

# Cyberbullying and Depression: A Case Study Using Data From Selangor, Malaysia

Ashley Sofia Alfaro, Chaminade University of Honolulu, ashleysofia.alfaro@student.chaminade.edu

## Abstract

Being a victim to cyberbullying elevates stress, anxiety, and depression levels. Despite its known impacts, cyberbullying remains an understudied issue in Malaysia. This study investigates the impact of cyberbullying on depression among young adults in Malaysia. Analysis revealed that individuals with moderate and extremely severe depression reported high instances of cyberbullying. This study shows that while cyberbullying significantly contributes to worsening depression, it is not the primary cause.

## Background

- In Malaysia, there is a significant deficit of psychiatrists and psychologists with a ratio of 1.27 psychiatrists per 100,000 people as shown in 2018 study (Raaj et. al., 2021).
- Due to social stigma surrounding mental health, only 20% of Malaysians with a mental health disorder access professional care.
- Cyberbullying is known to be a prevalent problem in Malaysia, with the prevalence of cyberbullying in Malaysian adolescents at 52%.
- Outcomes of cyberbullying victimization includes elevated stress and anxiety levels, and depression, among others.
- Though progress has been made to understand the concept of cyberbullying, it's a relatively understudied issue in Malaysia.

## Research Question

How does cyberbullying impact depression among young adults in Malaysia?

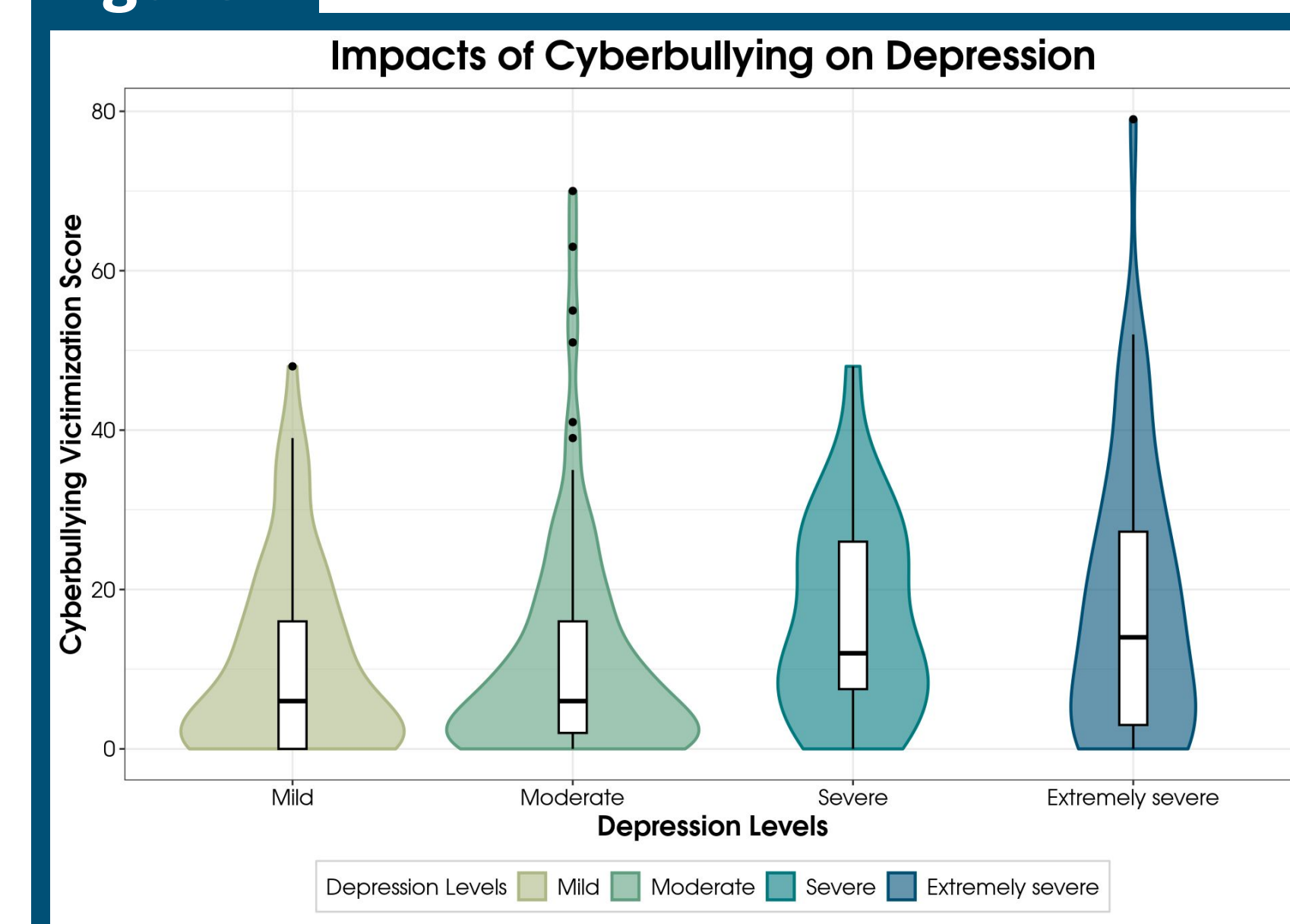
## Methods

This study used a publicly available dataset on Mendeley Data. The datasets includes 561 Malaysian university students who took a scored survey that measured their cyberbullying victimization in 4 groups: public humiliation, malice, unwanted contact, and deception and their depression levels: mild, moderate, severe, and extremely severe. All participants completed the survey anonymously.

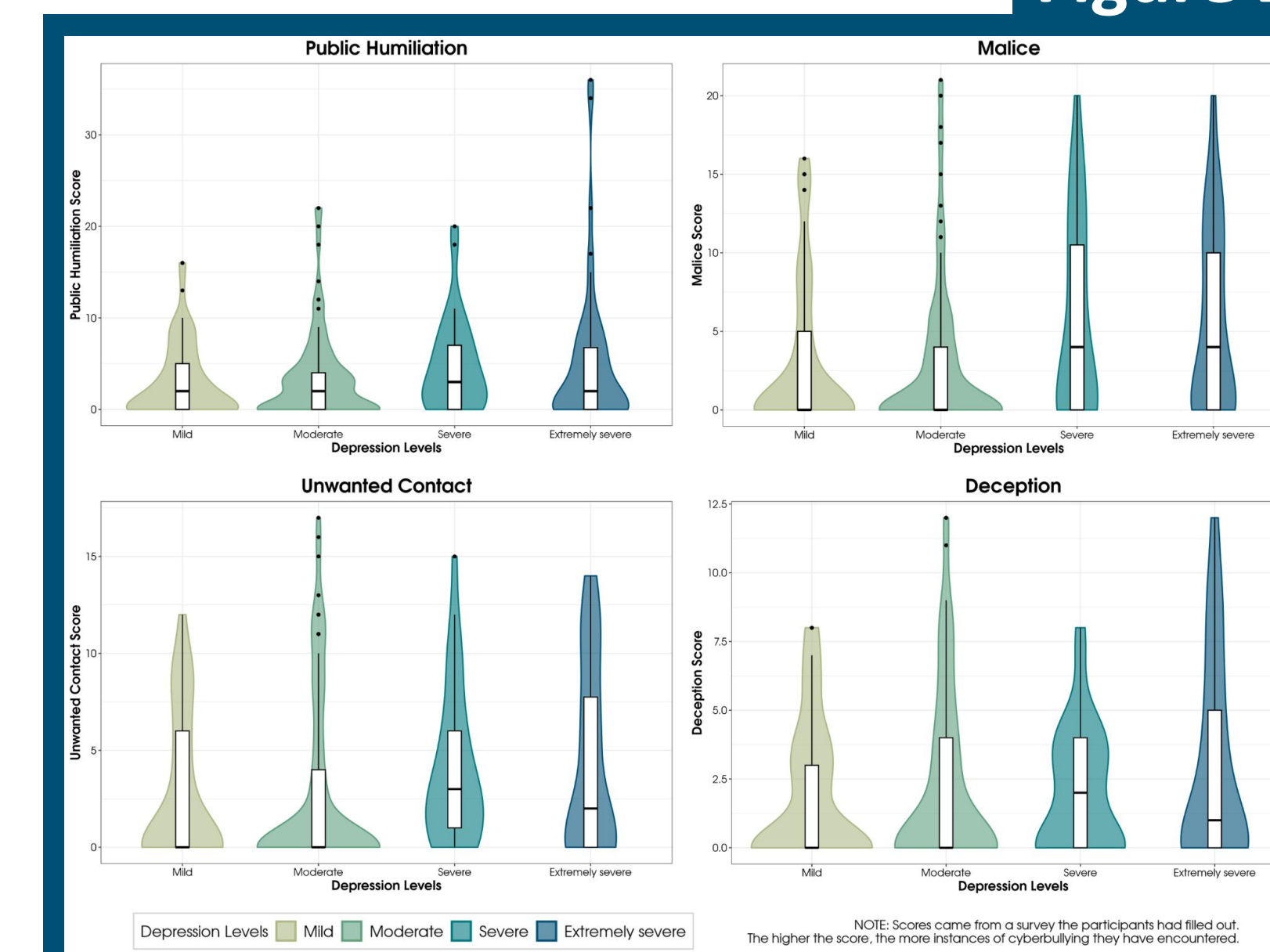
RStudio accessed through Frontera's supercomputer at TACC was used to analyze, subset, and visualize the data. Violin plots were used to show the statistical variation. Additionally, k-means clustering was used to examine relationships between scores and depression levels.

## Results

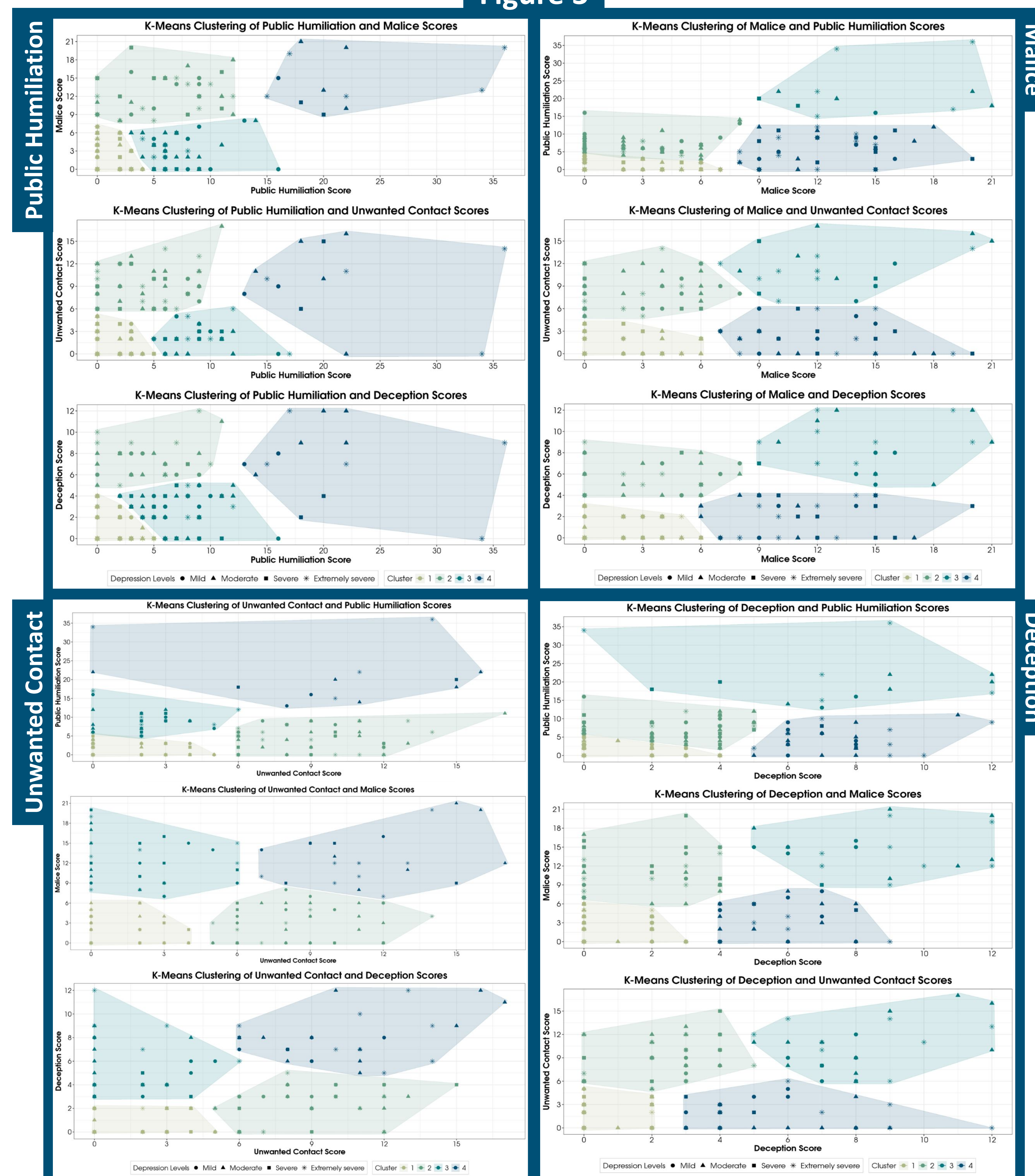
**Figure 1**



**Figure 2**



**Figure 3**



## Discussion

**Figure 1** shows the total cyberbullying victimization score from the 4 groups. Extremely severe has the highest maximum score, and moderate has the lowest. However, moderate has outliers suggesting that individuals with lower levels of depression can also experience high instances of cyberbullying.

**Figure 2** analyzes the 4 groups within cyberbullying. Those with extremely severe depression have the highest scores in the Public Humiliation plot, suggesting that Public Humiliation is the aspect of cyberbullying that has the most impact.

**Figure 3** are k-means clustering comparing the cyberbullying scores with each other. Public Humiliation shows a lack of points on the right side of the plot, which rejects the notion that this category is the most impactful. In comparison, Malice has a more even distribution of scores across the plots. Unwanted Contact and Deception are similar in terms of the way they were clustered.

## Conclusion

- High instances of cyberbullying don't necessarily indicate more severity in depression.
- Public humiliation has the highest scores for those with extremely severe depression, but the combination of malice, unwanted contact, and deception have the most influence.
- While cyberbullying contributes to worsening depression, it is not the primary cause.

**Limitations** The study is limited to university students in the state of Selangor, Malaysia.

**Future Research** Consider screen time and compare findings with other countries.

## Acknowledgements

Project Lead: Dr. Kelly Gaither  
Mentor: Alexis-Rochelle Ramelb

## References

- Hassan, Nazirah (2022), "Data on Cyberbullying Victimization, Depression, Anxiety and Stress", Mendeley Data, V2, doi: 10.17632/9n783y6zdc.2
- Raaj, S., Navanathan, S., Tharmaselan, M., & Lally, J. (2021, November). *Mental disorders in Malaysia: an increase in lifetime prevalence*. NCBI. Retrieved June 27, 2024, from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8554924/>



Figure 1

# Impacts of Cyberbullying on Depression

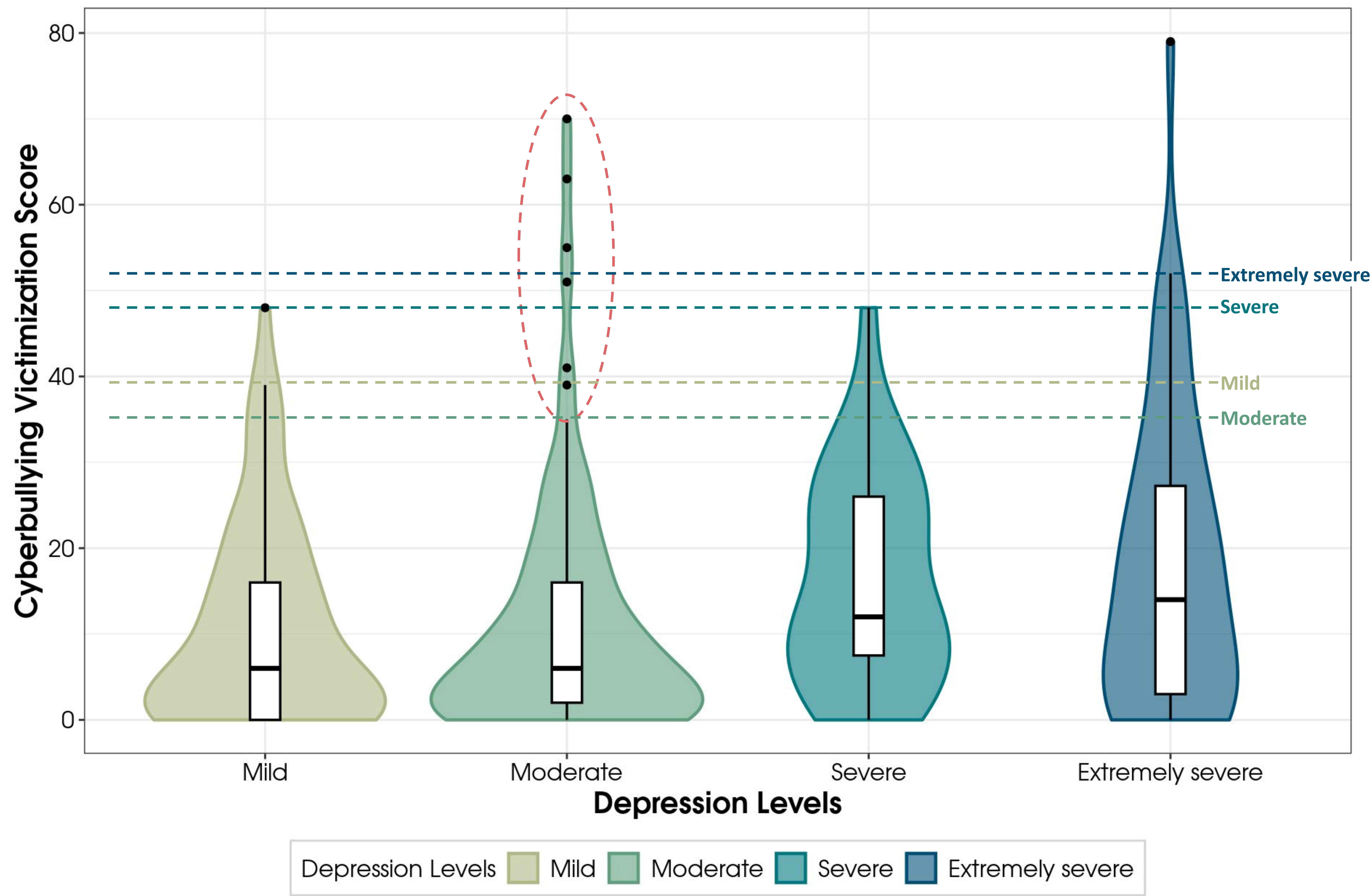




Figure 2

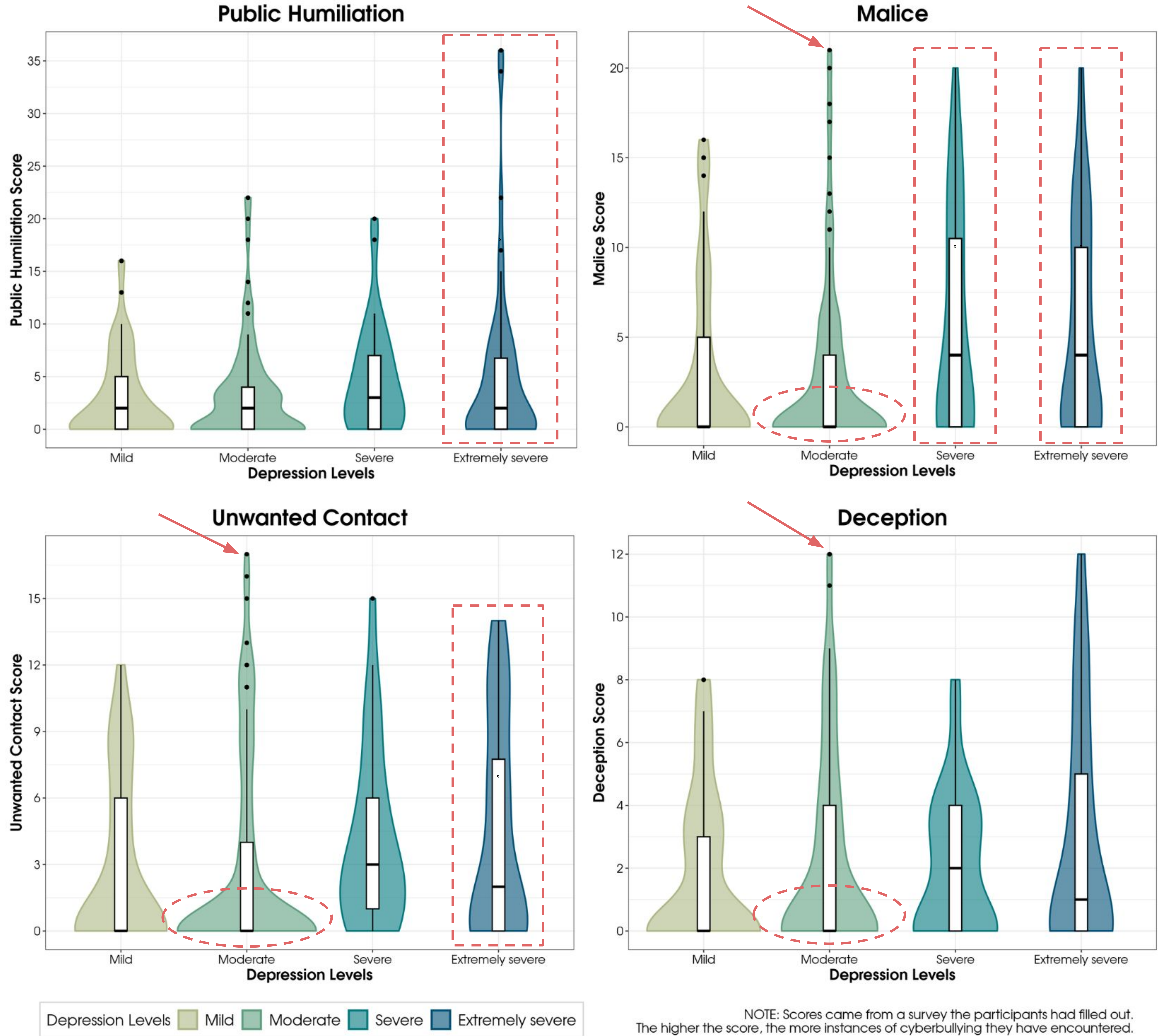




Figure 3

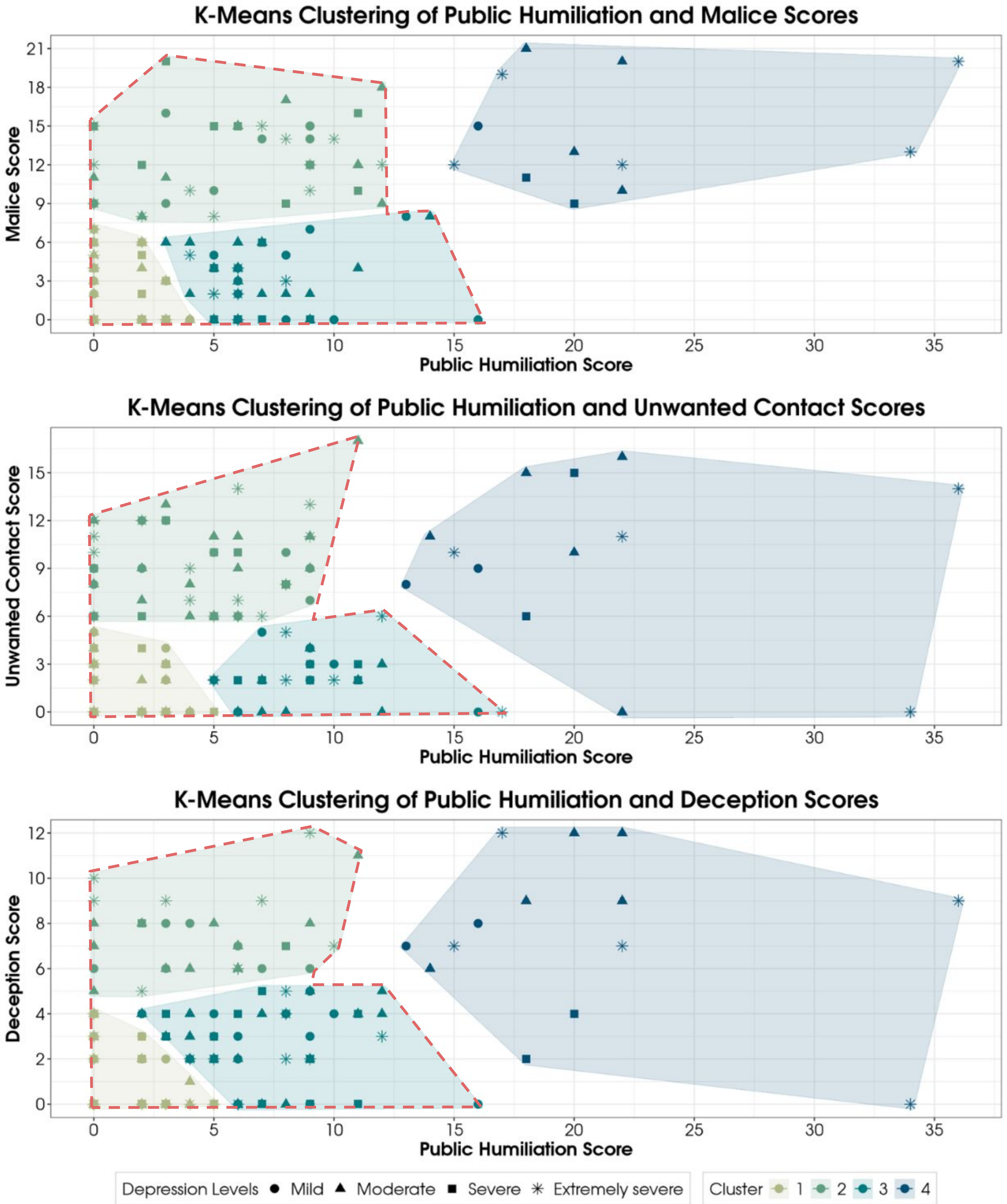




Figure 3

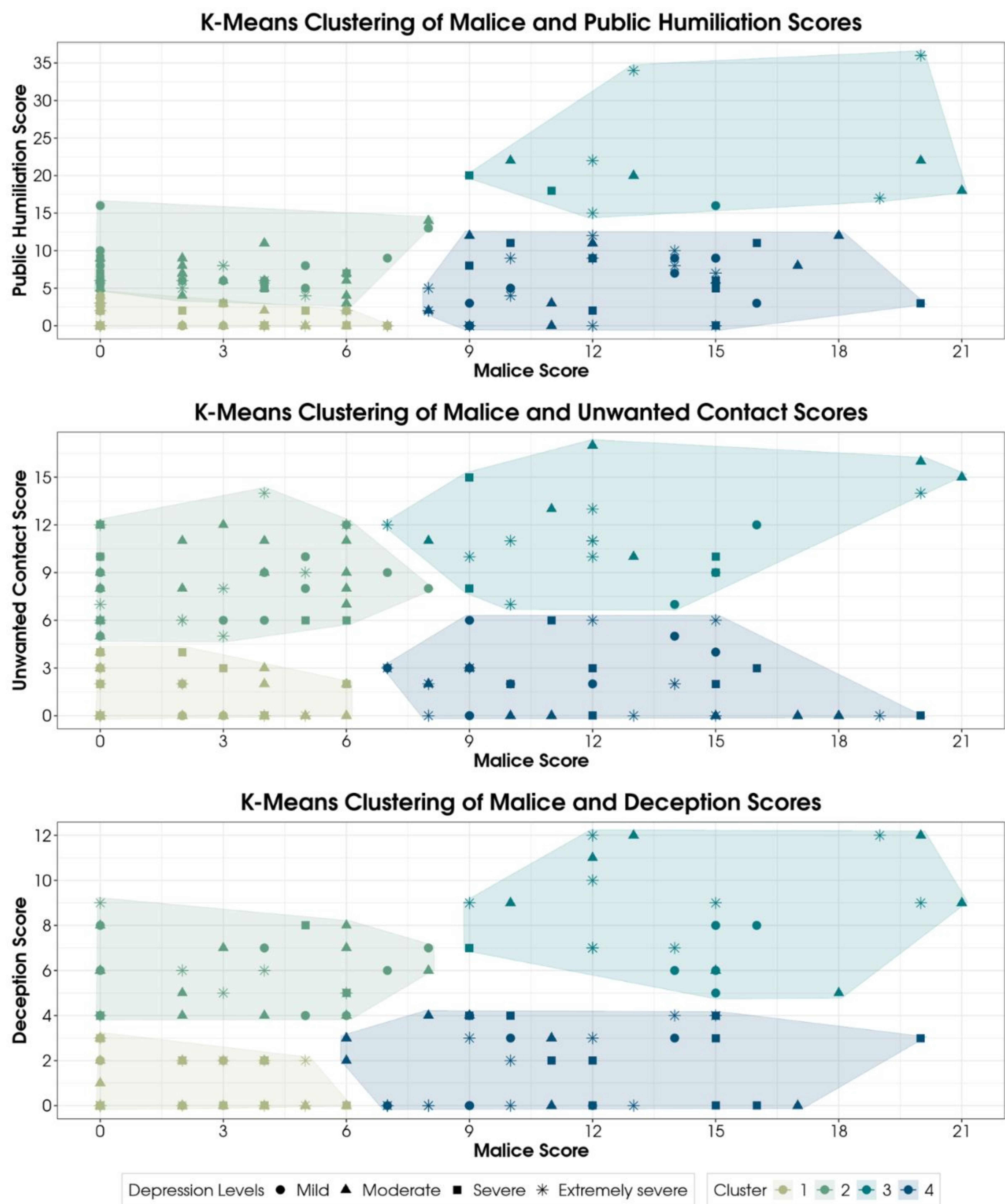
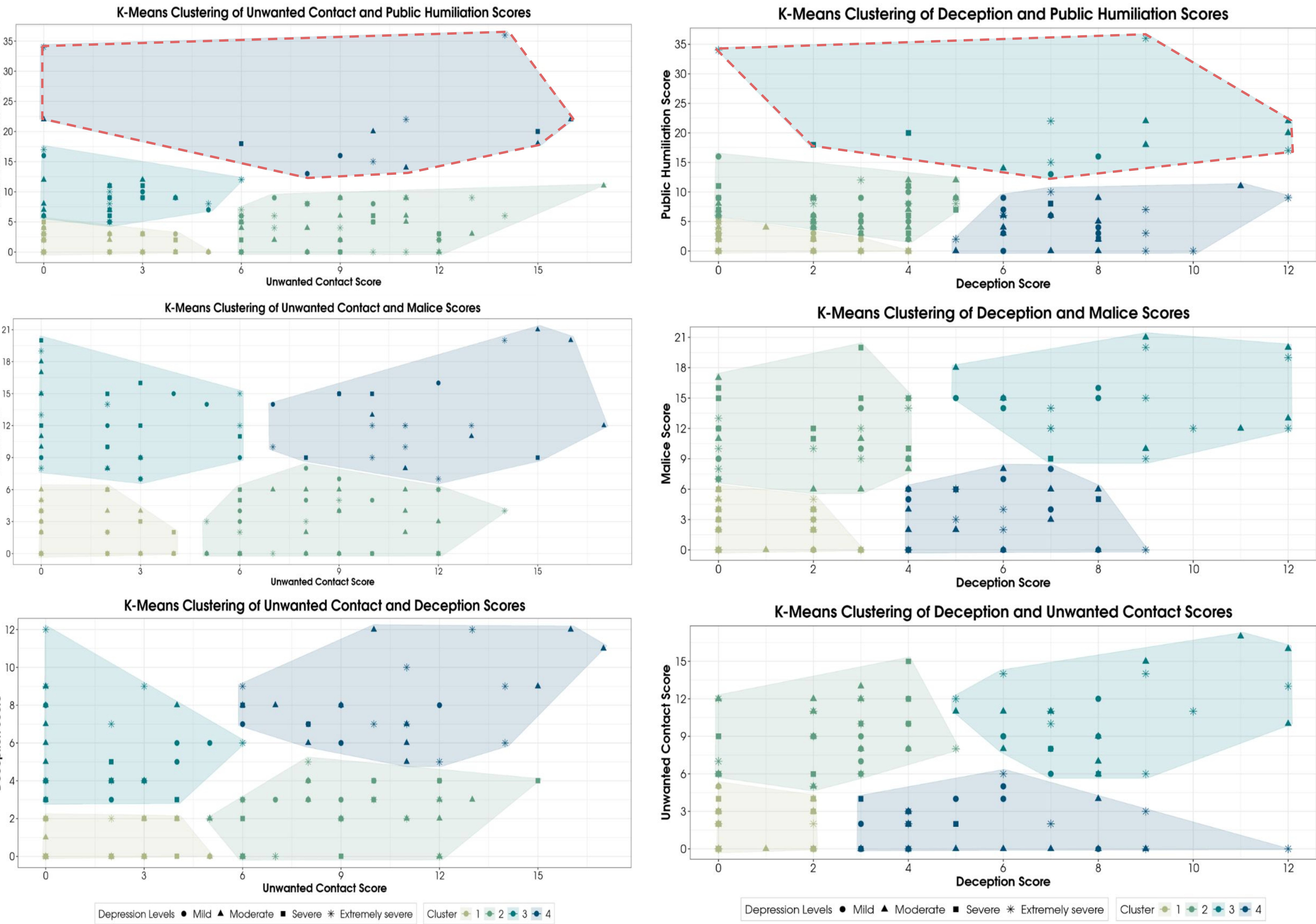




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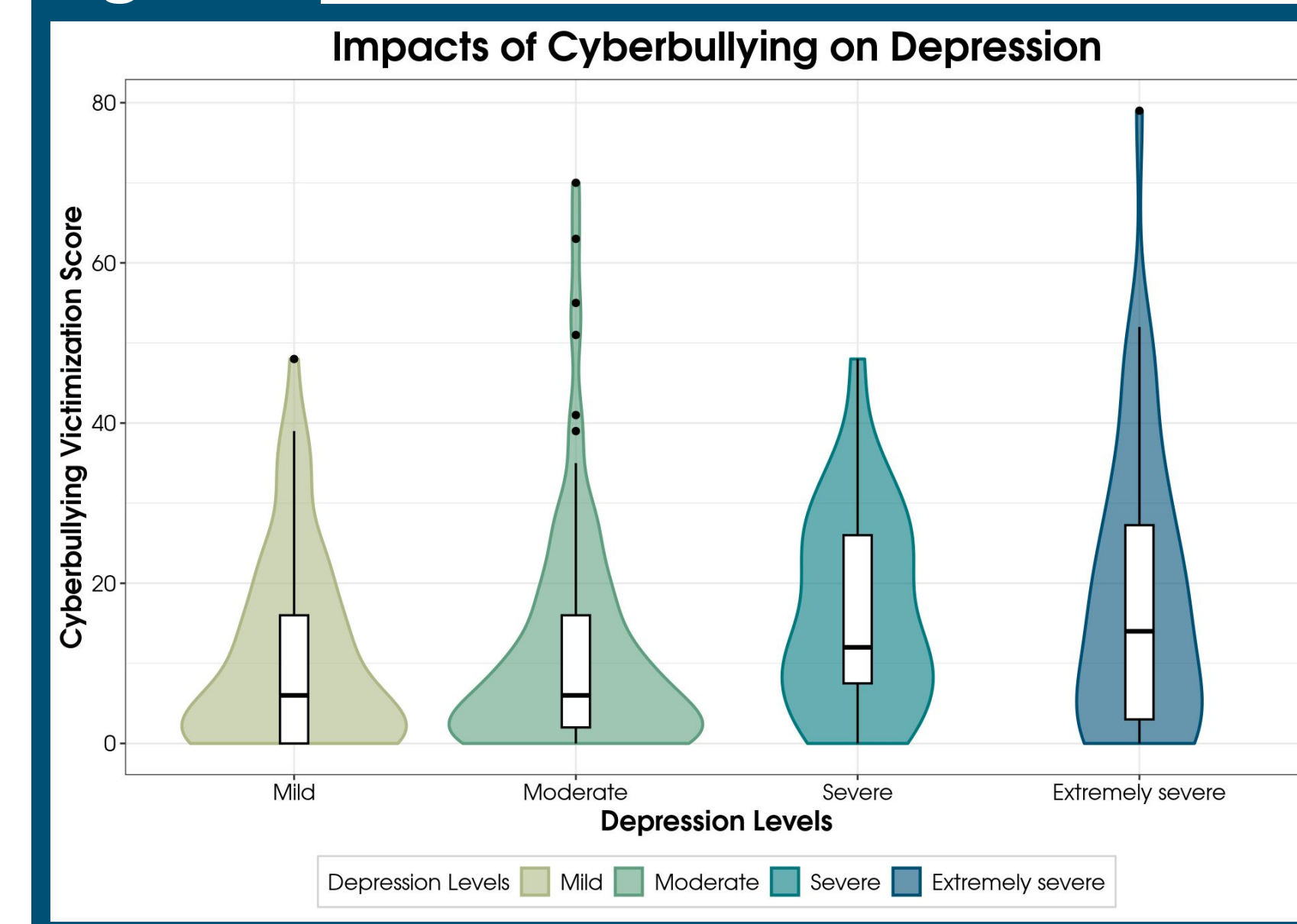
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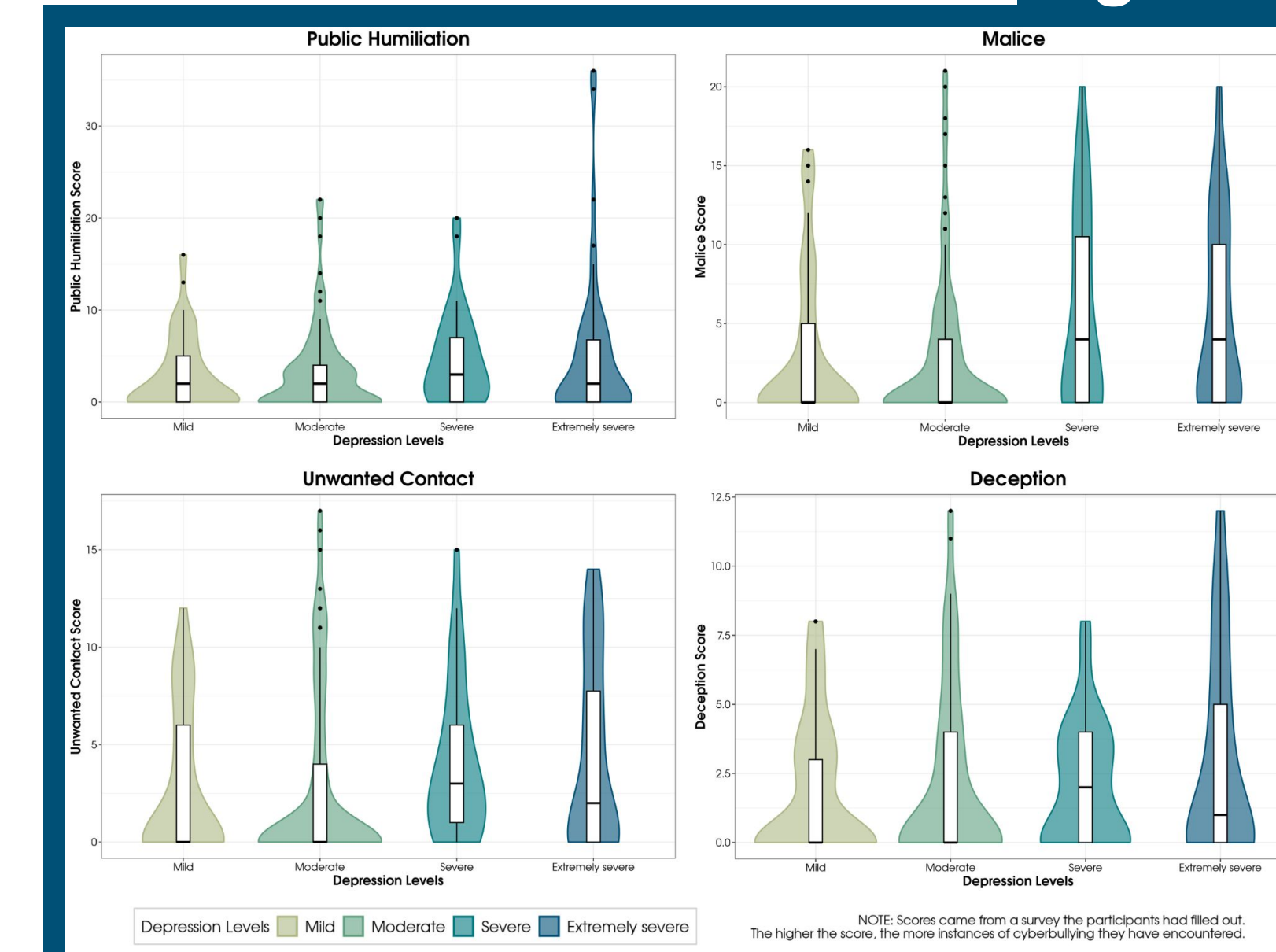
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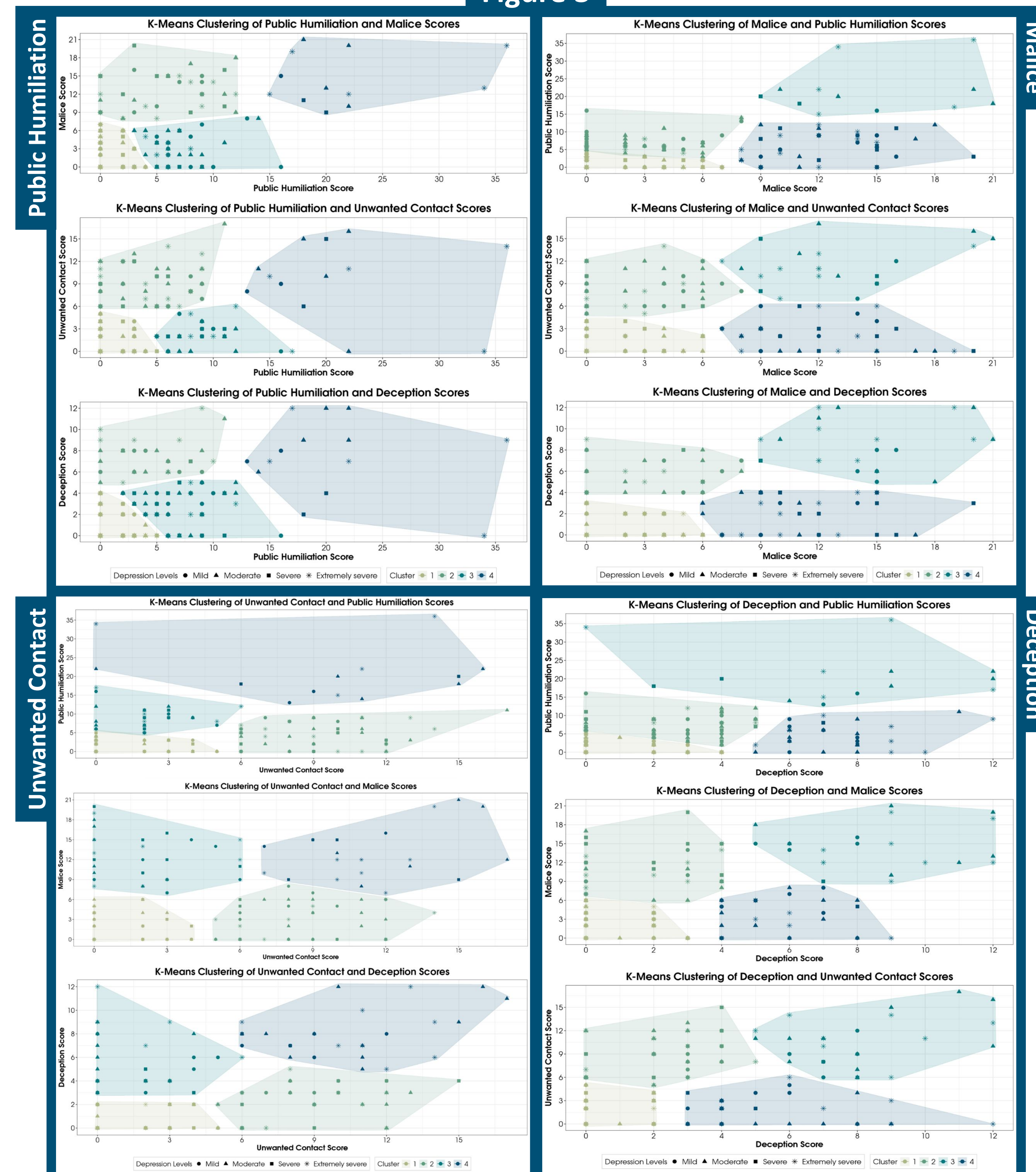
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