

Distributed or Batched? Engagement Strategies and Performance in Longitudinal Assessment

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Distributed	Mostly Distributed	Mixed	Mostly Batched	Batched
Answers 1 question per day	Answers a few (< 5) questions per day	Sometimes answers a few, sometimes answers many questions per day	Answers many (>15) but not all required questions in one day	Answers all 30 questions in one day

Why is Understanding Engagement in Longitudinal Assessment Important?

- Longitudinal assessments (LAs) for continuing certification are **increasing in prevalence**¹
- The **design of LAs** is grounded in several learning theories including: **retrieval practice**², **distributed practice**³, **adult learning theories**⁴
- Many LAs **intentionally incorporate flexibility** into their design

Example



Doctor A answers 1 item every morning till she hits her required number



Doctor B answers a few items when he has time, sets time aside to answer more at end of quarter



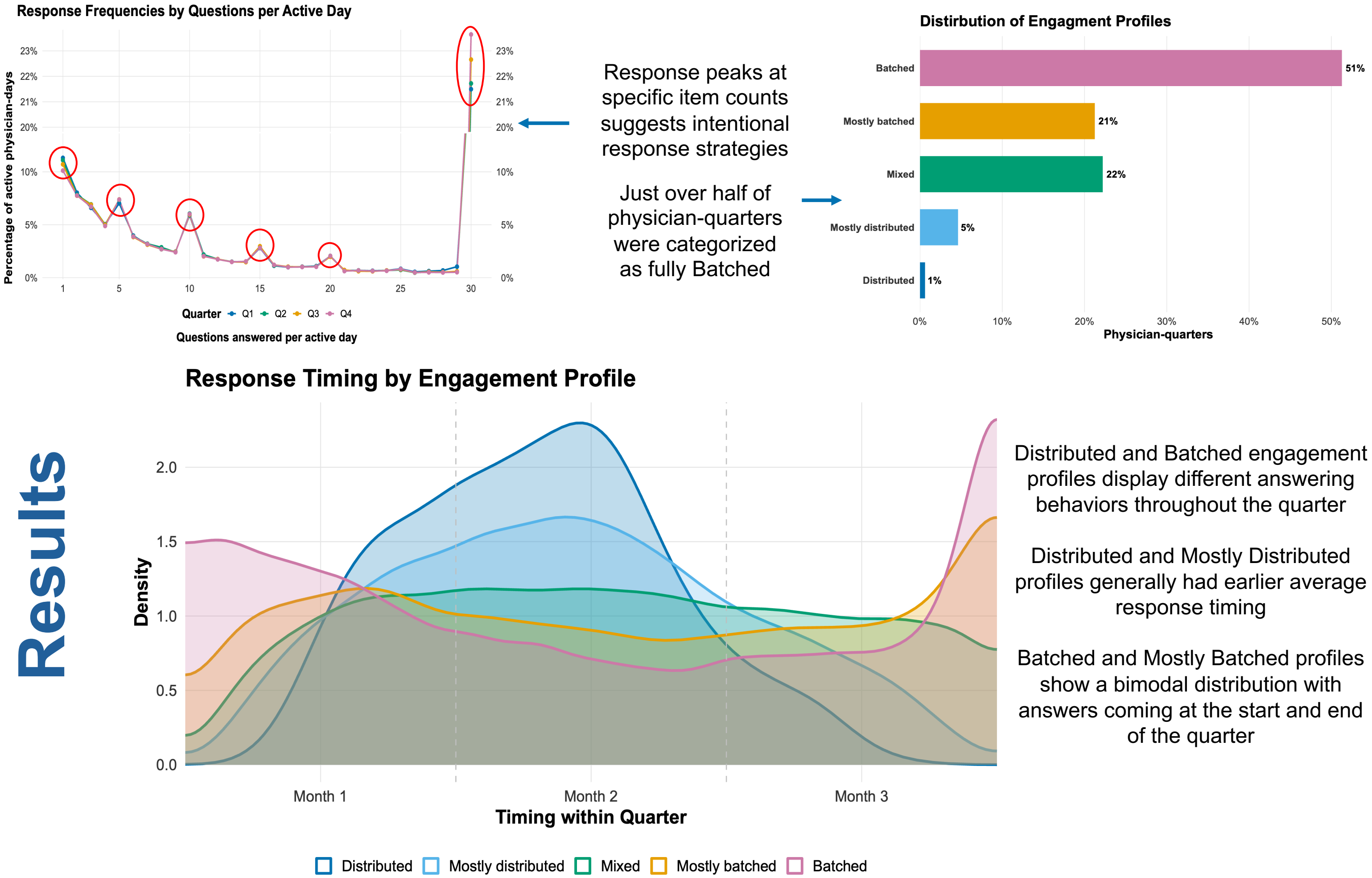
Doctor C answers all required items at the start of the quarter

This Study

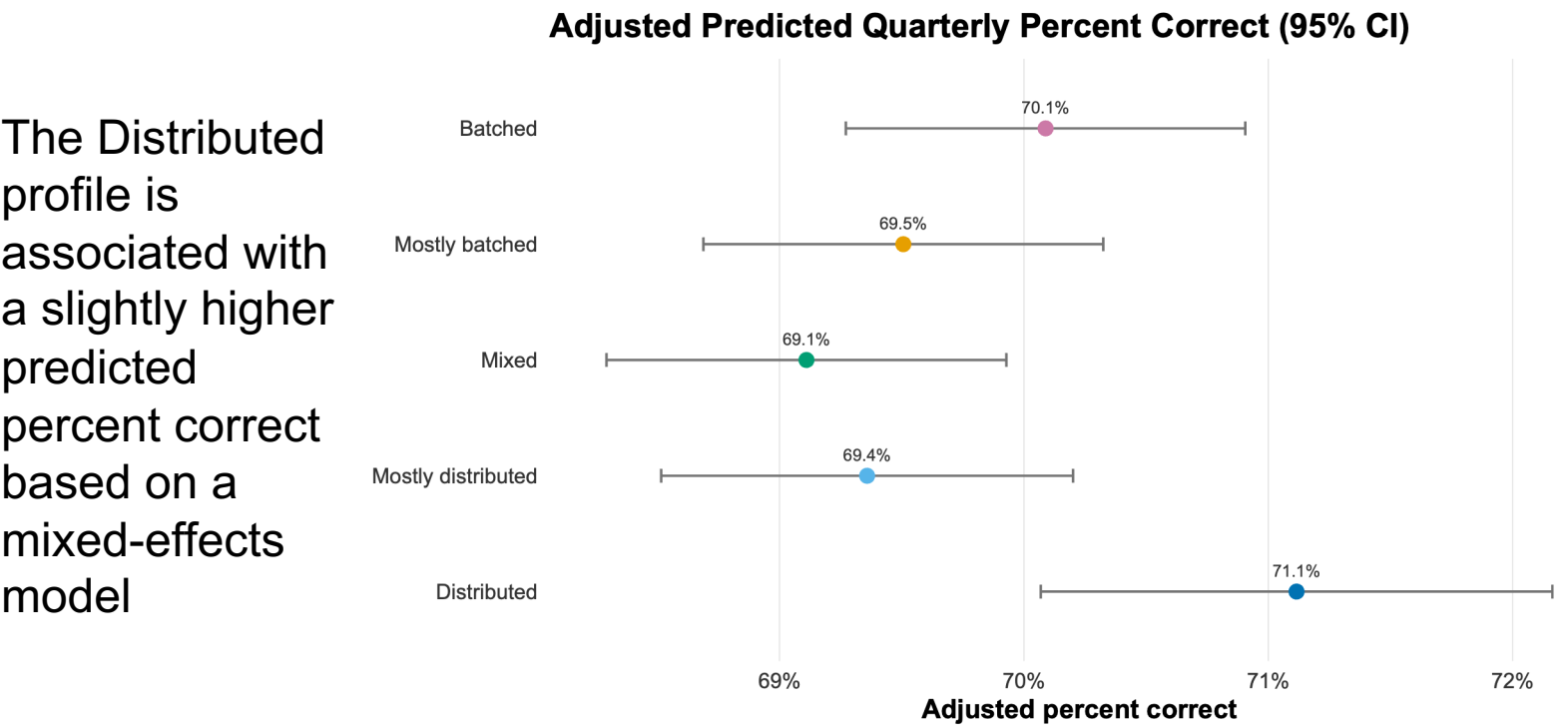
- We used 2021-2024 data from the American Board of Anesthesiology’s **MOCA Minute**TM
- Important design elements:
 - Answer 120 items a year, 30 items a quarter
 - Given 1 minute to answer each item
 - Items assigned through an algorithm
- This sample:
 - Only physicians who completed all 30 questions every quarter for the full year
 - 21,707 physicians; 55,877 physician-years**

Methods

- Summarized** items/day patterns
- Defined** engagement profiles
- Examined** prevalence, stability, timing, and relationship to other variables (gender, certification type, experience, and subspecialty certification)
- Compared** percent correct by group and used mixed-effects model to get an adjusted percent correct by group



Results (continued)



Implications

- Physicians tend to stay consistent within their engagement profile, suggesting this behavior may be deliberate, workload related, or driven by personal preference. The flexibility of MOCA Minute design allows for this range of engagement behaviors
- Roughly half of physician-quarters followed the Batched profile. For physicians who batched responses repeatedly, the LA may function more like a series of four brief tests than continuous assessment
- Comparing the profiles across variables illustrates some group differences, suggesting that different types of physicians, such as mid-career physicians, may engage differently with the LA
- Although differences were small, the Distributed profile had the highest adjusted predicted percent correct, a pattern consistent with research on distributed practice

Limitations

- The sample for this study only included those who followed the 30 items a quarter requirement for the full year. Those physicians who did not follow this requirement may have different patterns
- The results are specific to the design of MOCA Minute; other LAs have different designs and requirements and may have different patterns

Conclusions and Future Directions

- The design choices of LAs are important because they drive how physicians engage with the LA. Research such as this study can help Boards understand and evaluate how their LAs are working for their physicians
- Future work could dig into specific patterns or look at other ways of defining engagement, such as time of day and how physicians review feedback

