Analysis of Peer Group Behavior Among University Students

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Contributions

- We undertake a pre-study survey of 177 students within a fully residential university using accepted contextual inquiry methods to understand the correlation factors (e.g. group size, category, time spent etc.) behind students' group satisfaction.
- We present insights into qualitative aspects of group behavior that may aid university counselors in diagnosing mental well being relating to peer-rejection and unsatisfactory social interactions in a residential campus.
- We make the case for a smartphone-based sensing study for peer interaction analysis and provide design recommendations for StuGru – a platform for group-detection and monitoring, augmented by utilizing event-triggered Ecological Momentary Assessments (EMAs).

Introduction

Understanding students' interactions and their emotional impact within peer groups is crucial in order to assess their overall mental state. While previous work such as[1, 2, 3] have focused on correlating individual physical and mental states, we intend to bring attention to more aspects of student life within universities by analyzing emotive factors within student groups.

Survey Design

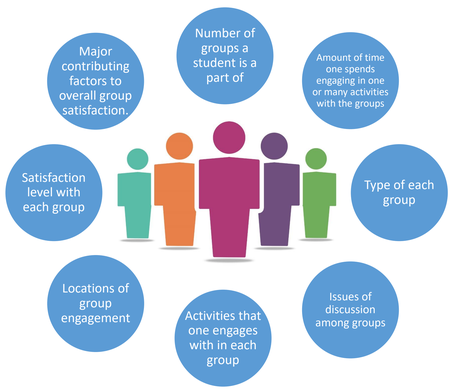


Figure: Survey Design

Preliminary Results

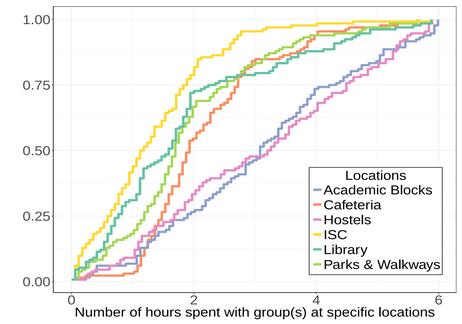


Figure: Cumulative Distribution Function of number of hours spent amongst groups at various locations

- Students spend the maximum amount of time with their peer groups in Hostels and the Cafeteria - 29.82% and 21.34% of their time respectively, on average.

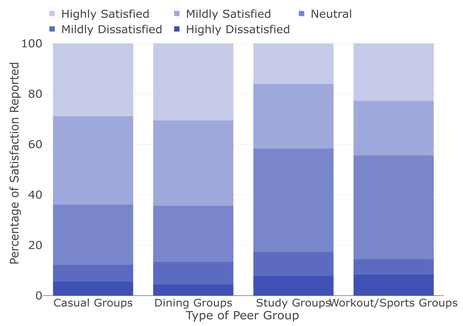


Figure: Reported satisfaction for interactions among various types of peer groups.

- 63% of respondents are 'Highly' or 'Mildly Satisfied' with their Casual and Dining Groups, whereas 41% are 'Neutral' towards Study and Workout/Sports Groups.

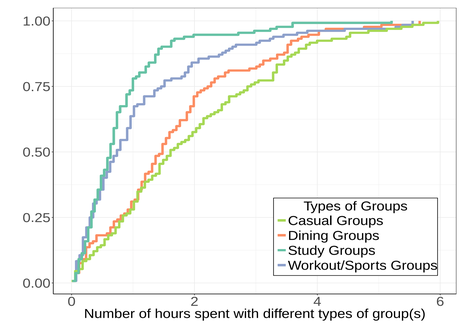


Figure: Cumulative Distribution Function of the number of hours spent amongst different types of groups

- 78% of the participants reported that their group engagement is most influenced by the constituent people, rather than Location, Activity or Time.

	Group Size			
Group Type	*2-4*	*4-6*	*6-10*	*>10*
Study	76.3%	18.52%	3.7%	1.48%
Dining	31.58%	42.11%	23.31%	3.01%
Workout/Sports	68.25%	15.87%	11.11%	4.76%
Casual	27.13%	33.33%	33.33%	6.2%

Table: Average group sizes among different group types within the student community

Study Recommendations

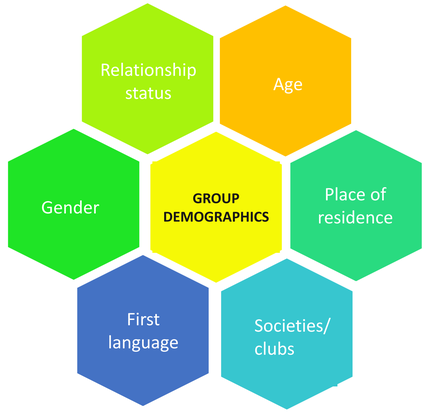
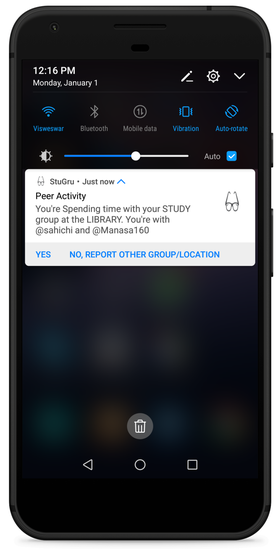


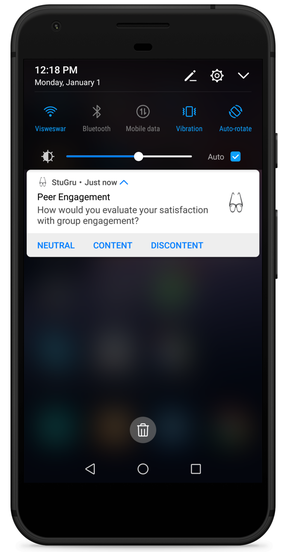
Figure: We plan to collect basic biographic information about each participant through an entry questionnaire in order to valuate the diversity of groups formed and examine correlation with group engagement, if any.

Group Detection & Contextual Inquiry

- To detect peer groups, we propose employing an adaptation of the state-of-the-art group detection algorithm presented in GruMon[4], along with the use of BLE-based ranging as a reliable proxy for inter-person distance in less-denser spaces.
- We suggest adopting a contextual inquiry methodology for recording student perception in each particular group-related context (location, group type, aberrant event etc.) using EMAs of two types: *Event-triggered assessments* (tEMAs) and *Polled assessments (pEMAs)*.



(a) Context Validation EMA



(b) Satisfaction Survey EMA

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