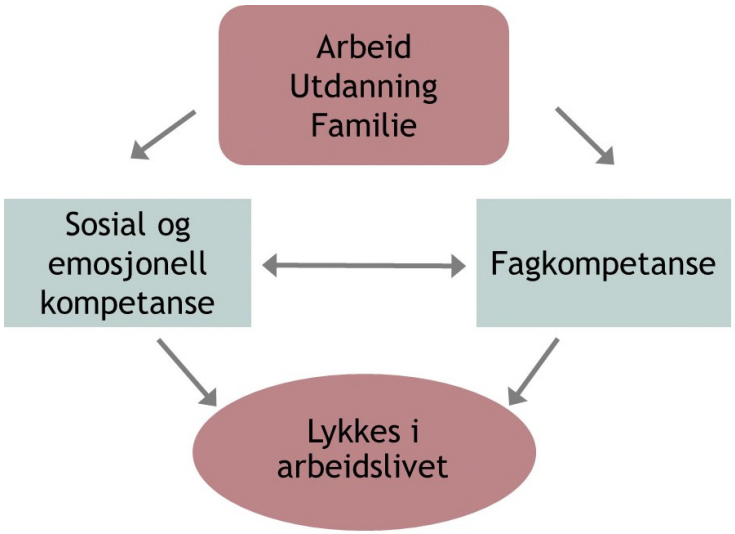
Hvordan motvirke varig produktivitetstap i arbeidsstyrken?

- Tiltak som bidrar til å bygge kompetanse og bidrar til omstilling
- BRA: Har åpnet opp for å ta opplæring og utdannelse mens en mottar dagpenger, samt sørge for betydelig flere studieplasser og opplæringstilbud



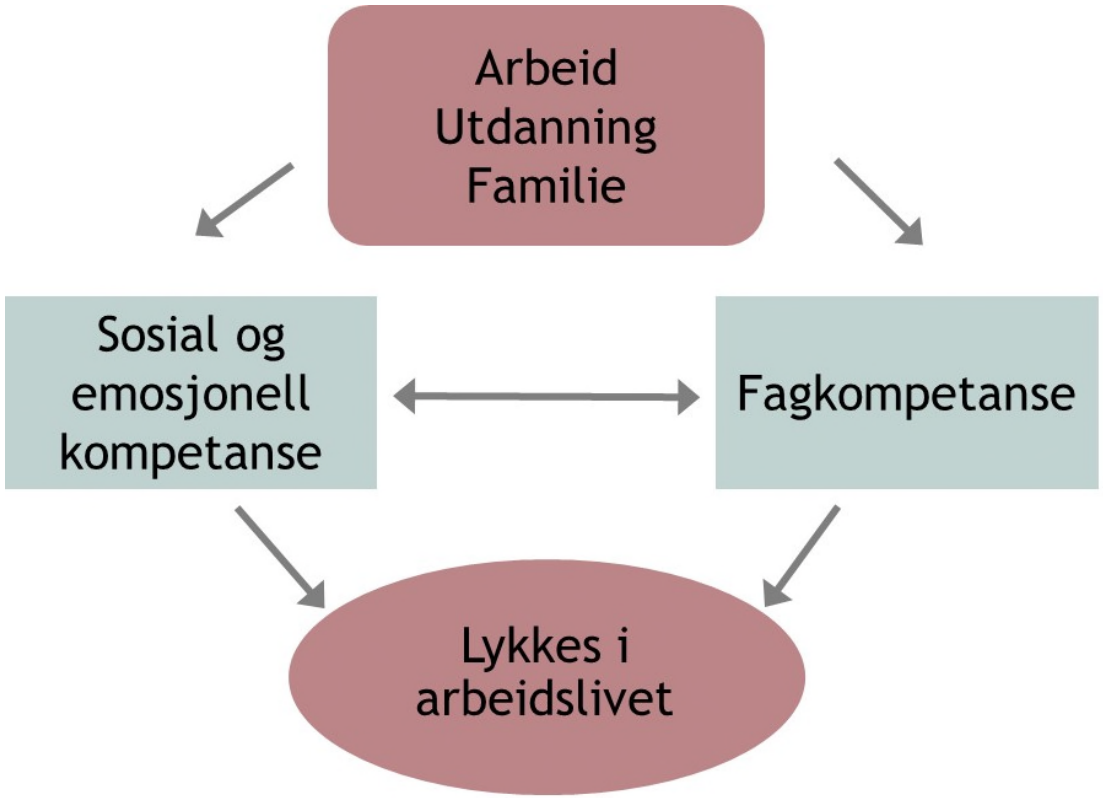
MEN!

- Holder samtidig fast i tiltak som er konserverende -- bygger på en forutsetning om at virksomheter vil kunne fortsette som før så snart pandemien er over
- Kan bidra til at mange permitterte ikke benytter seg av mulighetene til å få ny kompetanse og omstille seg
- HVOR mange kombinerer egentlig dagpenger med utdanning?



Utenforskap blant ungdom: Hvilke tiltak kan virke, og hvordan kan disse realiseres?

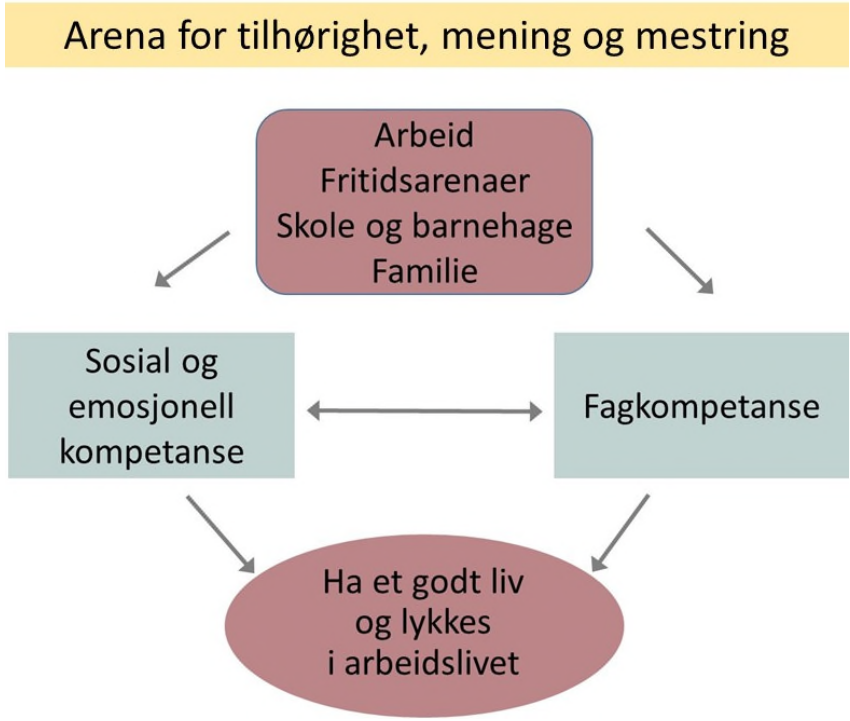
Arena for tilhørighet, mening og mestring




kloroplaster
Fotosyn foregår her
FOTOSYN
$H_2O + CO_2 \rightarrow C_6H_{12}O_6 + O_2$
lys

Tiltak som kan virke

- Forskningen viser at unge mennesker utenfor jobb og utdanning trenger relasjoner til andre mennesker som kan støtte dem på veg inn i arbeidslivet – med å stille forventninger, ha tro på dem og veilede og støtte.
- Tiltak som både hjelper med arbeidstrening og overgang til arbeidslivet, som gir dem mestringsfølelse, opplevelsen av å tilhøre et fellesskap, samt støtter opp om sosiale og emosjonelle utfordringer, ser lovende ut.



Likeverd, respekt og ansvarliggjøring

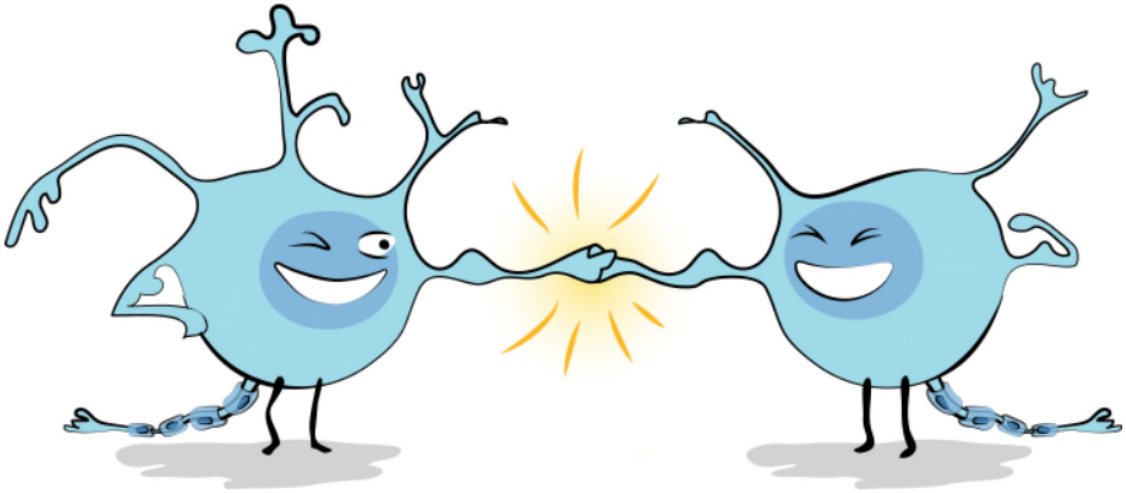
Stiftelsen RIBO tilbyr tjenester innenfor habilitering, rehabilitering, behandling og botilbud til personer med sammensatte utfordringer.

SE VÅRE BO- OG ARBEIDSTILBUD →

Skalerbare tiltak

- Offentlig finansierte tiltak rettet mot ungdom bør bli grundig dokumentert og effektevaluert i randomiserte kontrollerte forsøk i samarbeid med forskningsmiljø.
- Slik kan aktører lære fra hverandre og effektive tiltak skaleres opp.

Takk!



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