

# Future Doctors at the Present Crossroad: Nudging College Major Choices toward Health Sciences

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## Introduction

- Healthcare labor markets across the globe face a long-lasting and persistent labor shortage.
- According to the WHO, the gap between labor supply and demand in the healthcare industry is expected to reach 18 million by 2030.
- We test if information nudges can motivate college students to major in health/medical sciences during public health emergencies such as the COVID-19 pandemic.

## Highlights

- First paper to study the role of information nudge in college major choices.
- Consistent with Ye et al. (2022), we find that information nudges can effectively motivate non-health-majored college students to major in health sciences during COVID-19.
- The power of nudge decayed over time but can be enhanced by supplementary behavioral interventions.

## Acknowledgement

This research is funded by the Research Enhancement Program (REP) at Texas State University. The survey was approved by the Texas State University's IRB (no. 7329).

## References

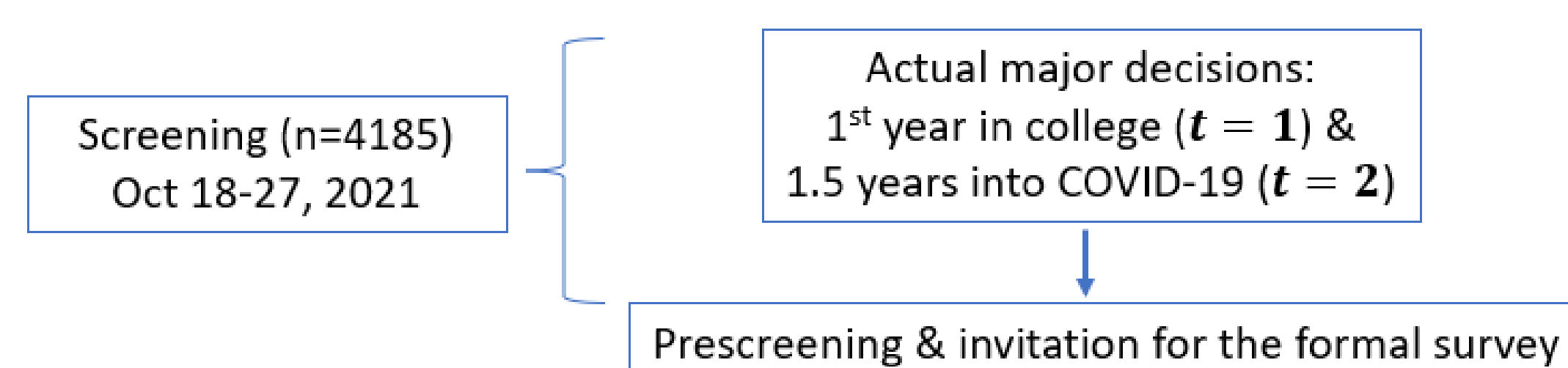
- WHO. 2016. Global strategy on human resources for health: Workforce 2030.
- Ye, Xiaoyang, Muxin Zhai, Li Feng, A'na Xie, Weimin Wang, and Hongbin Wu. 2022. Still want to be a doctor? Medical student dropout in the era of COVID-19. *Journal of Economic Behavior & Organization*, 195, 122-139.

## Contact information

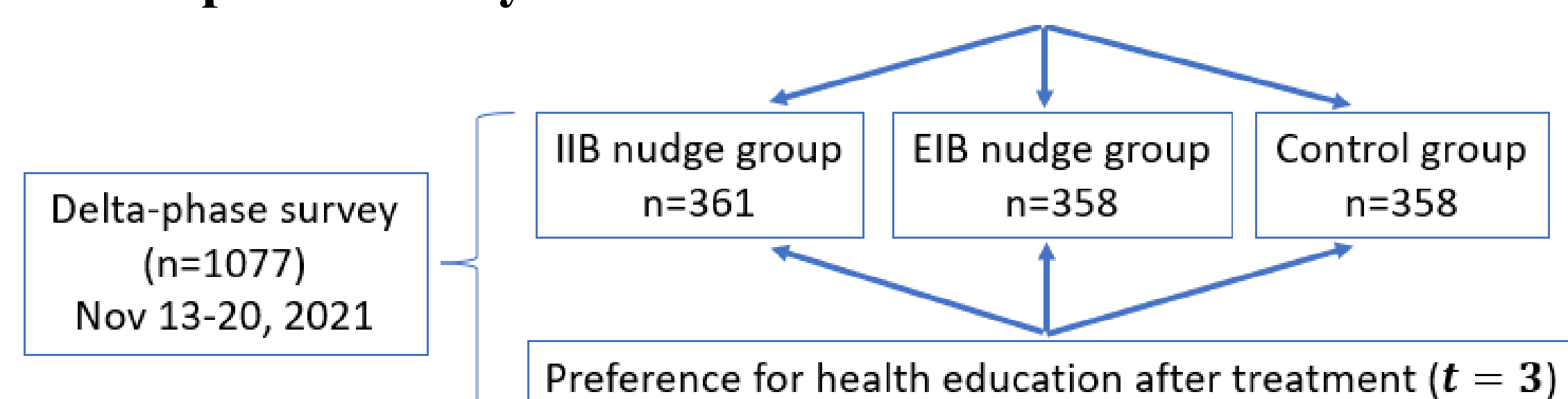
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## Survey design

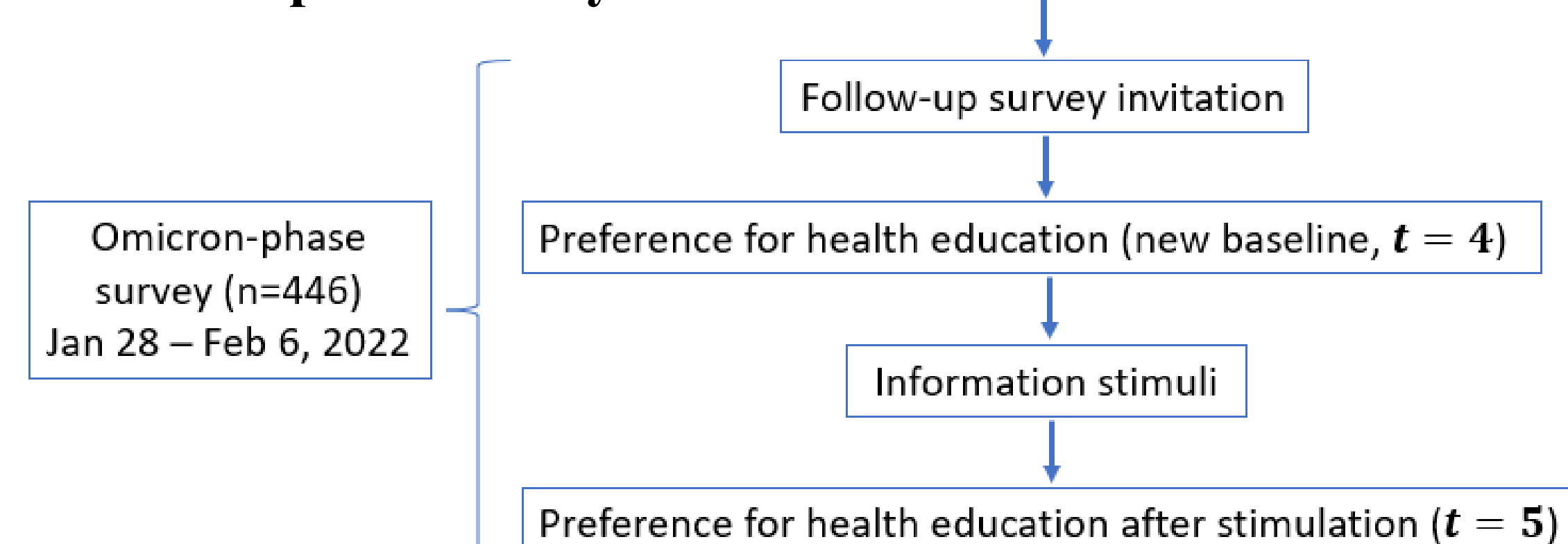
### 1. Screening



### 2. Delta-phase survey



### 3. Omicron-phase survey



## Methods

### Delta-phase survey: DID model on health major choice

$$Health_{it} = \lambda + \sum_{g=1,2} \alpha^g \cdot Nudge_i^g + \beta \cdot COVID_t + \phi \cdot COVID_t \cdot Will_t + \sum_{g=1,2} \gamma^g \cdot COVID_t \cdot Will_t \cdot Nudge_i^g + e_{it}$$

- $i$  – individual;  $t$  – period;  $g$  – treatment group.
- Identification of parameters ( $\lambda$  is omitted in each cell):

### Omicron-phase survey: Major in health under various scenarios

$$Will_{is} = \rho_i + \sum_{s \in S} \alpha^s \cdot I_{is} + e_{is}$$

- $s$  is an index for hypothetical scenario.
- $\rho_i$  is individual FE.
- $Will_{is}$  measures the willingness to major in health
- $I_{is} = 1$  for scenario  $s$  faced by individual  $i$ .

## Empirical analysis & Results

### 1. Intrinsic-incentive-based (IIB) nudge

"[Medical students,] at their core, have a service orientation and a desire to



have a positive impact on the environment around them," says Geoffrey Young, PhD, the AAMC's senior director of Student Affairs and Programs. "It's not just a profession, it's a calling," Young said.

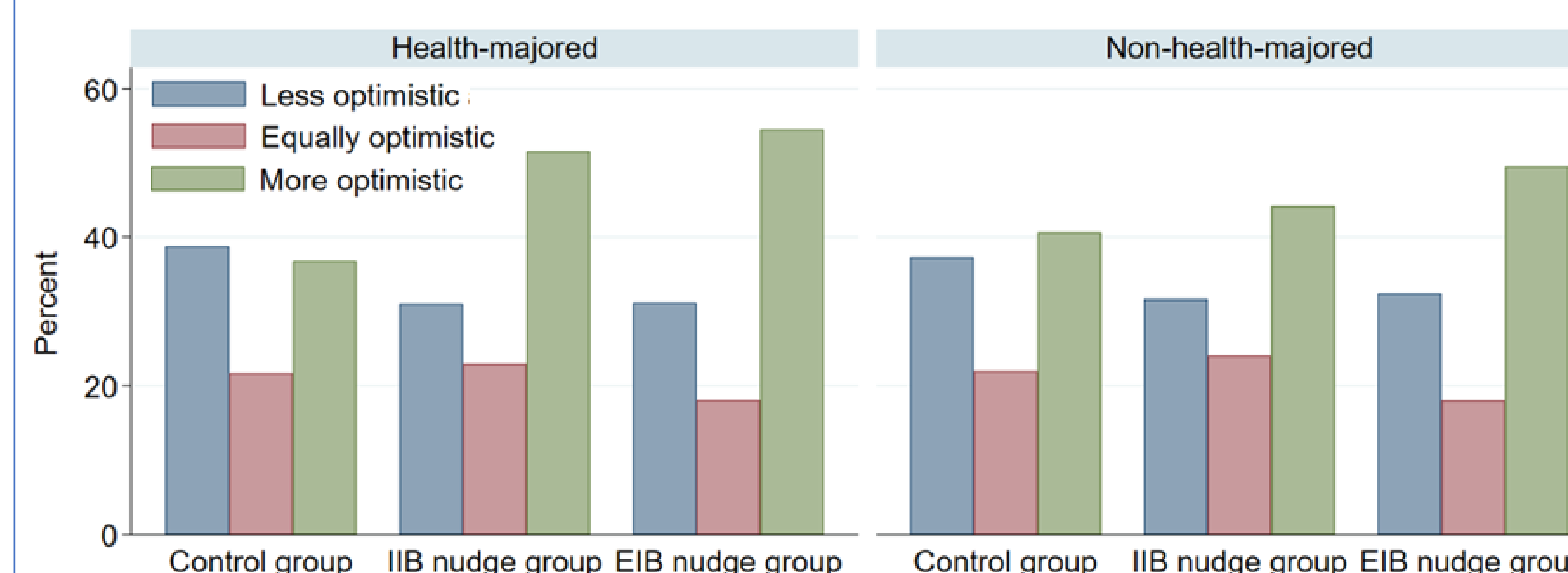
### Extrinsic-incentive-based nudge

Andrew Cuomo, New York governor, has appealed to **doctors** in other states:



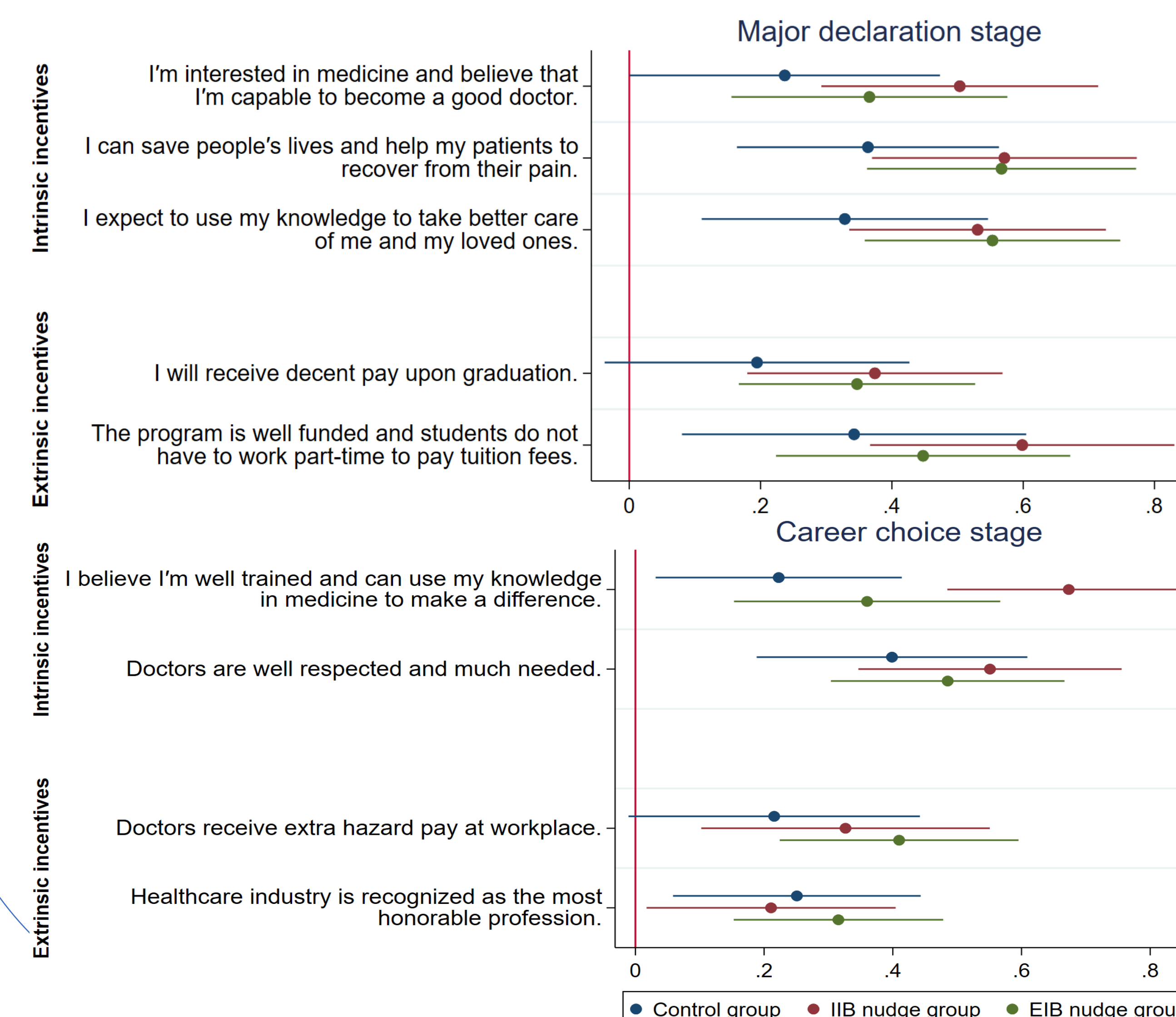
"We need help. We will pay you. More importantly, we will return the favor." On the supply side, applicants to medical schools continue to grow over the last decade. Working as physicians consistently remains as high-paying.

### 2. Nudge in the Delta phase changes the people's perceptions of the pandemic in 2022 vs. 2021



	Health-majored	Non-health-majored
With doctor parent		
IIB nudge	0.124 (0.104)	0.195*** (0.060)
EIB nudge	0.168* (0.101)	0.245*** (0.057)
Optimistic about the pandemic		
IIB nudge	-0.004 (0.106)	0.126** (0.060)
EIB nudge	0.144 (0.101)	0.166*** (0.058)
Prosocial		
IIB nudge	0.138 (0.116)	0.155** (0.060)
EIB nudge	0.216** (0.098)	0.107* (0.058)

### 3. Reinforcement effects of behavioral stimuli in the Omicron phase:



### 4. Conclusions:

- Light-touch information nudge has a positive impact on the preference for health education for non-health-majored students who are prosocial, optimistic, or have a doctor parent.
- Although this impact tends to decay over time, complementary stimuli can reinforce the nudge effectiveness and help retain human capital in the healthcare profession.