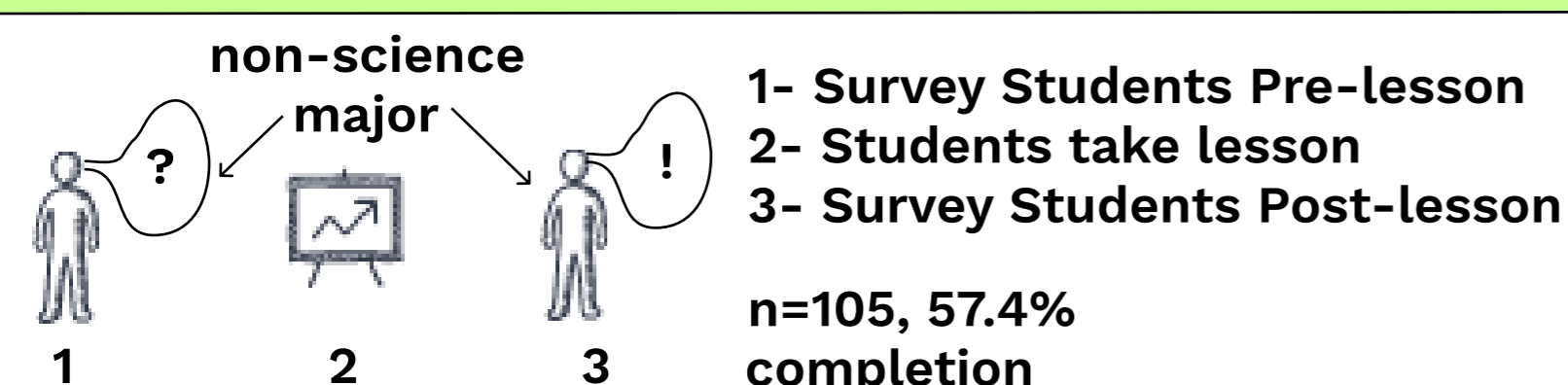


Student reasoning behind vaccination behavior



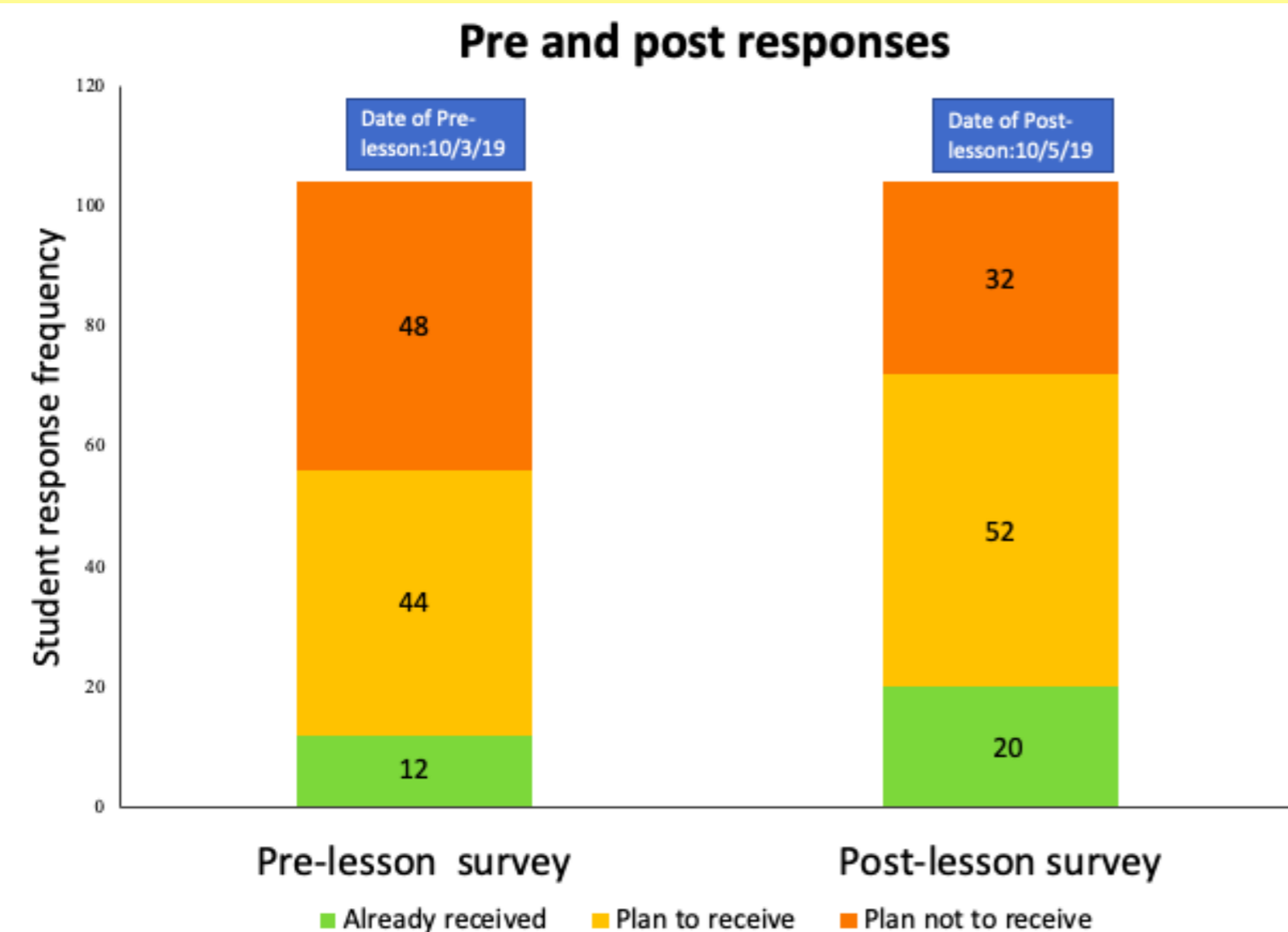
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Research question: How does a lesson on the influenza vaccine influence the rationale students use to make decisions about vaccinations?



- Thematic coding
- Multiple codes per response (if necessary)
- Cohen's Kappa interrater reliability: .743-.899

Survey Question: Which of these accurately represents your opinion on the influenza vaccination for this year?



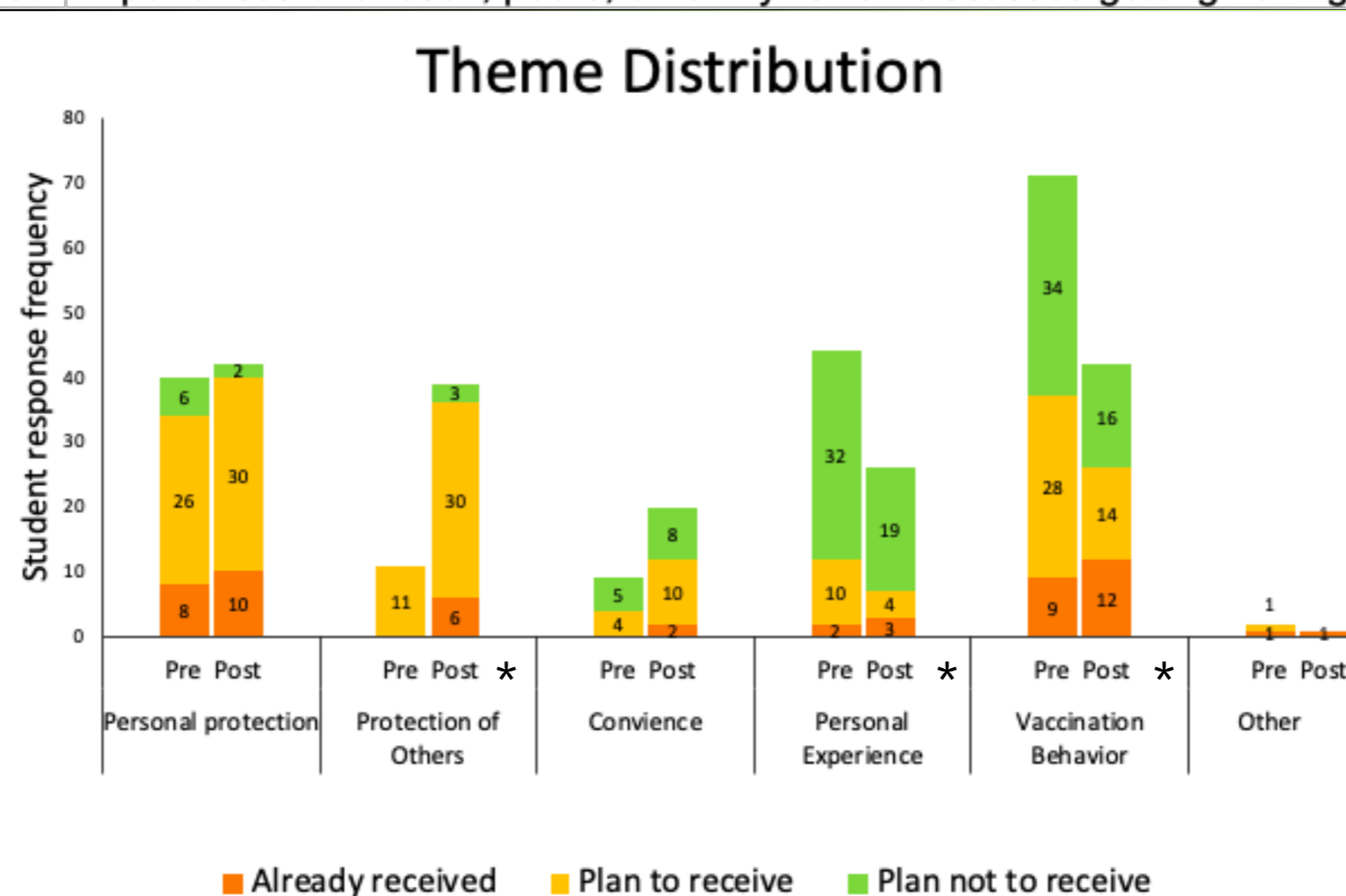
Lesson on influenza changes the rationale students use to make choices about vaccinations

Rationale	Explanation
Vaccination Behavior	Comments about previous vaccination choices
Personal Protection	Opinions on vaccinations
Protection of others	Wanting to prevent yourself from getting the flu
Convenience	Alternative ideas of personal protection from getting the flu, like eating healthy
Personal Experience	Herd immunity- containing the spread of the virus by relying on high proportions of people immune to the virus due to vaccination
	Preventing spreading the flu to others
	Vaccine is either not accessible, affordable, or individual does not find the benefit of getting the vaccine with the hinder of acquiring it
	Experiences of oneself, peers, or family. Often discusses getting having a reaction to the shot.

Observations

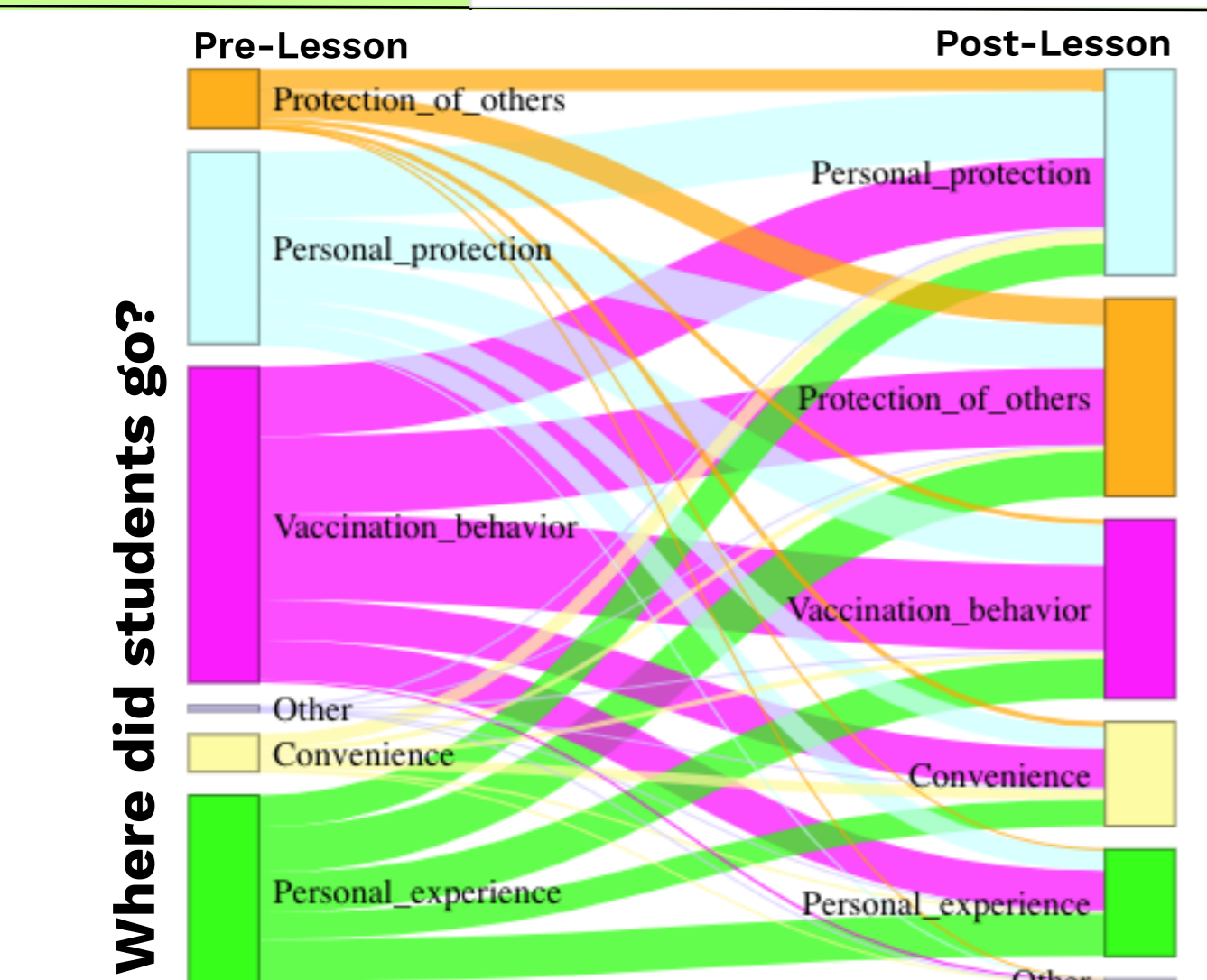
- **Less** people were coded in personal experience and vaccination behavior in the post survey.
- **More** people were coded in convenience and protection of others in the post survey

* Indicates $p < .05$ significant change between pre and post lesson results using McNemar's test



Interpretations

- Personal experience-** The decrease in the responses coded under personal experience may be a result of teaching physiological reactions to the vaccine.
- Protection of others-** The increase in responses including rationale about protecting others may be a result of the lesson on herd immunity.



People who coded as vaccination behavior and personal experience in the pre-survey were coded in all five of the codes in the post.

People who coded as protection of others in the post survey were coded in all five codes in the pre.

Many people who switched their rationale to convenience were coded as personal experience or vaccination behavior in the pre-lesson survey

Conclusions

- 1) Teaching students about the biology of how vaccines work may increase vaccination rates.
- 2) Students can be taught to adopt reasoning based on how their behavior affects others people rather than relying on their past habits or experiences.
- 3) Some students may change their reasoning to adopt another non-scientific rationale if their original rationale was rejected in the lesson.

Future Work

- 1) Does teaching students about non-science based experiences change their opinions on receiving vaccinations more or less than teaching students science-based rationale?
- 2) Are the students who adopt new non-scientific reasoning when their rationale is disproven embody this behavior when making decisions about other socioscientific issues?

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