ECOLOGICAL MOMENTARY ASSESSMENT IN A GAMIFIED SIMULATION

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INTRODUCTION

The perceived stress of health professional students influences their confidence and motivation to learn. An extended gamified simulation was developed as a capstone learning experience in a Bachelor of Pharmacy program, designed to provide engaging real-world practice experience. Students competed in teams, assumed the pharmacists' roles and were responsible for all patient-centred outcomes, as determined through continual assessment. Such a high-stakes and intensive activity has the potential to induce student stress.

AIM/S

The aim of this study was to use ecological momentary assessment (EMA) to capture real-time student experience and behaviours during the simulation, limiting recall bias [1].

METHOD

Student participants completed periodic EMAs during the 3-week gamified simulation. Five participants per day received digital prompts to undertake the EMA in Microsoft Forms. Each EMA involved self-reporting momentary stress on a 5-point Likert scale (from 1 'not at all' to 5 'extremely'), recording the preceding activity in free text and selecting their degree of physical activity (sedentary, light activity or moderate-to-vigorous activity). Pearson's Correlation analyses were conducted in SPSS 22.

RESULTS

In total, 355 EMAs were completed by 28 students. Activities recorded were coded into seven groups: administrative, verbal, dispensing, clinical case, team discussion, observation and non-cognitive. The highest self-reported stress was associated with verbal activities, which included simulated patient counselling and clinical telephone calls. While there was no significant relationship between stress and gender, day or week of the game, student stress had a small positive correlation with simulation activity (r=.262, p<0.01) and a moderate correlation with level of activity (r=.320, p<0.01).

More stressful activities in the simulation were those in which students were assessed on their individual performance, such as verbal counselling and calls, in contrast to activities in which students could collaborate with others in their team, such as dispensing and clinical cases (Figure 1). The stress of the simulation activities may have also reflected the urgency, or the time associated with the task. For example, verbal activities were assessed with immediacy, either face-to-face with a simulated patient, or over the telephone, whereas dispensing templates and clinical case reports were submitted with more preparation time.
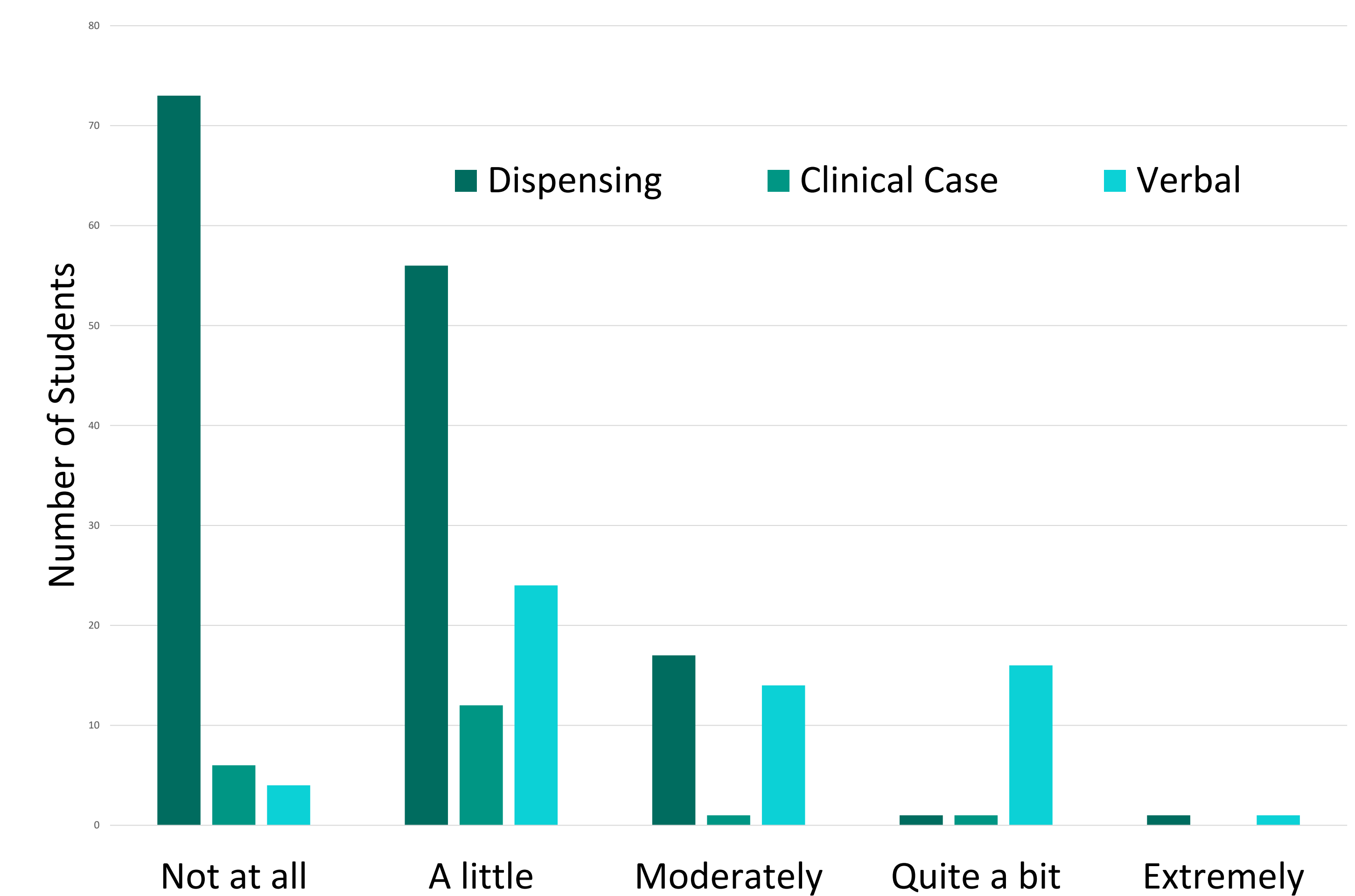

Figure 1: Self-reported student stress for simulation activities

CONCLUSION

Using EMA provides a valuable, non-invasive way to determine student stress and has potential to identify students at risk. The method would suit repeated measure studies.

REFERENCE

1. Stone, A.A. and S. Shiffman, Ecological momentary assessment (EMA) in behavorial medicine. Annals of Behavioral Medicine, 1994.