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Effect of Communication Ability on Cardiovascular Reactivity to a Speech Task

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Communication ability

- Communication ability may be an important variable in people's ability to cope with a stressor
- Appears to play a role in fostering social relationships, thus affecting social support (e.g., Sarason et al., 1985)



Cardiovascular reactivity

- CVR refers to variations in HR and BP in response to perceived stressful environmental situations
- There are individual differences in the amount of reactivity shown by different individuals in the same situation



CVR research

- A lot of research carried out in laboratories to examine what variables may moderate CVR to psychological stress
- Typically, stressors have been standardised to remove individual differences (Turner, 1994)



Speech tasks in CVR research

- Research has investigated various state-type variables in relation to speech tasks
- Speech tasks used without consideration for individual differences in communication style and competence (Hughes, 2001)



Communication ability and CVR

- Hughes (2001) conducted study to assess the possible stress buffering effect of CA on CVR under two stress conditions
- After task, completed CA questionnaire
- Found that high effective communicators showed reduced levels of HR reactivity to maths task



Present study

- Results of Hughes (2001) study suggest that CA may play some role in relationship between stressor and CVR, even when the stressor is non-speech based
- The aim of the present study to assess whether levels of CA would affect cardiovascular responses to a speech task



Method

- Design – 2 (high and low CA) x 3 (baseline, task, recovery) mixed design
- IV – Communication ability (effective and dominant)
- DVs – heart rate, systolic and diastolic blood pressure



Participants

- 56 female undergraduate psychology students
- Mean age 19.45 years (SD = 4.97)
- Exclusion criteria: oral contraceptive use, medication use, history of hypertension



Equipment

- McManus, Kidd, & Aldolous's (1997) re-standardised version of the Norton Communicator Style Questionnaire (Norton, 1978)
- 18 items, measures CA on three scales; Effective, Dominant, and Nonverbal
- Each measure highly reliable ($\alpha = .79$, $\alpha = .76$, $\alpha = .74$, respectively).



Equipment cont.

- Speech task based on the evaluative speaking task (Saab et al., 1989).
- Participants asked to prepare and deliver a speech about a hypothetical situation
- Tape recorder present, told the speech would be rated for style, content and articulation



Procedure

- Pre-screening based on administration of McManus et al.'s (1997) re-standardised version of the Norton Communicator Style Questionnaire
- Random selection of 98 from those that scored in 33rd and 66th percentiles



Main study procedure

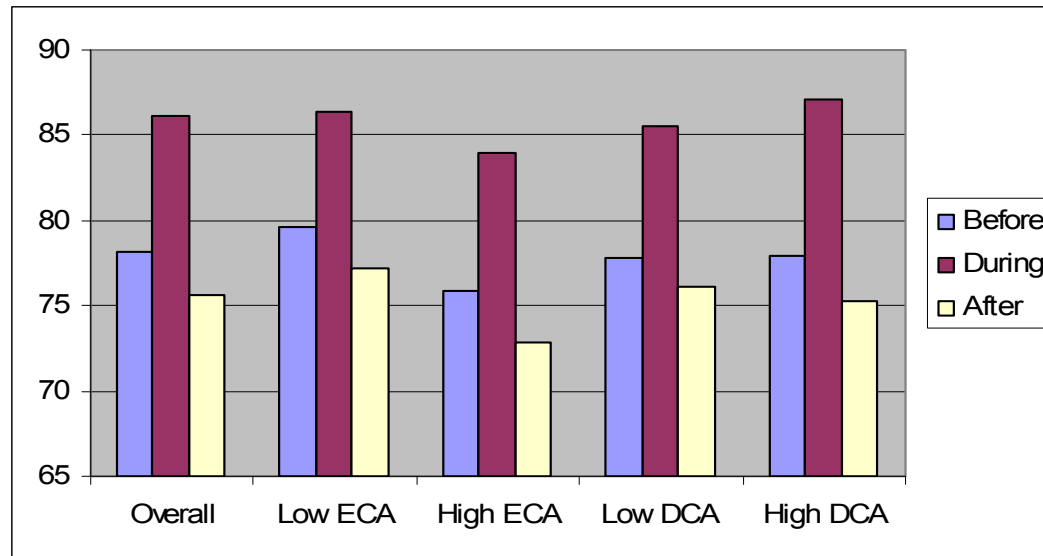
- Each participant tested individually
- Initial 10-minute resting period, CV measures taken at end of min 3, 6, 9.
- For pre-task period (5min), task period (5 min) and recovery period (5min) CV measures recorded at end of min 1, 2.5, and 4.



Results

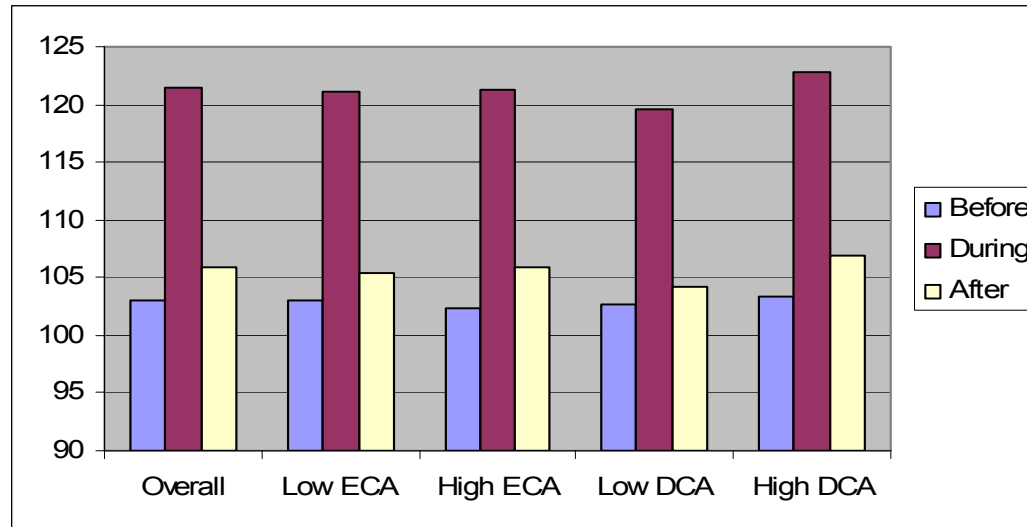
- A series of 2x3 mixed ANOVAs were carried out for ECA and DCA
- Range of ECA scores 9-23
- High ECA >16, Low ECA <14
- Range of DCA scores 8-22
- High DCA >17, Low DCA <13

Results – CA and HR



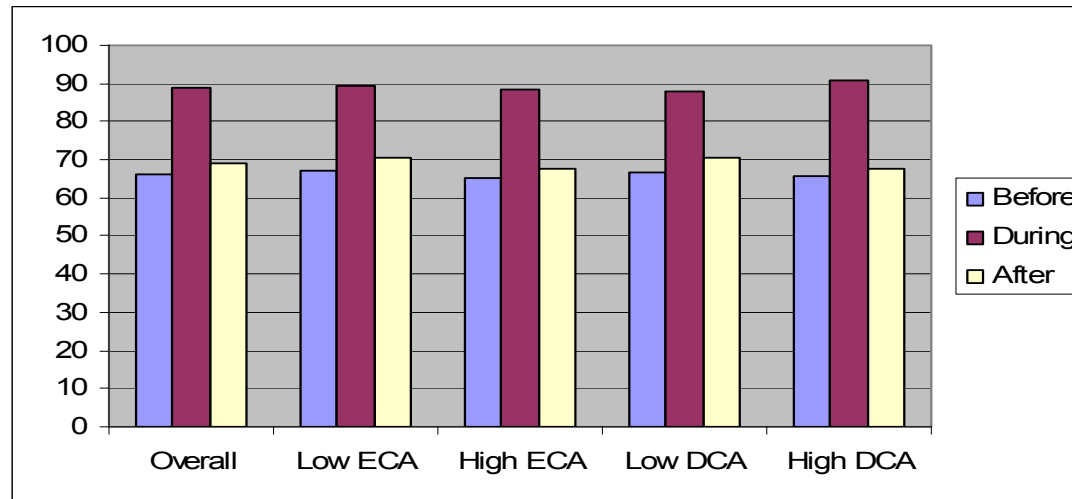
- Significant main effect for time, $F_{(1.40, 71.51)} = 25.08$, $p = .000$
- No significant interaction between time x ECA, $p = .708$ or between time x DCA, $p = .663$
- No significant mean differences between high and low ECA, $p = .170$, or between high and low DCA, $p = .918$

Results – CA and SBP



- Significant main effect for time, $F_{(1.45, 73.70)} = 100.08$, $p = .000$
- No significant interaction between time x ECA, $p = .892$, or between time x DCA, $p = .596$
- No significant differences between high and low ECA, $p = .951$, or between high and low DCA, $p = .313$

Results – CA and DBP



- Significant main effect for time, $F_{(1.36, 69.17)} = 126.34$, $p = .000$
- No significant interaction between time x ECA, $p = .759$, or between time x DCA, $p = .259$
- No significant differences between high and low ECA, $p = .323$, or between high and low DCA, $p = .885$



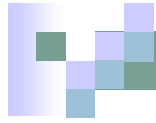
Summary

- Study conducted to assess whether CA would have a stress-buffering effect on CVR to a speech task
- Stressor successful in eliciting stress response
- No significant differences between levels of CA for CVR or CV recovery



Summary

- Degree of reactivity during speaking determined by a wide range of factors
- Differences diminished as a result of task engagement?
- Other possibilities:
extraversion/introversion, trait anxiety,
communication apprehension, evaluation
apprehension



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Ollscoil na hÉireann, Gaillimh

Thank You

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