

Connection Between Public Speaking Anxiety and Heart Rate Intervals

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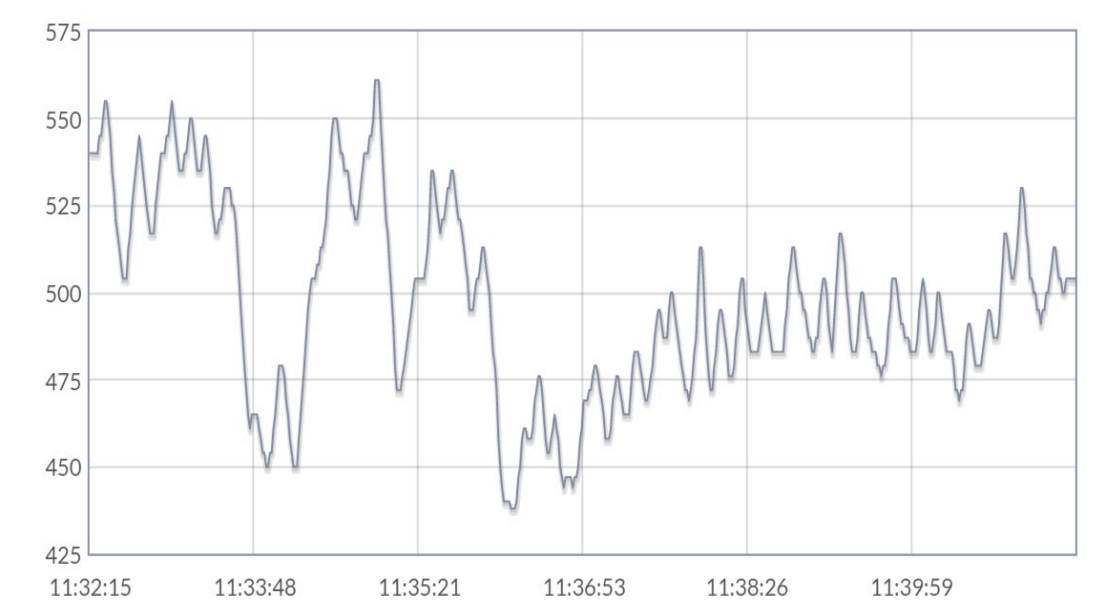
Overview

Public speaking has long been a key skill taught to students around the world, many who experience public speaking anxiety, a type of communication apprehension (Bodie, 2010). To better understand public speaking anxiety empirically, 120 students were asked to wear a wrist-based Rhythm+ heart rate monitor as they delivered their graded speeches: introductory, special occasion, informative, and persuasive. The video recording of their speeches was then matched to their heart rate variability (high RR indicates less stress, low RR indicates more stress (Friedman & Thayer, 1998)) to identify what the speaker was experiencing in context. 2,547 high stress moments were captured and analyzed.



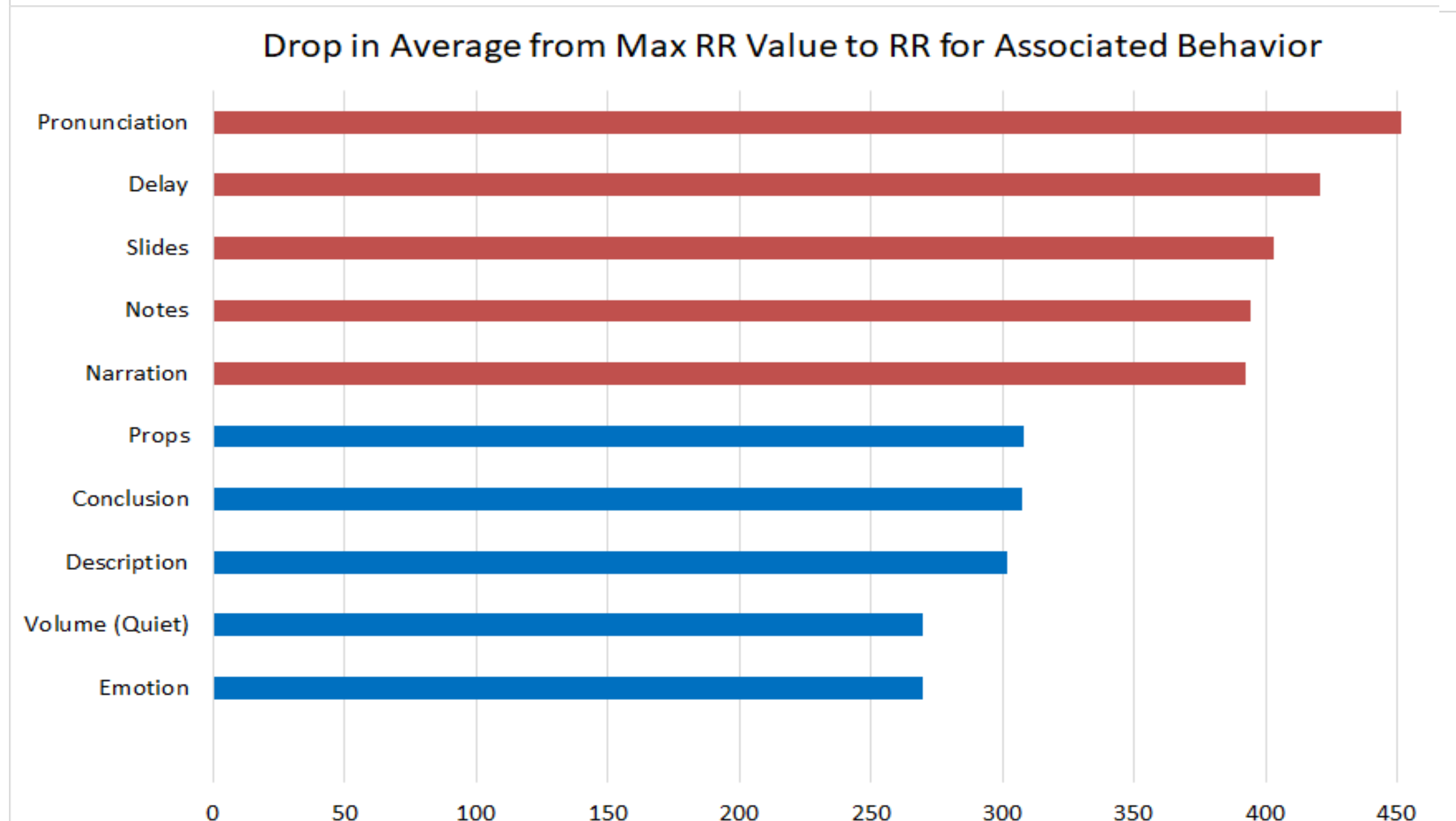
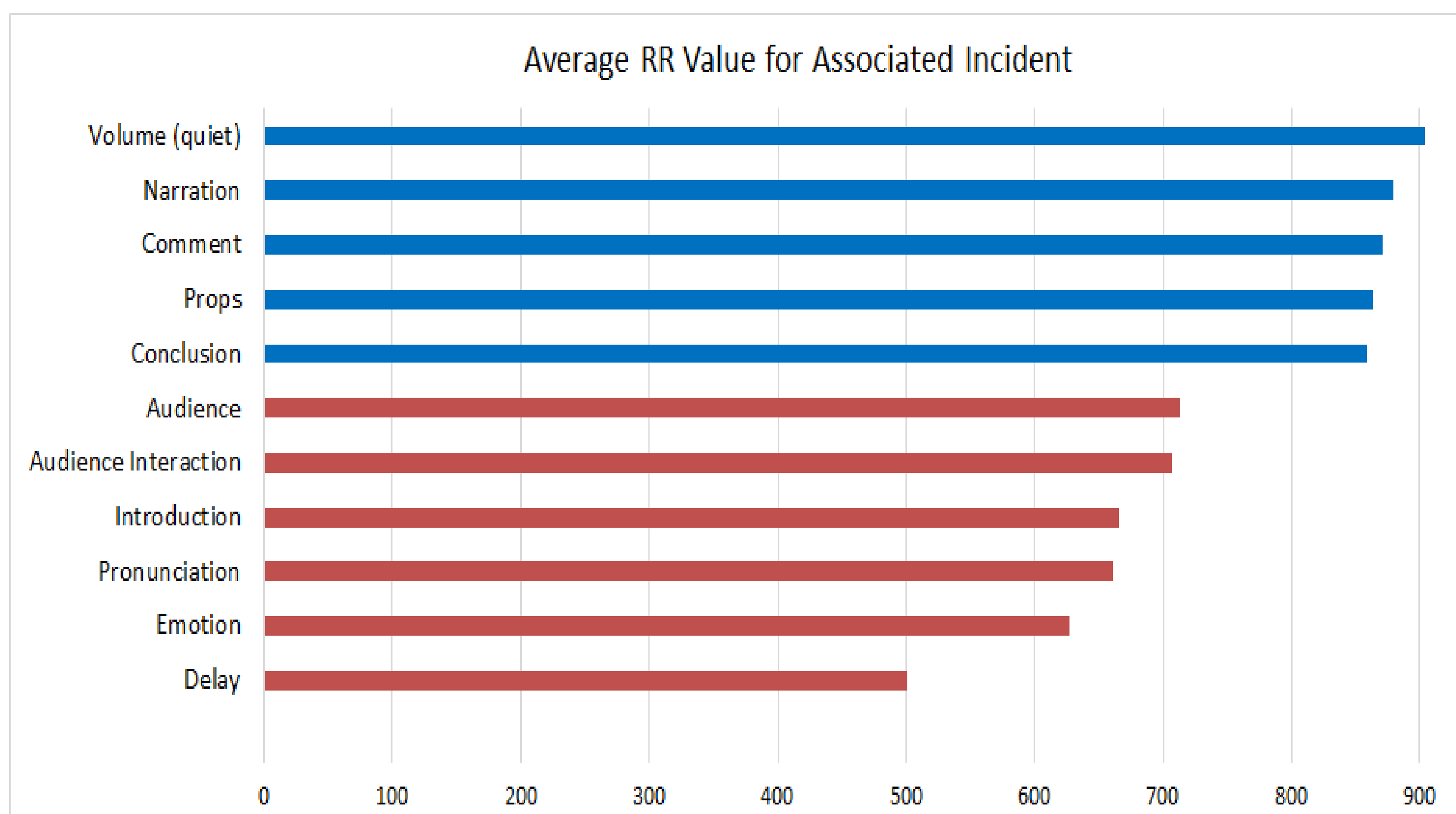
Key Findings

ANOVA tests revealed there was a difference in the drop rate for types of phenomena (e.g. more drastic change in physiological state). $F(27, 2520) = 1.896, p = .004$. There was a difference in the average RR rate between the different types of phenomena. $F(27, 2520) = 3.775, p < .001$. that students were most nervous during the introductory speech ($m = 679$) and least nervous during the informative speech ($m = 855$); $F(3, 2544) = 25.825, p < .001$. Students experienced the most stress during the persuasive speech ($m = 394$) compared to the informative ($m = 357$), special occasion ($m = 350$), and introductory speech ($m = 313$); $F(3, 2544) = 50.303, p < .001$.



Conclusions

The results show that the biggest overall contributors to public speaking apprehension include delays before speech start, emotion (i.e. talking about emotional topics), and pronunciation issues. Factors that cause the most drastic effects include pronunciation issues, delays prior to speech, as well as checking notes or using presentation slides. Speech type was influential as well. The results show that students were more nervous during introductory speeches and experienced the most drastic effects during persuasive speeches.



Action

Tips on how to combat communication apprehension factors include: avoiding delays before speech, practicing pronunciation, practicing speech with notes and slides, and including narratives that are not overly emotional.

References

- Bodie, G. D. (2010) A racing heart, rattling knees, and ruminative thoughts: Defining, explaining, and treating public speaking anxiety. *Communication Education, 59*(1), 70 – 105.
Friedman, B. H., & Thayer, J. F. (1998). Autonomic balance revisited: Panic anxiety and heart rate variability. *Journal of Psychosomatic Research, 44* (1), 133 – 151.

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