Mental Health among Agricultural and Engineering Graduate Students: Comparison by Grade Level and with Undergraduate Students

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Purpose

Graduate students face numerous stressors such as pressure to produce research results, poor work-life balance, financial insecurity, and uncertainty about future career paths. Improving mental support for graduate students is an urgent issue worldwide. In this study, we assessed the level of stress in Japanese graduate students in the faculties of agriculture and engineering, and compared it with that of undergraduate students.

Methods

Participants and procedures The participants included Master's and undergraduate students from Gifu University in 2021, 2022, and 2023. The survey was conducted in April for first-year students and in February for the other students. The total number of Master’s students who responded to the survey was 1,041 (296 female, 745 male) and undergraduate students was 5,049 (1847 female, 3,202 male).

Measure CCAPS-Japanese (Horita et al., 2020) is utilized a 5-point Likert-type scale (ranging from 0 to 4) and assessed psychological symptoms of university students during the over two weeks. Higher scores reflected greater distress.

Ethics statement The research project was approved by the Research Ethical Committee of the Graduate School of Medicine, Gifu University, Japan (approval no. 2021-B114).

Results

Fig 1. Mean scores of CCAPS-Japanese factors in Master grade 1 and 2 (independent samples t-test)

An independent samples t-test showed a statistically significant relationship between undergraduate and graduate-level status in Depression (t(1167) = 4.51, p < .001), Generalized Anxiety (t (429.009) = 3.47, p < .001), Social Anxiety (t (1167) = 4.35, p < .001), Academic Distress (t (1167) = 3.28, p < .001), Hostility (t (424.624) = 3.60, p < .001), and Family Distress (t (1167) = 2.05, p < .05).

Fig 1. Mean scores of CCAPS-Japanese factors in Master and Undergraduate (independent samples t-test)

An independent samples t-test showed a statistically significant relationship between undergraduate and graduate-level status in Generalized Anxiety (t (10562) = 2.24, p < .01), Social Anxiety (t (10562) = 2.82, p < .01), Academic Distress (t (1556.137) = 8.01, p < .001), Eating Concern (t (1541.553) = 4.00, p < .001), and Alcohol Use (t (1350.272) = 11.55, p < .001).

Discussion

M1 vs. M2 When interpreting the meaning of these results, the timing of the survey must be taken into account. The first-year Master's students were surveyed at the beginning of the academic year, which may reflect the stress of initial adjustment to the graduate school environment. On the other hand, the second-year Master's students were surveyed in February (the last day of their first year), when they had some time before submitting their Master's thesis, so they may have been relatively relaxed.

Master vs. undergraduate Graduate students are assigned to laboratories and have a clear idea of who their mentor is and whom they can rely on when they need help. Therefore, their scores were relatively lower than those of the graduate students. However, many undergraduate students do not know whom they can turn to for help when they face problems on the campus, which may make them feel stressed.

These results suggest that undergraduate students need to be provided the appropriate support to help them adapt effectively to the campus environment in the early years of their Master's program.

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