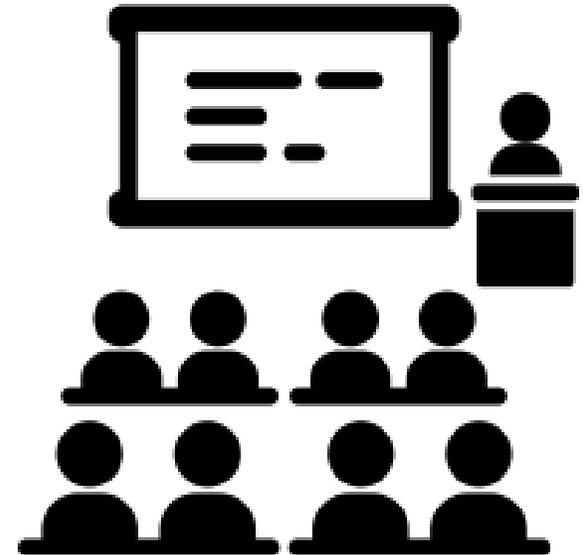
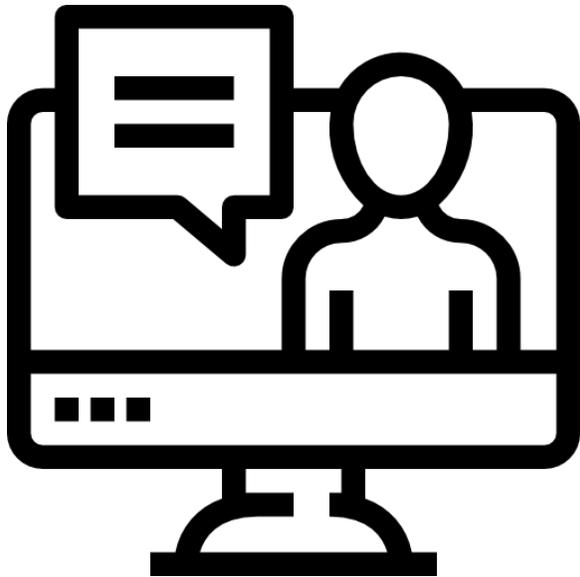


# Enrolment Patterns of Online Classes vs. Traditional Face-to-Face Classes

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# Abstract

With the movement to online delivery for the Summer 2020 session at UVic, the Psychology Department saw an unprecedented change in enrolment patterns. Initially, we saw an increase of enrolment of 146% in comparison to the Summer 2019 session. This meant that many of our classes had extensive waitlists. Once classes started, however, we saw an increase in the drop rate for students, and some classes that had large waitlists ended up with empty seats in the class; in some instances there was greater than a 30% drop rate. These enrolment patterns may impact how instructors structure their online courses, especially for course content delivered early in the class (for those students coming off waitlists), and for group work later in the term when students drop the class. Options for dealing with these issues, as well as issues regarding engaging students on the waitlist are considered with respect to our online Fall classes.

# Moving From F2F to Online Learning

- Due to the COVID-19 Pandemic, summer classes at UVic were moved to an online environment as opposed to Face-to-Face (F2F).
- Although there is much confusion over what the specific definition of an online course is (e.g., synchronous, asynchronous, blended), ***we are defining an online course as one in which the traditional “lecture” material is being delivered online, as opposed to F2F.***
  - The classification of synchronous, asynchronous, or blended is a false distinction, as no regularly scheduled classes over the summer are truly asynchronous in nature (e.g., can be started at any time, students work at their own pace, can finish the course whenever they want) nor synchronous (e.g., are only available at specific times); all classes should probably be classified as blended at best (specific start, midterm, and end times, but some material that can be completed at their own pace).



# Questions Regarding Online Learning

- There are many pedagogical issues regarding the distinction between online vs. F2F learning.
  - Our specific focus, however, is on the enrolment patterns between offering classes F2F vs. online.
  - Approximately 80% of the undergraduate population at UVic is from outside the greater Capital Regional District.
  - What would the effect of moving online be on enrolment?
    - Would enrolment decrease or increase?
    - Would add/drop rates differ between F2F vs. online courses?
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# Methods – Data Set

- Registration details for the 2015, 2016, 2017, 2018, 2019, and 2020 Summer session were extracted from FAST
  - Five years of F2F instruction were included to ensure any registration differences between F2F and online delivery were not due to any trends.
- All data was anonymized using randomized identifiers.
- Information included in the data analysis were
  - Randomized ID
  - Course Number
  - Course Section
  - Reg.Status.Code\* – what the last registration status for the student was
  - Reg.Status.Date\* – the date of the last registration status

*\*This data only gives an approximation of the actual registration patterns, as FAST only provides the last registration status of the student for a particular course, and not all registration details.*

# Methods – Analyses

- All analyses were conducted using *R* (Version 4.0.2) in conjunction with *R* Studio (Version 1.3.1073).
- Initial analyses were conducted with all five previous Summer sessions (2015 – 2019).
  - As analyses showed that there was limited difference between the five years of F2F classes, differences between each individual year classification were only compared between 2019 (F2F) and 2020 (Online).



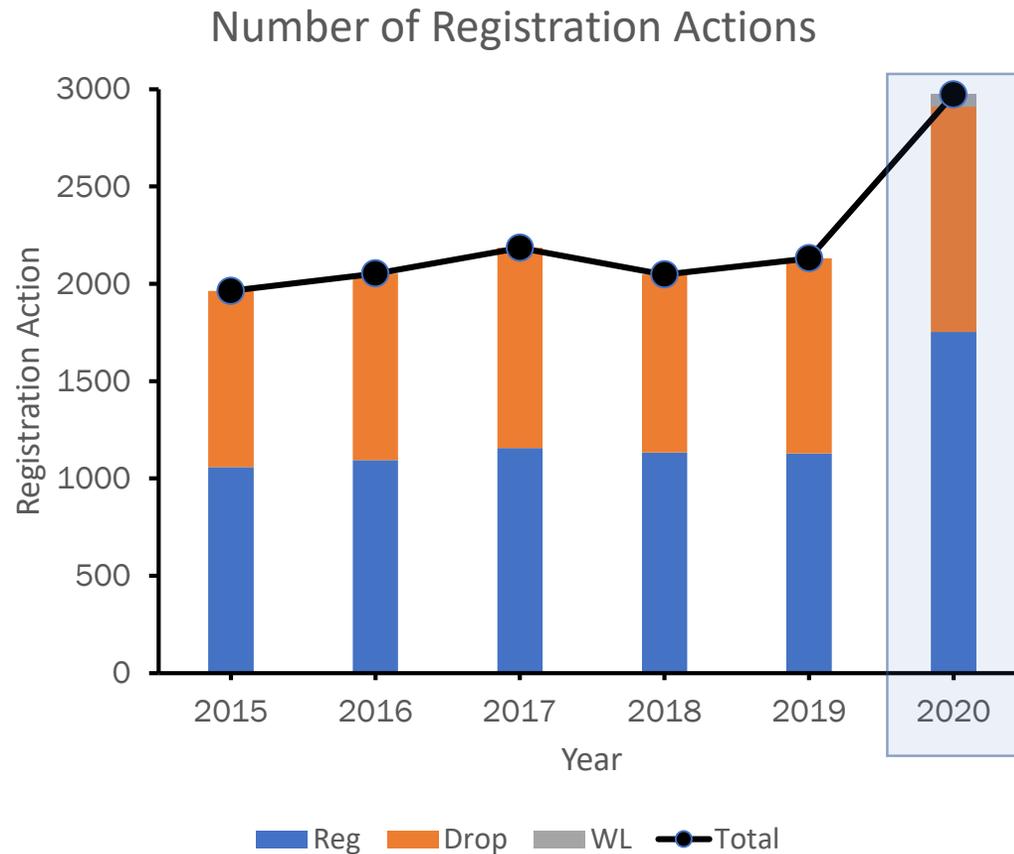
# A Caveat in Registration Status

- One of the unique issues with the Summer session is that waitlists are not purged until the end of the session, as opposed to being purged for each term.
  - The Summer Session (May – August) has 7 distinct terms.
- This means that for the 2015-2019 Summer sessions, there are no waitlisted students, as they have been purged, but for the 2020 Summer session, waitlisted students have been included in registration status as they have not been purged yet.
  - This is a major registration issue as the add/drop date for the summer sessions are the same date, so there is no way for students on the waitlist to get into the class if students drop on the last 100% drop date.
    - More on this issue later!

# Results

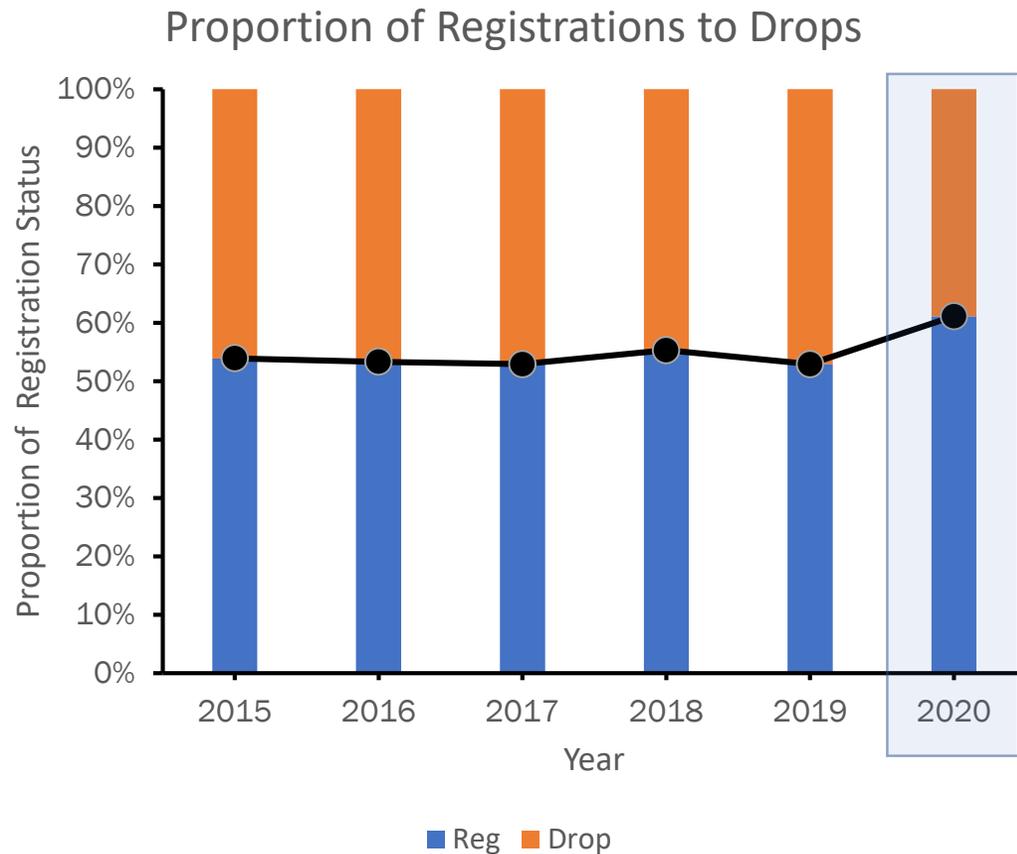
- We provide results in two phases.
- In the first phase, we consider overall patterns between the preceding five years of F2F delivery and the 2020 online courses in Psychology.
- In the second phase, we look at more specific enrolment patterns between each year (1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup>, 4<sup>th</sup>) in terms of when students are adding vs. dropping classes.

# Overall Registration Numbers



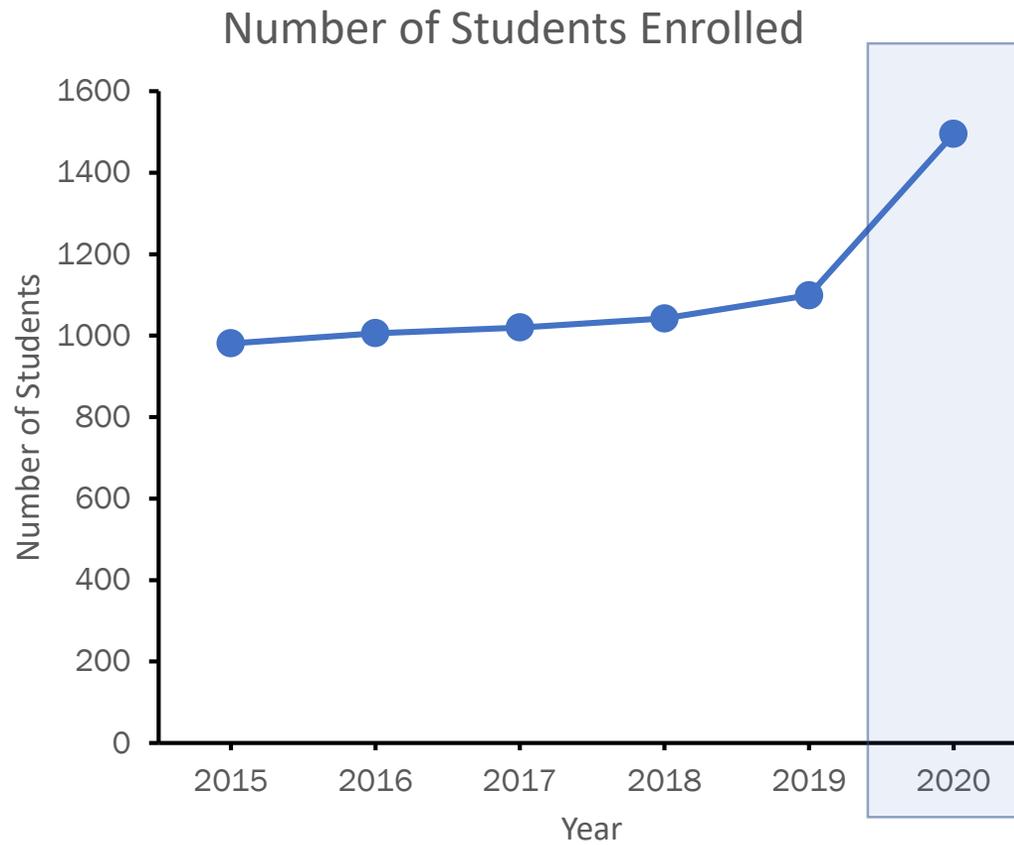
- The first analysis compared the number of unique registration actions (Reg.Status.Code) for each year, collapsed into completed courses (Reg) vs. dropped or incomplete (Drop) courses.
- The overall analysis indicated that there were more registration actions during 2020 than the previous five years
  - $\chi^2(5) = 313.91, p < .0001$
- Visual inspection indicates that the proportion of completed courses (Reg) might be higher than dropped or incomplete (Drop) classes.

# Proportional Adds and Drops



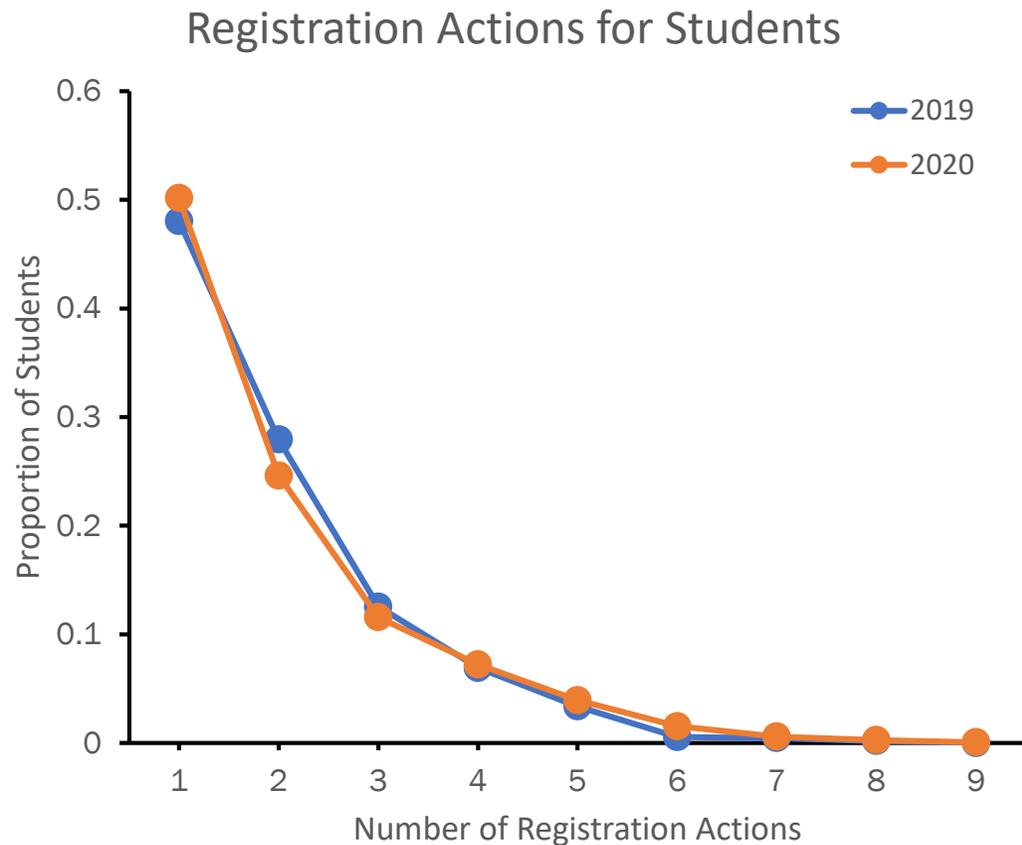
- Due to the significant difference in raw number of registration actions, an analysis on the proportion of students completing the course, vs. students dropping the class was computed.
- Surprisingly, up to 45% of students dropped classes after initially registering for them.
- More surprisingly, overall, students were less likely to drop online courses vs. F2F classes
  - $\chi^2(5) = 54.95, p < .0001$

# Total Number of Students



- The next obvious question is whether the increase in registration actions is due the same number of students engaging in more registration activities, or if there are more students registering?
- Evidence supports that more students are registering for online classes
  - $\chi^2(5) = 170.24, p < .0001$

# Registration Actions per Student



- Finally, we looked at if the proportional registration actions differed between students in F2F classes vs. online classes.
  - As previous analyses indicated limited difference in F2F classes, we have just compared 2019 vs. 2020.
- Results suggest that the proportional number of registration actions do not differ between F2F vs. online courses
  - $\chi^2(8) = 11.20, p = .19$

# Phase One Conclusions

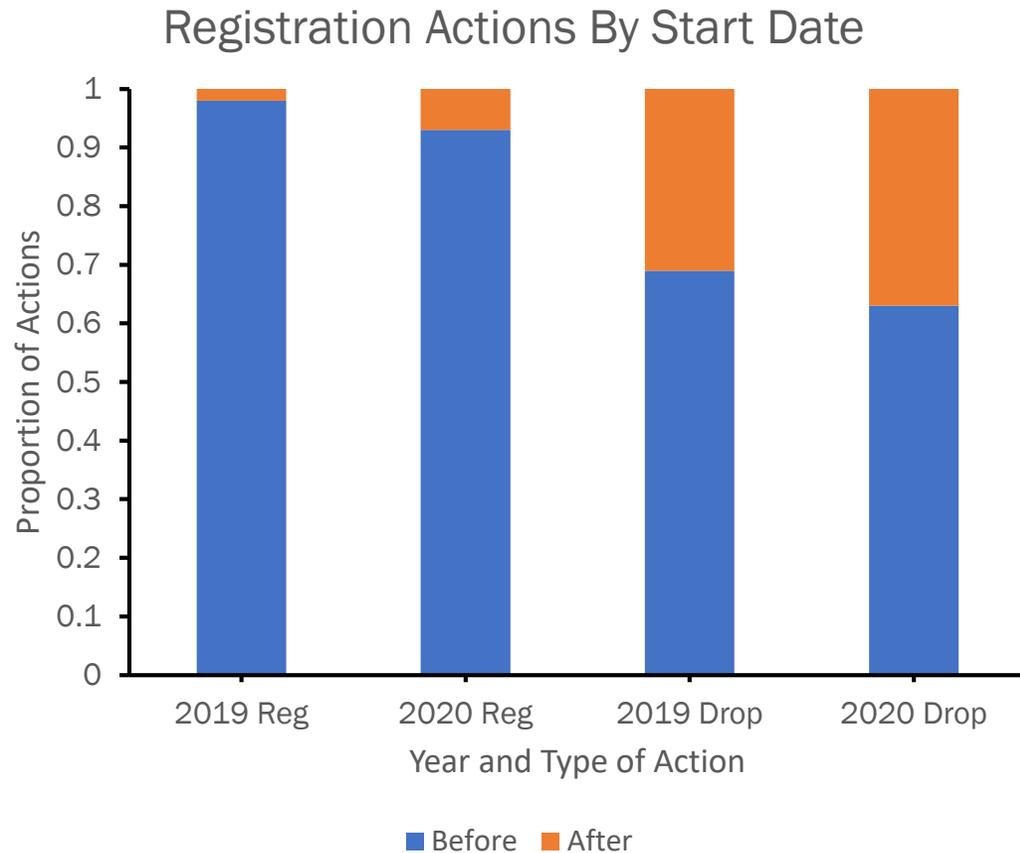
- Our Phase One analysis indicates that on a general level, more students have registered for online classes than F2F classes.
- The general proportion of gross registration actions does not significantly differ between online and F2F classes.
- Generally, students in online classes are less likely to drop a class than a F2F class.
- Two caveats:
  - the data for online classes for 2020 does not include WE (withdraw extenuating circumstances) at this time. It is unknown what the rates will be moving forward.
  - The Phase One analysis collapses across all levels of classes from undergraduate to graduate level, and does not distinguish between the date of the administration action (e.g., prior to the start of class vs. after the start of class).



# Phase Two Analyses

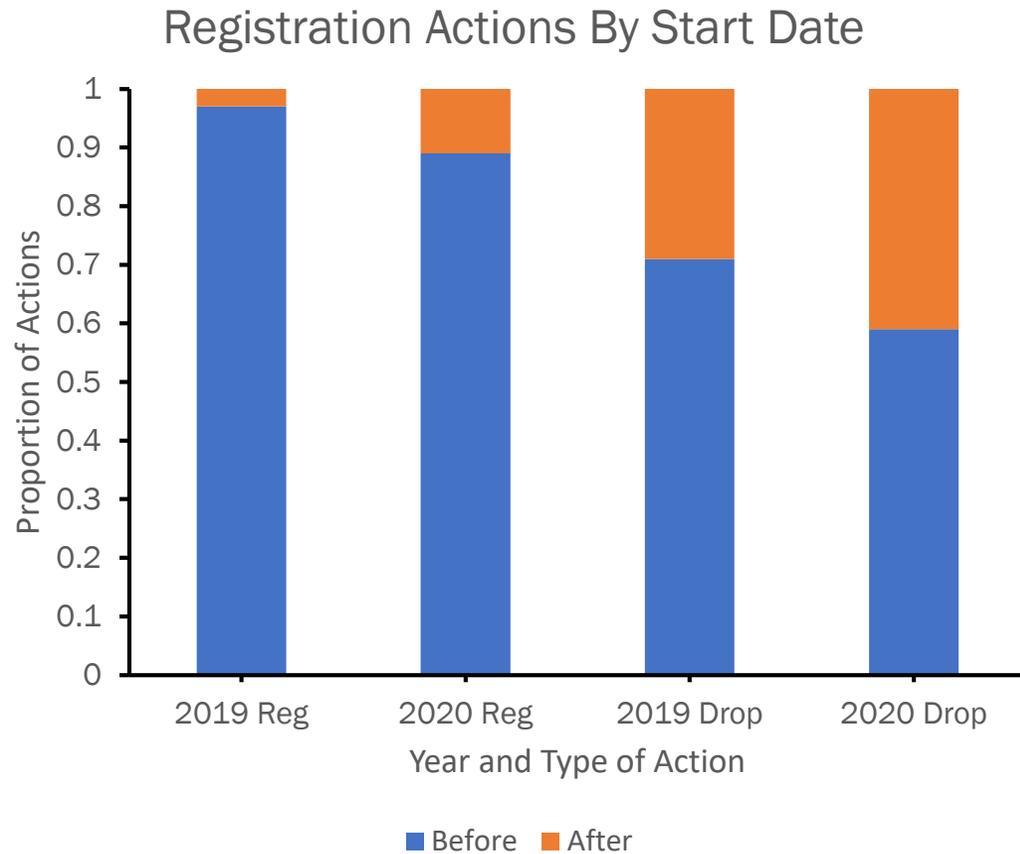
- For the Phase Two analyses, we compared each year designated courses between 2019 to 2020.
  - Specifically, we looked at when the registration action occurred, either before the start of class or after the start of class.
  - As there was a difference in the raw number registrations, we report all differences in terms of proportions.
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# First Year Courses



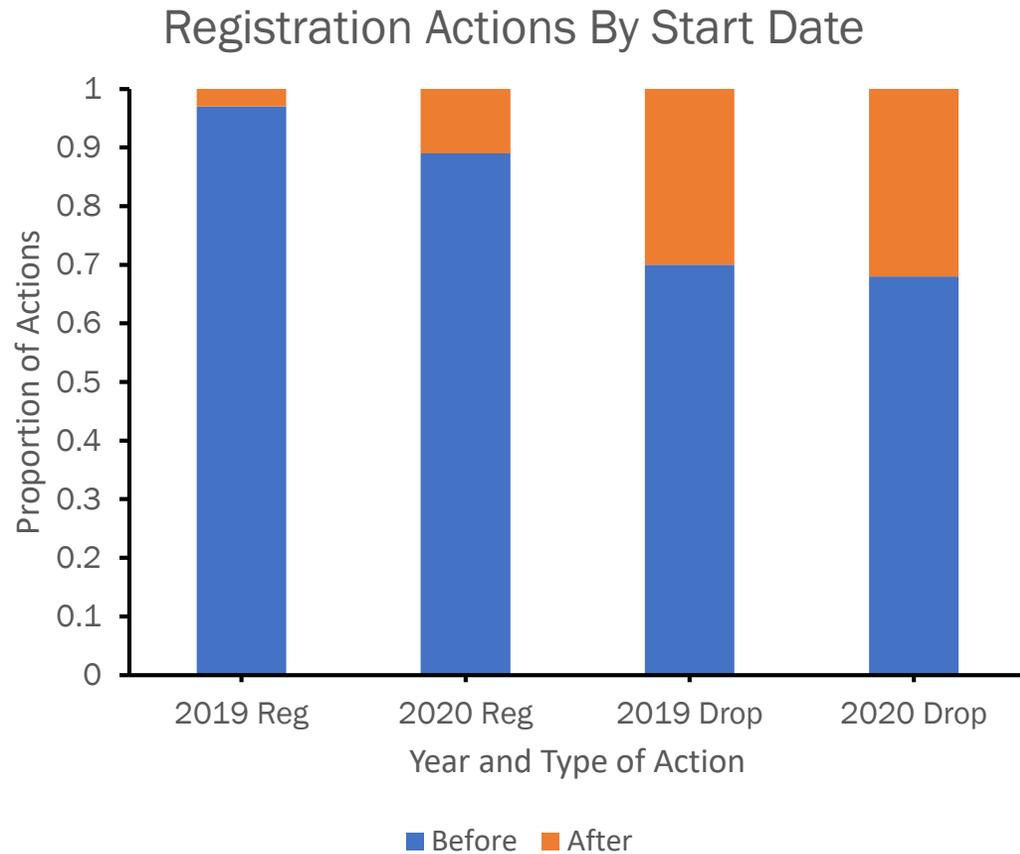
- As registration actions were higher in 2020 than 2019, the adjacent figure shows the proportional registration actions either before and after the class started.
- Results indicate significantly more actions after the course started for 2020 classes
  - $\chi^2(3) = 19.65, p = .0002$

# Second Year Courses



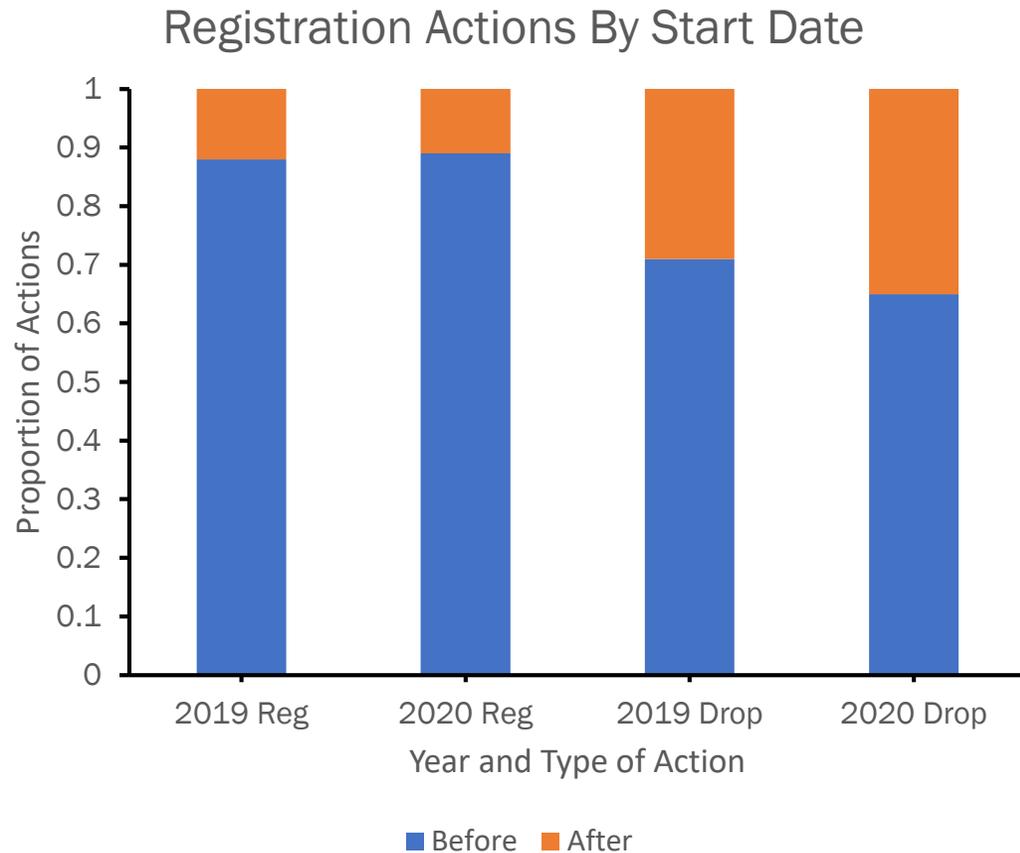
- For second year classes, we see the same pattern of results.
- There are significantly more registration actions (both adds and drops) after the course started for 2020 classes
  - $\chi^2(3) = 42.74, p < .0001$

# Third Year Courses



- Again, there were significantly more registration actions for 2020 after classes started
  - $\chi^2(3) = 30.64, p < .0001$
- But, this only held for additions, as the proportional drop rates for third year classes we not different
  - $\chi^2(1) = 0.64, p = .42$

# Fourth Year Courses



- Finally, for fourth year classes, we see a difference in the before and after class registration changes
  - $\chi^2(3) = 13.40, p = .004$
- Interestingly, the raw number of drops for 2020 were much higher than 2019 (31 vs. 7 respectively), meaning that 4<sup>th</sup> year classes were not a capacity in 2020.

# The Problem with Summer Waitlists

- At the end of the Summer 2020 session, there were still 62 students waitlisted for classes, even though there was room in classes!
- It was recommended to Summer instructors that they do not allow waitlisted students access to the LMS (CourseSpaces) prior to their confirmed registration in the class; if they did, they were informed to not grade any material until registration was confirmed.
- Many instructors allowed waitlisted students access to the LMS to make sure that they had access to the course material in case they were admitted to the class.
  - As waitlisted students were not purged from the registration list after the final add date, some waitlisted students completed the course due to the online nature of the class, which resulted in a number of “late add” forms being filed after final grades were submitted.

# The Problem with Drops

- Overall, there were proportionally more adds and drops after the start date of classes for the online sessions when compared to F2F classes.
- This means that class rosters were not stabilized.
- This has implications for group work and presentations, and was noted anecdotally by a few instructors.
- It is recommended that, if possible, group assignments and scheduling of presentations be delayed until after the final add date for online classes.