

# Cumulative Risk and Newly Qualified Teachers' Professional Well-being: Evidence from Rural Ghana

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# Education 2030 agenda



**SDG 4.C** → “Increase the supply of qualified teachers” through improved and relevant pre-service and in-service teacher training workshops (UNGA, 2015)

According to recent estimates, countries around the world must recruit **68.8 million** new teachers in the next 14 years to achieve goals of SDG 4 (UIS, 2016)

At the same time, countries must also take steps to better retain these **new** teachers in the system

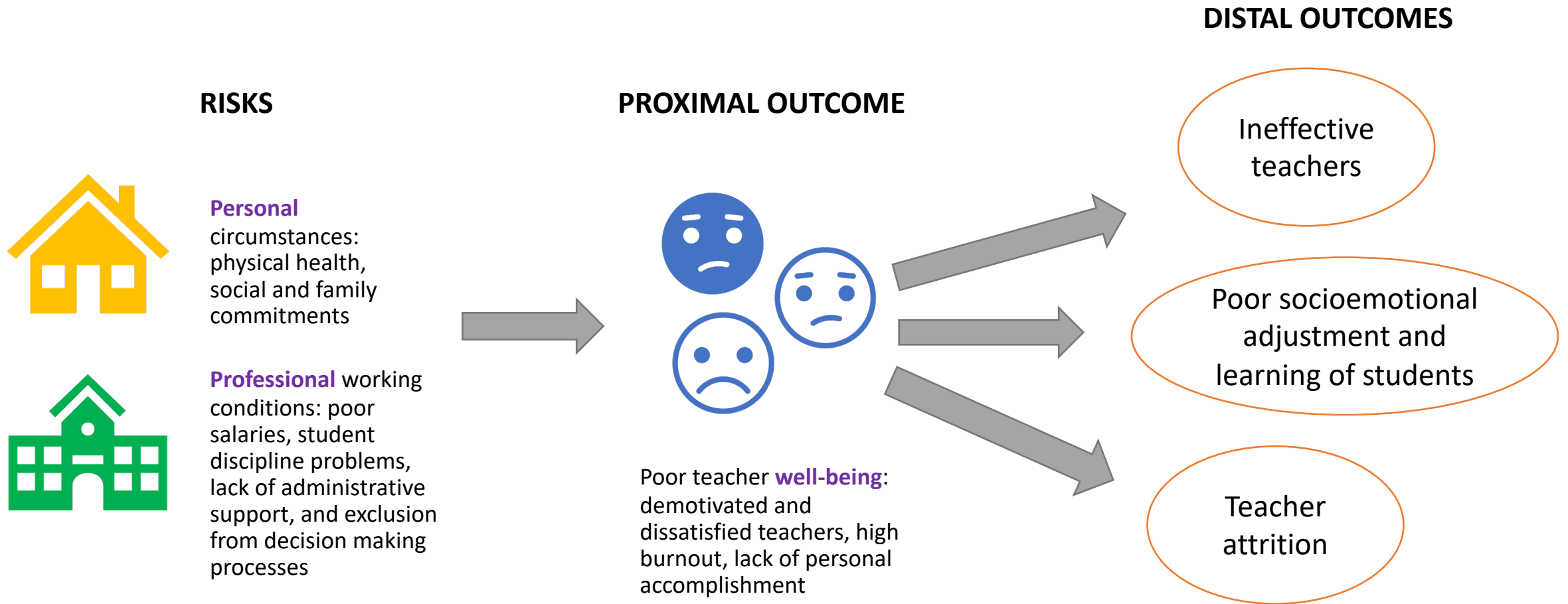
# Context of Ghana



- Ghana is a lower-middle-income country in West Africa
- Ranks 140 out of 189 countries on the HDI (UNDP, 2018)
- Number of quality adjusted learning years is 5.7 out of 11.6 average years of schooling (World Bank, 2018)
- Low learning due to poor infrastructure, ineffective teacher management, inefficient use of non-salary budget and inadequate accountability (World Bank, 2018)
- Specifically, ineffective teacher management is not favorable for new teachers
  - Leads to ineffective teacher deployment, training and support to deliver curriculum, and teacher absenteeism and attrition (World Bank, 2018)
- At the same time, motivation of new teachers is also chronically low
  - Teachers in their first year were asked to speculate about their career in 5 years, only 3% thought they would still be teaching (Akyeampong & Lewin, 2002).

Source: Ghana High Commission to Canada

# Guiding conceptual model



(Schwartz et al., 2019;  
Schaefer et al., 2012)

(McInerney, D. M. et al., 2018;  
Mulkeen, 2010; Das et al., 2007;  
Hamre & Pianta, 2001)

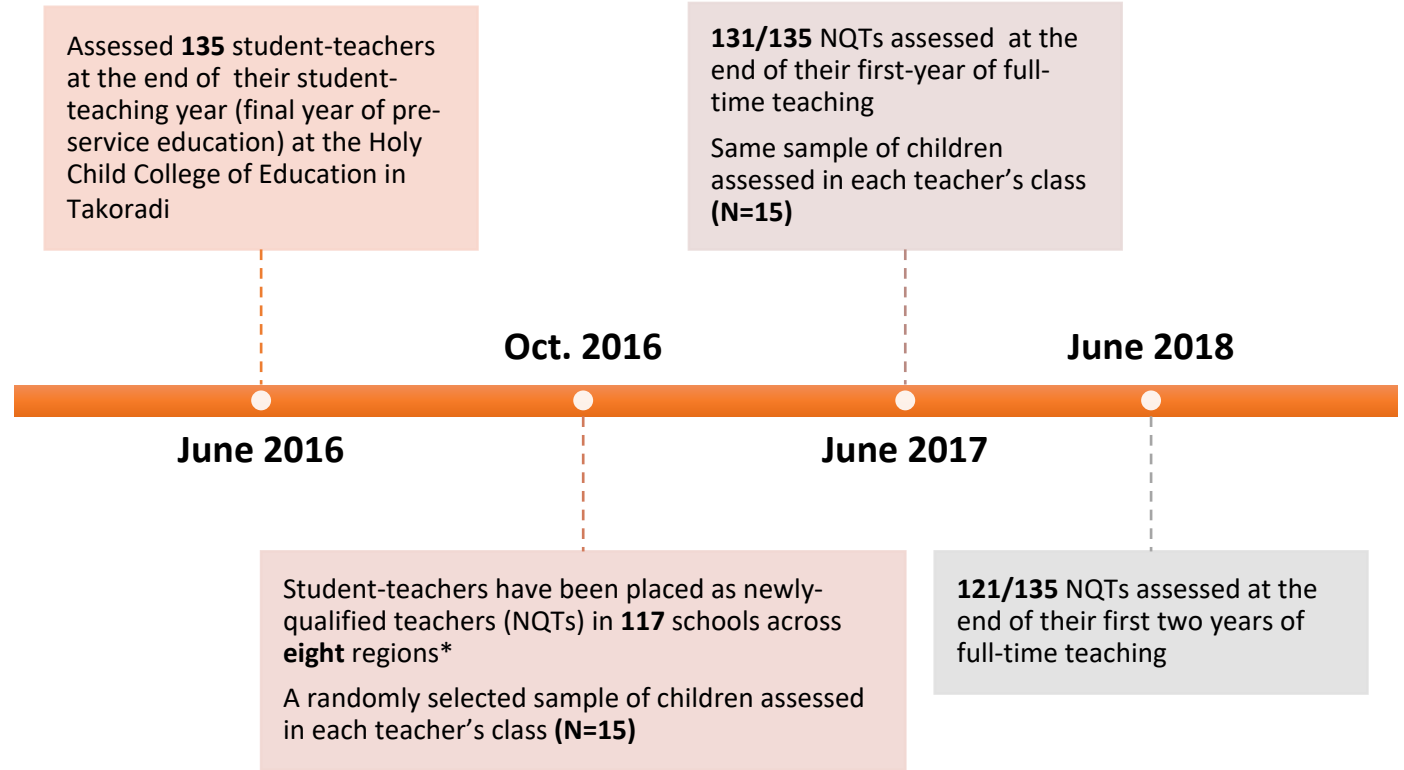
# Present study

- Do personal and professional risks during the student-teaching year predict teachers' professional well-being of student-teachers?
- Do personal and professional risks of NQTs predict teachers' professional well-being and student outcomes at the end of the first year of full-time teaching?
- Do personal and professional risks of NQTs predict teacher retention at the end of the second year of full-time teaching?





# Data



\*Ashanti (15 teachers), Brong Ahafo (5), Central (16), Eastern (4), Greater Accra (7), Northern (1), Upper East (1), and Western (81)

# A cumulative risk approach

- New teachers face multiple and inter-related risks during student-teaching year and especially when they transition to become full-time teachers
- Examining a singular risk factor (e.g., being socially isolated) may overestimate the importance of individual risks in affecting teacher's well-being
- Therefore, we consider how multiple indicators of personal and professional challenges experienced by new teachers, operationalized as cumulative risk indices, predict professional well-being early in teachers' careers



Personal Risk Domain	Indicator	Student-Teachers at Risk (%)	NQTs at Risk (Spring) (%)
<b>Household Hardship</b>			
	Number of people living in your household, (including yourself) >5	5.19	13.74
	Household wealth index, own <3 items	Not available	66.41
<b>Health and well-being</b>			
	Food insecurity	40.74	Not available
	40% of your household members have been very sick in the past 4 weeks	4.44	Not available
	Poor own physical health	5.19	10.69
<b>Social isolation</b>			
	Not born in the community in which you currently stay	Not available	91.6
	Were not living at your current community before you began teaching at this school	Not available	81.68
	Lived in the community where you currently stay for <=1 year	91.85	80.33
	Very few or none of your closest family members live nearby	85.93	90.08
	Very few or none of your closest friends live nearby	94.81	96.18

Professional Risk Domain	Indicator	Student-Teachers at Risk (%)	NQTs at Risk (Spring) (%)
<b>Objective work conditions</b>			
	Spend >45 mins traveling to work	0.74	18.11
	Primarily responsible for >36 children everyday	34.81	37.78
	Required or expected to be at school and work for >37 hours/week	17.04	13.74
	Required or expected to work outside school for >10 hours/week	11.11	6.92
	Percentage of daily time spent on administrative tasks >25%	15.56	12.98
	Percentage of daily time spent on keeping order >25%	44.44	30.53
	Percentage of daily time spent on actual teaching <50%	20.74	13.74
	Currently work for monetary compensation outside teaching position in this school	0	1.53
	In the last year, did a job outside your teaching position in this school	4.44	0.76
	Often not paid on time	Not available	61.54
<b>Subjective work conditions</b>			
	Poor quality of supervision that you receive from your school	10.37	Not available
	Perceptions of problematic school environment index	2.22	0
	Poor parental support and involvement	45.19	54.96



# Analytical strategy

Indices for personal and professional cumulative risk for teacher  $i$  at time  $t$

Set of teacher characteristics at time  $t$

$$Y_{it} = \beta_0 + \beta_1 \text{personalCR}_{it} + \beta_2 \text{professionalCR}_{it} + \beta_3 \text{training}_{it} + \beta_4 T_{it} + \varepsilon_{it}^*$$

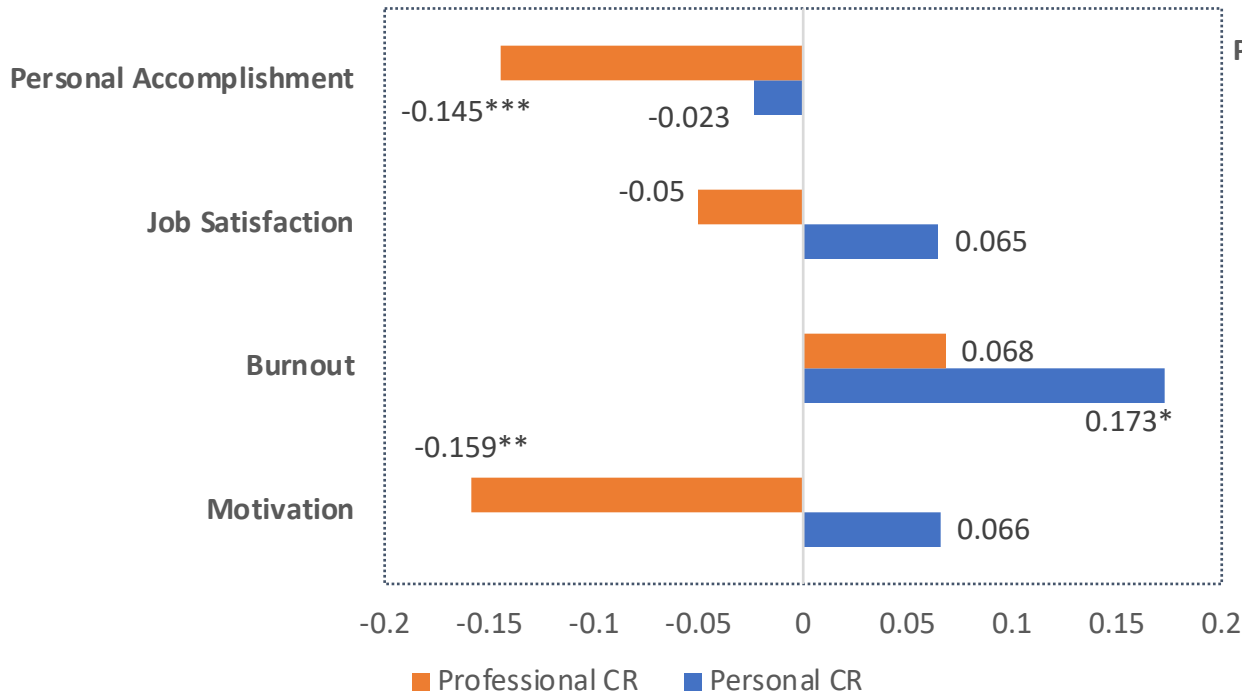
Self-reported well-being score for teacher  $i$  for motivation, burnout, job satisfaction and personal accomplishment respectively at time  $t$

Indicator if teacher  $i$  received training as part of an ongoing randomized intervention of the FTTT program at time  $t$

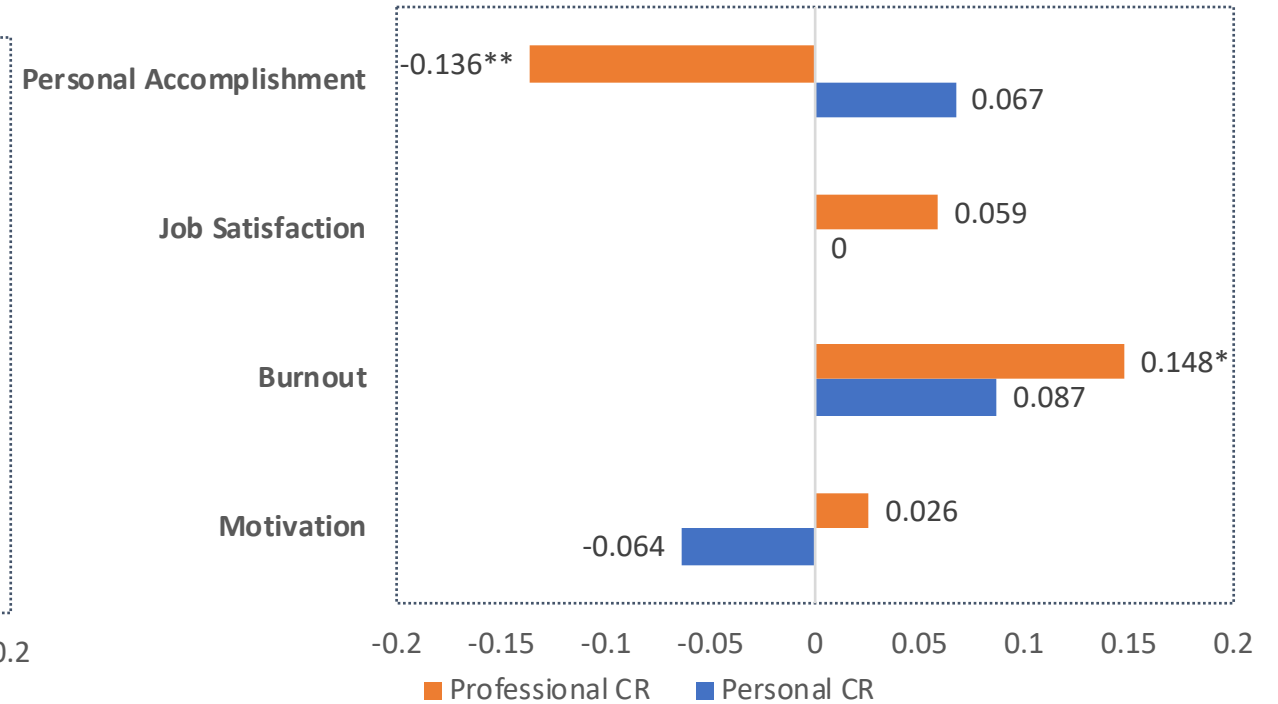
\*For RQ2: For teacher well-being, we also control for prior well-being (measured in Fall), a set of school characteristics and region fixed effects; for student learning, we account for nesting effects of students within teachers; we also control for prior student learning (measured in Fall)

# Regression coefficients for cumulative risk predicting well-being

Student-Teaching Year

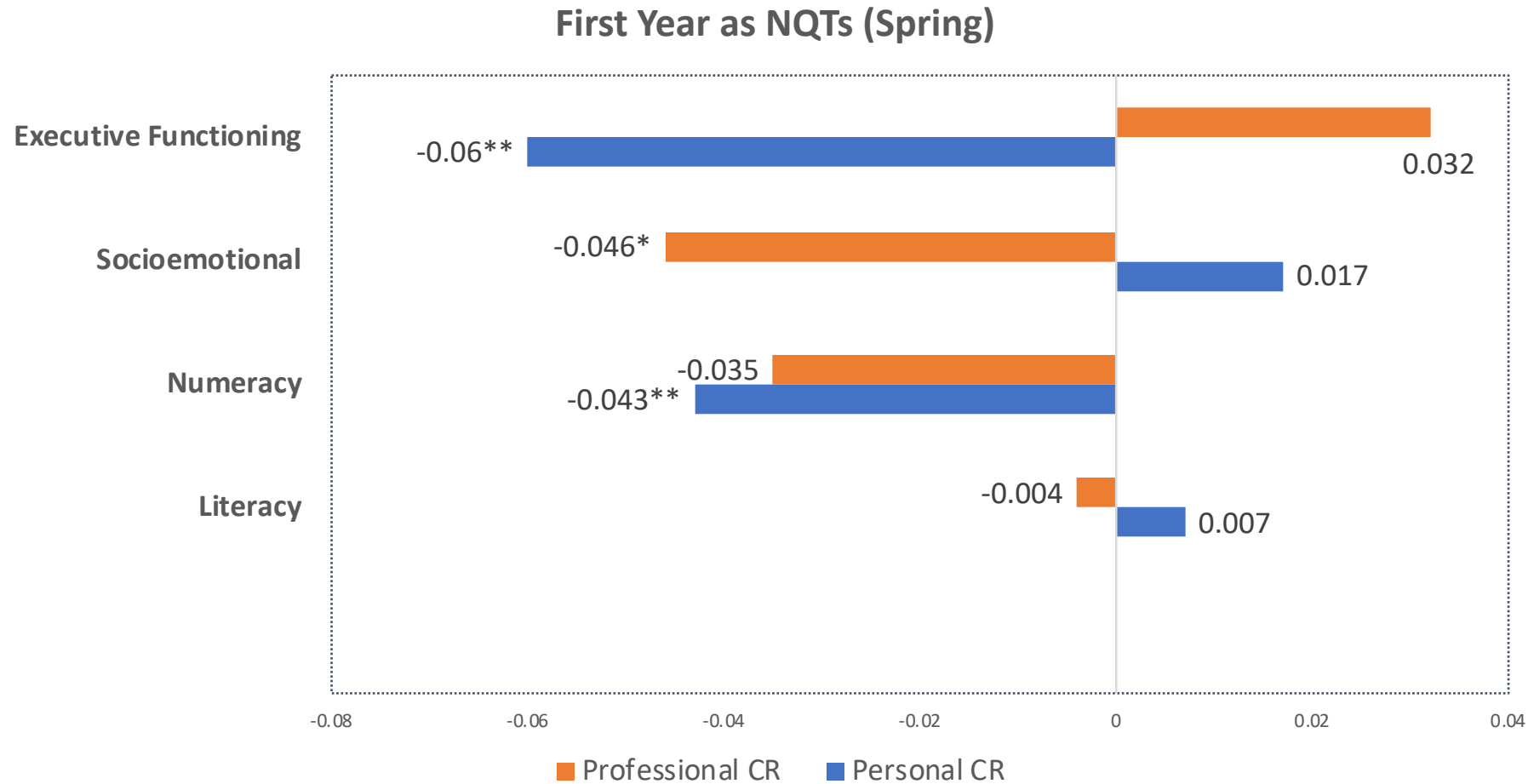


First year as NQT (Spring)



\*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

# Regression coefficients for cumulative risk predicting student learning



\*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

# Cumulative risk and teacher retention

- No significant association with teacher retention at the end of the second year of full-time teaching

# Results: Summary

For student-teachers:

- Each additional personal risk is associated with higher burnout (0.17 SD,  $p < 0.1$ ), while each additional professional risk is associated with lower motivation (0.16 SD,  $p < 0.05$ ) and personal accomplishment (0.15 SD,  $p < 0.01$ )

For NQTs:

- Each additional professional risk is associated with higher burnout (0.15 SD,  $p < 0.1$ ) and lower personal accomplishment (0.14 SD,  $p < 0.05$ )
- Each additional personal risk is associated with marginally lower student learning in numeracy (0.04 SD,  $p < 0.05$ ) and executive functioning (0.06 SD,  $p < 0.05$ ), and each additional professional risk is associated with lower socioemotional learning (0.05 SD,  $p < 0.1$ )

# Discussion

- Well-structured and integrated training programs in cohorts allow student-teachers to manage household responsibilities and engage in constructive and meaningful interactions with peers and students (DeAngelis et al., 2013)
- Deployment systems that place NQTs, particularly young women, in rural communities near family, or place two NQTs together in the same school, could help teachers settle in difficult locations (Hedges, 2002)
- Work environments that offer constructive mentorship and strong support systems positively relate to teacher well-being (Barnes et al., 2018; Mulkeen, 2010; Ingersoll & Strong, 2011)
- These could be particularly helpful for new student-teachers as they transition to full-time teaching positions, to help them be effective teachers and positively influence student learning



# Limitations

- Self-reported measures of teacher well-being
- Small sample size potentially limiting the power to detect an effect size
- Unique sample from one college in rural part of western Ghana; limited external validity

Thank you!

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