RESULTS

The results show no significant difference in mood scores between domestic and international students during the winter season ($t_{25} = 0.0349,\ P = 0.730,\ Fig1$). However, in the boxplot of Figure 1 and in the winter histogram (Fig 3) it can be appreciated that Latin American students had more variability between their moods for the winter season, whereas, domestic students had a low mood overall.

On the other hand, there is a small difference in mood between Latin American and Canadian students during the summer ($t_{26} = 4.532,\ P = 0.000113,\ Fig1$), being the international students group the ones with a higher mood score again (Fig 2). This implies that factors influencing mood may vary more distinctly between domestic and international students in warmer months.

Nevertheless, the results show that season does affect the mood of the students overall ($t_{28} = 4.89,\ P < 0.0001$) with students being generally happier during the summer season.

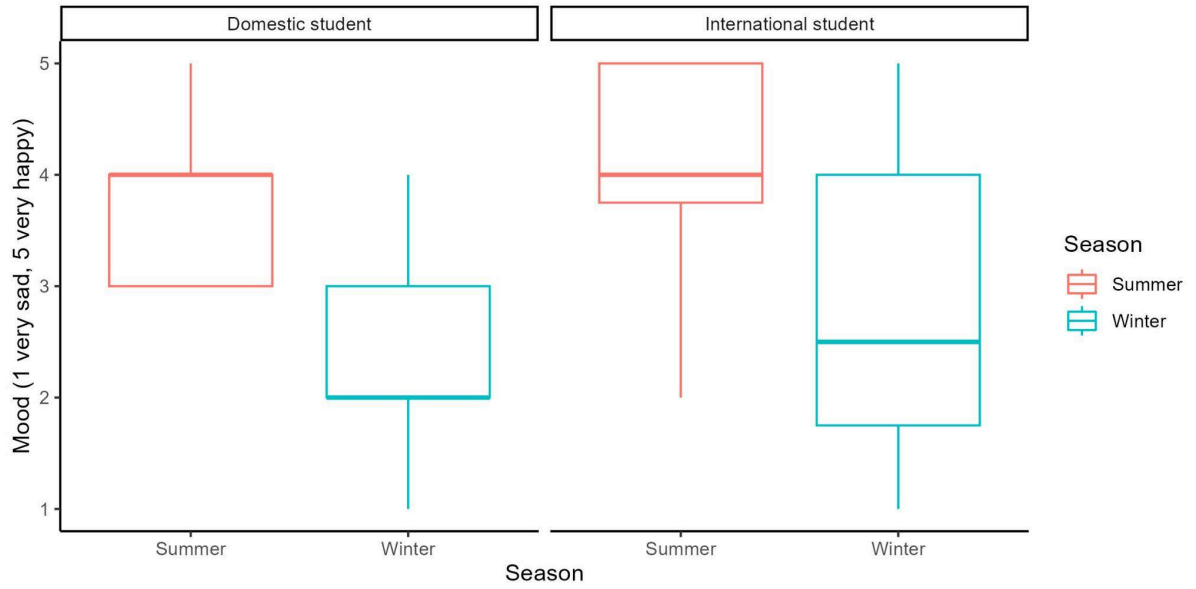

Fig 1. Box plot of the difference in mood among students during summer and winter. Both Latin American (n=18) and domestic students (n=11) were asked the same question about their mood during this past summer and winter . The box plot visualizes the differences among the moods of these two groups, blue for winter and red for summer.

Based on a mood scale rate from 1 to 5, 1 being very, 2 sad, 3 neutral , 4 happy and 5 very happy.

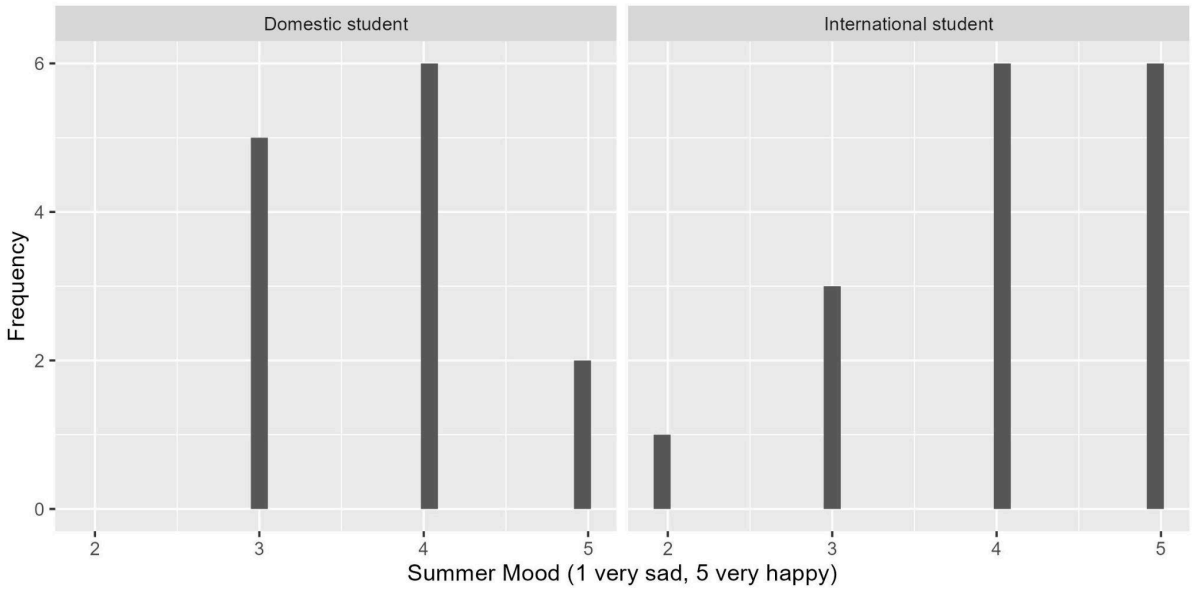

Fig 2. Latin American students have a happier mood during the summer than domestic students. The histogram is showing the distribution of answers for the mood during summer of domestic (n=11) and latin american students (n=18). Based on a mood scale rate from 1 to 5, 1 being very, 2 sad, 3 neutral , 4 happy and 5 very happy.

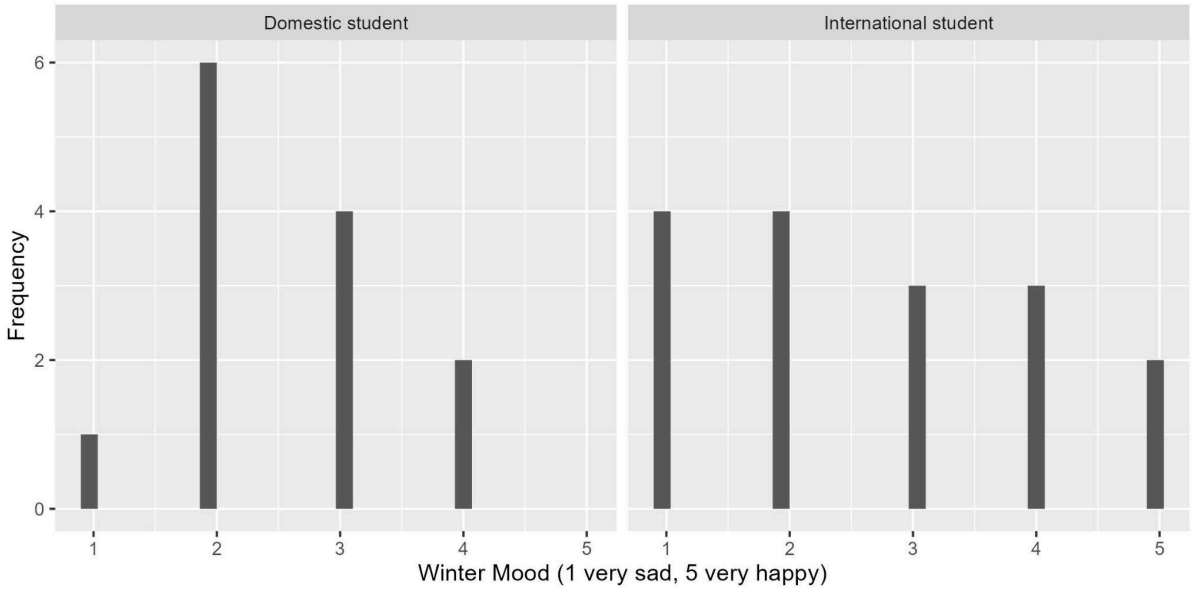

Fig 3. Domestic students have a sadder mood during winter, whereas Latin American students' mood is very diverse. The histogram is showing the distribution of answers for

the mood during winter of domestic (n=11) and Latin American students (n=18).Based on a mood scale rate from 1 to 5, 1 being very, 2 sad, 3 neutral , 4 happy and 5 very happy.

To further show the effect season and weather has on students and the differences between the experience of Latin American and Canadian students. We asked for their opinion, if they think weather can affect their mood. The frequency of the responses were plotted in a bar plot (Fig 4). The results show that all Canadian students feel that the weather can affect their mood, whereas, even if most of the Latin American students agree, some feel that their mood is independent of the weather.

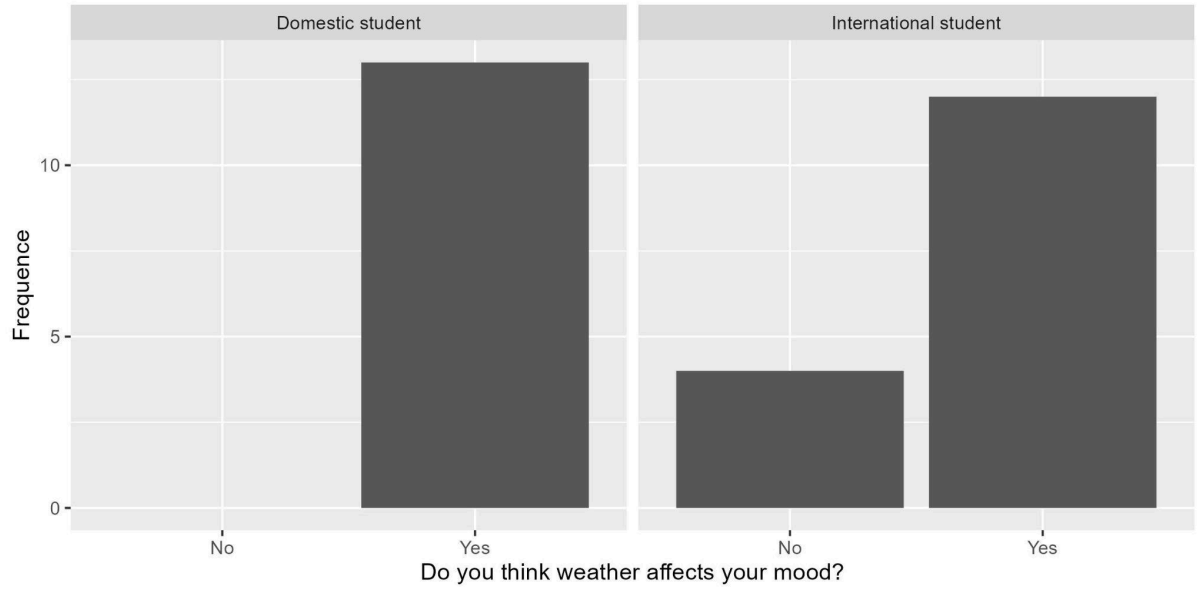

Fig 4. Domestic students and most Latin American students think that weather has an impact on their mood. The bar plot is showing the frequency of answers for student's personal opinions on how the weather has an impact on their mood (domestic students n=11, Latin American students n=18)

Finally, we ask them their weather preference, also to further show the different impact weather can have. The responses were also plotted in a bar plot (Fig 5). The results showed no significant difference in preference between groups of students, as well as not a big difference between cold or hot weather preference.

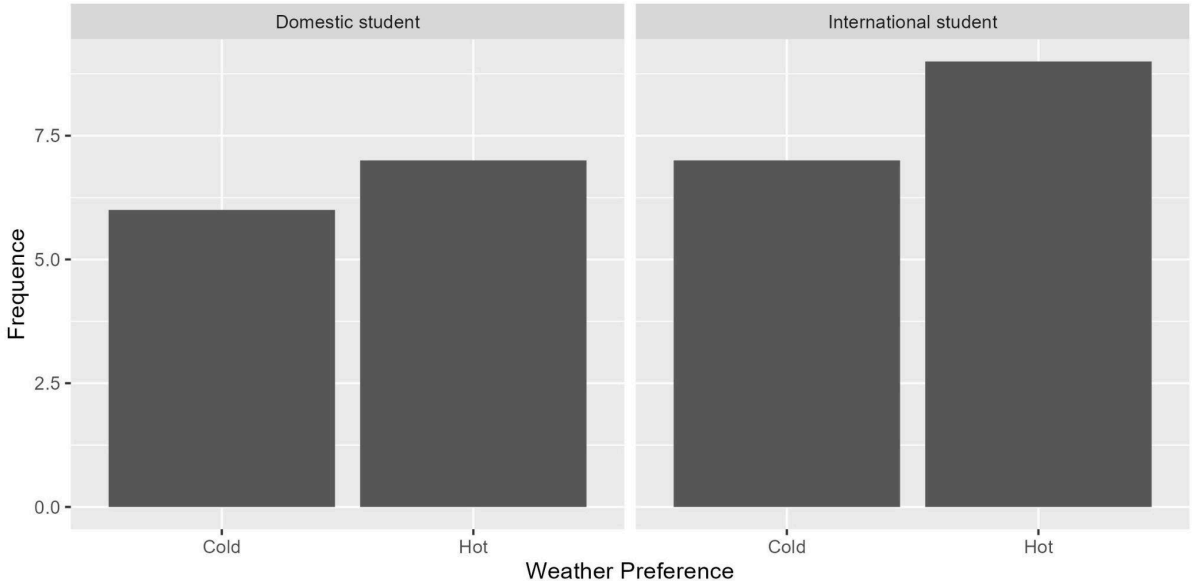

Fig 5. Weather preference does not diverge among groups. The bar plot is showing the weather preferences of domestic (n=11) and Latin American students (n=18). Even if there is a small preference towards the hot weather for both groups it is not significant enough to take it into consideration as a confounding variable.

DISCUSSION

The findings of this study show a relationship between weather conditions, particularly seasonal changes, and the emotional well-being of international Latin American students compared to domestic Canadian students. Understanding these dynamics is crucial for providing targeted support to individuals facing the challenges of adapting to new climates, especially during the demanding winter seasons. These results align with the expected from previous cite research where participants tend to experience overall happier moods during warmer seasons compared to colder seasons.

The lack of a significant difference in mood scores between domestic and international students during the winter season (Fig 1) is an interesting observation. However, the increased variability in mood among Latin American students during winter, as evident in the box plot (Fig 1) and winter histogram (Fig 3), suggests that the impact of colder weather might be more individualised for this group. This could be attributed to varying levels of adaptation to winter conditions among international students, influenced by factors such as their length of stay in Canada or prior