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Constructing the Self:  
Conversations and Cardiovascular Reactivity

A thesis presented in partial fulfilment of the requirements for the degree of Doctor of Philosophy in Psychology at Massey University

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Abstract

This thesis develops a theory suggesting that the cardiovascular reactivity exhibited during language use is explicable in terms of self-construction processes. Social constructionist ideas regarding the constructive nature of language were drawn on to outline the ways in which individuals obtain and maintain a sense of self in conversations and other episodes of language use. Three factors regarding conversations were identified as central to self-construction processes, namely the context in which the conversation occurs, the content of the language used, and the resources the individual brings to any particular talking episode. This conceptual scheme was then used to interpret and integrate many diverse findings regarding cardiovascular reactivity, resting blood pressure and cardiovascular disease.

Based on this theoretical account, it was hypothesized that conversations about the self would be related to greater cardiovascular reactivity than conversations not focused on the self, and further, that conversations about private aspects of oneself would be related to greater cardiovascular reactivity than conversations about public aspects of oneself. The magnitude of differences in reactivity across the three conversations were expected to depend upon various resources the individual brought into the situation, especially their private and public self-consciousness, social competence, tendency to disclose, usual extent of conversations and their usual comfort felt during conversations. To test these hypotheses an experimental procedure was developed where participants had their blood pressure and heart rate monitored every minute (for approximately 35 minutes) by an automatic blood pressure monitor. During this time they were engaged in three conversations with the researcher about private self, public self, and non-self topics. This procedure was subsequently used on 102 women who, following the experiment, completed a questionnaire which included measures of the relevant individual resources.

Results showed that as predicted, blood pressure was most reactive when participants talked about aspects of their private self, and least reactive during non-self talk. Heart rate, however, was most reactive when participants talked about aspects of their public self. Of the individual resource variables, usual extent of conversations and usual comfort of conversations modified the differences in reactivity across the private self, public self and non-self talking conditions, both separately and in combination. Differences in diastolic blood pressure and mean arterial pressure reactivity across the
three conditions depended on both the usual extent individuals engaged in conversations and how comfortable they usually feel doing so. Unexpectedly, when these resources were considered, reactivity observed during public self talk was significantly different from reactivity observed during either private self or non-self talk.

Overall the results broadly supported the present self-construction account of cardiovascular reactivity during language use. They also highlighted the importance of conversational resources, most notably usual extent and comfort of conversations, in affecting cardiovascular reactivity during any specific conversation. The thesis concludes with some reflections on social constructionist ideas, the realist paradigm, and the nature of language in cardiovascular reactivity research.
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Finally, I would like to point out that any remaining errors are my own.
# Table of Contents

Abstract ........................................................................................................ ii
Acknowledgements ........................................................................................ iv
List of Appendices .......................................................................................... ix
List of Tables .................................................................................................. ix
List of Figures ................................................................................................ xi

**Introductory Overview**

1

**Chapter 1  Language and Self** 3

The Nature of Language .................................................................................. 4
The Nature of Self ............................................................................................ 6
The Changing Nature of Self in Western History ........................................ 7
The Cultural Nature of Self .......................................................................... 8
Self and Language ......................................................................................... 10
Constructing a Sense of Self in Conversation ............................................. 12
Language Content ......................................................................................... 15
Language Context ......................................................................................... 16
Speakers’ Differences .................................................................................. 19

**Chapter 2  Physiological Correlates of Self Construction Processes:** 23

Cardiovascular Reactivity During Language Use ......................................... 23
The Cardiovascular System and Cardiovascular Reactivity ........................ 24
Cardiovascular Reactivity during Language Use ......................................... 26
Self-Construction Processes ......................................................................... 29
Factors that Influence Cardiovascular Reactivity during Language Use .......... 30
Language Content ........................................................................................ 31
Context ........................................................................................................ 33
Transient Individual Factors ........................................................................ 35
Stable Individual Factors ............................................................................ 38
Evidence for Self-Construction Processes .................................................... 43
Engagement-Involveinent .............................................................................. 43
Self-Construction .......................................................................................... 45
Language Content ......................................................................................... 46
Language Context ........................................................................................ 47
Speakers’ Differences .................................................................................. 50
Chapter 3 The Reactivity Hypothesis, Resting Blood Pressure Levels and Cardiovascular Disease

Cardiovascular Disease and Hypertension ........................................... 54
The Reactivity Hypothesis ................................................................. 55
Evidence for Construction Processes ................................................... 58
Changes in Social Context ..................................................................... 58
  Migration ......................................................................................... 58
  Modernization ............................................................................... 60
  Life Events .................................................................................... 62
Social Networks and Support ............................................................... 64
Individual Resources ........................................................................... 69
  Personality ...................................................................................... 69
  Type A and Hostility ....................................................................... 72
  Self-Reference ............................................................................... 75
  Sex and Race ................................................................................ 76
Language and Health ........................................................................... 79

Chapter 4 Self Construction Processes and Cardiovascular Reactivity: A Theoretical Account

Summary of the Argument .................................................................... 83
Important Factors in Self-Construction Processes ................................. 85
  Conversation Context ...................................................................... 86
  Language Content .......................................................................... 87
Individual Resources ........................................................................... 88
  Self-Consciousness ....................................................................... 89
  Social Competence ....................................................................... 90
  Extent and Comfort of Conversing ............................................... 92
  Disclosure ....................................................................................... 93
  Combined Individual Resources .................................................... 95
Testing the Theory ................................................................................ 97
  The Laboratory Context .................................................................. 97
Hypotheses .......................................................................................... 98
  General Effect ............................................................................... 99
  Main Effect ................................................................................... 99
  First Order Interactions ............................................................... 99
  Second Order Interactions ............................................................ 100
  Third Order Interaction ............................................................... 100
Participants ........................................................................................ 100
Chapter 6 Continued

Results ...................................................... 133
Cardiovascular Variables ........................................ 133
Psychological, Age, Self-Reference and State Variables .......... 133
Validation of Language Content Manipulation .................... 134
Relationships Among and Between Psychological
and Age Variables with Cardiovascular Variables ............... 135
Differences in Cardiovascular Levels
Across Talking and Baseline Sections ................................ 136
Differences in Cardiovascular Reactivity Across Talking Conditions 137
Interaction Effects Between Talking Condition and
Psychological Variables on Cardiovascular Reactivity ........... 138
Analytic Strategy ............................................. 138
Lower-Order Interaction Analyses .................................. 139
Higher-Order Interaction Analyses .................................. 142

Chapter 7 Discussion: Conversation Content, Conversational
Resources and Cardiovascular Reactivity 147
Conversation Content ........................................... 147
Private Versus Public Self Talk .................................. 148
Self Versus Non-Self Talk ...................................... 149
Individual Resources ............................................. 150
Conversational Resources:
Usual Extent and Comfort of Conversations ........................ 150
The Nature of Public Self Talk ................................... 152
Private Self-Consciousness, Public Self-Consciousness,
Disclosure and Social Competence ................................ 155
Support for a Self-Construction
Account of Cardiovascular Reactivity? ............................ 155
The Present Study: Problems and Future Possibilities .......... 156

Chapter 8 Reflections 161
Social Constructionism ......................................... 161
The Nature of Cardiovascular Reactivity Language ............... 164
Language and Physiology ...................................... 165

References 168
List of Appendices

Appendix A Information Sheet, Letter to Participants and Consent Form ............ 190
Appendix B Instructions for Each Experimental Section ........................................... 193
Appendix C SPSS/PC Commands ................................................................. 194
Appendix D Blood Pressure and Language Questionnaire ................................. 196
Appendix E Paper Reporting the Development and Psychometric Properties
of the Speaking Extent and Comfort Scale (SPEACS) ....................... 204
Appendix F Correlations Between Psychological, Age and
Cardiovascular Variables ........................................................................ 213
Appendix G Results of Interaction Analyses ......................................................... 215
Appendix H Results of Multiple Regression Analyses ............................................. 217

List of Tables

Table 5.1 Univariate F-Values, Means and Standard Deviations
of Each Baseline Section for SBP, DBP, HR and MAP ................. 116
Table 5.2 Differences in Mean SBP, DBP, HR and MAP During
Spot the Difference and Resting Baseline Activities ................. 117
Table 5.3 Paired t-Values, Means and Standard Deviations of
Talking and Baseline Sections for SBP, DBP, HR and MAP .......... 118
Table 5.4 Univariate F-Values, Means and Standard Deviations
of Each Talking Section for SBP, DBP, HR and MAP ............... 118
Table 5.5 F-Values, Means and Standard Deviations of SBP, DBP,
HR and MAP Reactivity Across Three Talking Sections .................. 119
List of Tables

Table 5.6  Simple Contrasts of Talking Conditions on SBP, DBP, HR and MAP Reactivity ........................................... 119

Table 6.1  Correlations, Means and Standard Deviations Among Psychological and Age Variables ............................................. 135

Table 6.2  Means and Standard Deviations for Cardiovascular Levels Across Individual Baselines and Overall Baseline and Talking Sections ... 136

Table 6.3  Omnibus and Simple Contrast Univariate F-Values, Means and Standard Deviations for SBP, DBP, HR and MAP Levels Across Talking Conditions .......................................................... 137

Table 6.4  Omnibus and Simple Contrast Univariate F-Values, Means and Standard Deviations for SBP, DBP, HR and MAP Reactivity Across Talking Conditions .......................................................... 138

Table F.1  Correlations Between Psychological, Age and Cardiovascular Resting Level Variables ............................................. 213

Table F.2  Correlations Between Psychological, Age and Cardiovascular Reactivity Variables ..................................................... 214

Table G.1  Linear and Curvilinear Interaction Effect Results of Psychological Variable By Talking Condition on Cardiovascular Reactivity ............................................. 215

Table G.2  Linear and Curvilinear Interaction Effect Results of Combinations of Psychological Variables By Talking Condition on Cardiovascular Reactivity ............................................. 216

Table H.1  Multiple Regression Results Showing the Impact of Psychological Variables on Cardiovascular Reactivity Within Each Talking Condition ............................................. 217

Table H.2  Multiple Regression Results Showing the Combined Impact of Extent and Comfort of Talk on Cardiovascular Reactivity Within Each Talking Condition ............................................. 218
List of Figures

Figure 1 Regression Slopes Displaying the Impact of Usual Extent of Conversations on DBP Reactivity During Three Kinds of Talk .... 141

Figure 2 Regression Slopes Displaying the Impact of Usual Comfort Felt during Conversations on MAP Reactivity During Three Kinds of Talk ............................................ 141

Figure 3 Regression Slopes Displaying the Impact of Usual Comfort Felt during Conversations on MAP Reactivity During Three Kinds of Talk Among People with Low Levels of Conversation Extent ............................................ 143

Figure 4 Regression Slopes Displaying the Impact of Usual Comfort Felt during Conversations on MAP Reactivity During Three Kinds of Talk Among People with Medium Levels of Conversation Extent ............................................ 143

Figure 5 Regression Slopes Displaying the Impact of Usual Comfort Felt during Conversations on MAP Reactivity During Three Kinds of Talk Among People with High Levels of Conversation Extent ...... 143

Figure 6 Regression Slopes Displaying the Impact of Usual Comfort Felt during Conversations on DBP Reactivity During Three Kinds of Talk Among People with Low Levels of Conversation Extent ...... 145

Figure 7 Regression Slopes Displaying the Impact of Usual Comfort Felt during Conversations on DBP Reactivity During Three Kinds of Talk Among People with Medium Levels of Conversation Extent .... 145

Figure 8 Regression Slopes Displaying the Impact of Usual Comfort Felt during Conversations on DBP Reactivity During Three Kinds of Talk Among People with High Levels of Conversation Extent .... 145
A well-documented psychophysiological phenomenon has become apparent in the previous two decades. Researchers have consistently demonstrated that whenever a person speaks, whether in conversation or alone, the cardiovascular system increases in activity. Blood pressure and heart rate rise as soon as speech is initiated and remain at these higher levels until speech ceases, when they return quickly to their previous levels. However, this phenomenon is not well understood at present. Research shows that the cardiovascular activity is not due to the motor movements required to produce the speech sound. In fact, the same responses occur while deaf people communicate in sign language, and while people write. Why the cardiovascular system is so responsive to speech and communication is currently a matter for speculation.

The aim of my thesis is to focus on this puzzling phenomenon and to suggest a conceptual scheme that is able to integrate diverse empirical findings in the psychophysiological literature regarding cardiovascular changes during talk and communication. The conceptual scheme draws on social constructionist ideas to make sense of the phenomenon. It treats language use as the primary aspect of the physiological findings, and uses the constructionist notion that when people use language they are constructing a sense of self. The constructionist perspective (outlined in Chapter 1) helps to make sense of the cardiovascular reactivity phenomenon with the idea that self-construction processes during language use are reflected in cardiovascular activity. This perspective also makes sense of various empirical findings regarding cardiovascular reactivity, namely the diverse range of psychological and social factors that have been found to influence the extent of cardiovascular activation whenever a person speaks (Chapter 2). The proposed conceptual scheme also receives support through its ability to integrate some of the empirical findings regarding resting blood pressure levels and cardiovascular disease, as well as more general findings on health and illness (Chapter 3).
Overview

Following the conceptual outline and theoretical integration of physiological, psychophysiological and epidemiological findings, a number of hypotheses are derived from the theoretical framework. These are outlined and detailed, with theoretical and empirical justification (Chapter 4). The remainder of the thesis concerns the experimental test of these hypotheses.

Prior to carrying out the main study, a pilot study was undertaken to investigate various conceptual and practical issues regarding the research design, the experimental procedure and the measurement of cardiovascular reactivity. These issues are outlined and the method and results of the pilot study are provided and discussed (Chapter 5). The experimental test of the hypotheses derived from the present theoretical account is described, including its method and the results obtained (Chapter 6). These results are discussed in relation to the theoretical framework in Chapter 7, along with possible problems with the study and possibilities for future research. Finally, as this thesis drew on ideas from social constructionism yet tested these ideas in a realist paradigm, a number of issues are raised. These issues, as well as the nature of the current endeavour, are reflected on in the final chapter.