



# System Proposal: Environmental Effects on College Studying

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# Population & Setting of Choice

- **Population:** UNC Undergraduate Students: 18 – 23 years old
- **Setting:** Study spaces at UNC-Chapel Hill campus and surrounding areas
- 2024: Approximately 20,700 enrolled undergrads @ UNC (UNC, 2024)
- Healthy Minds Survey (n = 76,406): 41% depression, 36% anxiety (Healthy Minds Network, 2023)
- COVID-19: Longterm negative effects (Buizza et. al., 2022)
- 99% own a smartphone (Denoyelles et. al., 2023)
- Prefer short, less demanding tasks (Atas and Celik, 2019)

# ‘Problem’ or ‘Need’ of this Population & Setting

- Environmental effect on studying?
- **Problem:** Study spaces and researchers have only just begun analyzing the connection between study space and study effectiveness.
- “How can we determine what *actually* helps students? What do students *actually* want in a study space?”
- Clues?: Natural lighting = improved mood, cognitive function, and performance (Kent et. al., 2009; Golmohammadi et. al., 2021; Porras Álvarez, 2020, Shishegar and Boukeri, 2016)
- Students rank natural lighting as one of the top features of a study space, report improved mood and cognitive function (Morales-Bravo and Navarrete-Hernandez, 2022, Brink, et. al., 2023).
- Next: Space? (Closs et. al., 2022, Zheng et. al., 2024, LeGrow et. al., 2023)
- **Need:** Students need a way to search for study space features they prefer without having to rely on study space curators.

# Empirical Evidence: Hegde et. al. (2018)

- **Hegde et. al. (2018):** All surveyed populations consistently report certain features as preferred.
- Highest ranking elements included: Natural lighting, diverse seating options, charging stations, wi-fi, writable surfaces (whiteboards), separate rooms (i.e., for conferences).
- Key point: Today, study space needs differ from traditional needs. For example, collaboration is more common today.
- Hegde et. al.: Future learning space development may focus on atmosphere as opposed solely to physical space to best, "...provide space for multiple learning styles and types of work" (Hegde et. al., 2018).
- Other researchers find that students feel more positive towards a study atmosphere (Zheng et. al., 2024)

# Empirical Evidence: Adityawirawan and Kusuma (2021)

- Informal Learning Spaces (ILS): Does environment outside of formal university libraries have the same feedback from students?
- **Adityawirawan and Kusuma (2021)**: Students surveyed tended to rank the same elements as preferred as reported in Hegde et. al. (2018). Students also reported studying at ILS due increased (perceived) mood and productivity.
- Preferred: Lighting, comfortable seating, natural scenery, establishment aesthetics, and wi-fi.
- ILS = More flexible to student preferences such as extended hours.
- Affective vs Cognitive: Students ranked perceived mood higher than perceived study goals met.

# Novel System Proposal

Overall, it seems that:

- Formal study spaces still need to catch up to user needs.
- Students know what they want in a study space.
- 99% of undergrad students have smartphones.
- **Proposal:** User-generated map and review app (system) for study locations. Let students take charge of finding and ranking study locations.
  - Students can customize their needs through filters or tags.
  - Knowledge sharing is more prevalent in social situations (Wang et. al., 2022).
  - A sense of community improves overall mood (Rusticus et. al., 2023; Zheng et. al., 2024).
- **Challenges:** User-generated content risks...
- Can this system succeed? A similar system has been successfully implemented at UNC: Coursicle

# Empirical Evidence: Boswell (2020)

- Can a review system successfully meet student needs when trying to make decisions?
- Boswell (2020): Analyzes RateMyProfessor.com and its impact on student opinion. Student participants evaluated both positive and negative fictitious reviews .
- Boswell: “Evaluation positivity may have had no impact on how seriously students considered the information because they perceived any information to be potentially useful ...” (Boswell, 2020, p. 12).
- **Result:** Students were highly influenced by what other students thought.
- **Differences:** RMP has higher risk of review manipulation or misinformation, is also less community focused: reviews are anonymous, students aren’t encouraged to build positive relationships.

# Outstanding Issues or Questions for Classmates

- Building a community: Would you see yourself using this app? What might discourage you?
- Study group implementation?

Thank you!



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