

Classrooms as workplaces: How student composition affects teacher health?

Krzysztof Karbownik
Emory University

Helena Svaleryd
Uppsala University

Jonas Vlachos
Stockholm University

Xuemeng Wang
Uppsala University

May 13, 2026
Hoover Institution, Stanford University

Changing occupational structure of the economy in developed countries

- U.S. services sector grew from about 50% to about 80% of GDP between 1960 to 2025
- Accompanied by increase in employment in services sector: From 60% to 80% of total employment
- U.S is not unique in this dimension and many developed countries followed similar transition
- Recently particular growth in so called “contact intensive” or “face-to-face” jobs
 - ▶ defined by physical proximity (Famiglietti et al. (2020)) or inverse of “teleworkability” (Dingel and Neiman, 2020)
 - ▶ jobs where “substantial share of the workload arises from managing interpersonal situations and responding to others’ needs, emotions, and behavior in real time”
 - ▶ examples: lawyer, doctor, nurse, teacher, server, home aid, flight attendant, social worker, or deacon
 - ▶ note #1: these are not necessarily high-skilled or high-paid occupations
 - ▶ note #2: these are not necessarily private sector jobs
- These jobs involve a *provider* (doctor, teacher, flight attendant, deacon) who, often for an extended period of time, directly interacts with their *client(s)* (patients, pupils, passengers, congregation)
- Countless studies on how *provider characteristics* affect *client outcomes* e.g., teacher value added, doctor bouncebacks, “customer satisfaction” surveys industry
- But we know almost nothing about how *client characteristics* affect *provider outcomes*
 - ▶ differences in firm effects on wages (Kline, 2024) and health (Ahammer et al., 2023)
 - ▶ particularly relevant given growth in these jobs and anticipated effects of the AI revolution
 - ▶ Karbownik (2020) presents some evidence on job mobility

Why do we know little about the effects of *client characteristics* on *provider outcomes*?

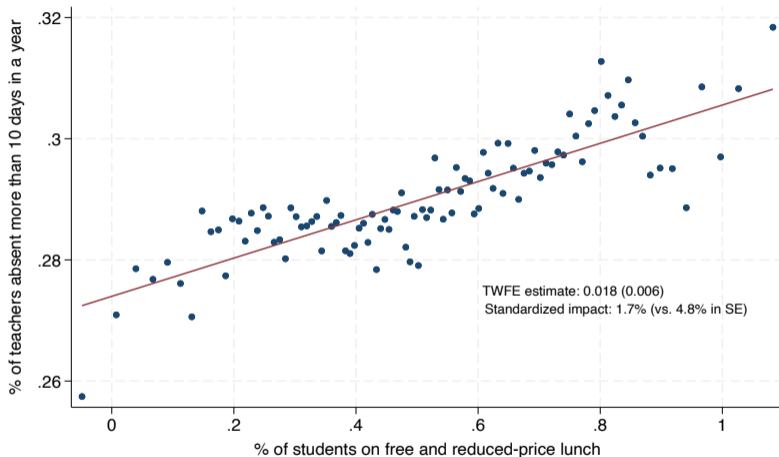
- Turns out it's a hard data and econometric problem
- Data
 - ▶ you need to match providers with customers at micro level (AKM style analyses generally cannot do this)
 - ▶ you need to observe characteristics of clients (think about it for servers or FAs)
 - ▶ you need to observe pecuniary and non-pecuniary outcomes of providers
 - ★ wages can reflect compensating wage differentials (Lavetti, 2023) so we want to know if there are nonpecuniary effects on outcomes that policymakers or firms might care about
- Econometrics
 - ▶ massive amount of endogenous endogenous sorting
 - ★ clients choosing providers e.g., avoid restaurants with poor service or choose neighborhoods with good schools
 - ★ providers choosing clients e.g., home aids refusing troubling clients or doctors discriminating against Medicaid
 - ★ key econometric challenge is to separate *exposure* (causal treatment) from *sorting* (endogenous component)
 - ▶ endogenous mobility
 - ★ different from sorting since it can be triggered by exposure and it's not random where people move
 - ★ moving itself can have direct effect on outcomes
 - ▶ measurement when considering health outcomes (our primary outcome of interest)
 - ★ persistence vs. contemporaneous changes
 - ★ moral hazard: providers might seek care to avoid (rather than as a result of exposure to) clients
- We're going to make some progress on this question by using Swedish middle and high school teachers
 - ▶ can measure variety of outcomes (health, mobility, earnings) of providers (teachers) in administrative data
 - ▶ can observe rich vector of client (student) characteristics – will focus on student disadvantage mostly
 - ▶ can employ multiple econometric strategies allowing for “quasi-experimental” variation

Why should we care about provider (mental) health and sickness?

- Big picture
 - ▶ workplace sickness is costly for both workers (forgone wages, scarring, family spillovers) and firms (productivity declines, cost of sickness leave, workplace contagion)
 - ▶ there are clearly firm effects on health (Ahammer et al., 2023) but we don't understand their drivers
 - ▶ growing number of jobs where these issues can arise – including key jobs in teaching and healthcare
- Particular focus on mental health and burnout
 - ▶ US: on given day workers report MH issues: 40% work-related stress, 23% sadness, & 21% anger (Gallup, 2025)
 - ▶ SE: sick leave due to MH issues accounts for 46% of all sick leave, and 22% with a stress diagnosis (NIB, 2024)
 - ▶ SE: work burnout is estimated to reduce national labor income by 3.6% (Nekoei et al., 2025)
- Narrower focus on teachers
 - ▶ there is a lot of them: \approx 3.8M in the U.S. (2.2% of workforce)
 - ▶ classified as one of the most stressful professions, according to O*NET (Jolivet and Postel-Vinay, 2024)
 - ▶ 60% of teachers report frequent job-related stress and burnout vs. 30% in the general population (Rand, 2024)
 - ▶ they play a key role in human capital production that will be affecting economy in decades to come
 - ▶ extensive literature on negative effects of teacher absenteeism on student outcomes (e.g., Miller et al., 2008)
 - ▶ extensive literature on teacher shortages in hard to staff schools (e.g., Lankford et al., 2002)
 - ▶ new hypothesis for the vicious cycle between student disadvantage and inequality in education outcomes

Schools with more disadvantage students have more teacher absenteeism

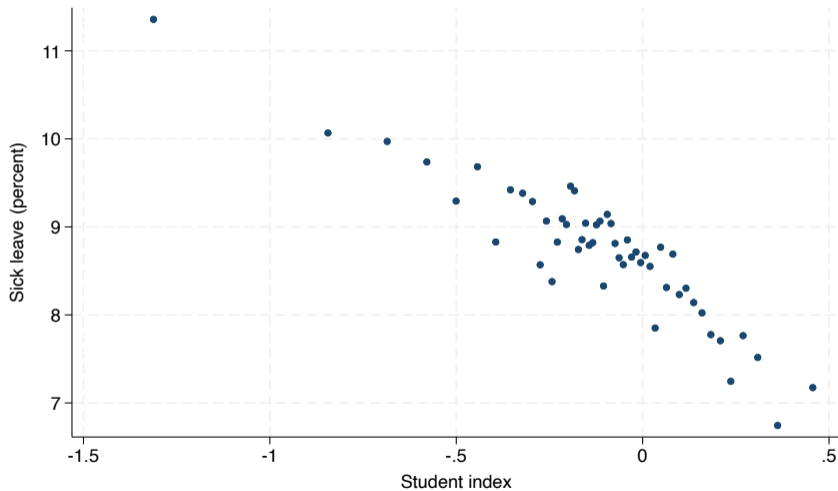
US evidence based on Office of Civil Rights data 2010-2018



- Slope has grown over time from 0 in 2010 to 0.043 in 2018
- IQR in teacher 10+ days absences is 27 pp ($p_{25} = 15\%$ vs. $p_{75} = 52\%$)

Schools with more disadvantage students have more teacher absenteeism

Swedish evidence based on administrative sickness leave data



What we do

- Study effects of student (client) characteristics (disadvantage) on their teacher's (provider) health
 - ▶ consider both general and mental health with particular focus on burnout
 - ▶ pair health outcomes with labor market outcomes including earnings, mobility and quit behaviors
 - ▶ use cohort-by-school variation in student composition for identification (Carrell et al., 2018)
 - ▶ ID assumption: teachers with latent health issues do not systematically sort into schools that, in the future, will have a larger share of disadvantaged students
 - ▶ three complementary empirical strategies: (1) teacher FE; (2) teacher-spell FE; (3) event study mover design
- Use administrative data from Sweden, including detailed information on teachers, students, and parents
 - ▶ school records matched with social security records allowing us to observe “consequential sicknesses”
 - ▶ additional health measures based on pharmaceutical register and inpatient/outpatient visits (not today)
 - ▶ lower- (middle) and upper-secondary (high) schools between years 2005-06 and 2021-22
- Link administrative data to three survey data sets that allow us to explore plausible mechanisms
 - ▶ organizational features such as workload, limited autonomy, weak managerial or collegial support, organizational dysfunction (Bloom et al., 2015)
 - ▶ versus direct “client” interactions including respect and threats
 - ▶ additional data on Vård av Barn to rule out moral hazard (not today)

Research questions

- Is there an effect of student composition on their teacher's health?
 - ▶ selection vs. exposure
 - ▶ general vs. mental health
- Is there an effect of student composition on their teacher's wages and labor supply?
 - ▶ compensating wage differential
 - ▶ job turnover and hard to staff schools
- Do these effects differ by teacher characteristics?
 - ▶ the role of age in perpetuating inequality
 - ▶ private vs. public schools
- Are these effects plausibly due to organizational features or direct interactions?

Contributions

- First study to document causal effects of client characteristics (specifically disadvantage) on providers health
 - ▶ unpacks AKM-style analyses of “firm effects” on health (Ahamer et al., 2023) and burnout (Nekoei et al., 2025)
 - ▶ proposes client characteristics as causative factor in workplace environment \Leftrightarrow worker health relationship
 - ▶ tests theory of “emotional labor” (Wharton, 2009) and extends theory of compensating wage differentials to include client characteristics (Lavetti, 2023)
 - ▶ contrasts with more traditional views from occupational and organizational literature
- First causal evidence on the effects of student characteristics on teachers’ mental health and sick leave
 - ▶ prior evidence is limited, mostly descriptive, and based on small, cross-sectional data
 - ▶ teachers are important part of the economy – both in number and their societal role
 - ▶ teachers (and their presence and mental health) matter for their students learning
 - ▶ proposes teacher’s health as a mechanism through which student disadvantage can affect school productivity
 - ▶ descriptive evidence from service work, social work, and medicine suggests that our results could generalize (Sliter et al. 2010; Shier and Graham 2011; Dyrbye et al. 2022)
- Some of the first evidence on the role of working conditions in determining mental health of workers
 - ▶ prior work on family, school environments, social media, internet, unemployment shocks & economic downturns
 - ▶ limited and mostly descriptive evidence how working conditions affect mental health
 - ▶ propose and test specific mechanism through which workers’ health can be affected

Preview of the main results

- Three school-level descriptive facts
 - ▶ schools with more disadvantaged students have worse work environment
 - ▶ schools with worse work environment have more teacher sick leaves
 - ▶ schools with more disadvantage students have more teacher sick leaves
- Effects of student characteristics on their teachers' outcomes
 - ▶ 1σ \uparrow in student advantage \Rightarrow \downarrow teacher sick leave (any by 7.1%, psychiatric by 9.1%, and burnout by 9.6%)
 - ▶ results are robust to alternative specifications, pass placebo test, and cannot be explained by workplace contagion or neighborhood shocks
 - ▶ any cause effects are larger in lower- while mental health effects are larger in upper-secondary schools
 - ▶ effects are significantly larger for inexperienced teachers and those working in private schools
 - ▶ 1σ \uparrow in student advantage \Rightarrow \downarrow quitting teaching by 5.8% and earnings by 0.5%
 - ▶ teacher-spell FE estimates are similar for MH suggesting that endogenous mobility might not be a main driver
- Mechanisms
 - ▶ evidence for classroom conditions, respect, threats, student interactions
 - ▶ no evidence for workload, management, flexibility, meaning, satisfaction

Data and measurement

Data: Swedish administrative registers

- Teacher register
 - ▶ covers all teachers working in Swedish (public & private) primary & secondary schools 2005/2006 to 2023/2004
 - ▶ includes information on their education, experience, type of contract
 - ▶ geolocation data based on unique school identifier
 - ▶ focus on lower (G7 to G9) and upper-secondary (G10 to G12) teachers as we cannot accurately match them with students at school-by-year level in grades 1 to 6
- Student register
 - ▶ covers all students attending Swedish (public and private) primary and secondary schools 2006-2019
 - ▶ contains data on age, academic achievement, school, grade level attend and immigration history
 - ▶ linked to teachers via school identifier
 - ▶ academic achievement based on GPA (standardized by cohort) in grades 6 and 9
- Social Security register
 - ▶ records all sick leave spells lasting 2 weeks or longer between 2005 and 2024
 - ▶ sick leave spells shorter than 2 weeks are covered by the employer and not recorded in the data
 - ▶ each sick leave spell is linked to a medical diagnosis
- Supplementary registers provide background information and additional outcomes
 - ▶ additional health outcomes from in/outpatient and pharmaceutical registers
 - ▶ income and earnings from Tax register
 - ▶ demographics from Population register
- All registers are linked via unique individual identification number

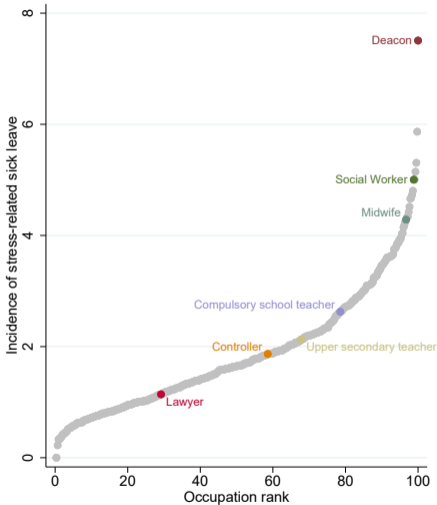
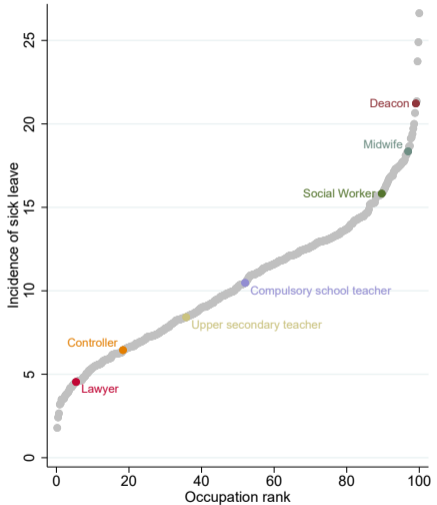
Survey data

- School Inspectorate's Teacher Survey (SIS) [▶ Details](#)
 - ▶ rotating schedule survey by the School Inspectorate of all compulsory and upper-secondary schools in Sweden
 - ▶ aggregated reporting at school level for years 2013 to 2024
 - ▶ factor analysis yields two indices: "general work environment" and "leadership"
- Swedish Work Environment Survey (AMU) [▶ Details](#)
 - ▶ nationally representative survey of working conditions among employees
 - ▶ fielded biannually between 2006 and 2024 and linked at individual level to teachers
 - ▶ detailed coverage of psychosocial and physical working conditions
 - ▶ aggregate responses to indices based on (1) exploratory factor analysis and (2) organizational theory
- Attitudes to School Survey (ATS) [▶ Details](#)
 - ▶ administered by National Agency for Education in 2012, 2015, and 2024
 - ▶ stratified random sample of schools from which all teachers are invited to participate
 - ▶ explicitly designed for school context and contains detailed measures on classroom interactions and perceived sources of stress
 - ▶ individual responses that can be linked at school level

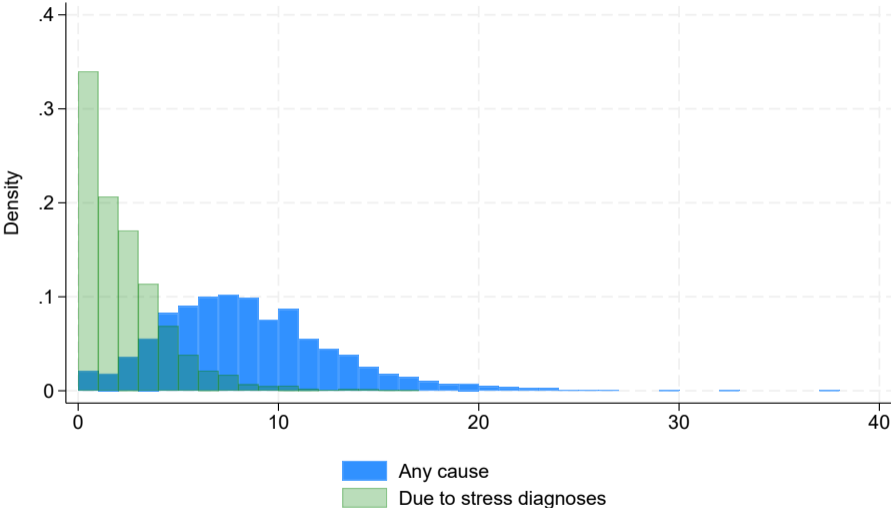
Data: Main dependent variables of interest

- Health outcomes: an indicator for whether a teacher was at least once during the school year on a sick leave longer than two weeks due to
 - ▶ any diagnosis
 - ▶ psychiatric diagnosis (any ICD-10 F code)
 - ▶ burnout diagnosis (ICD-10 code F43: reaction to severe stress and adjustment disorders)
 - ▶ cardiovascular or cancer diagnosis (placebo)
- Labor market outcomes
 - ▶ log earnings
 - ▶ an indicator for working in a different school next year
 - ▶ an indicator for not working as a teacher next year
- Survey based indices based on SIS, AMU, and ATS surveys
- Notes
 - ① if spell covers multiple years we only code it in the first year (i.e., we only consider “new spells”)
 - ② school year is defined August to July (school in Sweden runs from mid August to mid June)
 - ③ health outcomes are measured in per 1000 teachers

Variation in sick leave across occupations in Sweden



School-level variation in sick leave



Data: Measuring student composition

- We can use multiple (correlated) characteristics to describe student composition ▶▶ Correlation table
- Reduce dimensionality by constructing an (input) index: SC_{st}
 - ▶ outcome: Grade 6 GPA (pre-determined to treatment)
 - ▶ inputs (parents): education (eight categories), income (percentile ranked within cohort and sex), employment, receipt of welfare benefits, cohabitation status, country/region of origin (10 categories), foreign-born status (all prior variables are also interacted with foreign-born dummy)
 - ▶ inputs (children): age at migration (2 categories), country-region of origin (10 categories)
 - ▶ $R^2 = 0.27$ in lower- and $R^2 = 0.30$ in upper secondary-schools
- Aggregate to school-by-year level
 - ▶ no link between teachers and classrooms
 - ▶ no clear link between teachers and specific grades
 - ▶ between-school SD in \widehat{GPA} is 0.3
- Robustness in SC_{st}
 - ▶ control for child's sex, birth month, and birth order
 - ▶ control for school FE when making prediction
 - ▶ generate sex-specific indices
 - ▶ control for child's and parent's mental health problems
- Composite measure of socioeconomic background that is predictive of academic performance

Identification and estimation

Empirical strategy: School-level analysis

$$Y_{st} = \alpha + \beta SC_{st} + \gamma_{ctl} + (\delta_s) + \Theta X_{st} + \varepsilon_{st}$$

- where s indexes schools, t indexes years, c indexes county, and l indexes school-level
- γ_{ctl} are county-by-year-by-school level fixed effects
- X_{st} includes average teacher age and age squared, fraction having children under 10, fraction males, and log number of students
- δ_s are school fixed effects included in select specifications
- ε_{st} are clustered at school level

- **Note:** Answers a question if schools with disadvantaged students have more or less healthy/absent teachers
 - ▶ this is not causal but such descriptives could be useful for policy makers
 - ▶ it reflects equilibrium allocation of health (H_{st}) and students (SC_{st}) across schools due to: (1) sorting and mobility; (2) exposure effects and (3) correlated characteristics (e.g., where schools are located)
 - ▶ δ_s can address time-invariant # 3 and γ_{ctl} addresses regional macro shocks

Empirical strategy: Teacher-level analysis

$$Y_{ist} = \alpha + \beta SC_{st} + \gamma_{ctl} + (\xi_i) + (\psi_{is}) + \Theta X_{it} + \varepsilon_{ist}$$

- where i indexes teachers, s indexes schools, t indexes years, c indexes country, and l indexes school level
- γ_{ctl} are county-by-year-by-school level fixed effects
- X_{it} includes indicator for teacher age category, indicator for having a child under age 10, and male dummy
- ξ_i are teacher and ψ_{is} spell (teacher-school) FE included in select specifications
 - ▶ ξ_i control for unobserved fixed teacher characteristics (e.g., latent health) but not for selection into schools
 - ▶ ψ_{is} control for both unobserved fixed teacher characteristics and selection into schools
- ε_{istp} are two-way clustered at teacher-school level
- **Note:** Answers a question if student disadvantage affects teacher health/absenteeism
 - ▶ separates sorting from exposure assuming that within-teacher changes in SC_{st} are uncorrelated with unobserved time varying determinants of teacher health ($Cov(SC_{st}, \varepsilon_{ist} | \gamma_{ctl}, \xi_i, X_{it}) = 0$)
 - ▶ implication #1: if healthier/resilient teachers select into schools with better students then $\beta_{\text{with TFE}} \ll \beta_{\text{w/o TWF}}$
 - ▶ implication #2: if healthier/resilient teachers “endogenously move” (dynamic selection) into schools with better students due to $SC_{st} \downarrow$ then β_{TFE} is biased upwards (but also $\beta_{\text{with TFE}} \gg \beta_{\text{with spell FE}}$)
 - ▶ caveat: ψ_{is} could be “bad controls” if $SC_{st} \Rightarrow$ moving

Empirical strategy: Event study

- Mover design that changes SC_{st} but keeps person specific factors unchanged (Finkelstein et al. (2016))
- Limits the analysis to movers only (external validity caveat: movers might be different from stayers)
- Utilizes variation in timing of move (not-yet-treated approach): assumes that exact time of move is uncorrelated with changes in teacher health except through change in SC_{st}
 - ▶ examine parallel trends: if teachers with deteriorating health differentially move then pre-trends will not be zero
 - ▶ co-shocks: if teachers move due to acute shock at $t = 0$ then we should not see persistent post change
- Setup
 - ▶ sample: (1) drop non-movers; (2) drop those that exit teaching; (3) employed for at least 3 years before move
 - ▶ window span: ± 3 years around the move $\Rightarrow \approx 6.5K$ distinct moves ▶ Observations
 - ▶ treatment: $\omega_i = \overline{SC_{d(i)}} - \overline{SC_{o(i)}}$ i.e., difference in average student disadvantage between destination and origin schools for mover i ($\omega_i > 0 \Rightarrow$ move to “better school” and $\omega_i < 0 \Rightarrow$ move to “worse school”) ▶ Variation
- Estimating equation

$$Y_{it} = \alpha + \sum_{r=-3}^{r=3} \beta_r \hat{\omega}_i \mathbf{1}(t = r) + \gamma_t + \xi_i + \Theta X_{it} + \varepsilon_{it}$$

- ▶ where r are periods relative to the move and we set $\beta_{-1} = 0$
- ▶ ID assumption: absent the move teacher's health would have evolved similar to those who have not-yet-moved

Identifying assumptions

- School-level
 - ▶ no sorting of students based on average health of teachers in schools
 - ▶ no sorting of teachers based on average characteristics of students in schools
 - ▶ #1 seems more plausible than #2 but we treat this analysis as descriptive “equilibrium analysis”
- Teacher-level
 - ▶ no unobserved time-varying factors which are correlated with changes in student composition and also affect teacher’s health (when including teacher FE)
 - ★ no need to worry about student sorting unless they do so on unobserved future changes in teacher’s health
 - ★ still concern with teacher sorting to schools if they anticipate future changes in student composition at school they choose
 - ★ another problem are local (economic) shocks that affect both student composition and teacher’s health (e.g., spatially distributed financial shock)
 - ▶ no unobserved time-varying within spell factors which are correlated with student composition and also affect teacher’s health (when including spell FE)
 - ★ identical assumption regarding students as above
 - ★ no concern about teacher sorting to schools as we control for this (but this could be endogenous)
 - ★ local (economic) shocks are still a concern here
 - ▶ parallel trends, no anticipation, no co-timed shocks, and SUTVA (event studies)
- We address teacher-level analysis concerns in multiple ways
 - ▶ placebo outcome: CVD and cancer diagnoses
 - ▶ showing no correlation between contemporaneous teacher health and future student composition
 - ▶ cumulative vs. contemporaneous exposure: control for lagged teacher health
 - ▶ controlling for sick leave peer effects and regional sick leave rates of non-teachers
 - ▶ variety of additional robustness checks

School-level analysis

Work environment, sick leave, and student composition

- “First-stage” evidence
 - ▶ is quality of work environment associated with teacher sick leave?
 - ▶ is student composition associated with quality of work environment?
- Use School Inspectorate Survey for AY 2013-14 to 2023-24
 - ▶ create work environment index based on factor analysis capturing school climate, school safety, teacher support, adjustment to student needs, and practices against abuse [▶▶ Details](#)
 - ▶ use this index as both dependent and independent variable
- School-level descriptive analysis including year-by-school-level and school fixed effects

Work environment, sick leave, and student composition

School level analysis

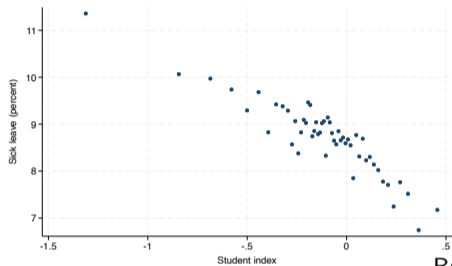
	(1)	(2)	(3)	(4)	(5)	(6)
	Any sick leave		Stress-related sick leave		Work environment	
Work environment	-8.830***	-4.408***	-2.837***	-2.311***		
	(1.016)	(1.598)	(0.510)	(0.863)		
Student index					0.615***	0.159**
					(0.039)	(0.074)
Mean of Y	81.83	81.83	19.56	19.56	0.01	0.01
School FE	No	Yes	No	Yes	No	Yes
# schools	2,727	2,727	2,727	2,727	2,727	2,727
Observations	10,682	10,682	10,682	10,682	10,682	10,682

- Better work environment is negatively associated with teacher sickness
- Less student disadvantage is positively associated with work environment

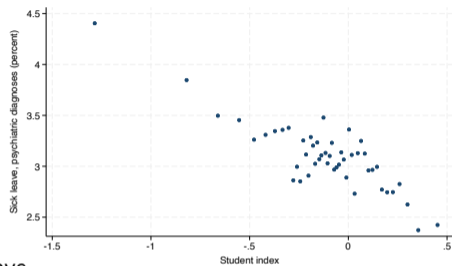
Sick leave and student composition

Residualized school level scatterplots

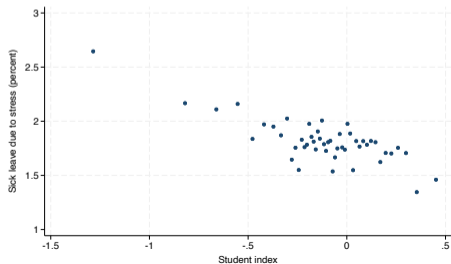
Any sick leave



Psychiatric diagnosis sick leave



Burnout sick leave



Association between student composition and teacher sick leave

School level

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Pooled	Lower- secondary	Upper- secondary		Pooled		Lower- secondary	Upper- secondary
Panel A. Sick leave, any cause								
Student index	-24.943*** (1.725)	-25.431*** (3.115)	-24.635*** (2.015)	-20.230*** (1.773)	-16.664*** (3.677)	-13.947*** (3.720)	-23.500** (9.171)	-12.979*** (3.987)
Mean of Y	87.24	94.88	76.89	87.24	87.24	87.24	94.88	76.89
Panel B. Sick leave, psychiatric diagnosis								
Student index	-9.934*** (1.090)	-8.765*** (1.884)	-10.673*** (1.319)	-8.209*** (1.100)	-11.459*** (2.312)	-10.548*** (2.327)	-9.297* (5.483)	-11.871*** (2.541)
Mean of Y	31.01	33.87	27.13	31.01	31.01	31.01	33.87	27.13
Panel C. Sick leave, stress diagnosis								
Student index	-5.535*** (0.799)	-4.253*** (1.380)	-6.346*** (0.966)	-4.538*** (0.814)	-8.328*** (1.755)	-8.233*** (1.757)	-7.839* (4.015)	-8.989*** (1.936)
Mean of Y	18.15	19.90	15.78	18.15	18.15	18.15	19.90	15.78
Panel D. Sick leave, cardiovascular and cancer diagnoses								
Student index	-0.778** (0.393)	-1.082 (0.704)	-0.585 (0.463)	-0.327 (0.400)	0.239 (0.840)	0.363 (0.867)	-0.923 (2.131)	0.607 (0.944)
Mean of Y	4.90	5.03	4.72	4.90	4.90	4.90	5.03	4.72
# schools	3,797	1,946	1,851	3,797	3,797	3,797	1,946	1,851
Observations	45,534	26,180	19,354	45,534	45,534	45,534	26,180	19,354
Controls	No	No	No	Yes	No	Yes	Yes	Yes
School FE	No	No	No	No	Yes	Yes	Yes	Yes

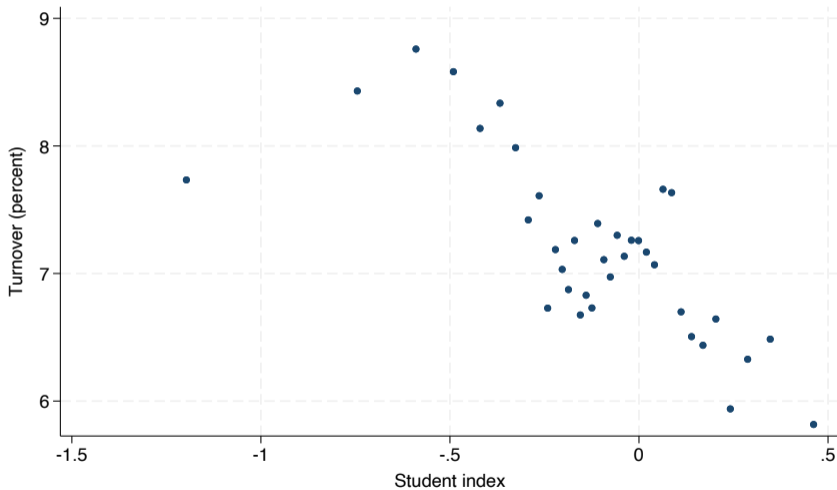
Interpretation: Are these associations meaningful?

School level analysis

- Moving from school at 25th percentile of student advantage to school at 75th percentile is associated with
 - ▶ reduction in any sick leave of 0.70 pp or 8.0%
 - ▶ reduction in psychiatric diagnosis sick leave of 0.28 pp or 9.1%
 - ▶ reduction in burnout by 0.16 pp or 8.7%
- Alternatively 1σ \uparrow in student advantage is associated with
 - ▶ 4.2 sick leave cases per 1,000 teachers per year (or 4.8%)
 - ▶ 3.2 psychiatric sick leave cases per 1,000 teachers per year (or 10.2%)
 - ▶ 2.5 burnout sick leave cases per 1,000 teachers per year (or 13.6%)
- Sweden has about 120,000 teachers (US has 3.8M) so we're talking about meaningful numbers
- Any sick leave associations are modestly larger in lower-secondary schools while mental health associations are modestly larger in upper-secondary schools
- For stress diagnoses $\beta_{FE} \ll \beta_{OLS}$ meaning that within school changes in SC_{st} matter more for mental health
- No association with cancer/CVD suggests that “latently sicker” teachers do not cluster in more disadvantaged schools

Are teachers more likely to leave schools with disadvantaged students

School level teacher turnover: Residualized scatterplot



Association between student composition and teacher turnover

School level

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Pooled	Lower- secondary	Upper- secondary		Pooled		Lower- secondary	Upper- secondary
Student index	-0.021*** (0.003)	-0.026*** (0.004)	-0.018*** (0.004)	-0.022*** (0.003)	-0.038*** (0.007)	-0.019*** (0.007)	-0.026*** (0.010)	-0.014 (0.009)
Mean of Y	0.07	0.07	0.08	0.07	0.07	0.07	0.07	0.08
# schools	3,615	1,882	1,733	3,615	3,615	3,615	1,882	1,733
Observations	41,810	24,324	17,486	41,810	41,810	41,810	24,324	17,486
Controls	No	No	No	Yes	No	Yes	Yes	Yes
School FE	No	No	No	No	Yes	Yes	Yes	Yes

Teacher level analysis

Effects of student composition on teacher health

Teacher level

	(1)	(2)	(3)	(4)
	Pooled	Pooled	Lower-secondary	Upper-secondary
Panel A. Sick leave, any cause				
Student index	-16.878*** (1.378)	-9.154*** (1.835)	-16.469*** (3.795)	-8.161*** (2.287)
Mean of Y	71.28	71.28	80.75	64.33
Panel B. Sick leave, psychiatric diagnosis				
Student index	-6.880*** (0.774)	-3.866*** (1.188)	-5.111** (2.445)	-5.320*** (1.414)
Mean of Y	22.77	22.77	26.36	20.14
Panel C. Sick leave, stress diagnosis				
Student index	-4.347*** (0.544)	-4.221*** (0.921)	-5.849*** (1.932)	-4.982*** (1.105)
Mean of Y	13.52	13.52	15.91	11.77
Panel D. Sick leave, cardiovascular and cancer diagnoses				
Student index	0.031 (0.242)	0.222 (0.395)	-0.480 (0.848)	0.707 (0.499)
Mean of Y	3.84	3.84	3.93	3.77
Teacher FE	No	Yes	Yes	Yes
# schools	4,032	4,032	2,029	2,000
Observations	1,079,562	1,079,562	452,668	619,223

Interpretation and magnitudes

Teacher level analysis

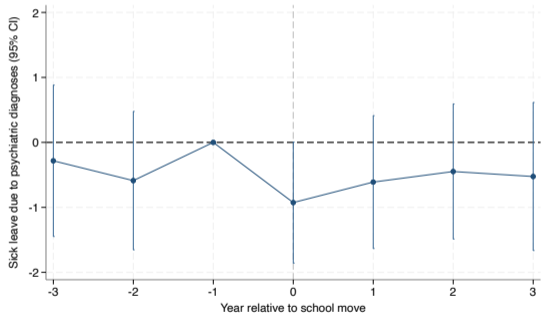
- When including teacher fixed effects estimates for any or psychiatric sick leave decline by $\approx 45\%$
 - ▶ teachers with poorer general and psychiatric health tend to match with schools having more disadvantage
 - ▶ this does not seem to be the case for burnout which is a more acute diagnosis
 - ▶ when we (endogenously) account for this by including teacher-school FE psychiatric health estimates increase but burnout remains stable (thus mobility is unlikely to drive burnout) [▶ Spell FE](#)
- Modestly larger effects on any sick leave in lower- while on mental health in upper-secondary schools
- Preferred estimates: $1\sigma \uparrow$ in student advantage decreases
 - ▶ sick leave cases by 3.9% per year
 - ▶ psychiatric sick leave cases by 5.1% per year
 - ▶ burnout sick leave cases by 9.4% per year
- Reasonably precise placebo estimates for CVD and cancers
 - ▶ 95% CI (-0.17; 0.30) cases per 1,000 vs. 1.2 to 2.7 cases per 1,000 reduction in outcomes of interest
 - ▶ not surprising given that we control for teacher's (fixed) latent health
- Individual level components of the index that matter most are immigrant background and maternal education (rather than parental income) [▶ Components](#)

Event study

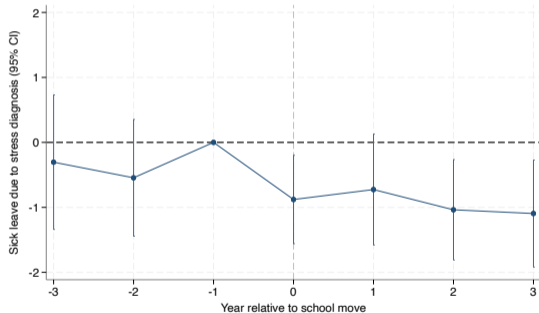
Effects of student composition on teacher mental health outcomes

Mover analysis

Psychiatric diagnoses



Stress diagnoses



Robustness and alternative explanations

Alternative explanations and robustness

- Utilize only within spell variation ✓
- Construction of the student index ? [▶ Results](#)
 - ▶ expand inputs with non-SES variables
 - ▶ expand inputs with health variables
 - ▶ parse out school sorting (include school FE)
 - ▶ anchor in grade 9 GPA
- Average differences vs. dispersion ? [▶ Results](#)
- Sample restrictions ? [▶ Results](#)
 - ▶ Covid-19 period and/or Stockholm effect
- Workplace contagion ?
- Correlated local shocks ?
- Reverse causality ?

Robustness: Workplace contagion

	(1)	(2)	(3)	(4)	(5)	(6)
	Any sick leave		Psychiatric diagnosis sick leave		Stress-related sick leave	
Student index	-8.756*** (1.890)	-7.939*** (1.890)	-3.816*** (1.218)	-3.565*** (1.214)	-4.211*** (0.953)	-4.222*** (0.944)
Sick leave peer effects		0.008** (0.004)		0.003 (0.002)		0.001 (0.002)
Mean of Y	71.44	71.44	22.67	22.67	13.33	13.33
# schools	3,940	3,940	3,940	3,940	3,940	3,940
Observations	1,021,196	1,021,196	1,021,196	1,021,196	1,021,196	1,021,196

Robustness: Correlated local shocks

	(1)	(2)	(3)	(4)	(5)
	Baseline	Municipality-by-year fixed effects		Control for local shocks	
		School	Teacher	Baseline	Expanded
Panel A. Sick leave, any cause					
Student index	-9.154*** (1.835)	-8.694*** (1.984)	-9.435*** (1.847)	-8.756*** (1.890)	-7.939*** (1.890)
Regional sick leave rates for non-teachers					0.622*** (0.010)
Mean of Y	71.28	71.28	71.28	71.44	71.44
Panel B. Sick leave, psychiatric diagnosis					
Student index	-3.866*** (1.188)	-3.830*** (1.269)	-4.023*** (1.196)	-3.816*** (1.218)	-3.565*** (1.214)
Regional sick leave rates for non-teachers					0.584*** (0.013)
Mean of Y	22.77	22.77	22.77	22.67	22.67
Panel C. Sick leave, stress diagnosis					
Student index	-4.221*** (0.921)	-4.333*** (0.982)	-4.437*** (0.923)	-4.211*** (0.953)	-4.222*** (0.944)
Regional sick leave rates for non-teachers					0.610*** (0.016)
Mean of Y	13.52	13.52	13.52	13.33	13.33
# schools	4,032	4,032	4,032	3,940	3,940
Observations	1,079,562	1,079,561	1,079,526	1,021,196	1,021,196

Robustness: Reverse causality

	(1)	(2)	(3)
	Students index at time t+1		
Any sick leave at time t	-0.001* (0.000)		
Psychiatric diagnosis sick leave at time t		-0.000 (0.001)	
Stress-related sick leave at time t			-0.000 (0.001)
Mean of Y	-0.11	-0.11	-0.11
# schools	3,839	3,839	3,839
Observations	996,219	996,219	996,219

Alternative explanations and robustness

- Utilize only within spell variation ✓
- Construction of the student index ✓
 - ▶ expand inputs with non-SES variables
 - ▶ expand inputs with health variables
 - ▶ parse out school sorting (include school FE)
 - ▶ anchor in grade 9 GPA
- Average differences vs. dispersion ✓
- Sample restrictions ✓
 - ▶ Covid-19 period and/or Stockholm effect
- Workplace contagion ✓
- Correlated local shocks ✓
- Reverse causality ✓

We plausibly identify causal effect of student (client) characteristics on teacher (provider) health

Compensating wage differentials and teacher mobility

Effects of student composition on teacher mobility and earnings

Teacher level

	(1)	(2)	(3)
	Pooled	Lower-secondary	Upper-secondary
Panel A. Probability of changing school next year			
Student index	-0.092*** (0.006)	-0.110*** (0.009)	-0.095*** (0.009)
Mean of Y	0.11	0.09	0.12
# schools	3,924	1,966	1,954
Observations	865,608	356,139	504,508
Panel B. Probability of not working as a teacher next year			
Student index	-0.027*** (0.003)	-0.037*** (0.006)	-0.032*** (0.004)
Mean of Y	0.14	0.15	0.13
# schools	3,940	1,974	1,963
Observations	1,021,212	426,883	586,877
Panel C. Ln(annual earnings)			
Student index	-0.016*** (0.002)	-0.017*** (0.005)	-0.013*** (0.003)
Mean of Y	12.74	12.72	12.76
# schools	4,032	2,029	2,000
Observations	1,079,562	452,668	619,223
Teacher FE	Yes	Yes	Yes

Some thoughts on these estimates

- Compensating wage differentials

- ▶ these estimates are tiny with $\sigma \uparrow$ in $SC_{st} \Rightarrow \downarrow$ earnings by 0.5%
- ▶ reflects limited wage bargaining of Swedish teachers either within- (stayers) or across-schools (movers)
- ▶ social norms and local policies also limit scope for meaningful variation

- Mobility

- ▶ complicates interpretation of our estimates of interest
- ▶ similarity of spell and teacher FE estimates that perhaps endogenous mobility is not “such a big deal”
 - ★ more negative spell FE estimates suggest (+) bias (teachers that move have worse health and go to observably better schools or it takes time to recover your health)
 - ★ event studies suggest immediate (and permanent) improvement in health after moving
 - ★ mobility itself might also not be a problem if teachers go to schools with similar SC_{st} or if teacher health is uncorrelated with future SC_{st}
- ▶ effects on exiting teaching will need to be addressed using bounds
 - ★ we can actually observe their health even if they leave but it's unclear what treatment to assign them
 - ★ can characterize who these teachers are based on their past trajectories

Heterogeneity

Effects of student composition on teacher health: Heterogeneity

Teacher level

	(1)	(2)	(3)	(4)	(5)	(6)
	Men vs. women			More (10+ years) vs. less experienced		
	Any sick leave	Psychiatric sick leave	Stress-related sick leave	Any sick leave	Psychiatric sick leave	Stress-related sick leave
Student index	-9.934*** (2.498)	-4.123** (1.660)	-4.831*** (1.325)	-14.739*** (2.976)	-8.314*** (1.993)	-5.825*** (1.562)
Student index * Men	1.742 (3.387)	0.943 (2.230)	1.874 (1.759)			
Student index * Experienced				9.426** (3.859)	5.784** (2.485)	1.683 (2.004)
Mean of Y (baseline)	87.30	29.24	18.12	69.54	24.05	13.61
Mean of Y (interaction)	48.88	13.73	7.09	72.68	21.73	13.45
# schools	4,032	4,032	4,032	4,031	4,031	4,031
Observations	1,079,562	1,079,562	1,079,562	1,070,771	1,070,771	1,070,771
	(7)	(8)	(9)	(10)	(11)	(12)
	Uncertified vs. certified			Private vs. public schools		
	Any sick leave	Psychiatric sick leave	Stress-related sick leave	Any sick leave	Psychiatric sick leave	Stress-related sick leave
Student index	-8.492*** (2.035)	-4.344*** (1.327)	-4.942*** (1.040)	-7.979*** (2.151)	-3.290** (1.375)	-3.786*** (1.052)
Student index * Uncertified	-7.334 (5.330)	0.286 (3.288)	1.527 (2.622)			
Student index * Private school				-11.766** (5.965)	-8.975** (4.000)	-6.199* (3.248)
Mean of Y (baseline)	73.18	23.39	14.13	72.82	22.79	13.54
Mean of Y (interaction)	64.01	20.39	11.20	64.37	22.70	13.44
# schools	4,032	4,032	4,032	4,022	4,022	4,022
Observations	1,064,624	1,064,624	1,064,624	1,070,337	1,070,337	1,070,337

Policy lessons from heterogeneity analysis

- More negative health effects, including psychiatric health, for less experienced teachers
 - ▶ less experienced teachers tend to match with more impoverished schools (Clotfelter et al. 2011)
 - ▶ rookie teachers are most likely to quit in the first 3 to 5 years (Hanushek et al. 2004)
 - ▶ Swedish schools are compensated more generously for teaching disadvantaged students (although it's unclear if e.g., class sizes adjust) so that's probably a lower bound
 - ▶ effects of student disadvantage on (particularly less experienced) teacher health identifies a new channel through which socioeconomic gaps in educational outcomes could persist
- More negative health effects in private schools
 - ▶ growing publicly funded private sector in both Sweden (Böhlmark and Lindahl 2025) and US (Figlio et al. 2023)
 - ▶ Swedish private schools tend to hire more rookie and uncertified teachers and have higher student-teacher ratios
 - ▶ larger externality on teacher health in private schools should be probably taken into account by policy makers

Plausible mechanisms

Mechanisms

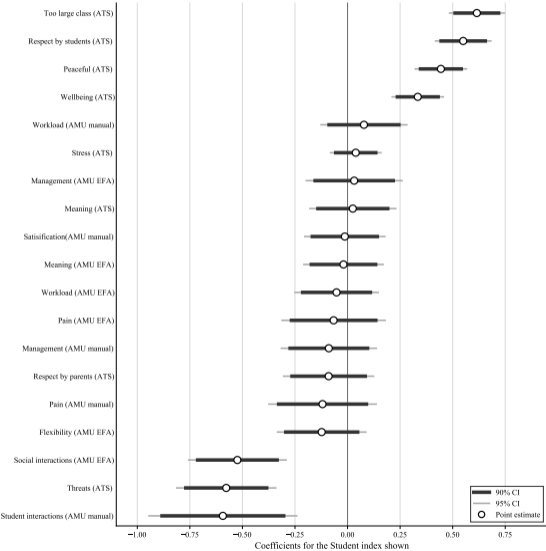
- Is it about features of an organization? ?
 - ▶ job organization, workload, autonomy, flexibility, managerial and collegial support
- Is it about direct interactions i.e., clients? ?
 - ▶ threats, respect, social relations, direct management of individuals

Answering these questions requires survey evidence

Bring in AMU and ATS surveys

- We already documented that work environment, measured in SIS survey, is negatively associated with sickness absence and positively associated with student advantage
- Here we ask *what about* the work environment correlates with student disadvantage so that it could plausibly generate these results
- We consider a variety of workplace characteristics but they can be broadly characterized into buckets
 - ▶ institution/job/organization related: workload, management, flexibility, pain, meaning, social interactions
 - ▶ Specific questions
 - ▶ direct interactions with students (clients) related: respect, violence and threats, noise, appreciation
 - ▶ Specific questions

Associations between student disadvantage and workplace features



Mechanisms

- Is it about features of an organization? ✗
- Is it about direct interactions? ✓

Conclusions

Conclusions

- We document robust gradient in teacher health at schools with different levels of disadvantage
- Quasi-experimental evidence suggests that much of this gradient is due to causal *exposure* effects rather than endogenous *sorting*
 - ▶ 1σ \uparrow in student advantage \downarrow sick leave by 3.9% (any), 5.1% (mental health), and 9.4% (burnout) per year
 - ▶ larger effects for less experienced teachers and in private schools
 - ▶ results are robust to a battery of tests including placebo analyses and accounting for peer effects or local shocks
- We propose client composition as a new factor affecting worker health (and labor market outcomes)
 - ▶ relevant for firms and policy makers as it's harder to manipulate
 - ▶ health effects are costly for workers (forgone wages, scarring, family spillovers), firms (temporary workers, productivity, workplace contagion), and government (benefit payments, health provider congestion)
 - ▶ new work component that affects compensating wage differentials
- We identify direct interactions rather than organizational features as likely drivers of these effects
- Client composition appears to be a distinct, previously unexplored, and economically meaningful determinant of worker health in contact-intensive occupations

Policy implications

- Personnel economics and organizational behavior
 - ▶ clients can meaningfully affect worker health translating to organizational performance
 - ▶ this could be one of the factors behind large variation in firm health (Ahammer et al. 2023) and wage (Kline 2024) effects
 - ▶ firms should take it into account when considering compensating wage differentials
- Education policy
 - ▶ we identify a new channel through which socioeconomic gaps in educational outcomes could persist
 - ▶ policy makers might want to focus on classroom environment and classroom interactions rather than management and organizational features
 - ▶ reducing inequality could improve school work environment and teacher productivity (ultimately improving student outcomes)

Thank You

Correlations between main components of the index

	(1)	(2)	(3)	(4)
	Student index	Share of students with foreign background	Share of student whose mothers have college education	Average income percentile of students' fathers
Student index	1			
Share of students with foreign background	-0.679	1		
Share of student whose mothers have college education	0.748	-0.264	1	
Average income percentile of students' fathers	0.922	-0.694	0.672	1

▶▶ Back

School Inspectorate's Teacher Survey (SIS)

- Information to students and guardians
- Stimulation and challenge
- Teacher support
- Attitudes to students with special needs
- Critical thinking
- Student influence
- Disciplinary climate
- Safety
- Policies regarding abusive treatment
- Collegial collaboration
- Assessment practices
- Pedagogical leadership

Swedish Work Environment Survey (AMU)

- Workload (EFA): Items related to time pressure, skipped breaks, difficulty unwinding, psychological demands, sleep and recovery, general fatigue, and influence over working hours
 - Pain (EFA): Frequency of pain in shoulders, back, hips, hands/wrists, and bodily fatigue
 - Management (EFA): Appreciation and support from management and colleagues, help with prioritization, assistance with difficult tasks
 - Flexibility (EFA): Influence over working hours, work content, breaks, flexible hours, work pace
 - Meaning (EFA): Monotony, stimulation, meaning, job satisfaction, reluctance to go to work
 - Social interactions (EFA): Conflicts, threats, and difficult contacts
 - Health (EFA): Considering changing tasks, employer, or duties for health reasons
-
- Workload (manual): Perceived workload, overtime, dissatisfaction with work hours, presenteeism, insufficient breaks, physical strain, distractions from non-core tasks, general fatigue
 - Student interactions (manual): Conflicts, threats, harassment, noisy environment, appreciation from students and parents
 - Management (manual): Support from colleagues and management, work pace and content, flexibility of hours, workplace bullying, openness to criticism, training opportunities
 - Satisfaction (manual): Monotony, stimulation, sleep and rest problems, meaning, satisfaction, reluctance to work, listlessness. Higher values imply less satisfaction
 - Pain (manual): Pain in shoulders, back, hips, hands, eyes, and headaches

Attitudes to School Survey (ATS)

- General well-being: How satisfied are you at your school?
- Class size: Do you find the class/group you usually teach too large?
- Discipline: Do you find the classroom environment to be peaceful?
- Respect by students: Are you treated with respect by students?
- Respect by parents: Are you treated with respect by parents?
- Violence or threats: Have you been exposed to violence or threats at your school during the past year?
- Meaning: Does it feel meaningful to go to work?
- Stress: How often do you feel stressed at school?
 - ▶ stress module includes additional questions regarding specific stressors (e.g., administrative work or lesson planning)

Swedish School Inspectorate Survey factor loadings

(1) Variable	(2) Factor Loadings		(3)
	Work Enviroment		Leadership
Teacher awarenessinformation of educational deman	0.42		0.42
Teacher practices of challenging/stimulating instruct	0.64		0.34
Teacher support and adjustments to student needs	0.75		0.42
School support for students with special needs	0.68		0.48
Teacher encouragement of critical thinking	0.73		0.22
Teacher view of student influence and participation	0.58		0.38
Teacher perception of school discipline	0.68		0.00
Teacher perception of safe school environment	0.83		0.27
School policies and teacher practices against abuse	0.67		0.41
Pedagogical collaboration among teachers	0.15		0.85
Routines for grading and assessment	0.42		0.75
Pedagogical leadership	0.25		0.76

Replacing teacher with teacher-school FE

	(1)	(2)	(3)
	Any	Sick leave Psychiatric	Burnout
Panel A. Baseline			
Student index	-9.154*** (1.835)	-3.866*** (1.188)	-4.221*** (0.921)
Mean of Y	71.28	22.77	13.52
# schools		4,032	
Observations		1,079,562	
Panel B. Including spell fixed effects			
Student index	-7.031* (3.923)	-7.562*** (2.186)	-5.300*** (1.736)
Mean of Y	69.79	21.54	12.85
# schools		3,782	
Observations		1,014,348	

Effects of student composition on teacher health: Student index components

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Any sick leave		Psychiatric diagnosis sick leave		Stress-related sick leave		Cancer and cardiovascular diagnoses sick leave	
	Included separately	Included jointly	Included separately	Included jointly	Included separately	Included jointly	Included separately	Included jointly
Share of students with foreign background	14.460*** (2.901)	14.235*** (4.851)	6.297*** (1.862)	7.952*** (2.984)	5.957*** (1.462)	3.822 (2.371)	-0.166 (0.649)	-0.665 (1.092)
Share of students with BA+ mothers	-27.073*** (4.230)	-28.235*** (5.859)	-9.933*** (2.689)	-10.871*** (3.572)	-9.512*** (2.099)	-6.809** (2.828)	0.093 (0.926)	0.451 (1.287)
Average paternal income percentile	-0.231*** (0.049)	0.183* (0.099)	-0.086*** (0.031)	0.107* (0.060)	-0.104*** (0.024)	0.001 (0.047)	-0.001 (0.011)	-0.013 (0.022)
Mean of Y	71.28	71.28	22.77	22.77	13.52	13.52	3.84	3.84
# schools	4,032	4,032	4,032	4,032	4,032	4,032	4,032	4,032
Observations	1,079,562	1,079,562	1,079,562	1,079,562	1,079,562	1,079,562	1,079,562	1,079,562

Robustness: Index construction

	(1)	(2)	(3)
	Baseline	Grade 9 GPA anchor	Include non-SES variables
Treatment definition			
Panel A. Sick leave, any cause			
Student index	-9.154*** (1.835)	-11.316*** (2.307)	-8.602*** (1.749)
Mean of Y	71.28	71.28	71.28
Panel B. Sick leave, psychiatric diagnosis			
Student index	-3.866*** (1.188)	-4.661*** (1.492)	-3.431*** (1.140)
Mean of Y	22.77	22.77	22.77
Panel C. Sick leave, stress diagnosis			
Student index	-4.221*** (0.921)	-5.171*** (1.153)	-3.873*** (0.891)
Mean of Y	13.52	13.52	13.52
# schools	4,032	4,032	4,032
Observations	1,079,562	1,079,562	1,079,562

Robustness: The role of school-level heterogeneity

	(1)	(2)
	Baseline	Control for SD of student index
Panel A. Sick leave, any cause		
Student index (mean)	-9.154*** (1.835)	-9.163*** (2.185)
Student index (SD)		-0.034 (4.214)
Mean of Y	71.28	71.28
Panel B. Sick leave, psychiatric diagnosis		
Student index	-3.866*** (1.188)	-3.991*** (1.419)
Student index (SD)		-0.474 (2.658)
Mean of Y	22.77	22.77
Panel C. Sick leave, stress diagnosis		
Student index	-4.221*** (0.921)	-4.358*** (1.119)
Student index (SD)		-0.521 (2.110)
Mean of Y	13.52	13.52
# schools	4,032	4,032
Observations	1,079,562	1,079,562

Robustness: Sample choice

	(1)	(2)	(3)
	Baseline	Exclude Stockholm	Exclude years 2020-2024
Sample choice			
Panel A. Sick leave, any cause			
Student index	-9.154*** (1.835)	-9.800*** (2.047)	-10.481*** (2.323)
Mean of Y	71.28	70.74	72.11
Panel B. Sick leave, psychiatric diagnosis			
Student index	-3.866*** (1.188)	-5.181*** (1.327)	-5.032*** (1.509)
Mean of Y	22.77	22.72	22.59
Panel C. Sick leave, stress diagnosis			
Student index	-4.221*** (0.921)	-5.406*** (1.055)	-4.779*** (1.188)
Mean of Y	13.52	13.55	12.80
# schools	4,032	3,220	3,595
Observations	1,079,562	869,076	793,244

AMU survey questions and factor loadings

(1) Factor	(2) Variable labels	(3) Loadings
Workload (EFA)	Do you skip lunches or breaks?	0.78
	There is no time to chat with colleagues during work	0.71
	Is your workload too high?	0.81
	Do you have a high workload?	0.7
	Do you find it difficult to stop thinking about work?	0.74
	Do you feel despair because of work difficulties?	0.41
	Do you feel inadequate for job?	0.55
	Is your job psychologically demanding?	0.5
	Do you lack time or energy for family and friends?	0.66
	Do you rarely get enough sleep	0.51
	Do you have difficulties sleeping?	0.51
	Do you rarely get enough rest apart from sleep?	0.63
Pain (EFA)	Do you have influence over working hours (higher=less)	0.4
	Do you often feel pain in shoulders and arms?	0.91
	Do you often feel pain in hands or wrists?	0.77
	Do you often feel pain in hips or legs?	0.73
	Do you often feel pain in lower back?	0.78
	Do you often feel pain in upper back?	0.88
Management (EFA)	Do you often feel physical fatigue after a workday	0.58
	Do you feel unappreciated by your boss?	0.48
	Do you feel a lack of appreciation and support from colleagues?	0.45
	Do you feel unsupported by your boss?	0.84
	Does your boss help you prioritize your tasks? (higher=less)	0.71
Flexibility (EFA)	Do you receive help with difficult tasks when needed? (higher=less)	0.62
	There is no time to take breaks and chat	0.6
	Do you lack influence over work content	0.58
	Do you lack flexible hours	0.55
	Do you perceive a lack of freedom in work	0.44
Meaning (EFA)	Can decide work pace (higher=less)	0.55
	Do you find your job monotonous?	0.49
	Do you find your job stimulating? (higher=less)	0.45
	Do you find your job meaningful? (higher=less)	0.48
	Are you satisfied your job? (higher=less)	0.51
	Do you despair because of work difficulties?	0.55
	Are you reluctant to go to work	0.67

ATS and AMU questions

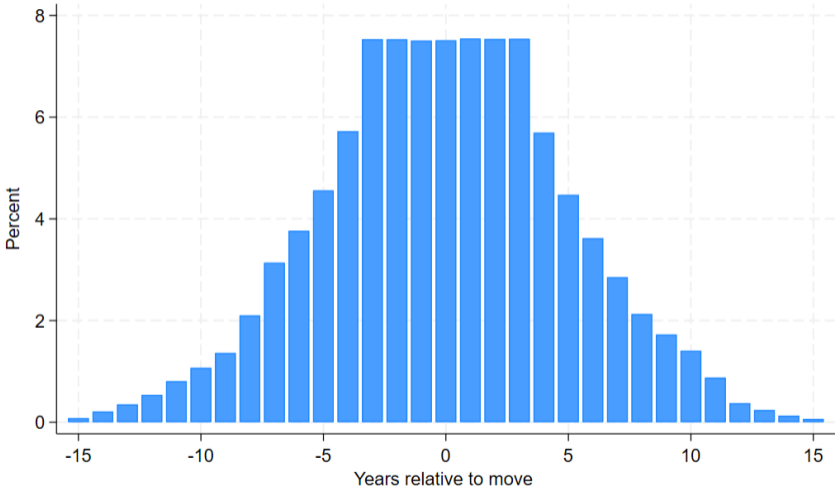
- ATS

- ▶ class size: do you find the class/group you usually teach too large?
- ▶ respect by students: are you treated with respect by students?
- ▶ peaceful: do you find the classroom environment to be peaceful?
- ▶ threats: have you been exposed to violence or threats at your school during the past year?

- AMU

- ▶ social interactions (EFA)
 - ★ does your job involve contact with people who have personal and human problems?
 - ★ have you experienced threats of violence at work?
 - ★ do you experience conflicts with others at work?
 - ★ do you experience conflicts with your boss?
- ▶ student interactions (manual)
 - ★ conflicts, threats, harassment, noisy environment, appreciation from students and parents

Swedish School Inspectorate Survey factor loadings



Distribution of changes in student disadvantage as a result of moving

