Intra-individual Communication Behaviour in Conflict Negotiations

Thesis submitted in accordance with the requirements of The University of Liverpool for the degree of Doctor in Philosophy by Paul Jonathon Taylor.

2014
Abstract

Intra-individual Communication Behaviour in Conflict Negotiations

This thesis examines the structure of interrelationships among communication behaviour in conflict negotiation and the dynamics that generate this organisation of behaviour. The first half of the thesis moves away from pursuing differences between negotiators on single variables or dimensions and returns to the basic goal of trying to map out the various ways a negotiator behaves over time. A facet analysis combined theoretical perspectives on message content and negotiator motivation to form a comprehensive model of the psychological variations in behaviour. This model was verified by separate analyses of the correlations among coded behaviours in three sets of conflict negotiations. At any one time, negotiators were found to assume either a withdrawn, highly emotional, or more rational approach (Avoidance, Distributive, Integrative) to pursuing one of three motivations (Identity, Instrumental, Relational) with varying intensity (Low to High intensity). Further analyses used the derived structure to show how previously unrelated findings of differences in behaviour use – across contexts and among individuals – are actually parts of a common, systematic pattern of variations. Differences across context were characterised by systematic shifts in the focus on behaviour use and predictable variations in the discreteness versus generality of behaviours’ function. Differences in role among negotiators were characterised by stable but discriminative patterns of behaviour use, which when compared across negotiators with different roles revealed organised differences in the consistency with which they pursued particular strategies.
The second half of the thesis explored the factors that influence and give rise to the dynamic interrelationships among behaviours over time. Analyses showed that negotiators used only a small proportion of available responses to other party’s behaviour, and that this proportion rapidly decreased as sequence length increased. Critical to this channelling in behaviour was the triple-interact (i.e., cue-response-cue-response), which represents the sequence length required to enable accurate prediction of negotiators’ future behaviour. More detailed analysis showed that the triple-interact reduced uncertainty in behaviour by over 70%, which compares to less than 1% from knowledge of negotiation context and approximately 10% from knowledge of individual differences. In terms of its purpose, the triple-interact was found to organise the development of interaction in four generic ways (Reiterate, Reorient, Reframe, Restructure). The relative occurrence of these four types was found to be stable over a wide range of different conflicts, but their behavioural content was shown to differ systematically over time and across successful and unsuccessful outcomes. Furthermore, consistency in intra-individual behaviour across situations was not contingent on situation-specific conditional responses (Shoda, Mischel, & Wright, 1994) but on consistent responses to sequences of behaviour irrespective of other situational factors.

The thesis concludes by making an initial attempt to explore empirically how the conceptual structure of behaviour found in Part 1 relates to the dynamic pattern of cue-response sequences examined in Part 2. A new association coefficient was developed that measures the psychological similarity of behaviours on the basis of their distribution within a sequence. Results of an analysis using the measure corresponded with predictions from the model developed in Part 1, thereby providing some early evidence of how the overall structure of conflict negotiation emerges from complex and dynamic patterns of behaviours.
Acknowledgements

I’d like to thank far too many people than is possible in this space. Those nearby have made for an interesting Ph.D. life, while those far away have been all too tolerant of me always being busy. So, just a few examples:

I owe a lot to sharing an office with Craig Bennell, Andreas Mokros, Brent Snook, and (corridor with) Louise Porter, who have each spent long hours sharing their understanding of psychology and generally putting up with me. If social psychology has a future, these guys are it.

I’m still amazed at the kindness of Randy Rogan and Bill Donohue, who have allowed me access to data and given me opportunities to collaborate on publications as though I was doing them a favour!

I admire and am indebted to Adrian West for his kindness, belief, and ability to move seamlessly from academic to practice in a way that opened my eyes to what was important and what was academic dross.

A special thanks to Ian for being on my side. An apt memory of Ian’s supervision is his refusing to let me look at other Ph.D. in case they influenced the way I developed mine. Oh, God, Ian, look what I ended up with!

And, of course, Mum and Dad, to whom I owe far more than a thesis dedication.
## Contents

**ABSTRACT** 2  
**ACKNOWLEDGEMENTS** 4  
**CONTENTS** 5  
**LIST OF FIGURES** 9  
**LIST OF TABLES** 12  
**CHAPTER 1  INTRODUCTION** 14  
**CHAPTER 2  CONFLICT NEGOTIATIONS AND MEASURING COMMUNICATION BEHAVIOURS** 20  
  
### 2.1  The Conflict Negotiation Data 21  
  2.1.1  Actual hostage negotiations 21  
  2.1.2  Simulated hostage negotiations 22  
  2.1.3  Divorce mediations 24  
### 2.2  Transcript Coding Procedure 29  
  2.2.1  Partitioning of the transcripts 31  
  2.2.2  Unitising the transcripts 34  
  2.2.3  Content analysis of the transcripts 36  
  2.2.4  Characteristics of the Data Sets 44  
### 2.3  Reliability and Validity Check using Language Models 46  
  2.3.1  Previous language modelling research 47  
  2.3.2  Data and Method 50  
  2.3.3  Results and Discussion 54  
### 2.4  Conclusions 55  
  
**CHAPTER 3  A CYLINDRICAL MODEL OF COMMUNICATION BEHAVIOUR IN CONFLICT NEGOTIATION** 59  
### 3.1  Differentiating Forms of Negotiation Behaviour 62  
  3.1.1  Levels of negotiation behaviour 62  
  3.1.2  Motivational emphases of negotiation behaviour 64  
  3.1.3  Intensity of negotiation behaviour 69  
### 3.2  Defining a Testable Model of Communication Behaviour 71  
  3.2.1  Hypothesis 1: Levels of interaction 72  
  3.2.2  Hypothesis 2: Motivational variations in behaviour 72  
  3.2.3  Hypothesis 3: Variations in intensity 73  
### 3.3  A Cylindrical Model of Communication Behaviour in Conflict Negotiation 74  
### 3.4  A Test of the Cylinder Model of Communication Behaviour 75  
  3.4.1  Method and analysis 75  
  3.4.2  Evidence for the three facets of communication behaviour 78  
### 3.5  A Cylindrical Model of Conflict Communication 88  
  3.5.1  Avoidance level of interaction 89  
  3.5.2  Distributive level of interaction 91  
  3.5.3  Integrative level of interaction 94  
### 3.6  Discussion 96  
### 3.7  Conclusions 100  
**CHAPTER 4  EFFECTS OF CONTEXT ON THE STRUCTURE OF COMMUNICATION BEHAVIOUR** 102
## Contents

### 4.1 Cylindrical Model of Communication Behaviour

<table>
<thead>
<tr>
<th>Sections</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.1.1 Variations in behaviour use</td>
<td>104</td>
</tr>
<tr>
<td>4.1.2 Consistency in the function of behaviour</td>
<td>109</td>
</tr>
</tbody>
</table>

### 4.2 Comparisons across Simulated and Actual Conflict Negotiations

<table>
<thead>
<tr>
<th>Sections</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.2.1 Variations in behaviour use</td>
<td>110</td>
</tr>
<tr>
<td>4.2.2 Consistency in the function of behaviour</td>
<td>113</td>
</tr>
</tbody>
</table>

### 4.3 A Test of the Cylinder Model of Communication Behaviour

<table>
<thead>
<tr>
<th>Sections</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.3.1 Method and analysis</td>
<td>116</td>
</tr>
<tr>
<td>4.3.2 Evidence for the three facets of communication behaviour</td>
<td>119</td>
</tr>
</tbody>
</table>

### 4.4 Comparisons across Simulated and Actual Negotiations

<table>
<thead>
<tr>
<th>Sections</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.4.1 Method and analysis</td>
<td>123</td>
</tr>
<tr>
<td>4.4.2 Variation in the frequency of behavioural use</td>
<td>124</td>
</tr>
<tr>
<td>4.4.3 Consistency in the function of behaviour use</td>
<td>127</td>
</tr>
</tbody>
</table>

### 4.5 Discussion

<table>
<thead>
<tr>
<th>Sections</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.5.1 A Cylindrical model of communication behaviour</td>
<td>130</td>
</tr>
<tr>
<td>4.5.2 Behaviour use in actual and simulated negotiations</td>
<td>131</td>
</tr>
<tr>
<td>4.5.3 Consistency in behavioural function</td>
<td>133</td>
</tr>
</tbody>
</table>

### 4.6 Conclusions

<table>
<thead>
<tr>
<th>Sections</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.6.1 Replication of the cylinder model</td>
<td>135</td>
</tr>
<tr>
<td>4.6.2 Individual behavioural profiles and role differences</td>
<td>137</td>
</tr>
<tr>
<td>4.6.3 Relationship between the frequency and consistency of use</td>
<td>139</td>
</tr>
</tbody>
</table>

### 5.1 The Cylinder Model of Differences in Negotiator’s Behaviour

<table>
<thead>
<tr>
<th>Sections</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.1.1 Method and analysis</td>
<td>140</td>
</tr>
<tr>
<td>5.1.2 Results and discussion</td>
<td>141</td>
</tr>
</tbody>
</table>

### 5.2 Predicting Behaviour Preference from Negotiator Role

<table>
<thead>
<tr>
<th>Sections</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.2.1 Method and analysis</td>
<td>150</td>
</tr>
<tr>
<td>5.2.2 Results and discussion</td>
<td>155</td>
</tr>
</tbody>
</table>

### 5.3 Conclusion

<table>
<thead>
<tr>
<th>Sections</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.3.1 Replication of the cylinder model</td>
<td>172</td>
</tr>
<tr>
<td>5.3.2 Individual behavioural profiles and role differences</td>
<td>173</td>
</tr>
<tr>
<td>5.3.3 Relationship between the frequency and consistency of use</td>
<td>174</td>
</tr>
</tbody>
</table>

### 5.4 Conclusion

<table>
<thead>
<tr>
<th>Sections</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.4.1 Replication of the cylinder model</td>
<td>175</td>
</tr>
<tr>
<td>5.4.2 Individual behavioural profiles and role differences</td>
<td>176</td>
</tr>
<tr>
<td>5.4.3 Relationship between the frequency and consistency of use</td>
<td>177</td>
</tr>
</tbody>
</table>

### 5.5 Method and Analysis

<table>
<thead>
<tr>
<th>Sections</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.5.1 Conflict negotiation sample</td>
<td>178</td>
</tr>
<tr>
<td>5.5.2 Analysis of sequences</td>
<td>179</td>
</tr>
</tbody>
</table>

### 5.6 Results

<table>
<thead>
<tr>
<th>Sections</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.6.1 Hypothesis 1: Canalising of behaviour</td>
<td>180</td>
</tr>
<tr>
<td>5.6.2 Hypothesis 2: The extent of constraint</td>
<td>181</td>
</tr>
<tr>
<td>5.6.3 Hypotheses 3: The contribution of disposition and situation factors</td>
<td>182</td>
</tr>
<tr>
<td>5.6.4 Hypothesis 4: The relative value of previous behaviour, disposition and situation</td>
<td>183</td>
</tr>
</tbody>
</table>

### 5.7 Discussion

<table>
<thead>
<tr>
<th>Sections</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.7.1 Replication of the cylinder model</td>
<td>184</td>
</tr>
<tr>
<td>5.7.2 Individual behavioural profiles and role differences</td>
<td>185</td>
</tr>
<tr>
<td>5.7.3 Relationship between the frequency and consistency of use</td>
<td>186</td>
</tr>
</tbody>
</table>

### 5.8 Conclusions

<table>
<thead>
<tr>
<th>Sections</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.8.1 Replication of the cylinder model</td>
<td>187</td>
</tr>
<tr>
<td>5.8.2 Individual behavioural profiles and role differences</td>
<td>188</td>
</tr>
<tr>
<td>5.8.3 Relationship between the frequency and consistency of use</td>
<td>189</td>
</tr>
</tbody>
</table>

### 6.1 The Organisation of Interaction Sequences

<table>
<thead>
<tr>
<th>Sections</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.1.1 Method and analysis</td>
<td>180</td>
</tr>
<tr>
<td>6.1.2 Results and discussion</td>
<td>181</td>
</tr>
</tbody>
</table>

### 6.2 The Extent of Constraint

<table>
<thead>
<tr>
<th>Sections</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.2.1 Method and analysis</td>
<td>182</td>
</tr>
<tr>
<td>6.2.2 Results and discussion</td>
<td>183</td>
</tr>
</tbody>
</table>

### 6.3 The Role of Dispositions and Situations

<table>
<thead>
<tr>
<th>Sections</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.3.1 Method and analysis</td>
<td>184</td>
</tr>
<tr>
<td>6.3.2 Results and discussion</td>
<td>185</td>
</tr>
</tbody>
</table>

### 6.4 The Relative Value of Previous Behaviour, Disposition and Situation

<table>
<thead>
<tr>
<th>Sections</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.4.1 Method and analysis</td>
<td>186</td>
</tr>
<tr>
<td>6.4.2 Results and discussion</td>
<td>187</td>
</tr>
</tbody>
</table>

### 6.5 Method and Analysis

<table>
<thead>
<tr>
<th>Sections</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.5.1 Conflict negotiation sample</td>
<td>188</td>
</tr>
<tr>
<td>6.5.2 Analysis of sequences</td>
<td>189</td>
</tr>
</tbody>
</table>

### 6.6 Results

<table>
<thead>
<tr>
<th>Sections</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.6.1 Hypothesis 1: Canalising of behaviour</td>
<td>190</td>
</tr>
<tr>
<td>6.6.2 Hypothesis 2: The extent of constraint</td>
<td>191</td>
</tr>
<tr>
<td>6.6.3 Hypotheses 3: The contribution of disposition and situation factors</td>
<td>192</td>
</tr>
<tr>
<td>6.6.4 Hypothesis 4: The relative value of previous behaviour, disposition and situation</td>
<td>193</td>
</tr>
</tbody>
</table>

### 6.7 Discussion

<table>
<thead>
<tr>
<th>Sections</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.7.1 Replication of the cylinder model</td>
<td>194</td>
</tr>
<tr>
<td>6.7.2 Individual behavioural profiles and role differences</td>
<td>195</td>
</tr>
<tr>
<td>6.7.3 Relationship between the frequency and consistency of use</td>
<td>196</td>
</tr>
</tbody>
</table>

### 6.8 Conclusions

<table>
<thead>
<tr>
<th>Sections</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.8.1 Replication of the cylinder model</td>
<td>197</td>
</tr>
<tr>
<td>6.8.2 Individual behavioural profiles and role differences</td>
<td>198</td>
</tr>
<tr>
<td>6.8.3 Relationship between the frequency and consistency of use</td>
<td>199</td>
</tr>
</tbody>
</table>

### 7.1 The Triple-Interact as an Organising Unit

<table>
<thead>
<tr>
<th>Sections</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.1.1 Method and analysis</td>
<td>200</td>
</tr>
<tr>
<td>7.1.2 Results and discussion</td>
<td>201</td>
</tr>
</tbody>
</table>

### 7.2 Discussion

<table>
<thead>
<tr>
<th>Sections</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.2.1 Replication of the cylinder model</td>
<td>202</td>
</tr>
<tr>
<td>7.2.2 Individual behavioural profiles and role differences</td>
<td>203</td>
</tr>
<tr>
<td>7.2.3 Relationship between the frequency and consistency of use</td>
<td>204</td>
</tr>
</tbody>
</table>

### 7.3 Conclusions

<table>
<thead>
<tr>
<th>Sections</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.3.1 Replication of the cylinder model</td>
<td>205</td>
</tr>
<tr>
<td>7.3.2 Individual behavioural profiles and role differences</td>
<td>206</td>
</tr>
<tr>
<td>7.3.3 Relationship between the frequency and consistency of use</td>
<td>207</td>
</tr>
</tbody>
</table>

### 8.1 The Triple-Interact as an Organising Unit

<table>
<thead>
<tr>
<th>Sections</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.1.1 Method and analysis</td>
<td>208</td>
</tr>
<tr>
<td>8.1.2 Results and discussion</td>
<td>209</td>
</tr>
</tbody>
</table>

### 8.2 Discussion

<table>
<thead>
<tr>
<th>Sections</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.2.1 Replication of the cylinder model</td>
<td>210</td>
</tr>
<tr>
<td>8.2.2 Individual behavioural profiles and role differences</td>
<td>211</td>
</tr>
<tr>
<td>8.2.3 Relationship between the frequency and consistency of use</td>
<td>212</td>
</tr>
</tbody>
</table>

### 8.3 Conclusions

<table>
<thead>
<tr>
<th>Sections</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.3.1 Replication of the cylinder model</td>
<td>213</td>
</tr>
<tr>
<td>8.3.2 Individual behavioural profiles and role differences</td>
<td>214</td>
</tr>
<tr>
<td>8.3.3 Relationship between the frequency and consistency of use</td>
<td>215</td>
</tr>
</tbody>
</table>
7.2 The Types of Triple-Interact
   7.2.1 Frequency of Occurrence of the Triple-Interacts
   7.2.2 Variations in the Triple interact across Outcome and Time

7.3 The Behavioural Content of the Triple-interact
   7.3.1 Differences in behavioural orientation
   7.3.2 Differences in behavioural orientation over time
   7.3.3 Differences in behavioural motivation

7.4 Method and Analysis
   7.4.1 Sequence data
   7.4.2 Classification of Outcome

7.5 Results and Discussion
   7.5.1 Hypothesis 1: Occurrence of four types of triple-interact
   7.5.2 Hypothesis 2: Frequency of occurrence
   7.5.3 Hypotheses 3: Frequency across outcome and time
   7.5.4 Hypotheses 4: Differences in behavioural orientation
   7.5.5 Hypotheses 5: Differences in behavioural orientation over time
   7.5.6 Hypotheses 6: Outcome and the behavioural motivation of triple-interacts

7.6 Discussion
   7.6.1 The Types of triple-interact
   7.6.2 The behavioural content of the triple-interact

7.7 Conclusions

CHAPTER 8 THE TRIPLE-INTERACT AS A LOCUS OF CONSISTENCY IN INTRA-INDIVIDUAL BEHAVIOUR

8.1 Explaining Behavioural Consistency: The Consistency Paradox
   8.1.1 The conditional account of consistency
   8.1.2 The interact account of consistency

8.2 Relative predictions

8.3 Method and Analysis
   8.3.1 Negotiation data
   8.3.2 Transcript coding procedure
   8.3.3 Conditional probabilities of behaviour
   8.3.4 Assessing the stability of negotiator behaviour

8.4 Results

8.5 Discussion

8.6 Conclusions

CHAPTER 9 TOWARD A UNIFIED ANALYSIS OF THE ORGANISATION OF COMMUNICATION BEHAVIOUR

9.1 Background and Significance

9.2 The Concept of Proximity

9.3 The First (Artificial) Numerical Example

9.4 Second (Real-World) Illustrative Example
   9.4.1 Method and analysis
   9.4.2 Results and discussion
   9.4.3 Testing the cylinder model of communication behaviour
   9.4.4 Comparisons across sequences

9.5 The Algebraic Structure of the Proximity Coefficient
   9.5.1 Algebraic notation
   9.5.2 The coefficient of proximity

9.6 Discussion
9.6.1 Extensions of proximity coefficients 292
9.6.2 Extensions in analytical techniques 293
9.6.3 Relationships with other techniques 294

9.7 Conclusion 297

CHAPTER 10 SUMMARY AND GENERAL CONCLUSIONS 298

10.1 The Structure of Communication Behaviour 299
10.2 The Organisation of Communication Behaviour 302
10.3 Proximity as the Connection between Communication Structure and Organisation 304
10.4 Future Research 305
  10.4.1 Structure of communication behaviour 305
  10.4.2 Further research on the organisation of communication behaviour 307

10.5 User Group Application 309

REFERENCES 313

APPENDIX 344
List of Figures

*Figure 1-1.* Outline of Thesis

*Figure 3-1.* Schematic representation of the proposed cylindrical structure of negotiation behaviour.

*Figure 3-2.* Dimensions 1 and 2 of a smallest space analysis of negotiation behaviour from 189 episodes of interaction. Coefficient of alienation = 0.20 in 22 iterations.

*Figure 3-3.* Smallest space analysis of negotiation behaviour across 189 interaction stages with regional interpretations showing Avoidance, Distributive and Integrative levels of interaction.

*Figure 3-4.* Smallest space analysis of negotiation behaviour across 189 interaction stages with regional interpretations showing Identity, Instrumental, and Relational motivational themes.

*Figure 3-5.* Dimensions 2 and 3 of the SSA-I configuration showing the motivation facet, and the modulating intensity facet. The configuration is divided into the Avoidance (bottom), Distributive (middle) and Integrative (top) level of interaction.

*Figure 3-6.* Smallest space analysis of negotiation behaviour across 189 interaction stages overlaid with a graphical illustration of the hypothesised cylindrical structure.

*Figure 4-1.* Mapping sentence and schematic representation of the cylindrical structure of negotiation behaviour.

*Figure 4-2.* Dimensions 1 and 2 of a smallest space analysis of behaviour from 108 interaction episodes, with regional interpretations showing the Avoidance, Distributive and Integrative levels of interaction. Coefficient of alienation = 0.22 in 21 iterations.

*Figure 4-3.* Dimensions 2 and 3 of the SSA-I configuration showing the motivation facet, and the modulating intensity facet. The configuration is divided into the Avoidance (bottom), Distributive (middle) and Integrative (top) level of interaction.

*Figure 4-4.* Dimensions 2 and 3 of the SSA-I configuration showing, for each behaviour, the proportion of occurrence in actual negotiations minus the proportion of occurrence in simulated negotiations. The configuration is divided into the Avoidance (bottom), Distributive (middle) and Integrative (top) level of interaction.
**Figure 4-5.** Dimensions 2 and 3 of the SSA-I configuration showing, for each behaviour, the degree of functional distinction (decimal point omitted). The configuration is divided into the Avoidance (bottom), Distributive (middle) and Integrative (top) level of interaction. .................................................................................................................... 129

**Figure 5-1.** Dimensions 1 and 2 of a Smallest Space Analysis of negotiation behaviour from interaction episodes. Coefficient of alienation = .19 in 18 iterations .......... 142

**Figure 5-2.** Dimensions 1 and 2 of the SSA-I solution with regional interpretations showing Avoidance, Distributive, and Integrative levels of interaction. ....................... 143

**Figure 5-3.** Dimensions 2 and 3 of the SSA-I configuration showing the motivation facet and the modulating intensity facet. The configuration is divided into the Avoidance (bottom), Distributive (middle) and Integrative (top) level of interaction.......146

**Figure 5-4.** Potential ways in which a negotiator can use behaviour over time. zFreq = Standardised frequency of occurrence. zCV = Standardised Coefficient of Variation........................................................................................................ 151

**Figure 5-5.** Dimensions 2 and 3 of the SSA-I configuration showing the intra-individual behavioural profile of Husband A. Parentheses show (zFreq / zCV) .................. 160

**Figure 5-6.** Dimensions 2 and 3 of the SSA-I configuration showing the intra-individual behavioural profile of Husband B. Parentheses show (zFreq / zCV) .................. 161

**Figure 5-7.** Dimensions 2 and 3 of the SSA-I configuration showing the intra-individual behavioural profile of Wife C. Parentheses show (zFreq / zCV) .................. 163

**Figure 5-8.** Dimensions 2 and 3 of the SSA-I configuration showing the intra-individual behavioural profile of Wife D. Parentheses show (zFreq / zCV) .................. 164

**Figure 5-9.** Scatter-plot crossing mean Z-score of frequency with the mean Z-score of coefficient of variation for husbands’ behaviour. r = -.64, p < .01 ................. 169

**Figure 5-10.** Scatter-plot crossing mean Z-score of frequency with the mean Z-score of coefficient of variation for mediators’ behaviour. r = -.79, p < .01 ......................... 170

**Figure 5-11.** Scatter-plot crossing mean Z-score of frequency with the mean Z-score of coefficient of variation for wife’s behaviour. r = -.70, p < .01 ......................... 171

**Figure 6-1.** Mean proportion of different sequences used relative to different sequences possible as a function of sequence length ......................................................................................... 194
FIGURE 6-2. NUMBER OF DIFFERENT EXITS USED ACROSS SPEAKERS AS A FUNCTION OF SEQUENCE LENGTH.......................................................................................................................... 196

FIGURE 6-3. UNCERTAINTY (H) AND AMOUNT OF INFORMATION (PREDICTABILITY) ADDED AS A FUNCTION OF SEQUENCE LENGTH.......................................................................................................................... 201

FIGURE 9-1. DIAGRAM SHOWING THE GENERAL RESEARCH FRAMEWORK AND THE METHODS ADOPTED BY THE PROJECT TO MOVE THROUGH THE FRAMEWORK.............................................................. 267

FIGURE 9-2. MAPPING SENTENCE AND SCHEMATIC REPRESENTATION OF THE CYLINDRICAL STRUCTURE OF NEGOTIATION BEHAVIOUR........................................................................................................ 276

FIGURE 9-3. DIMENSIONS 1 AND 2 OF A SMALLEST SPACE ANALYSIS OF NEGOTIATION BEHAVIOUR ACROSS 21 INTERACTION SEQUENCES. COEFFICIENT OF ALIENATION = 0.23 IN 26 ITERATIONS.............. 279

FIGURE 9-4. DIMENSIONS 1 AND 2 OF THE SSA-I CONFIGURATION WITH REGIONAL INTERPRETATIONS SHOWING AVOIDANCE, DISTRIBUTIVE AND INTEGRATIVE LEVELS OF INTERACTION......... 281

FIGURE 9-5. DIMENSIONS 2 AND 3 OF THE SSA-I CONFIGURATION SHOWING THE MOTIVATION FACET, AND THE MODULATING INTENSITY FACET. THE CONFIGURATION IS DIVIDED INTO THE AVOIDANCE (BOTTOM), DISTRIBUTIVE (MIDDLE) AND INTEGRATIVE (TOP) LEVEL OF INTERACTION........ 282

FIGURE 9-6. DIMENSIONS 1 AND 2 OF A SMALLEST SPACE ANALYSIS OF INTER-BEHAVIOUR PROXIMITY MATRICES FOR 21 INTERACTION SEQUENCES, WITH REGIONAL INTERPRETATIONS SHOWING CRIMINAL, DOMESTIC, AND POLITICAL INCIDENTS. THE DOTTED-LINE DIVIDES ACTUAL HOSTAGE CRISSES FROM THE MAJORITY OF SIMULATED HOSTAGE CRISSES. COEFFICIENT OF ALIENATION = .18 IN 14 ITERATIONS........................................................................................................................................... 285
List of Tables

TABLE 2-1. SUMMARY OF ACTUAL HOSTAGE NEGOTIATION SCENARIO AND LENGTH IN THOUGHT UNITS AS A FUNCTION OF SPEAKER. ........................................................................................................... 23

TABLE 2-2. SUMMARY OF SIMULATED HOSTAGE NEGOTIATION SCENARIO AND LENGTH IN THOUGHT UNITS AS A FUNCTION OF SPEAKER. ........................................................................................................... 24

TABLE 2-3. SUMMARY OF DIVORCE MEDIATION SESSIONS AND LENGTH IN THOUGHT UNITS AS A FUNCTION OF SPEAKER. ........................................................................................................... 25

TABLE 2-4. DEFINITIONS OF CODING VARIABLES FOR COMMUNICATION BEHAVIOUR DERIVED FROM CONTENT ANALYSIS OF CONFLICT NEGOTIATION TRANSCRIPTS. THE VARIABLES ARE LISTED BY THE LEVEL OF INTERACTION TO WHICH THEY WERE ASSIGNED AS A RESULT OF THE SSA-I ANALYSES (SEE CHAPTERS 3 TO 5), AND NOT FROM ANY A PRIORI CATEGORISATION. VARIABLES WERE CODED AS PRESENT IF THE BEHAVIOUR WAS COMMUNICATED DURING INTERACTION. ........................................................................................................... 38

TABLE 2-5. DESCENDING FREQUENCY OF OCCURRENCE OF 41 COMMUNICATION BEHAVIOURS ACROSS THE THREE DATA SETS. PERCENTAGE OF OCCURRENCE IS GIVEN IN PARENTHESES.................. 45

TABLE 2-6. FREQUENCY OF CODES, WORDS AND THOUGHT UNITS IN THE TRAINING DATA AND TEST DATA..... 51

TABLE 4-1. PREDICTED CORRESPONDENCES BETWEEN THE CYLINDER MODEL AND 37 COMMUNICATION BEHAVIOURS ........................................................................................................... 107

TABLE 4-2. CORRELATIONS BETWEEN PREDICTED BEHAVIOURAL INTENSITY RANKS AND DISTANCE AWAY FROM THE CENTRAL INTERSECTION OF THE MOTIVATIONAL FACET AS A FUNCTION OF LEVEL OF INTERACTION. ........................................................................................................... 123

TABLE 4-3 CORRELATIONS BETWEEN FUNCTIONAL DISTINCTION AND DISTANCE AWAY FROM THE INTERSECTION OF THE MOTIVATIONAL FACET, AS A FUNCTION OF THE LEVEL OF INTERACTION ............................ 130

TABLE 5-1. PREDICTED CORRESPONDENCE BETWEEN THE CYLINDER MODEL AND 41 COMMUNICATION BEHAVIOURS. BEHAVIOUR LABELS ARE DEFINED IN TABLE 2-4............................................. 141

TABLE 5-2. MEAN CORRELATIONS AMONG STANDARDISED FREQUENCIES OF OCCURRENCE AND COEFFICIENTS OF VARIATION AS A FUNCTION OF NEGOTIATOR ROLE. ............................................................................ 167

TABLE 6-1. CODING CATEGORIES TOGETHER WITH EXAMPLES. ......................................................................................... 189

TABLE 6-2. UNCERTAINTY VALUES AND CONTRIBUTIONS TO PREDICTING CUE BEHAVIOUR FOR PAST BEHAVIOURS, CONTEXT, NEGOTIATOR ROLE, AND SPEAKER. ............................................................................. 199
TABLE 6-3. UNCERTAINTY VALUES AND CONTRIBUTIONS TO PREDICTING RESPONSE BEHAVIOUR FOR PAST

BEHAVIOURS, CONTEXT, NEGOTIATOR ROLE, AND SPEAKER. ......................................................200

TABLE 7-1. UNCERTAINTY VALUES AND CONTRIBUTIONS TO PREDICTING CUE BEHAVIOUR FOR PAST

BEHAVIOURS, CONTEXT, NEGOTIATOR ROLE, AND SPEAKER. ......................................................228

TABLE 7-2. PROPORTIONS OF TRIPLE-INTERACTS SERVING THE FOUR FUNCTIONS AS A FUNCTION OF

TRANSCRIPT TYPE. RANK ORDERS OF PROPORTIONS FOR EACH CASE ARE GIVEN IN PARENTHESES. ........230

TABLE 7-3. RELATIVE CONTRIBUTIONS OF BEHAVIOURS TO THE DEVELOPMENT OF UNSUCCESSFUL

NEGOTIATIONS WITH THE MOST FREQUENT EXITS AS A FUNCTION OF TIME PERIOD. .....................234

TABLE 7-4. RELATIVE CONTRIBUTIONS OF BEHAVIOURS TO INTERACTION DEVELOPMENT OF SUCCESSFUL

NEGOTIATIONS WITH THE MOST FREQUENT EXITS AS A FUNCTION OF TIME PERIOD. .....................235

TABLE 8-1. MEAN STABILITY OF INTRA-INDIVIDUAL SITUATION-BEHAVIOUR PROFILES ACROSS NEGOTIATIONS

AND ACROSS BEHAVIOURAL SEQUENCES. ......................................................................................259

TABLE 8-2. MEAN CONSISTENCY CORRELATIONS CALCULATED WITHIN THE SAME NEGOTIATION AND ACROSS

DIFFERENT NEGOTIATIONS. ............................................................................................................261

TABLE 9-1. AN EXAMPLE OF THREE EVENT SEQUENCES AND THEIR RESULTING PROXIMITY-DISTANCE

COEFFICIENT MATRICES. ................................................................................................................272

TABLE 9-2. PREDICTED CORRESPONDENCES BETWEEN THE CYLINDER MODEL AND 37 COMMUNICATION

BEHAVIOURS. BEHAVIOUR LABELS ARE DEFINED IN TABLE 2-4..................................................277
A basic premise of social psychology is that negotiators select the messages they communicate over an interaction and that these differences reflect the unique motivations, goals, and interpersonal tendencies of the speaker. Nevertheless, while psychologists have a wealth of knowledge about the cognitive biases, situational factors, and personality traits that affect negotiators’ behaviour, most would become troubled when asked to define the constructs that underlie behaviour itself. This is because most existing research has focused on differences between negotiators (e.g., prosocial versus proself, face attacking versus face defending, U.S. versus Japanese). Far less attention has been given to *intra-individual* dynamics, the complex and systematic ways in which a negotiator uses different behaviours to pursue different goals at different times (Donohue, 1978; Taylor, 2002a). Taking a lead from personality psychology (Shoda & Mischel, 1996), this thesis moves away from pursuing differences between negotiators on single variables or dimensions and returns to the basic goal of trying to understand the functioning and dynamics behind a single negotiator’s behaviour.

There are several reasons to believe that examining intra-individual behaviour is as important as identifying differences among negotiators. For example, a theory of content is necessary to understand the processes that give rise to the observed differences among conditions, or explain why there often remains variance in performance within identical negotiating contexts (Olekalns, 1994; 1997). A second reason is that crossing levels of person with levels of environments, an essential part of studies analysing differences between speakers, does not often occur in actual negotiations. Outside the psychological laboratory, negotiators rarely have the opportunity to select the person,
context, or knowledge with which they will negotiate, but they do have the opportunity to select the behavioural strategies that they will pursue. However, perhaps the most compelling reason for focusing on content is that studying differences across negotiators does not typically capture the complex and dynamic interactions that most psychologists view as central to mixed-motive negotiation. These dynamics are captured by studying the changing content of negotiators’ behaviour, providing researchers with a means of exploring how negotiators use various types of communication to pursue their complex and often contradictory goals.

Efforts to understand the complex behavioural processes that drive conflict originate from one of two perspectives. Most research has focused on the interpersonal dimensions that characterise negotiation and how changes in these dynamics allow an interaction to unfold. Constructs such as facework, affiliation, interdependence, and behavioural intensity have each been shown to play a role in the progress of negotiations (Donohue & Hoobler, 2002; Rogan & Hammer, 1994; Taylor, 2002a) and the outcome that is achieved (Olekalns, Smith, & Kibby, 1996; Taylor, 2002b). A second approach to understanding conflict is to look for consistent patterns in the sequences of actions that underlie and give rise to the patterns found at the conceptual level. Although several researchers have discussed this process in relation to negotiation (Putnam, 1985), evidence of the behavioural sequences that actually shape interaction is only beginning to emerge (Olekalns & Smith, 2003; Weingart, Prietula, Hyder, & Genovese, 1999). The global constructs that structure behaviour and the local dynamics that organise cues and responses are intimately connected, reflecting two sides of the same process rather than different aspects of negotiation that can be studied independently. The organisation of local behavioural responses lead to the interpersonal dynamics observed over conceptual dimensions, while, at the same time, variations in cues and responses must in some way
be organised around the dimensions that structure the negotiation process. Thus, to
derive a balanced understanding of intra-individual behaviour, the thesis must investigate
both of these perspectives, and ultimately seek to provide a unifying theoretical account.

Figure 1-1 outlines the structure of this thesis. While each Chapter leads naturally
to the next, Chapter 2 also leads fairly naturally to Chapters 6, 7, and 8, as indicated in
Figure 1-1. This division reflects the thesis’s intent to study both the (global) structure
and (local) organisation of negotiator’s communication behaviour. As the common
ancestor to these two sets of analyses, Chapter 2 will derive data of communication
behaviour that is independent of any particular theoretical perspective and so suitable for
investigating the relations among underlying constructs. Anchored in the relevant
perspective, both sets of Chapters will then develop theory, test related predictions, and
look for systematic differences in the use of behaviour across contexts and speakers.

The first half of this thesis (Chapters 3, 4, and 5) will address the question: what
are the various psychological functions played by communication behaviour during
negotiation? Chapter 3 will use a facet approach to integrate theoretical perspectives on
message content and negotiator motivation into a comprehensive model of the
psychological variations in communication behaviour. Chapters 3, 4 and 5 will then test
this model of intra-individual behaviour in coded data from three different sets of
conflict negotiation. In testing the model, Chapters 4 and 5 will also examine how intra-
individual behaviour is influenced by differences in negotiation context and individual
dispositions. Specifically, Chapter 4 will consider the affect of context on the behaviours
negotiators use and the purposes or functions these behaviours serve. To complete the
picture, Chapter 5 will analyse the affect of one individual difference – negotiator role –
on the consistency and diversity with which negotiators’ draw upon different kinds of
behaviour.
The second half of the thesis (Chapters 6, 7, and 8) addresses the question: what factors influence and give rise to the various types of behaviour observed over time? These Chapters aim to examine the same aspects of negotiation as considered in Chapters 3 to 5, but at the local level of cue-response sequences. Specifically, Chapter 6 will map out the foundations of a sequence-based account and test the possibility that local cues and responses constrain negotiators’ behaviour in consistent and organised ways. To understand further this organisation process, Chapter 7 will identify the various types of sequences that occur over time and examine how these types form “local-context” or “moves” (Kelley, 1997) that allow negotiators to pursue their complex and often contradictory goals their goals. The possibility that negotiators behaviour is organised as stable responses to sequences of previous messages, rather than the traditionally accepted situation-specific tendencies (Shoda & Mischel, 1996), is considered by Chapter 8.

Finally, in Chapter 9, as a first step in developing an empirical method for uniting the study of behaviour structure and organisation, a new association coefficient is presented that measures the psychological similarity of behaviours on the basis of their
distribution within a sequence. An analysis using this coefficient is then compared to the findings of previous Chapters to provide some early evidence of how complex and dynamic patterns of behaviour produce the stable organisation of dialogue. The outcome ultimately sought, therefore, is a unified scheme for understanding how a negotiator organises his or her cues and responses, and how this behaviour structures the conflict negotiation process.

As shown by the outline in Figure 1-1, the thesis’s structure is different to convention, with a Chapter on data appearing before presentation of theory and hypotheses. This approach recognises the fact that the measurement of communication behaviour employed in this thesis (content analysis) necessarily carries with it a perspective on the function and meaning of dialogue (Lombard, Snyder-Duch, & Bracken, 2002). This perspective shapes the way theory is interpreted, the types of analyses that can be conducted, and the conclusions that can be made. Thus, for the investigations in this thesis, data and theory are integrated in a way that makes it advantageous to be clear upfront about the underlying approach to conceptualising communication behaviour, prior to testing theories about intra-individual dynamics. In short, by beginning with a presentation of the conceptual approach to measuring communication behaviour, the thesis aims to provide a context within which subsequent theoretical developments and analyses can be understood.
Chapter 2
Conflict Negotiations and Measuring Communication Behaviours

Overview

This Chapter presents the method used to change negotiation transcripts into the quantitative data that is analysed in subsequent Chapters. The Chapter argues that an investigation of the underlying structure and organisation of dialogue requires an objective measurement of actual behaviour as distinct from measurement based on a particular theory of interpersonal dynamics. The Chapter introduces three data sets (hostage negotiation, simulated hostage negotiation, and divorce mediations) and moves systematically through a method designed to achieve such an objective measurement. At each stage, the results of applying the method are presented for the three data sets, and the reliability of this measurement tested using conventional techniques. The reliability and validity of the coding is also tested through a language model that used lexical and collocation cues to automatically assign behavioural codes.
Chapter 2

Conflict Negotiations and Measuring Communication Behaviours

Research examining any aspect of communication behaviour must first provide a framework for measuring the phenomenon in which it is interested. This framework is an integral part of hypothesis and theory development, since the way in which behaviour is represented shapes the type of analyses that may be conducted and the sorts of conclusions that can be drawn (Guttman, 1971). The effect of the chosen framework is especially great in communication research, because the field’s preferred method of measurement, content analysis, necessarily carries with it a perspective on the function and meaning of dialogue (Lombard, Snyder-Duch, & Bracken, 2002). Because this perspective affects what is possible in the thesis, this Chapter reports the rationale and results of a framework that is aimed specifically at capturing the intra-individual dynamics of communication behaviour. The goal is to give an upfront and detailed account of how the thesis conceptualised behaviour in a way that would not have been possible if aspects of the coding were integrated into subsequent Chapters. More importantly, introducing the data together enables the Chapter to demonstrate the comparability of the various data sets and show how each contains behavioural dynamics typical of conflict negotiations.

The Chapter presents the coding procedure in three stages. Section 2.1 introduces the three types of negotiation transcripts used to generate the data of the thesis. Section 2.2 presents the rationale for the coding approach, moves step-by-step through the method used to measure communication behaviour, and tests the reliability of this measurement at each stage. Finally, Section 2.3 uses language modelling to test whether
or not the data is a valid and reliable representation of the similarities and differences in negotiators’ communication behaviour.

2.1 The Conflict Negotiation Data

The data were audiotaped material from three types of conflict: actual hostage negotiations, police-simulated hostage negotiations, and divorce mediations. These data were selected in response to the recent appeals by government authorities for knowledge of the psychological and communication processes involved in conflict (Giebels, 1999; Justice, 1993; Tondo, Coronel, & Drucker, 2001). While conflicts simulated by students would provide a larger set of material to examine, the focus here was on professional negotiators because they are likely to have internalised expectations, experiences and social identities that differ significantly from those of students (Donohue & Taylor, 2003). Such interpersonal backgrounds, combined with consequential outcomes and perhaps a significant history of interaction with the other party, are likely to lead to set of intra-individual dynamics that differ from those that would emerge during student role-plays. Accordingly, to respond effectively to the appeals for social scientific knowledge, it was considered appropriate to rely on smaller data sets that more accurately reflected the dynamics of conflict.

2.1.1 Actual hostage negotiations

The hostage negotiation data were detailed chronological transcripts of negotiations across nine real hostage incidents, collected from the archives of various U.S. police forces. These transcripts were generated from original audiotape recordings of the incident using a procedure that closely conformed to Jefferson’s standardised guidelines for parsing interactive dialogue (see Schenkein, 1978). The final transcripts
represented a diverse group of hostage crises, from incidents with a criminal focus, in which an individual negotiates to extort money or gain some other personal benefit, to those centred on psychological or domestic issues, where the hostage taker’s focus is on attracting empathic attention for a personal cause. This range of settings is sufficiently broad to embody what previous research has shown reflects police officers’ perceptions regarding the distinguishing goals and orientations of hostage takers (Donohue & Roberto, 1993). Table 2-1 details the characteristics of the nine transcripts, together with a decomposition of talk frequencies for each negotiating party. The talk frequencies are given in thought units (Gottman, 1979), which is a segment of speech in which an individual communicates a single idea (see Section 2.2.2 for more detail).

2.1.2 Simulated hostage negotiations

The simulated data were transcripts from 12 hostage negotiator training sessions, produced from the original audiotape recordings of several U.S. police forces. Sessions were a realistic simulation of conditions typical of a hostage incident and involved a single police negotiator interacting with one or more hostage takers and, in the case of four incidents, some of the hostages. Both hostage takers and hostages were impersonated by knowledgeable actors provided with scenario and personality information to maximise the realism of the interactions. The sessions varied in scenario from suicide intervention to criminal-barricade incidents, and so were a good representation of the range of situations that previous research suggests are frequently encountered by police officers (Donohue & Roberto, 1996). Table 2-2 gives a brief description of the scenario used in each training session together with a decomposition of talk frequencies for each negotiating party.
Table 2-1.
Summary of Actual Hostage Negotiation Scenario and Length in Thought Units as a Function of Speaker.

<table>
<thead>
<tr>
<th>Case</th>
<th>Length (thought units)</th>
<th>Scenario</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hostage taker(s)</td>
<td>Negotiator(s)</td>
</tr>
<tr>
<td>Criminal</td>
<td>Case A</td>
<td>437 (40%)</td>
</tr>
<tr>
<td></td>
<td>Case B</td>
<td>233 (44%)</td>
</tr>
<tr>
<td></td>
<td>Case C</td>
<td>1405 (42%)</td>
</tr>
<tr>
<td></td>
<td>Case D</td>
<td>190 (43%)</td>
</tr>
<tr>
<td></td>
<td>Case E</td>
<td>2421 (44%)</td>
</tr>
<tr>
<td>Domestic</td>
<td>Case F</td>
<td>911 (40%)</td>
</tr>
<tr>
<td></td>
<td>Case G</td>
<td>667 (45%)</td>
</tr>
<tr>
<td>Political</td>
<td>Case H</td>
<td>2142 (48%)</td>
</tr>
<tr>
<td></td>
<td>Case I</td>
<td>217 (64%)</td>
</tr>
</tbody>
</table>

\(a\) Percentage frequency of total thought units for that case.
Table 2-2.
Summary of Simulated Hostage Negotiation Scenario and Length in Thought Units as a Function of Speaker.

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Length (thought units)</th>
<th>Case</th>
<th>Hostage taker(s)</th>
<th>Negotiator(s)</th>
<th>Other party(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Criminal</td>
<td>415</td>
<td>Case 1</td>
<td>(50%)a</td>
<td>(50%)</td>
<td>(0%)</td>
</tr>
<tr>
<td>Criminal</td>
<td>479</td>
<td>Case 2</td>
<td>(63%)</td>
<td>(37%)</td>
<td>(1%)</td>
</tr>
<tr>
<td>Criminal</td>
<td>474</td>
<td>Case 3</td>
<td>(58%)</td>
<td>(42%)</td>
<td>(0%)</td>
</tr>
<tr>
<td>Criminal</td>
<td>395</td>
<td>Case 4</td>
<td>(37%)</td>
<td>(51%)</td>
<td>(12%)</td>
</tr>
<tr>
<td>Domestic</td>
<td>120</td>
<td>Case 5</td>
<td>(32%)</td>
<td>(68%)</td>
<td>(0%)</td>
</tr>
<tr>
<td>Domestic</td>
<td>190</td>
<td>Case 6</td>
<td>(49%)</td>
<td>(51%)</td>
<td>(0%)</td>
</tr>
<tr>
<td>Domestic</td>
<td>120</td>
<td>Case 7</td>
<td>(54%)</td>
<td>(46%)</td>
<td>(0%)</td>
</tr>
<tr>
<td>Domestic</td>
<td>246</td>
<td>Case 8</td>
<td>(51%)</td>
<td>(49%)</td>
<td>(0%)</td>
</tr>
<tr>
<td>Domestic</td>
<td>179</td>
<td>Case 9</td>
<td>(55%)</td>
<td>(45%)</td>
<td>(0%)</td>
</tr>
<tr>
<td>Domestic</td>
<td>273</td>
<td>Case 10</td>
<td>(57%)</td>
<td>(43%)</td>
<td>(0%)</td>
</tr>
<tr>
<td>Political</td>
<td>1231</td>
<td>Case 11</td>
<td>(57%)</td>
<td>(41%)</td>
<td>(2%)</td>
</tr>
<tr>
<td>Political</td>
<td>300</td>
<td>Case 12</td>
<td>(42%)</td>
<td>(24%)</td>
<td>(34%)</td>
</tr>
</tbody>
</table>

a Percentage frequency of total thought units for that case.

2.1.3 Divorce mediations

These data were 20 transcriptions of negotiations from divorce mediation sessions conducted in various branches of the Los Angeles County Family Mediation and Conciliation Court (see Table 2-3). The data were selected from a larger set of recorded sessions (Pearson & Thoenness, 1985) on the basis that the sessions focused on
Table 2-3.  
**Summary of Divorce Mediation Sessions and Length in Thought Units as a Function of Speaker.**

<table>
<thead>
<tr>
<th>Case</th>
<th>Length (thought units)</th>
<th>Scenario</th>
</tr>
</thead>
<tbody>
<tr>
<td>Child custody 1</td>
<td>143 (23%)^a 217 (35%) 260 (42%)</td>
<td>A couple discuss custody and visitation hours for their epileptic child. The mother associates the epileptic traumas with the stress of visiting the father. They initially make good progress but quarrel over minor issues, including how the childcare will be financed, and no agreement is reached.</td>
</tr>
<tr>
<td>Child custody 2</td>
<td>382 (36%) 319 (30%) 368 (34%)</td>
<td>The father of a divorced couple wants a bigger role in decision-making and day-to-day affairs, but the mother is resistant to such change because the husband has no history of showing interest in the child. Both refuse to capitulate to the others’ demands and they do not reach an agreement.</td>
</tr>
<tr>
<td>Child custody 3</td>
<td>173 (25%) 290 (41%) 237 (34%)</td>
<td>A father seeks physical custody of his once suicidal daughter, arguing that she needs the discipline and standards not provided by the mother. The mother believes the daughter is old enough to make her own decision regarding custody, but the father believes that the mother will be chosen because she is the soft option. They do not reach agreement.</td>
</tr>
<tr>
<td>Child custody 4</td>
<td>203 (39%) 112 (21%) 210 (40%)</td>
<td>The father desires custody despite having a bad relationship with the child. He argues that he can provide better financial support than the mother. As a compromise, they discuss the possibility of financial support for the mother, but she rejects this offer because she believes the proposals are attempts to reduce her assets. The mother also threatens moving away, and no agreement is reached.</td>
</tr>
<tr>
<td>Case</td>
<td>Length (thought units)</td>
<td>Scenario</td>
</tr>
<tr>
<td>----------------------</td>
<td>------------------------</td>
<td>---------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Child custody 5</strong></td>
<td></td>
<td>The couple have a history of distrust with the mother angry about the father’s previous affairs, and the father equally angry that the wife is unwilling to try to move on. The father wants a radical change to either full or equal custody so he can spend quality time with his child in the mornings and at bedtime. The wife is unmoving on her position and no agreement is reached.</td>
</tr>
<tr>
<td>Mediator</td>
<td>525 (40%)</td>
<td></td>
</tr>
<tr>
<td>Husband</td>
<td>417 (31%)</td>
<td></td>
</tr>
<tr>
<td>Wife</td>
<td>384 (29%)</td>
<td></td>
</tr>
<tr>
<td><strong>Child custody 6</strong></td>
<td></td>
<td>A couple had allowed their 3-year-old child to make decisions about guardianship but the mediator insists they develop a custody arrangement. The mother is fearful of being alone with the father and, at the same time, is not prepared to leave the father alone with the child because she fears he will run away. The father wants a radical change so that he has custody, and their disparate views mean that no agreement was reached.</td>
</tr>
<tr>
<td>Mediator</td>
<td>334 (52%)</td>
<td></td>
</tr>
<tr>
<td>Husband</td>
<td>183 (28%)</td>
<td></td>
</tr>
<tr>
<td>Wife</td>
<td>129 (20%)</td>
<td></td>
</tr>
<tr>
<td><strong>Child standards 1</strong></td>
<td></td>
<td>The father of a teenage boy is unhappy that his ex-wife has her brother as a permanent lodger and pays for this through his child support payments. She agrees to have him move out in return for better communication about visitation. A final agreement is reached.</td>
</tr>
<tr>
<td>Mediator</td>
<td>317 (37%)</td>
<td></td>
</tr>
<tr>
<td>Husband</td>
<td>164 (19%)</td>
<td></td>
</tr>
<tr>
<td>Wife</td>
<td>369 (44%)</td>
<td></td>
</tr>
<tr>
<td><strong>Child standards 2</strong></td>
<td></td>
<td>A mother is concerned about the conditions her child experiences when staying with the father. One concern is the child sharing a bed with the father and the father’s girlfriend. The mediator suggests the father has a duty to make certain things available to the child (e.g., a cot), but the father finds these suggestions insulting and leaves the room on two occasions. No agreement is reached.</td>
</tr>
<tr>
<td>Mediator</td>
<td>113 (62%)</td>
<td></td>
</tr>
<tr>
<td>Husband</td>
<td>55 (30%)</td>
<td></td>
</tr>
<tr>
<td>Wife</td>
<td>14 (8%)</td>
<td></td>
</tr>
<tr>
<td><strong>Child visitation 1</strong></td>
<td></td>
<td>A divorced couple seek to set up a visitation agreement, but the mother is concerned that the child currently hates his father. The discussions focus on what can be done to reduce the child’s anxiety towards his father, and this leads to an agreement about visitation.</td>
</tr>
<tr>
<td>Mediator</td>
<td>613 (48%)</td>
<td></td>
</tr>
<tr>
<td>Husband</td>
<td>328 (25%)</td>
<td></td>
</tr>
<tr>
<td>Wife</td>
<td>348 (27%)</td>
<td></td>
</tr>
<tr>
<td>Case</td>
<td>Length (thought units)</td>
<td>Scenario</td>
</tr>
<tr>
<td>-------------------</td>
<td>------------------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Child visitation 2</td>
<td>785 (31%) 797 (31%) 951 (38%)</td>
<td>An upset father wants a bigger share of visitation. The mother resists because she is worried about the disruption of routine and the care that will be available during overnight visitation. A lengthy negotiation results in agreement.</td>
</tr>
<tr>
<td>Child visitation 3</td>
<td>322 (29%) 438 (39%) 355 (32%)</td>
<td>A mother feels the current every-other day visitation troubles the children and she seeks a schedule with fewer exchanges. Although the couple argue over subsidiary issues to some length (e.g., seeing children during visitation time), the husband is happy to capitulate to a change in the visitation schedule and an agreement is reached.</td>
</tr>
<tr>
<td>Child visitation 4</td>
<td>258 (39%) 166 (25%) 243 (36%)</td>
<td>A father’s request for one additional day per-week visitation is resisted by the mother, who argues that any interaction is bad for the daughter’s emotional health. The couple display their lack of trust in discussions of a number of side issues and heightened emotions mean that no agreement is reached.</td>
</tr>
<tr>
<td>Child Visitation 5</td>
<td>124 (39%) 83 (26%) 111 (35%)</td>
<td>A recently divorced couple try to develop a visitation schedule after the father files a custody suit accusing the mother of allowing the children to fight. The couple discuss issues including each others suitability as a parent and the possibility of visitation through a mutually trusted third-party. As the discussions progress, they lose their patience and no agreement is reached.</td>
</tr>
<tr>
<td>Child visitation 6</td>
<td>179 (35%) 250 (49%) 78 (15%)</td>
<td>An emotional husband finds it difficult to accept separation from his wife and her current feelings towards him. His distress and feelings about associated issues (e.g., money) dominates the mediation and no agreement is reached.</td>
</tr>
<tr>
<td>Case</td>
<td>Length (thought units)</td>
<td>Scenario</td>
</tr>
<tr>
<td>---------------------------</td>
<td>------------------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Child visitation 7</td>
<td></td>
<td>The father of a divorced couple seeks an enforceable visitation agreement in which if he is able to makeup missed visitation periods later during the week. The children’s mother resists this change and counter-argues that the children should not be forced to go with the father when they do not want to go. The mediation reaches no agreement.</td>
</tr>
<tr>
<td></td>
<td>Mediator 346</td>
<td>(30%)</td>
</tr>
<tr>
<td></td>
<td>Husband 414</td>
<td>(36%)</td>
</tr>
<tr>
<td></td>
<td>Wife 401</td>
<td>(35%)</td>
</tr>
<tr>
<td>Child visitation 8</td>
<td>651</td>
<td>The child’s mother says she is confused by the current visitation arrangements, which the father feels are satisfactory. The mother also cites being abused by the father, and the mediator suggests reducing contact by ensuring that child exchange is through the babysitters. Although the disputants accept this compromise, they cannot agree on changes to the visitation arrangements, and no agreement is reached.</td>
</tr>
<tr>
<td></td>
<td>(49%)</td>
<td>(27%)</td>
</tr>
<tr>
<td></td>
<td>(24%)</td>
<td></td>
</tr>
<tr>
<td>Child visitation 9</td>
<td>374</td>
<td>A father wants more visitation of his child and threatens an investigation by the court. He claims the child needs a stable father figure, but the wife argues that he is just upset because she refused to move back in with him. Their dispute worsens and no agreement was reached.</td>
</tr>
<tr>
<td></td>
<td>(35%)</td>
<td>(42%)</td>
</tr>
<tr>
<td></td>
<td>(23%)</td>
<td></td>
</tr>
<tr>
<td>Child visitation 10</td>
<td>226</td>
<td>A divorced couple use the session to confirm in writing a previous unstructured agreement. Before they agree, the mother expresses reluctance at the father spending visitation time going to support meetings. The father agrees to put the child before these meetings and an agreement is reached.</td>
</tr>
<tr>
<td></td>
<td>(43%)</td>
<td>(26%)</td>
</tr>
<tr>
<td></td>
<td>(31%)</td>
<td></td>
</tr>
<tr>
<td>Child visitation 11</td>
<td>154</td>
<td>A recently separated couple develop a visitation schedule for their child. The discussions go well aside from a disagreement caused by the father not wanting his address to be known by the mother. They agree on a visitation schedule of every other week, so long as the other party calls in advanced.</td>
</tr>
<tr>
<td></td>
<td>(57%)</td>
<td>(18%)</td>
</tr>
<tr>
<td></td>
<td>(25%)</td>
<td></td>
</tr>
</tbody>
</table>
Measuring Communication Behaviour

<table>
<thead>
<tr>
<th>Case</th>
<th>Length (thought units)</th>
<th>Scenario</th>
</tr>
</thead>
<tbody>
<tr>
<td>Child visitation 12</td>
<td>Mediator 365 (48%)</td>
<td>Both couple have reservations about the others’ ability to parent their child. The mother is scared that the father will run away with the child, while the father accuses the mother of not really wanting the child. They agree to the father having increased visitation so long as he sees the child in the mother’s company.</td>
</tr>
<tr>
<td></td>
<td>Husband 232 (30%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Wife 168 (22%)</td>
<td></td>
</tr>
</tbody>
</table>

*Percentage frequency of total thought units for that case.

issues relating to a mutual son or daughter and that they did not involve dialogue from individuals other than the father, mother, and mediator (e.g., attorneys). Although the impact of these factors is important, they are likely to produce sessions whose dynamics are very different from those found between ex-partners such that including them will serve only to reduce the clarity of analysis. The final transcripts involved eight mediators (Male = 7, Female = 1), all but one of whom had over 10 years experience as an appointed mediator within the court system. The sessions represented a diverse group of mediations that focused on a variety of issues from child custody through to child visitation and living arrangements. Table 2-3 details the characteristics of the 20 transcripts, together with a decomposition of talk frequencies for each negotiating party.

2.2 Transcript Coding Procedure

Most published studies of negotiation behaviour have tended to measure variations in dialogue through the eyes of one particular explanation of speakers’ intentions or motivations. For example, the facework perspective, commonly used to interpret conflict interactions (Oetzel et al., 2001; Rogan & Hammer, 1994), is premised on the assumption that all communication behaviour serves to defend or attack individuals’ self-identity or face (Goffman, 1967). Studies adopting this perspective have
consequently sought to code dialogue according to the face-dynamics of the interaction rather than the behaviours that bring about such dynamics. In a similar manner, other perspectives, such as the view that negotiators act rationally to solve problems (Weingart, Prietula, Hyder, & Genovese, 1994), or the assertion by relational order theory that communication serves to develop and manipulate affiliation between parties (Donohue, 1998; 2001), have led to the development of coding schemes that emphasise very different aspects of interaction. The data derived from each of these perspectives, as a consequence, measures one important function of communication and not the varieties of behaviours that actually constitute negotiation.

The classification of behaviour according to one particular function has been appropriate for most previous research, where the objective was to examine the affect of important independent variables on aspects of the negotiation process. By using a coding scheme built around the psychological construct of interest, that work was well placed to uncover patterns in the use of behaviour with respect to the construct. Such an approach, however, is not compatible with this thesis’s goal of identifying the various psychological dimensions that structure an individual’s communication during conflict. While each of the existing perspectives highlights a particular variation in communication, any attempt to derive a complete and objective measurement of dialogue requires classification of actual behaviours as distinct from classification driven by a particular explanatory perspective.

The coding approach taken in this thesis consisted of three sequential stages: a rhetorical structure analysis, unitization, and content coding. Briefly, the rhetorical structure analysis divides the transcripts into a series of interaction episodes (Mann & Thompson, 1988) to capture the variation in dialogue across different periods of the negotiation. These episodes are then unitized into single behavioural acts, and these acts
coded to derive an eclectic classification of behaviour that is not restricted to a particular explanatory approach. The following Sections describe each coding stage and the results of applying this stage to the data sets.

2.2.1 Partitioning of the transcripts

The transcripts were initially divided into episodes of continuous dialogue in an effort to ensure that analysis was not merely based on the overall occurrence of behaviours, but embodied the important changing pattern of occurrences across different periods of interaction (Holmes, 1992). The episodes were identified through rhetorical structure analysis, a procedure designed to identify discrete, constituent (nuclear) periods of dialogue across the interactions (Garner, 1997; Kumpf, 1986). These episodic stages represent non-overlapping segments of interaction during which negotiators communicate regarding a single, clearly distinguishable issue, without significant deviation (dialogue movement, Mann & Thompson, 1988) away from that issue. In the current study, dialogue movement was often characterised by changes in the person or object of focus during communication (e.g., “So how’s Norma do’in?’”), or when the scope of interactions shifted between general abstract discussion and specific issues or concerns (e.g., “Let’s deal with your first problem’’). Similarly, a large proportion of movement across different issues occurred following a break in contact between the parties, especially if a different negotiator or a third party initiated the subsequent communication.

This method of dividing transcripts into meaningful subsections means that a wide variation may exist in the number of units constructing an episode, and in the number of episodes representing each transcript. This variation may arguably have an adverse effect on analysis by modifying the number of potential occurrences of
behaviour across the interactions. However, it is important to include this factor because it reflects the naturally occurring variation in communicators’ dialogues. Furthermore, any attempt to equalise the composition of each interaction episode by using more precise divisions than nuclear spans would reduce the number of behaviours occurring during each episode to an unacceptably low level. Indeed, this episode-based form of apportionment represents a useful methodological alternative to the temporal divisions used in previous research (e.g., Donohue & Roberto, 1996; Rogan & Hammer, 1995), because it establishes dialogue boundaries at clear shifts in the relational focus of a negotiation. Because the division of transcripts is achieved prior to assigning any interaction coding scheme, this technique avoids problems created by coding biases and subjective rule-based definitions of stages, both of which potentially trouble research using partitions identified through flexible phase mapping techniques (e.g., Donohue & Roberto, 1993; Holmes, 1992). The use of episodic partitioning may also have advantages from an operational standpoint because changes in the relational focus of interactions are likely to represent the period during which police negotiators possess sufficient time to evaluate a negotiation’s progress. This is important given that research is only of value to negotiators if it may be realistically implemented in the context of real-life conflict.

Partitioning Actual Hostage Negotiations

The rhetorical structure analysis identified 189 episodes across the nine transcripts ($M = 24.0$, $SD = 12.7$, Range = 8 – 41). The boundaries among episodes were most frequently associated with breaks in contact between the parties (51%), with the remaining instances evenly distributed between general-specific changes (25%) and switches in the focus of dialogue (24%). Episodes of actual negotiations were initiated
equally often by hostage takers (36%), police negotiators (33%) and third parties such as hostages of friends (31%). Reliability of the rhetorical structure analysis was tested by an independent coder trained in the technique through the presentation of conceptual and operational definitions combined with examples from unused material. The coder applied rhetorical structure analysis to all nine transcripts and achieved a unitising reliability of .07 (Guetzkow, 1950), indicating discordance in about 7% of all identified episodes. This reliability is reasonable given the quantity of data and supports the episode-based divisions as an effective way uncovering change in behaviour over time. All disagreements were resolved through discussion and mutual agreement prior to partitioning into thought units.

**Partitioning Simulated Hostage Negotiations**

The analysis identified 108 episodes across the 12 transcripts ($M = 9.0$, $SD = 5.5$, Range = 4 – 24). The boundaries among episodes of simulated negotiations were either associated with a shift in interaction between general and more specific issues (41%), a break in contact between the parties (31%), or a change in the person or object of focus (28%). Episodes were typically initiated by a hostage taker (48%) or police negotiator (44%) but rarely by third parties (8%), suggesting that negotiator training does not involve the same degree of third party interaction as found in actual hostage negotiations. Reliability of the episode partitioning for the simulated data was tested by an independent coder who was trained in rhetorical structure analysis through practice with unused materials. The coder applied rhetorical structure analysis to all twelve transcripts and achieved a unitising reliability of .08 (Guetzkow, 1950), indicating about 8% disagreement in the existence or positioning of episodes. Of the episodes boundaries identified by the coder, 94% were matched in position to those in the original coding,
suggesting that discordance was mainly due to disagreements about the number rather than the placement of boundaries. All disagreements were resolved through discussion and mutual agreement prior to partitioning into thought units.

*Partitioning Divorce Mediations*

The rhetorical structure analysis identified 283 episodes across the twenty transcripts (\(M = 14.2, \ SD = 8.1, \ \text{Range} = 4 – 36\)). The boundaries among episodes were associated equally with a shift in interaction between general and more specific issues (49%) and a change in the person or object of focus (48%), with the remaining 1% associated with changes in individual sessions. Episodes were initiated equally by husbands (32%), mediators (35%), and wives (33%). Reliability of the rhetorical structure analysis was tested by an independent coder trained through the presentation of conceptual and operational definitions and examples from unused material. The coder applied rhetorical structure analysis to all 20 transcripts and achieved a unitising reliability of .06 (Guetzkov, 1950), indicating discordance in about 6% of all identified episodes. Of the episodes boundaries identified by the coder, 96% were matched in position to those in the original coding, suggesting that discordance was mainly due to disagreements about the number rather than the placement of boundaries. This reliability is reasonable given the quantity of the data. All disagreements were resolved through discussion and mutual agreement prior to partitioning into thought units.

2.2.2 Unitising the transcripts

The derived episodes were parsed into thought units (Gottman, 1979) to enable the coding of dialogue to focus on differences in the occurrence of single communication behaviours. A thought unit conceptually depicts a complete idea that a person wishes to
express, while operationally the unit is an independent clause with a subject and an object (e.g., “I agree with you”). It therefore represents the level at which analysis isolates single communicative acts, and so avoids the danger of overlooking smaller, but potentially significant components of negotiators’ behaviour. Indeed, the mean number of thought units per utterance was above one for each of the three data sets, indicating that there was not a one-to-one correspondence between thought units and utterances. For example, the mean number of thought units per utterance in the actual hostage negotiation data was 1.98 ($SD = 0.73$, Range $= 1 – 24$), leaving clear latitude for more than one behaviour to be elicited during a single speaking turn.

**Unitising Actual Hostage Negotiations**

The unitising produced 19,412 thought units, with a mean frequency of 103.0 thought units in each episode ($SD = 47.8$, Range $= 14 – 233$). Two coders, briefly trained using example dialogues, independently unitised a continuous sample of approximately 10% of the data (477 utterances). Coding achieved a unitising reliability of .04 (Guetzkow, 1950), indicating that about 4% of the unitising divisions were in error. This level of error is generally considered acceptable (Donohue & Roberto, 1996; Guetzkow, 1950). All disagreements in unitising were resolved through discussion and mutual agreement.

**Unitising Simulated Hostage Negotiations**

The unitising identified 8,619 thought units across the 12 transcripts, with a mean frequency of 80.0 thought units in each episode ($SD = 45.4$, Range $= 11 – 277$). The unitising reliability was assessed by having a second coder who was experienced in parsing dialogue unitise the episodes from Case 1 (see Table 2-2). Coders agreed on the
placement of over 99% of the thought units and achieved a unitising reliability of 0.004 (Guetzkow, 1950), indicating that less than 1% of the unitising divisions were in error. All disagreements in unitising were addressed before the transcripts were coded.

*Unitising Divorce Mediations*

The unitising produced 17,450 thought units, with a mean frequency of 61.6 thought units in each episode ($SD = 32.6$, Range $= 8 – 169$). Reliability of the unitising was tested by having a second coder independently unitise the episodes from Custody Case 1 (see Table 2-3). The coder agreed on placement of 96% of the thought units and achieved a unitising reliability of .02 (Guetzkow, 1950), indicating that approximately 2% of the unitising divisions were in error. This level of error is generally considered acceptable (Donohue & Roberto, 1996; Guetzkow, 1950). All errors in unitising were addressed before moving to the coding stage of the measurement procedure.

2.2.3 Content analysis of the transcripts

A content analysis of the thought units across the transcripts identified a comprehensive set of 48 variables that related directly to the behaviour of negotiators during each episode. These variables were derived through a typical grounded approach to categorising dialogue (see Glaser & Strauss, 1967; Holsti, 1969; Krippendorff, 1980), which entailed iterative refinement and modification of the content dictionary until it clearly reflected the content of verbal acts across all transcription data. Although many of the final categories parallel those used in previous coding schemes, development of the coding dictionary in this manner ensured that variables not only provided an exhaustive coverage of behaviours characteristic of conflict negotiations, but also that definitions were easily understood, unambiguous descriptions of communicative acts
(rather than more abstract categories). Table 2-4 shows each of the 48 variables together with a brief coding definition and an example. Coding involved a considered application of the formalised scheme to the behavioural content of each thought unit, as it occurred in the sequential flow of dialogue. Since analysis intended to focus on relationships among behaviours, it was acceptable for more than one category to be applied to each thought unit. However, the restricted nature of the thought unit yielded a one-code to one-unit correspondence with one exception. The exception was the variable Profanity, which, by definition, relates to single words rather than an entire thought unit and so was coded in addition to the unit’s overall code.

For each data set, the coded transcripts were used to produce a two-way data matrix whose cells contained the number of thought units in an episode that were assigned to a particular behavioural category. As in previous research (Donohue & Roberto, 1996; Olekalns & Smith, 2000; Taylor, 2002a), variables that represented functional aspects of dialogue were excluded from the matrix because they simply allow general message exchange and do not in themselves contain any overt psychological information. These included explicative acknowledgements or interjections (e.g., “uh-huh”), initiations and salutations (e.g., “bye-bye”), and questions or answers that facilitated either conversational turn taking (e.g., “nah, really?”) or basic information exchange (e.g., “could you say that again?”). Although such behaviours are important to an unfolding dialogue, they have only limited impact on psychological aspects of interaction and so their inclusion is likely to reduce the clarity of analysis. Their exclusion, therefore, aimed to maximize the ability of analysis to identify the major similarities and differences among behaviours. The results of this coding procedure are described below for each data set.
Table 2-4.
Definitions of Coding Variables for Communication Behaviour derived from Content Analysis of Conflict Negotiation Transcripts. The Variables are listed by the Level of interaction to which they were assigned as a result of the SSA-I analyses (see Chapters 3 to 5), and not from any apriori categorisation. Variables were coded as present if the behaviour was communicated during interaction.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Definition</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avoidance thought units</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accuse</td>
<td>Challenge an assertion made by the opposing party, or fault the other party for performing or not performing a particular action.</td>
<td>“Well you’re never going to be ready”</td>
</tr>
<tr>
<td>Avoid</td>
<td>Attempt to move interaction away from the current issue, through either a direct request or a more subtle change to the focus of discussion.</td>
<td>“I don’t want to talk about that”</td>
</tr>
<tr>
<td>Denial</td>
<td>Refusal to accept an accusation made by the other party. Such denials are not accompanied by an explanation of why the individual should be exonerated.</td>
<td>“No, no, you’re lying. I didn’t touch the girl”</td>
</tr>
<tr>
<td>Inaction</td>
<td>Failure to enter dialogue despite opportunity. Scored when an individual failed to respond to the other on three consecutive occasions.</td>
<td></td>
</tr>
<tr>
<td>Interrupt</td>
<td>Continuous disruption of the opposing party. Scored as positive only after occurring twice over consecutive dialogue.</td>
<td></td>
</tr>
<tr>
<td>NegReply</td>
<td>Short retorts that have a negative or uncaring tone but were not necessarily in response to the other party’s demands or offers.</td>
<td>“Nah”</td>
</tr>
<tr>
<td>Provoke</td>
<td>An overt attempt to aggravate the opposing party into taking some aversive action.</td>
<td>“Take your fuckin’ choice frank”</td>
</tr>
<tr>
<td>Retract</td>
<td>Clear withdrawal from a previously acknowledged agreement, regardless as to whether or not the speaker provides an explanation for their change in attitude.</td>
<td>“Actually, no, I don’t wanna do that”</td>
</tr>
<tr>
<td>Shift</td>
<td>Termination of the discussion by communicating an issue different from that spoken in the previous utterance.</td>
<td>“Well did you ask about the cigarettes?”</td>
</tr>
<tr>
<td>Submissive</td>
<td>Show apathy, a lack of understanding, or an inability to cope with the events of the hostage crisis.</td>
<td>“I don’t know if they shot the cops or not”</td>
</tr>
</tbody>
</table>

Distributive thought units

<table>
<thead>
<tr>
<th>Variable</th>
<th>Definition</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alternative</td>
<td>Proposal of a concession or solution that has not previously been considered during the negotiation.</td>
<td>“We can’t concede to those terms, but perhaps instead”</td>
</tr>
<tr>
<td>Appeal</td>
<td>Sincere request for the other party to reconsider altering their current attitude to comply with the individual’s desire, with no suggestion of personal sacrifice.</td>
<td>“Please, please, don’t do anything stupid”</td>
</tr>
<tr>
<td>Commitment</td>
<td>Expresses a commitment to a particular issue or position.</td>
<td>“I’m sticking to my guns, they are not gonna recuperate me”</td>
</tr>
<tr>
<td>Criticism</td>
<td>Criticism of the opposing party’s behaviour or ability, where an explanation is given for the evaluation.</td>
<td>“we can’t get no change outta you all man”</td>
</tr>
<tr>
<td>Demand</td>
<td>Forceful expression of a favour or concession wanted from the opposing party.</td>
<td>“I want to talk to my wife”</td>
</tr>
<tr>
<td>Variable</td>
<td>Definition</td>
<td>Example</td>
</tr>
<tr>
<td>-----------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Excuse</td>
<td>Acceptance of wrongdoing that involves a pleading for forgiveness from the other party on account of extenuating circumstances. The negotiator may recognise that their behaviour is negative, but denies ultimate responsibility for the event.</td>
<td>We, we tried Bill already, and ah, Bill doesn’t have a phone and he’s not at the house</td>
</tr>
<tr>
<td>Profanity</td>
<td>The use of obscene swearing or other indecent language.</td>
<td>“Shit”</td>
</tr>
<tr>
<td>Insult</td>
<td>Degrading comment or scornful abuse directed at the opposing party.</td>
<td>“you sound a little bit immature to me”</td>
</tr>
<tr>
<td>Justify</td>
<td>Explanation of a previous or future action. This variable was coded when the negotiator admits responsibility, but rejects the idea that the behaviour is negative. Note that justify and excuse are opposites in terms of admitting responsibility.</td>
<td>“I’m not real sure can get that through the window. That’s a pretty big bag”</td>
</tr>
<tr>
<td>PosSelf</td>
<td>Overt bragging about the superiority of personal ability or current situation in comparison to the ability of the other party.</td>
<td>“I haven’t lied to you yet”</td>
</tr>
<tr>
<td>Reject</td>
<td>Refusal to comply with the other party’s demands.</td>
<td>“I am not going to do that”</td>
</tr>
<tr>
<td>Demand</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RejectOffer</td>
<td>Complete rejection of the other party’s offer without considering an integrative compromise or alternative.</td>
<td>“No, No, I don’t want that”</td>
</tr>
<tr>
<td>ThreatAction</td>
<td>Threat to take punitive action if the opposing party does not comply. This variable was scored as present even if the threat was actuated.</td>
<td>“I’ll shoot another hostage if you don’t comply in minutes”</td>
</tr>
<tr>
<td>Integrative thought units</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accept</td>
<td>Acceptance of a conciliatory offer from the opposing party.</td>
<td>“Okay. Let me try workin’ on that”</td>
</tr>
<tr>
<td>Offer</td>
<td>Express agreement with a statement made by the opposing party. Excluded statements of personal assurance Promise or compliance ComplyDemand.</td>
<td>“well that’s -- you’re right there”</td>
</tr>
<tr>
<td>Agree</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allure</td>
<td>Attempts to highlight how complying with demands will please other people, such as family members, and so lead to an increase in self-worth or personal satisfaction.</td>
<td>“you don’t just hurt yourself, you hurt all those that love you”</td>
</tr>
<tr>
<td>Apology</td>
<td>Direct regretful acknowledgement of previous actions.</td>
<td>“I’m sorry – I’m sorry, I really and truly didn’t hear you”</td>
</tr>
<tr>
<td>Common</td>
<td>Allude to a similarity between self and the other party in terms of attitude, beliefs or behaviour.</td>
<td>“at least we know that we’re both thinkin’ the same way”</td>
</tr>
<tr>
<td>Compliment</td>
<td>Praise for the opposing party’s attitude or behaviour. This differed from the agreement variable as the behaviour explicitly commended the other party.</td>
<td>“You’re doin’ a good job, too”</td>
</tr>
<tr>
<td>Comply</td>
<td>Active concession to the other party’s demands or requests.</td>
<td>“Yeah, ok, I’ll get you the food you want”</td>
</tr>
<tr>
<td>Demand</td>
<td></td>
<td>“I’m lettin’ seven off, and then I’ll let seven afterwards”</td>
</tr>
<tr>
<td>Compromise</td>
<td>Suggestion of a particular set of mutual concession as an alternative to directly accommodating the opposing party’s offers or demands.</td>
<td>“I don’t have to ask him, I know you for you”</td>
</tr>
<tr>
<td>Confidence</td>
<td>Expressions of trust in the others’ ability to perform a particular action.</td>
<td></td>
</tr>
<tr>
<td>Variable</td>
<td>Definition</td>
<td>Example</td>
</tr>
<tr>
<td>-----------</td>
<td>---------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Discourage</strong></td>
<td>Attempts to discourage the other party from adopting a particular viewpoint or performing a particular action.</td>
<td>“There’s no real crime if you don’t do that”</td>
</tr>
<tr>
<td><strong>Empathy</strong></td>
<td>Sympathetic understanding for the explanations or feelings presented by the opposing party about their current situation.</td>
<td>“I know you’re tired you’ve been up for awhile huh”</td>
</tr>
<tr>
<td><strong>Encourage</strong></td>
<td>Active encouragement of the opposing party to adopt a particular perspective or take a discussed action.</td>
<td>“you’re gonna get three square meals a day, you’d be warm”</td>
</tr>
<tr>
<td><strong>Humour</strong></td>
<td>Attempts to use humour to lighten the tone of the negotiations.</td>
<td>“I’ll let the woman go if you get me some beer and cigarettes”</td>
</tr>
<tr>
<td><strong>Integrative</strong></td>
<td>Proposition of a solution or approach to interaction that is beneficial to both parties.</td>
<td>“I’ve fouled it up”</td>
</tr>
<tr>
<td><strong>NegSelf</strong></td>
<td>A reflective criticism of personal behaviour or ability. Often shown as an indirect realisation of personal wrongdoing.</td>
<td>“Do you want me to see if I can get you an oxygen tank?”</td>
</tr>
<tr>
<td><strong>Offer</strong></td>
<td>Offering of goods or sentiments that precedes any request.</td>
<td>“I promise that are intention is not to harm the hostages”</td>
</tr>
<tr>
<td><strong>Promise</strong></td>
<td>Explicit and sincere assurance that a previous statement was valid, especially concerning the performance of a particular action.</td>
<td>“Helicopter will be here in just a few minutes”</td>
</tr>
<tr>
<td><strong>Reassure</strong></td>
<td>Attempts to restore the other party’s confidence or to confirm again a particular opinion or questionable fact about the current situation.</td>
<td></td>
</tr>
</tbody>
</table>

**Functional thought units**

<table>
<thead>
<tr>
<th>Initiation / Salutations</th>
<th>Acknowledgements or statements that act to attract the other party’s attention and initiate dialogue, or bring an end to a conversation.</th>
<th>“hello John” / “Bye bye”</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Positive</strong> backfeed</td>
<td>Short retorts that have a positive, interested tone that acknowledge personal attention to the speaker.</td>
<td>“Yeah”</td>
</tr>
<tr>
<td>Question declarative</td>
<td>A question that focuses on information about a definite thing or fact. This ranges from past or future actions, to information about a situation, to personal information’</td>
<td>“Once I put a reporter on, what are you gonna give me?”</td>
</tr>
<tr>
<td>Question opinion</td>
<td>A question that focuses on getting the other party’s opinion about a fact or issue or proposal. The question does not have a “correct” answer</td>
<td>“What do you think of diet coke?”</td>
</tr>
<tr>
<td>State declarative</td>
<td>A statement that gives information about a definite thing or fact. This ranges from past or future actions, to information about a situation, to personal information’</td>
<td>“My name is Brent Snook”</td>
</tr>
<tr>
<td>State opinion</td>
<td>A statement that gives the speaker’s opinion about an issue, fact or proposal. The information does not have a “correct” or “incorrect” valence.</td>
<td>“I think that psychology rocks”</td>
</tr>
<tr>
<td>Thank you</td>
<td>Statements explicitly acknowledging an action of the other party.</td>
<td>“Thanks for doing this Brent”</td>
</tr>
</tbody>
</table>
Coding of Actual Hostage Negotiations

The coding scheme was applied to hostage taker, police negotiator, and third party (e.g., relatives and friends) dialogues to allow an examination of conflict as an interaction in which all parties’ verbal messages determines the nature of unfolding events (Donohue & Ramesh, 1992). The complete procedure generated a two-way data matrix whose elements were the sum frequency of occurrence of thought units coded into a particular behavioural category, for each of the interaction episodes. Specifically, the sum frequency of occurrences (cell value) for the remaining 41 communication variables (columns), across the 189 interaction episodes (rows) provided the actual negotiation data matrix.

Reliability of the transcript coding was assessed by two independent judges that were experienced in the content analysis procedure but remained blind to the research hypotheses. As an initial examination of validity, the content dictionaries were discussed in detail to refine the definitions of each variable and minimise the extent to which the categories reflected the researcher’s personal priorities and biases. Following this initial familiarisation, reliability was assessed through independent coding of speech extracts from both criminal and psychological-domestic negotiations. The reliability of coding, measured at the thought unit level with Cohen’s Kappa (Cohen, 1960), was .74 with 75% agreement for speech taken from the criminal incidents, and .66 with 67% agreement for speech from the domestic incidents. According to Fleiss (1981), a Cohen’s Kappa of .40 to .60 is fair, .60 to .75 is good, and greater than .75 is excellent. Thus, these results indicate that the content dictionary possesses reasonably good construct validity and reliability as a measure of negotiation behaviour, especially given the large number of possible coding categories. Approximately 2 per cent of all thought units, mainly
incomplete sentences, contained no objective information about individuals’ behaviour and so were left uncoded.

**Coding of Simulated Hostage Negotiations**

The coding scheme was applied to the hostage taker, police negotiator, and third party (e.g., relatives and friends) dialogues. Four behaviours (Humour, Inaction, Integrative, and Interrupt) were found not to occur in these negotiations and so were removed from the original coding scheme. The coded transcripts were used to produce a two-way data matrix whose cells contained the number of thought units in an episode that were assigned to a particular behavioural category. Thus, the simulated negotiation data was a matrix of 37 communication variables (columns) by 108 interaction episodes (rows), with cell values reflecting the sum frequency of thought units coded as one of the behavioural variables.

Reliability of the coding was assessed by having an independent judge, experienced in the content analysis procedure and trained on unrelated material, code approximately 5% of speech extracts from each incident. This coder was not involved in the coding of the actual hostage negotiation data. The reliability of coding, measured at the thought unit level with Cohen’s Kappa (Cohen, 1960) was .74 with 75% agreement (Range across transcripts = .60 to .89). These results indicate that the content dictionary possesses good reliability as a measure of negotiation behaviour (Fleiss, 1981), especially given the large number of possible coding categories. Approximately 2 per cent of all thought units, mainly incomplete sentences, contained no objective information about negotiators’ behaviour and so were left uncoded.
Coding of Divorce Mediations

The coding scheme was applied to wife, husband, and mediator dialogue to allow an examination of conflict as an interaction in which the interrelationship between all parties’ verbal messages determines the nature of unfolding events (Donohue & Ramesh, 1992). Two behaviours (Inaction, Promise) were found not to occur in the divorce mediations and so were removed from the original coding scheme for these transcripts. The coded transcripts were used to produce a two-way data matrix whose cells contained the number of thought units in an episode that were assigned to a particular behavioural category. Thus, the divorce mediation data consisted of a matrix of 39 communication variables (columns) by 283 interaction episodes (rows), with cell values reflecting the sum frequency of thought units coded as one of the behavioural variables.

Reliability of the transcript coding was assessed by two independent coders who were experienced in the content analysis procedure but remained blind to the research hypotheses. They were not involved in the coding of the actual or simulated hostage negotiation data, thereby minimising the chance that personal biases had an impact on the findings. The coders were trained on unrelated material and then asked to code Custody Case 1 (see Table 2-3). The reliability of coding, measured at the thought unit level with Cohen’s Kappa (Cohen, 1960), was .81 with 84% agreement for the first coder and .79 with 83% agreement for the second coder. Between coder agreement was .78 with 82% agreement. These results indicate that the content dictionary possesses good reliability as a measure of negotiation behaviour (Fleiss, 1981), especially given the large number of possible coding categories. Approximately 1 per cent of all thought units, mainly incomplete sentences, contained no objective information about negotiators’ behaviour and so were left uncoded.
2.2.4 Characteristics of the Data Sets

The transcript coding procedure resulted in data matrices that indicated the occurrence of behaviours in episodes of three kinds of conflict negotiation. Each set of negotiations are regarded as conflicts because they involve competitive and cooperative dialogue about a significant issue on which the parties’ disagree. Furthermore, interactions in each set of data were dominated by a range of interpersonal issues beyond substantive concerns, which is typical of conflict interactions (Donohue et al., 1991). The two sets of hostage crises shown in Table 2-1 and Table 2-2 are characterised by intense, complex interactions that involve issues of trust and power, emotional arousal from the threat of tactical assault, and very significant consequences (e.g., lives of hostages, jail) (McMains & Mullins, 2001). Similarly, while undertaken in a more controlled atmosphere, the mediations in the final data set (see Table 2-3) are characterised by a similar set of interpersonal dynamics. Disputes involve heightened emotions, a tendency for disputants to competitively defend a favoured solution, and highly significant stakes in terms of being able to contribute to the child’s life (Donohue, 1991).

To further illustrate the character of these data, Table 2-5 shows the frequency of occurrence of the 41 communication behaviours for each of the data sets. The behaviours are ranked from most frequent to least frequent as observed on average across the three data sets. As can be seen Table 2-5, there is considerable similarity in the types of behaviours that characterise each of the three conflict types. Central to each of the data sets are competitive behaviours such as justifications, demands and criticisms (i.e., Criticism, Demand, Justify), and cooperative behaviours such as the making of offers and reassurances that a mutual solution can be reached (i.e., Encourage, Offer, Reassure). These behaviours typify what researchers would expect from mixed-motive
Table 2-5.
Descending Frequency of Occurrence of 41 Communication Behaviours across the Three Data Sets. Percentage of Occurrence is given in Parentheses.

<table>
<thead>
<tr>
<th>Communication Behaviour</th>
<th>Actual Hostage</th>
<th>Simulated Hostage</th>
<th>Divorce mediation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Justify</td>
<td>524 (5.4)</td>
<td>755 (15.4)</td>
<td>2095 (20.1)</td>
</tr>
<tr>
<td>Demand</td>
<td>1017 (10.5)</td>
<td>653 (13.3)</td>
<td>757 (7.3)</td>
</tr>
<tr>
<td>Encourage</td>
<td>678 (7.0)</td>
<td>276 (5.6)</td>
<td>755 (7.3)</td>
</tr>
<tr>
<td>Reassure</td>
<td>1019 (10.5)</td>
<td>332 (6.8)</td>
<td>347 (3.3)</td>
</tr>
<tr>
<td>Offer</td>
<td>527 (5.4)</td>
<td>240 (4.9)</td>
<td>729 (7.0)</td>
</tr>
<tr>
<td>Criticism</td>
<td>460 (4.7)</td>
<td>221 (4.5)</td>
<td>577 (5.5)</td>
</tr>
<tr>
<td>Appeal</td>
<td>476 (4.9)</td>
<td>232 (4.7)</td>
<td>471 (4.5)</td>
</tr>
<tr>
<td>Empathy</td>
<td>264 (2.7)</td>
<td>165 (3.4)</td>
<td>647 (6.2)</td>
</tr>
<tr>
<td>Accuse</td>
<td>352 (3.6)</td>
<td>122 (2.5)</td>
<td>558 (5.4)</td>
</tr>
<tr>
<td>NegBackfeed</td>
<td>301 (3.1)</td>
<td>340 (6.9)</td>
<td>337 (3.2)</td>
</tr>
<tr>
<td>Agree</td>
<td>414 (4.3)</td>
<td>101 (2.1)</td>
<td>328 (3.2)</td>
</tr>
<tr>
<td>Excuse</td>
<td>417 (4.3)</td>
<td>40 (0.8)</td>
<td>373 (3.6)</td>
</tr>
<tr>
<td>PosSelf</td>
<td>201 (2.1)</td>
<td>127 (2.6)</td>
<td>319 (3.1)</td>
</tr>
<tr>
<td>Denial</td>
<td>180 (1.9)</td>
<td>83 (1.7)</td>
<td>348 (3.3)</td>
</tr>
<tr>
<td>Submissive</td>
<td>175 (1.8)</td>
<td>164 (3.4)</td>
<td>225 (2.2)</td>
</tr>
<tr>
<td>Discourage</td>
<td>154 (1.6)</td>
<td>54 (1.1)</td>
<td>308 (3.0)</td>
</tr>
<tr>
<td>ComplyDemand</td>
<td>307 (3.2)</td>
<td>65 (1.3)</td>
<td>96 (0.9)</td>
</tr>
<tr>
<td>Profanity</td>
<td>361 (3.7)</td>
<td>86 (1.8)</td>
<td>7 (0.1)</td>
</tr>
<tr>
<td>ThreatAction</td>
<td>212 (2.2)</td>
<td>111 (2.3)</td>
<td>65 (0.6)</td>
</tr>
<tr>
<td>NegSelf</td>
<td>177 (1.8)</td>
<td>91 (1.9)</td>
<td>113 (1.1)</td>
</tr>
<tr>
<td>Avoidance</td>
<td>179 (1.8)</td>
<td>69 (1.4)</td>
<td>100 (1.0)</td>
</tr>
<tr>
<td>RejectDemand</td>
<td>146 (1.5)</td>
<td>78 (1.6)</td>
<td>63 (0.6)</td>
</tr>
<tr>
<td>Provoke</td>
<td>108 (1.1)</td>
<td>63 (1.3)</td>
<td>85 (0.8)</td>
</tr>
<tr>
<td>RejectOffer</td>
<td>102 (1.0)</td>
<td>52 (1.1)</td>
<td>95 (0.9)</td>
</tr>
<tr>
<td>AcceptOffer</td>
<td>89 (0.9)</td>
<td>23 (0.5)</td>
<td>115 (1.1)</td>
</tr>
<tr>
<td>Shift</td>
<td>88 (0.9)</td>
<td>66 (1.3)</td>
<td>64 (0.6)</td>
</tr>
<tr>
<td>Allure</td>
<td>107 (1.1)</td>
<td>26 (0.5)</td>
<td>58 (0.6)</td>
</tr>
<tr>
<td>Commitment</td>
<td>62 (0.6)</td>
<td>51 (1.0)</td>
<td>77 (0.7)</td>
</tr>
<tr>
<td>Compliment</td>
<td>111 (1.1)</td>
<td>26 (0.5)</td>
<td>34 (0.3)</td>
</tr>
<tr>
<td>Alternative</td>
<td>55 (0.6)</td>
<td>60 (1.2)</td>
<td>43 (0.4)</td>
</tr>
<tr>
<td>Compromise</td>
<td>61 (0.6)</td>
<td>41 (0.8)</td>
<td>50 (0.5)</td>
</tr>
<tr>
<td>Common</td>
<td>56 (0.6)</td>
<td>26 (0.5)</td>
<td>42 (0.4)</td>
</tr>
<tr>
<td>Retract</td>
<td>59 (0.6)</td>
<td>21 (0.4)</td>
<td>35 (0.3)</td>
</tr>
<tr>
<td>Apology</td>
<td>40 (0.4)</td>
<td>14 (0.3)</td>
<td>28 (0.3)</td>
</tr>
<tr>
<td>Interrupt</td>
<td>39 (0.4)</td>
<td>0 (0.0)</td>
<td>32 (0.3)</td>
</tr>
<tr>
<td>Promise</td>
<td>56 (0.6)</td>
<td>8 (0.2)</td>
<td>0 (0.0)</td>
</tr>
<tr>
<td>Confidence</td>
<td>37 (0.4)</td>
<td>8 (0.2)</td>
<td>3 (0.0)</td>
</tr>
<tr>
<td>Integrative</td>
<td>40 (0.4)</td>
<td>0 (0.0)</td>
<td>4 (0.0)</td>
</tr>
<tr>
<td>Humour</td>
<td>33 (0.3)</td>
<td>0 (0.0)</td>
<td>8 (0.1)</td>
</tr>
<tr>
<td>Insult</td>
<td>21 (0.2)</td>
<td>4 (0.1)</td>
<td>10 (0.1)</td>
</tr>
<tr>
<td>Inaction</td>
<td>18 (0.2)</td>
<td>0 (0.0)</td>
<td>0 (0.0)</td>
</tr>
</tbody>
</table>
conflict interaction (Donohue & Hoobler, 2002; Donohue & Taylor, in press; Rogan, Hammer, & Van Zandt, 1997; Taylor 2002b). Similarly, the behaviours that occur infrequently in actual hostage negotiations, such as Inaction and Humour, are typically the same behaviours that occur infrequently in the other data sets. This underlying similarity in the relative use of different behaviours suggests that negotiators in each of the data sets are engaged in an interaction process that is characterised by similar kinds of dynamics.

2.3 Reliability and Validity Check using Language Models

Before moving to analyse the data, it was considered important given the dependency of findings on the coding process to tackle the issues of reliability and validity from several viewpoints. Although the Cohen’s Kappa scores reported above indicate a reasonably high level of reliability across coders, a complementary approach to evaluating coding may be achieved through language modelling. A language modelling approach uses computational techniques to assign codes based on the content of the unit being coded (see Stolcke, Coccaro, Bates, et al., 2000). The approach assumes that the words and order of words in a unit are central to the message being communicated, with different messages being constructed from different words and different word orderings. These word orderings are the substance of language models, which give the probability of different word sequences occurring within large corpuses of text. By extending the models to include the likelihood of a word sequence being associated with a behavioural code, the models may be used to record the words and word sequences that characterise a given behavioural variable. Since coders partly base their coding of dialogue on differences in the content of thought units, a model developed in this manner should be able to successfully assign codes automatically based
on systematic differences in the content of units. For example, a demand within the current coding framework often starts with the word sequence “I want a …”, but this sequence is never associated with an attempt to complement the other party. In other words, a language model attempts to use stable patterns in the interrelationships among words to replicate (at least partly) the process by which a coder assigns a particular unit to a category.

2.3.1 Previous language modelling research

The dominant approach to language modelling is the $N$-gram model, which estimates the probability of a target word given information about previous words. The number of words included is the estimation is given by $N$, with bigram models considering two-behaviour sequences, trigram model considering three-behaviour sequences, and so forth. Such models are a staple in many domains including speech recognition, optical character recognition, and handwriting recognition (Church, 1988; Cutting, Kupiec, Pedersen, & Sibun, 1992). However, more recently, language models have been used to assign behavioural codes to utterances and the results compared to human coding to give a measure of reliability and predictive validity (Reithinger & Klesen, 1997; Stolcke, Coccaro, Bates, et al., 2000). The approach taken by this work has been to develop code-specific models that represent the probability of a word sequence being associated with a particular code. By applying these models to a new set of data, it is possible to compute the probability of a particular sequence of words (i.e., thought unit) being associated with each code. These probabilities may then be compared, and the code associated with the highest probability selected as the assigned code. The difference between the automatically assigned code and the human coding
may be used as an estimate of the extent to which coding categories have a stable and differentiable content.

Previous work on language modelling and the adequacy of these models has predominantly used purpose built corpuses. Nagata and Morimoto (1993) built a set of language models from hand transcribed words sequences with the goal of predicting 1 of 30 codes. However, their models achieved a recognition rate of only 39.7%, which is little better than the chance accuracy of 35% that would have been achieved if the most frequent code was always chosen. More recent studies have improved on this performance, with accuracy typically reported as between two and three times above the baseline chance performance. For example, in their analysis of dialogue about arranging meetings, Reithinger et al. (1996; 1997) showed that a trigram model was able to automatically recognise 18 codes with 72.2% accuracy. Against a baseline of 25%, this accuracy represented about a three-fold improvement in prediction. In contrast, Wright (1999) developed a language model on a corpus of spontaneous goal-directed dialogue produced by Canadian males (Bard, Sotillo, Anderson, Taylor, 1995). A four-gram model yielded a coding accuracy of 40%, which when compared to a baseline accuracy of 24% represents about a two-fold increase in performance. Finally, in analysing switchboard conversations containing in excess of one million words, several researchers (Jurafsky, Shriberg, Fox, & Curl, 1998; Shriberg, Bates, Stolcke et al., 1998; Stolcke, Coccaro, Bates, et al., 2000) have been able to automatically code 1 of 42 dialogue acts with an accuracy of about 71%, which is twice as good as the 35% accuracy that would have been achieved by always selecting the most frequent code.

These findings suggest that a trigram model will correctly code units of speech with a level of accuracy between two and three times that expected by chance. However, it is important to remember that these analyses were computed on corpuses of text much
larger than provided by the conflict negotiation data. Despite the smaller data set available to this Chapter, there remain several reasons for investigating the performance of a language model. One reason stems from the importance of being able to demonstrate that coders did not implement the coding dictionary in a random way. Using several different methods to test coding reliability should make the foundations on which subsequent findings depend more transparent and open to evaluation. Second, while language models have had some success on large service-centred datasets (e.g., Jekat, Klein, Maier, et al., 1996; Reithinger et al., 1997), it remains unclear whether the techniques will allow similar success in more complex interactions, such as that which occurs in conflict negotiations. Dialogue during conflict is typically believed to be more diverse in meaning and lexicon distribution than more structured tasks, and it is important to establish whether language modelling techniques have potential for integration into automated decision support systems for conflict environments. A final related point is that previous coding dictionaries have been very biased in the distribution of frequencies, with the majority of units (often over 35%; Stolcke et al., 2000) being coded into a single category. This is primarily because of the service-directed, functionality of the interactions, which have very structured paths of development. It therefore remains to be seen whether language models can effectively differentiate utterances in dialogue that contains more complex and varied use of behaviour.

The following Sections describe a simple application of the statistical language modelling approach to three real-world data sets content analysed in the previous sections. The generated model assigns each thought unit one of the 48 codes defined in Table 2-4 based only on lexical and collocational cues. The language modelling was achieved using the CMU statistical language modelling (CMU-SLM) toolkit (Clarkson & Rosenfeld, 1997).
2.3.2 Data and Method

*Combined Data*

Since N-gram language models require large amounts of data, it was necessary to combine the data from each of the three actual negotiation data sets. While this is not an ideal approach, the analyses in Chapters 3, 4 and 5 give some justification for the approach beyond what is practical within language modelling by demonstrating that each data set has the same correlational structure. Moreover, if the lexical and collocational organisation of behaviours were different across the data sets, this would have the effect of reducing the utility of the language modelling and, consequently, reduce the accuracy with which codes may be reliably predicted from word sequences. Thus, by combining the data sets, the analysis increased the power of the language model while risking a conservative level of performance.

The data were partitioned into a training set used to estimate the various components of the language model, and a test set that was put aside for testing the model. The test set was created by removing every tenth thought unit from the overall transcripts. Thus, the training set representing approximately 90% of the overall data while the test set represents approximately 10% of the overall data. Table 2-6 shows the demographics of the training and test data. Even when combined, the data sets are only approximately one quarter in size when compared to the data typically used within language modelling research (e.g., the Switchboard corpus, Stolcke *et al.*, 2000). However, the ratio of words to the number of different words was .0194 (nearly 2%) and is consistent with that found in the larger data sets.
Table 2-6.  
Frequency of Codes, Words and Thought Units in the Training Data and Test Data.

<table>
<thead>
<tr>
<th>Data Frequencies</th>
<th>Training data</th>
<th>Test data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Codes</td>
<td>48</td>
<td>48</td>
</tr>
<tr>
<td>Thought Units</td>
<td>39,078</td>
<td>1,901</td>
</tr>
<tr>
<td>Words</td>
<td>328,426</td>
<td>13,964</td>
</tr>
</tbody>
</table>

The Language Modelling (N-gram) Technique

The mathematics required to construct and test language models are well known and described in a number of sources (Chen & Goodman, 1999; Clarkson & Rosenfeld, 1997; Shriberg et al., 1998). The following sections therefore restrict themselves to providing a conceptual understanding of language modelling. Given a sequence of words, a language model estimates the probability of a particular word occurring given information about the previous words. Unfortunately, it is not practically possible to calculate the probability of large word sequences and language models restrict themselves to sequences involving \(N\) words. These models are known as \(N\)-gram models, and \(N\) is typically set at three (Clarkson & Rosenfeld, 1997). Thus, given the thought unit “I want a beer”, such trigram models would contain probabilities for the sequence “I want a” (i.e., \(P(a | I \text{ want})\)) and “want a beer” (i.e., \(P(\text{beer} | I \text{ want a})\)) based on their relative frequency within a larger corpus. In practice, this thought unit would also generate a third trigram “a beer <eol>” (i.e., \(P(<eol> | a \text{ beer})\)), where the token “<eol>” denotes the end of the spoken unit.

Since even the largest corpora available will contain only a fraction of the possible trigrams, it is necessary to smooth the data in order to provide better estimates of the more infrequent or unseen word sequences. There are two major approaches to calculating estimates of the occurrence of unseen word sequences: discounting and backing-off. Discounting is based on the observation that, in a sparse sample, the
likelihood estimate is biased high for observed word sequences and biased low for unobserved word sequences. In order to correct this bias, the discounting approach redistributes some of the probability associated with observed events to the unseen ones. The probabilities of observed events are discounted by a pre-defined coefficient, and the sum of this coefficient across all word sequences is assigned to general “unseen word” code. In testing, if a word is encountered that is not part of the language model, it is assigned the unseen word code and the associated probability.

The backing-off approach recognises that if a given N-gram (e.g., trigram) found in the test data was not been observed in the training data, the probability of that word sequence could be estimated from relevant lower order N-grams (e.g., bigram and unigram). In other words, if a trigram is not available from the language model, the technique estimates the probability of occurrence by falling back (backing-off) to the probability of the relevant bigrams (two word sequences) and, if necessary, the relevant unigrams (single words). These smaller sequences are then used to estimate the probability of a word sequence occurring. In practice, backing-off and discounting are combined to provide optimal estimates of occurrence for unseen words sequences (Katz, 1987). This approach to smoothing is utilised in the current modelling.

*Dialogue Act Classification from Word Sequences*

To examine code classification from words (W), it is necessary to compute the probability to which each code (C) is associated with a particular words sequence, $P(W|C)$. The predicted code would then be the one with the maximum likelihood for a given thought unit. In order to estimate these probabilities, thought units of the training corpus were grouped according to the code they were assigned. These code-specific data pools were used to estimate trigram language models using standard backing-off (Katz,
1987) with Good-Turing discounting (Good, 1953). This yields 48 code-specific language models, with each code having its own language model that provides a quantitative account of the extent to which specific words and word sequences are associated with the relevant code. By applying each of these models to a trigram found within the test data, the probability of that trigram being associated with each of the 48 codes was calculated. For example, when examining the test data trigram “I want a”, the model developed on thought units associated with Demand produces a probability of 0.103, while applying the model developed for thought units assigned to ComplyDemand produces a probability of 0.006. By repeating this process across an entire thought unit, it was possible to compute an overall probability of the thought unit being associated with each of the 48 behavioural codes. The code associated with the highest overall probability likelihood was then taken as the predicted code and was compared to the coding assigned through content analyses.

To test the effectiveness of the language modelling, it is necessary to check whether codes assigned to each thought unit of the test data match the original coding at a level significantly better than if codes were assigned randomly. The language modelling was compared to a baseline (chance) accuracy of 12%, the relative occurrence of the most frequent code (Positive Backfeed) in the test set. In other words, if the Positive Backfeed code were assigned to every thought unit in the data set, then accuracy would reach 12%. Accuracy significantly above the 12% baseline would suggest that differences in the content of the thought units correspond with the originally assigned codes in a systematic and consistent manner. An alpha level of .05 was selected for all tests of the language modelling.
2.3.3 Results and Discussion

The trigram models achieved a behavioural code classification accuracy of 36.2%. This is encouraging when compared to the baseline value of 12% that would be achieved by always predicting the most frequent code (i.e., Positive Backfeed). This level of accuracy was significantly higher than baseline ($\chi^2 = 236.3$, df = 1, $p < .05$). Of the 49 codes, 19 of them were predicted by the language models significantly better than baseline ($\chi^2 > 3.84$, df = 1, $p < .05$), while a sign test indicated that all but six of the codes were correctly assigned more frequently than would be expected by chance (All $\chi^2 > 27.0$, df = 1, $p < .05$). The classification accuracy of 36.2% is approximately three times the level expected by chance, which is at the upper-end of the performance found in previous research. These results suggest that words and word organisation (e.g., collocational information) varied meaningfully and consistently over the behavioural codes. This further supports the validity and reliability of the coding dictionary as a way of measuring communication behaviour in conflict negotiations.

However, while the modelling performed significantly better than chance, it is important to note that in real terms the percentage of correctly assigned behaviours was lower than found in some previous research (Stolke et al., 2000). This outcome is likely to result from a combination of several factors. First, because the Chapter sought to test the coding dictionary rather than develop the optimal language model, the developed models contained only basic information and might have potentially been enhanced by refinement and incorporation of more detail. For example, using N-gram models of longer sequences has been shown to significantly improve the accuracy of modelling, particularly in non-structured dialogues such as conflict negotiations (Wright, 1999). Similarly, the implementation of different types of smoothing techniques has been shown to improve accuracy by approximately 1% to 2% (Chen & Goodman, 1999). Combining
these computational improvements with additional sources of information, such as prosody cues or information about the likelihood of code transitions, may yield improvements in classification accuracy of up to 15% (Shriberg et al., 1998). Finally, one likely explanation of the low overall percentage of correctly assigned units is that the models were developed from insufficient data. A correlation of $r = .82$ between the number of accurate assignments and the number of thought units used to develop the language model support this explanation.

2.4 Conclusions

This Chapter applied a coding scheme to measure the use of actual communication behaviours in three types of conflict negotiation. The approach differed from previous efforts to measure communication behaviour in several important ways. One distinction is that dialogues were divided in terms of episodic content rather than through artificial time segments. Examining interactions in relation to their qualitative content provides a more dynamic representation of the way in which negotiators use constellations of behaviours to pursue their complex and often contradictory goals. A second difference is the focus on coding thought units according to their behavioural content, without reference to a framework developed from a particular theoretical perspective. Defining the content of negotiations in relation to actual communication behaviours enables future Chapters to test (rather than assume) the various theoretical perspectives on the major differences among behaviours. A third methodological distinction is the Chapters’ focus on demonstrating the reliability of the coding scheme through several independent methods. By examining the extent to which the content of thought units can be used to assign behavioural codes, the Chapter provided a comprehensive account of coding reliability and moved to combine interpretative
measurement with more constructive, feature-driven measurement.

The Chapter demonstrated that differences in the way negotiators communicate may be meaningfully conceptualised as actual communication behaviours. Specifically, the findings showed that 41 behavioural variables provided a general framework that reliably captures the variation in dialogue across three different types of conflict negotiation. In each of the conflicts, negotiators were found to use a range of behaviours often found in mixed-motive interactions. However, while this evidence suggests that the derived data matrices will be useful for examining the ways negotiators’ communicate in conflict, it does not indicate that the method is the only or best way to measure behaviour. In light of arguments stressing the need to identify “correct” units (Hatfield & Weider-Hatfield, 1978) or establish a standard method of coding (Harris, 1996), the inability to demonstrate this quality might be considered a weakness of the current coding. There are several reasons why this is not the case. First, as previously mentioned, the coding was developed specifically to provide an exhaustive coverage of behaviours characteristic to conflict negotiation. An application of a previous coding method to the data would have necessarily required some degree of “forcing” units into particular categories, such that the resulting data matrix would represent a distorted picture of the dynamics particular to crises. Second, underlying attempts to develop a coding standard is the assumption that identifying a “correct” set of units is both an appropriate and necessary goal. However, the importance of developing valid representations of behaviour is secondary to the need to demonstrate stable and meaningful structures (Guttman, 1994b). As noted by Taylor (2002b), if a finding appears over replications with different samples of variables (and across different transcripts), then it might be inferred, by way of generalisation, that the negotiation process abides by that finding. In other words, it may be possible to identify patterns in communication that are
independent of the behaviours or coding scheme examined, thereby identifying regularities that form the basis of a general theory of the negotiation process. Revealing regularities in communication that transcend the variety of possible coding schemes is likely to be particularly important to cumulative progress in communication research.

Finally, the Chapter used language modelling to demonstrate the coding scheme’s validity as a method for identifying differences among patterns of words in the units. The modelling assigned codes in a way that matched those assigned by coders at a level significantly better than chance, suggesting that coders were actually identifying existing differences in dialogue. One important implication of language models is the possibility of defining units of measurement that are based on the ratios among occurrences of words (or at least sequences of words). This removes the major criticism of coding systems, which is that they exist only as interpretative methods that are subject to a range of biases (e.g., temporal bias, differences in understanding) (e.g., Bakeman, Quera, McArthur, & Robinson, 1997). By defining the occurrence of behaviours by a set of explicitly observable units, the language modelling approach moves closer to defining behaviours using empirically observable general properties of phenomena (Michell, 1990; Michell, 1997). The approach also shifts the agenda for development in this area from refinements of the conceptual definitions associated with units to identifying the direct correspondence between aspects of units and the measurement theory. In short, the language modelling approach provides a way of producing reliable and replicable measurement of differences in behaviour.

The possibility of automated coding of spoken dialogue, while not constituting understanding in any deep sense, may be useful in a range of applications. For example, a meeting summariser needs to keep track of who said what to whom, and be able to monitor progress in terms of critical dynamics such as conflict spiralling. More
importantly, a language model developed on conflict negotiation data has a number of applications in law enforcement incidents. Automatic classification of an individual’s dialogue would also facilitate the annotation of large electronic databases, which may be useful for both quick reference and further analysis. Negotiators can identify the predominant concerns and strategies used within a particular incident and compare these to previous incidents in the search for instructive trends and patterns (Taylor, Bennell, & Snook, 2002). In the future, such a language model may combine with a speech recognition system to form the front end of an automatic speech profiler; a system that gives real-time psychological feedback to negotiators based on the unfolding interaction.

Having now outlined the conceptual approach taken to measuring communication behaviour in conflict negotiation, the next three Chapters use the data to investigate the conceptual structure of intra-individual behaviour. Specifically, Chapter 3 develops and tests a model for understanding the basic ways in which negotiators use communication behaviour over time. This framework is then expanded in Chapters 4 and 5 by examining the differences in intra-individual behaviour across negotiation contexts and individual differences.
Chapter 3

A Cylindrical Model of Communication Behaviour in Conflict Negotiation

Overview

This Chapter integrates existing theoretical perspectives on message content and negotiator motivation to formulate a comprehensive definitional model of the interrelationships among communication behaviours in conflict negotiation. This model was tested using the data of 189 episodes transcribed from 9 cases of hostage negotiation. Results of a nonmetric, multidimensional scaling solution provides clear support for the hypothesised cylindrical structure of communication behaviour, revealing 3 dominant levels of suspect-negotiator interaction (Avoidance, Distributive, Integrative). At each level of the structure, interactions were found to modulate around 3 thematic styles of communication (Identity, Instrumental, Relational), which reflects the underlying motivational emphasis of individuals’ dialogue. Finally, the intensity of communication is found to play a polarising role in the cylinder, with intense, functionally discrete behaviours occurring toward the boundary of the structure.
During the 1989 Oakdale Louisiana prison siege, negotiators made several concessions to encourage a resolution only to find the incident worsen because they had overlooked the prisoners’ primary motivation, which was to gain recognition for their frustrations with the government (McMains & Mullins, 2001). In an effort to avoid such misunderstandings, law enforcement agencies have looked to psychology for models that can help negotiators interpret dialogue and gain insights about perpetrators’ goals, motivations, and intentions. Early responses to this demand have typically depended on mental-health professionals as on-sight advisors, requiring them to use previous clinical experience as a basis for drawing inferences from dialogue about hostage takers’ psychological motivation, interpersonal approach, and likely future behaviour. However, while this approach has yielded some success (Fuselier, 1988; Butler, Leitenberg, & Fuselier, 1993), the lack of an underlying inductive process means that the advice given is open to error from bias and incomplete interpretation, prompting several researchers to advocate moving towards more empirically-derived measures of communication behaviour (Rogan, Hammer, & Van Zandt, 1997). Such a scientific approach, based on careful measurement and resulting statistical relationships, may provide a more valid framework for understanding the variations in negotiators’ communication over time and the underlying concerns or goals these different emphases address.

The challenge for such a scientific approach is to develop an explanatory framework that helps negotiators and researchers understand the complex patterns of interrelationships among communication behaviours as they occur across a negotiation. A modelling of the actual variations in communication addresses an important problem
in conflict negotiation research, providing a framework for exploring the way in which various emphases or modes of behaviour function to allow negotiators to pursue their complex and often contradictory goals. By further mapping out how the various modes of communication emerge over the negotiation process, it becomes possible to consider how changes in behaviour moves negotiators through a series of interactions that allow an incident to begin, unfold and resolve. The challenge, then, is to develop and establish a model that explicates the conceptual dimensions or facets necessary to provide a comprehensive understanding of the interrelationships among behaviours.

The current Chapter addresses this challenge by examining the multivariate structure of conflict negotiation, the conceptual organisation of communication behaviours on the basis of their similarities and differences. This approach rests on the notion, central to much communication research, that individuals differ in the messages they communicate during an interaction and that these differences reflect psychologically important aspects of the speaker. At a broad level, differences in communication behaviour may reflect differences in individuals’ dominant interpersonal style or approach to negotiation. At a more specific level, differences in behaviour may reflect speakers’ predominant interests, concerns or goals during that particular phase of interaction. By focusing on behavioural acts, the current approach diverges from those previous conceptualisations which have tended to interpret dialogue through frameworks that combine an account of behaviour with explanations of speakers’ intentions or motivations. Although each of these perspectives highlights a particular variation in communication, clearly any attempt to derive a complete and objective understanding of the various modes of conflict communication requires classification of patterns among actual message behaviours as distinct from classification driven by a particular explanatory perspective.
The first aim of this Chapter, therefore, was to integrate the psychological, sociological and communication-based conceptualisations of communication behaviour, arguing that each reflects a different facet necessary to fully define conflict negotiation. Although such integration should primarily be drawn from studies examining negotiation in hostage crises, the scarcity of such research means it is also useful to elucidate the meaning of each conceptual distinction with findings from the general conflict literature. This approach will ensure that model development encapsulates all potential variations in communication behaviour, so that subsequent analyses can determine the direct utility of each distinction in characterising the structure of conflict negotiation. The synthesis of perspectives is advanced in a manner that enables a clear specification of the empirical structure of conflict communication, from which testable hypotheses are formulated about both the various behavioural facets, and the relations among these facets. These formal predictions are examined using a smallest space analysis (Canter, 1985; Guttman, 1968) of coded data from nine actual hostage negotiations, providing a first account of how well the theorised distinctions correspond to the actual occurrence of communication behaviour during hostage crises.

3.1 Differentiating Forms of Negotiation Behaviour

3.1.1 Levels of negotiation behaviour

The majority of early conceptions of negotiation have focused on differentiating acts of bargaining according to a dichotomy of Integrative (cooperative) and Distributive (antagonistic) behaviour (Bednar & Carington, 1983; Walton & McKersie, 1965). Other more recent research has extended this notion by incorporating additional levels of interaction (see Harris, 1996, for a review). Sillars (1980), in particular, proposed a third Avoidance (withdrawn) category, associating the movement across these three levels
with increasing degrees of observed disclosiveness and competitiveness. Several comparable versions of this three-fold distinction have since appeared repeatedly in the social interaction literature, both through research examining individuals’ subjective rating of behaviours (Mannix, Timsley, & Bazerman, 1995; Weingart, Bennett, & Brett, 1993) and experimental studies, in which dialogue change is examined following manipulation of negotiators’ strategic orientation (Donohue & Roberto, 1996; Sillars et al., 1982). Analyses using data reduction methods have also generated empirical support for the distinction, showing a match between the three levels of interaction and the underlying organisation of interrelationships among communication behaviours (Putnam & Jones, 1982). All of these studies demonstrate the empirical utility and diverse theoretical relevance of the three-fold distinction, with many identifying increasing levels of cooperation as the defining relationship among categories.

The idea that increasing cooperation underlies the movement across Avoidance, Distributive and Integrative levels of interaction fits neatly with the contemporary view of hostage negotiation as “crisis bargaining” (Donohue et al., 1991; Donohue & Roberto, 1993). This conceptualisation proposes that the pronounced levels of physical, emotional, and psychological excitation associated with crisis situations have a degenerative affect on individuals’ rationality, such that one major goal of police communication is to facilitate a movement in interactions away from low rationality (crisis) and towards a more normative, cooperative mentality. This transition may conceivably be seen to parallel movement across the levels of interaction, though clearly in mixed-motive conflict such a change occurs gradually over stages of more fluid variations in individual’s orientation. Early stages of contact will arguably involve the least amount of cooperation, with the overwhelming situation precipitating an extreme crisis or flee response (Selye, 1978) that causes hostage takers to regress from active
participation in the situation (Avoidance). In realising the inevitability of negotiation, hostage takers may show some degree of cooperation by adopting an active role in interactions, though they remain affected by the stress of conflict and resort to self-interested aggressive and coercive tactics (Distributive). As negotiations progress, hostage takers may be persuaded that both sides working together will ultimately lead to a satisfactory solution, such that they place greater emphasis on normative and cooperative communication as a way of reconciling the parties’ divergent interests (Integrative).

This collection of evidence indicates that the three ordered elements of Avoidance, Distributive, and Integrative represent empirically and conceptually rich categories for a level of interaction facet that depicts the inherent tension in negotiators’ overall behavioural approach to interaction. However, the distinction provided by the level of interaction facet fails to allow for the possibility that very different concerns or motivations underlie individuals’ overall negotiation approach. As such, the distinction ignores the potential for producing a refined specification of the level of interactions by identifying variations in the quality or mode of negotiators’ behaviour in each context of interactions. Both the F.I.R.E. framework for understanding crisis negotiation research (Hammer, 2001) and Wilson and Putnam’s (1990) discussion of interaction goals review this refinement and provide strong arguments for its inclusion in efforts to understand the negotiation process.

3.1.2 Motivational emphases of negotiation behaviour

Instrumental Theme

One approach to understanding negotiator motivation, derived mainly from early game-theoretical studies, conceptualises negotiation as a relatively controlled and
purposeful process in which individuals’ primary motivation is to maximise their gain of tangible commodities or wants. The importance of instrumental goals is emphasised in theories as diverse as social exchange theory (Rolloff, 1981) and the dual-concern model (Pruitt, 1983), and instrumental tactics often form a central aspect of law enforcement training programs (Greenstone, 1995; Harvey-Craig, Fisher, & Simpson, 1997).

Consistent with these accounts, research has not only identified a group of behaviours that communicate instrumental concerns, but has also shown that the effectiveness of instrumental problem solving is linked to the extent negotiators use these behaviours during later stages of interaction (Holmes & Sykes, 1993; Natslandsmyr & Rognes, 1995; Sandler & Scott, 1987). In particular, the avoidance of instrumental issues has been associated with a resistance of substantive discussion and a reduction in overall participation (Sillars et al., 1982). Distributive interactions, in contrast, are typically driven by more aggressive behaviours such as demands and counter-demands, threats, and the rejection of solutions involving loss (Wilson & Putnam, 1990). Finally, the communication of instrumental issues during integrative interactions has been associated with strategies that reduce conflict spiralling and convey flexibility and agreement. Behaviours that are central here include the making of offers, concessions, compromises, and priority information exchange in the search for win-win agreements (Donohue, Diez, & Hamilton, 1984; Olekalns & Smith, 2000; Wilson & Putnam, 1990).

These early perspectives model negotiators as rational actors, whose capacity to maximise external reward is limited only by inefficient information exchange and information processing. However, this conceptualisation has emerged from a research tradition that depended heavily on restrictions set by the experimental paradigm, prompting several researchers to criticise the accounts as overly simplistic and insensitive to the high level of emotionality and uncertainty that influence negotiators’
communication (Van Zandt, 1993). Indeed, several independent reviews (Soskis & Van Zandt, 1986; Rogan, Hammer, & Van Zandt, 1994) have indicated that the majority of cases encountered by law enforcement occur as a result of the mental or emotional inability of hostage takers to cope with life stressors. Such findings imply that negotiators face both external (instrumental) and internal (expressive) communication challenges, with the latter representing individuals’ emotional, non-substantive concerns (Miron & Goldstein, 1979).

Relational Theme

Many social psychological theories have suggested that negotiators use behaviours to develop and manipulate the relational roles between themselves and the other party. As discussed by Wilson and Putnam (1990), analyses have shown that negotiation development is significantly affected by relational elements such as power, exerted by speakers’ assertiveness and willingness to balance turn-taking (Millar & Rogers, 1976), and trust, which is conveyed by speakers’ expressed confidence and assurance in the other party (Powell, 1989). Authors adopting a sociological perspective have also asserted the importance of interpersonal style, demonstrating that relational roles between parties (e.g., subordinate-superior) significantly influence factors such as the dominance and formality of communication (Powell, 1989; Wish & Kaplan, 1977). These suggestions are consistent with practitioner accounts, which report a similar emphasis of demonstrating respect and establishing trust with the hostage taker before moving to problem-solve. Negotiators are advised to work towards establishing rapport through behavioural strategies including empathic listening, paraphrasing, openness and reflection (Fuselier, 1986; McCaffery, 1994; Strenz, 1983).
This range of relational dynamics is usefully captured in relational order theory (Donohue, 1998, 2001; Donohue, Ramesh, & Borchgrevink, 1991), which suggests that communication serves individuals’ need to work through interdependence (degree to which parties assert rights and accept obligations) and affiliation (degree of emotional liking and trust) concerns. Donohue and Roberto (1993), in particular, demonstrated that communication during 10 actual hostage negotiations progressed across fairly stable patterns of development, with change concentrated around interdependence issues while affiliation remained either high or low throughout the negotiation. In the relational order framework, avoidance of interaction is considered to be the result of low affiliation and interdependence brought about through messages of disapproval, termination and withdrawal (Donohue, 1998). In contrast, conflict is proposed to emerge from a more aggressive assertion of rights and obligations. Consistent with this proposal, research has associated distributive interactions with justifications, repeated interruptions, profanity and the use of simple language and sentence structure (Rogan, 1995). Finally, more integrative outcomes are associated with high levels of liking and dependence, as parties encourage and reassure each other that working together is the best way forward (Donohue, 2001). Each of the approaches offered by different disciplines addresses a range of subtly distinct motivational factors, but broadly speaking these can all be seen to reinforce the importance of considering behaviours that facilitates relationship development.

Identity Theme

A third source of motivation discussed in the literature is identity concerns, the extent to which individuals’ messages show concern for both the other parties’ and their own self-presentation or “face” (Goffman, 1967). The communication of identity has
repeatedly emerged as central to interpersonal interaction. Studies have suggested that
differences in behaviour relate strongly to both individuals’ confidence and perception of
self (i.e., personal identity) and to people’s need to achieve a positive expression of self
amongst others (i.e., social identity, Bandura, 1977; Tajfel & Turner, 1986). In studies
relating directly to conflict negotiation, concern for identity has been established as a
significant determinant of overall behaviour (Donohue & Kolt, 1992; Folger, Poole, &
Stutman, 1993) and is a clear correlate of related factors such as interaction outcome
(Brown, 1970; Hammer, 2001). Similar concerns in cross-cultural studies have
demonstrated a link between communication about identity and a range of interrelated
factors including individualism-collectivism, religious beliefs, and society values

Drawing on Tajfel’s social interaction theory (Tajfel & Turner, 1986), one useful
line of research has examined negotiation using a model of facework that classifies
behaviour into messages focused on maintaining face (e.g., denial), attacking face (e.g.,
criticism) and supporting face (e.g., compliment; Hammer, 2001; Ting-Toomey et al.,
1991). Research based on this three-fold framework (Rogan, 1999; Rogan & Hammer,
1994) has shown that competitive negotiations are characterised by attacking an
opponent’s identity through insults and criticisms, while defending personal-face through
behaviours such as denial, commitment and boasting. In contrast, cooperative
interactions are the result of face-honouring behaviours such as empathising,
complimenting and expressing commonality between the other party and self. Given the
personally threatening outcome of hostage crises (e.g., jail), it is not surprising that
several theoretical and empirical accounts have emphasised identity as having an
important role in understanding patterns of communication behaviour.
The predominant concerns presented above comprise a second *motivational* facet that classifies communication behaviour into three distinct themes of interaction. In comparison to the transitivity proposed across the level of interaction facet, there is no inherent order predicted across the three motivational themes, which reflect the various concerns or goals that may predominate an individual’s current approach to the negotiation. Negotiators adopting an Avoidance, Distributive, or Integrative approach to interactions could focus on a range of concerns, suggesting that this second facet may be evident at each of the three levels of interaction. For example, within cooperative interactions negotiators may focus on empathising and supporting each other’s identity, while in distributive interactions they may resort to criticisms and insults that denunciate the other’s personal-worth. Thus, this second classification elucidates the overall definition of communication by distinguishing the qualitative focus of negotiators’ communication at each of the three levels of interaction.

### 3.1.3 Intensity of negotiation behaviour

A final distinction that has surfaced in interpersonal research, implied by the notion of behaviour serving several distinguishable functions, is the possibility that differences may emerge in the extent or degree to which negotiators evince a particular mode of behaviour (e.g., Eysenck, 1965; Lorr, 1996). This premise suggests that behaviours serve various purposes to different degrees, such that certain behaviours are central to all aspects of communication, while others function very specifically to convey a strong interest in resolving a particular concern. Studies in conflict negotiation have conceptualised language intensity as a measure of a range of factors including emotional stress (Bradac, Bowers, & Courtright, 1979), relational affect (Donohue, 2001), and more instrumental factors such as persuasion or threat conviction (Hamilton & Stewart,
These studies have linked the degree to which a speaker’s attitude towards a concept deviate from neutrality to more frequent use of obscure metaphors, profanity, and dramatic changes in intonation (Bowers, 1963; Donohue, 1981; Lewicki, Saunders, & Minton, 1999). The use of such intense behaviours has typically been shown to have a detrimental impact on negotiation, exacerbating the tendency for conflict to escalate and for negotiations to break down (Lewicki, Saunders, & Minton, 1999). For example, Allred et al. (1997) has shown that negotiators expressing high levels of anger and little compassion achieve significantly fewer joint gains and have less desire to work together in future interactions. At the very least, intense language moves negotiators away from the normal bargaining process, and so reduces the chance that the negotiation will progress towards a resolution (Bowers, 1963; Burgoon & King, 1974).

The concept of behavioural intensity has also been operationalised in a number of studies that examine the patterns of perpetrator and negotiator message affect across the progression of negotiation in hostage crises. For instance, in an examination of three actual hostage incidents, Rogan and Hammer (1995) established that hostage taker affect at initial confrontation is extremely negatively intense, subsides as negotiators begin to develop interdependence, but may revert to an increasing negative progression if problem solving is ineffective in generating agreement. Similarly, variation in communication intensity is embodied in all research that conceptualises behaviour as variations along several high-low dimensions (Donohue & Roberto, 1993) or classifies dialogue using scores on an interval-based scale (Donohue & Roberto, 1996). In all these frameworks, unsuccessful interactions are associated with higher scores on the predictor scales, particularly when scores persist or increase over time (Sarna, 1997). These findings show that a third intensity facet may provide a useful construct for understanding how behaviour allows negotiators to differ in the extent to which they
pursue a particular goal, with high intensity relating to less common, extreme communication.

3.2 Defining a Testable Model of Communication Behaviour

The variety of different explanations articulated in the literature illustrates the potential for identifying a comprehensive range of modes of interaction in conflict communication. Since each theoretical perspective supposes a distinct behavioural approach to communication (i.e., a set of behaviours), each mode of interaction would be expected to have an observable counterpart in the dialogue communicated during actual negotiations. A number of hypotheses can therefore be derived from previous research about the likely co-occurrence of communication behaviours during periods of interaction, given that all of the proposed facets may potentially occur during the negotiation process. Evidence showing the constant occurrence of any such subset of conceptually related behaviours would support the related theoretical perspective, while a completely random combination of behaviours would suggest that there is no coherent support for the proposed differences. However, support for the complete eclectic model also requires the similarities and differences between these behavioural subgroups to correspond with the structural relationships specified by theory. The greater the conceptual similarity between two modes of interaction, the more related their behavioural counterparts should be empirically, and hence the more likely they are to co-occur in a single communication episode. The elements of conflict negotiation and their theoretical relations may therefore be formalised in terms of specific hypotheses about the pattern of interrelationships among communication behaviours.
3.2.1 Hypothesis 1: Levels of interaction

At the broadest level, research has differentiated negotiators’ approach to interactions according to a three-fold distinction of Avoidance (withdrawn), Distributive (antagonistic), and Integrative (cooperative) behaviour (Sillars, 1980). This distinction is often understood in terms of an underlying dimension of increasing cooperation which, given the parallels with movement from crisis to normative bargaining, suggests it would be prudent to conceptualise these processes not as purely qualitative variations, but as a hierarchy of behavioural approaches each ordered in relation to the others by differing degrees of cooperation.

\textit{H1:} Subsets of conceptually related behaviours will consistently occur together in the previously defined levels of Avoidance, Distributive and Integrative, according to a linear order of increasing cooperation.

An empirical finding demonstrating that meaningful sub-groups of negotiation behaviours consistently co-occur will provide support for that particular orientation to interaction.

3.2.2 Hypothesis 2: Motivational variations in behaviour

In order to explicate the content of each level of interaction it is necessary to generate a classification scheme that identifies meaningful qualitative differences in negotiators’ overall approach. A negotiator adopting a particular approach to interaction may do so for a range of diverse goals, but these can essentially be divided into interactions with predominantly instrumental (external) and expressive (internal) concerns (Harvey-Craig, Fisher, & Simpson, 1997; Miron & Goldstein, 1979). On closer examination, it is apparent that affective elements of communication are clarified
conceptually if divided into those focused on the style or underlying relational development of the interactions, and those dealing with negotiators’ identity-related concerns (Hammer, 2001; Wilson & Putnam, 1990).

\textit{H2:} Each level of interaction may be differentiated according to themes of Identity, Instrumental and Relational where each is exemplified by qualitatively different subsets of behaviour. Any such grouping of communication behaviours would support that particular emphasis as important to understanding the pattern of co-occurrences among behaviours. For example, if different forms of instrumental behaviour co-occurred, but various attempts at focusing on identity were quite independent of each other, then there would be support for instrumental concerns but not identity concerns as a coherent salient aspect of conflict negotiation. In effect, such a result would reduce the number of empirically distinct explanations available for understanding the patterns of behaviour in negotiators’ dialogue.

3.2.3 Hypothesis 3: Variations in intensity

The possibility of identifying qualitative differences in negotiation behaviour suggests that there may also exist a quantitative difference in the degree that negotiators express a mode of interaction (Lewicki, Saunders, & Minton, 1999; Rogan & Hammer, 1995). The intensity of communication therefore reflects differences in the way negotiators express their predominant concerns or goals, such that degrees of intensity are distinguished by different behaviours within a single motivational theme.

\textit{H3:} Negotiators communicate behaviours of both high and low intensity, where the degree of intensity modifies the three different motivational emphases of interaction.
3.3 A Cylindrical Model of Communication Behaviour in Conflict

Negotiation

The distinctions and structural relations asserted by the three hypothesised facets generate a conceptualisation of negotiation behaviour that can be modelled graphically as a cylinder. A schematic representation of the hypothesised cylinder is presented in Figure 3-1. This empirical structure enables a clear conceptualisation of the proposed facets, as well as the relationships between the intersecting partitions formed by each facet. The level of interaction facet assumes an axial role in the cylinder, dividing the geometric structure into three levels that correspond with an ordered sequence of Avoidance, Distributive, and Integrative behaviour. At each level of interaction, the motivational facet creates three qualitatively different themes of behaviour that emanate from a common origin to partition the space into wedge-like regions. Finally, the level of intensity facet recognises that points do not fall equidistant from the cylinder’s origin and so operates as a modifier of the three qualities of interaction such that degrees of behaviour subsist for each motivational theme. Thus, the polarising facet of motivation combines with the modulating intensity facet to yield the three circular faces of the structure, which combine with the orthogonal axis formed by the level of interaction facet to produce a cylinder. The hypothesis of an empirical structure that corresponds to previous theory and research is open to the same form of direct empirical test as conducted in other areas of social research (e.g., Donald, 1985; Levy & Guttman, 1975).
3.4 A Test of the Cylinder Model of Communication Behaviour

3.4.1 Method and analysis

*Transcription Sample*

The matrix derived from the actual hostage negotiation data was used to test the proposed cylinder structure. This matrix captures variations in behaviour across nine actual hostage incidents whose scenarios were sufficiently broad to embody what police officers’ perceive as the distinguishing goals and orientations of hostage takers (Donohue & Roberto, 1993). The data therefore provide a good first test of the predicted facets. The data matrix recorded the sum frequency of occurrences (cell value) for 41 communication variables (columns), across the 189 interaction episodes (rows). The full characteristics of the nine transcripts, a decomposition of talk frequencies, and the coding results were described in Section 2.1.1 (p. 21).

*Figure 3-1.* Schematic representation of the proposed cylindrical structure of negotiation behaviour.
Analysis of Communication Behaviour

The data were analysed using a non-metric multidimensional scaling procedure known as Smallest Space Analysis (SSA-I; Lingoes, 1973). Smallest space analysis is based on the assumption that any underlying structure or common theme in behaviour will be most readily appreciated by examining the relationship each variable has with every other variable. These relationships are measured using association coefficients, the rank order of which is visually represented as distances in geometric space. The representation is such that the higher the association between any two variables, the closer together the points representing them will appear on the spatial plot. In the current study, associations between pairs of behaviours (variables) were measured using Pearson’s correlation coefficient, calculated by comparing the frequency of occurrence of one variable with another variable across all 189 episodes. This resulted in a symmetrical correlation matrix containing 1640 (41 variables x 40 variables) different comparisons measuring the extent to which any two behaviours co-occurred.

To maximise the match between the rank order of distances in the configuration and the rank order of original correlations, SSA-I adopts an iterative process in which the distances between variable points are adjusted to reduce a measure of “stress” known as the coefficient of alienation (Borg & Shye, 1995). The smaller the coefficient of alienation, the better the plot depicts or fits the original correlation matrix. The SSA-I procedure therefore continues to make iterative adjustments to the distances between points in the space until it reaches the smallest possible coefficient of alienation and, therefore, the most representative configuration of points. At this stage, the coefficient of alienation provides a general indication of the degree to which the concomitant relationships among communication behaviours are accurately depicted by their variables corresponding spatial distances in the solution space. However, it is not
possible to make a single judgement regarding the accuracy of the representation in terms of “good” or “bad”. This question depends on a complex combination of the number of variables, the amount of error in the data and the logical strength of the interpretation framework (see Canter, 1985).

The final spatial pattern of behaviours enables a direct test of the three facets identified in the literature, since the configuration is developed with respect to the interrelationships among variables and not from the variables’ relationship to any imposed orthogonal dimensions or extrinsic probabilistic qualities of the data. An empirical examination of the spatial configuration is based on the regionality hypothesis (Shye, 1978), which states that behaviours with a common facet element, and therefore a similar interpersonal emphasis, will be found in the same region of the SSA-I space. Such facet-identified regions should not be viewed as mutually exclusive categories, and are used only to bring clarity to the overall pattern of interrelations among behavioural variables. Yet, any evidence for such contiguous regionality in a multidimensional space is a quite specific identification of a facet element, provided that a clear statement can be made about the common feature of all communication behaviours in that region.

This statement of a rationale for associating variable points with a particular facet region is an important component of the regionality approach because it forces the researcher to extend “significance” testing beyond purely statistical criteria to considerations of the correspondence between conceptual distinctions, previous research evidence, and the current observations. Regionality requires empirical (correlational) and substantive (theoretical) proximity as a necessary condition for statistical dependence or “significance”. In the current analysis, then, testing the proposed cylindrical model is not based on an elaborate reporting of single differences between variables, but is instead a holistic endeavour in which each communication behaviour is considered within the
context of occurrence with all other behaviours. So although this approach does not avoid the possibility (associated with all analyses) that behaviours serve a variety of functions, examining the overall regional patterning of data does allow for meaningful statements to be made about the predominant interpersonal function or emphasis (as well as the distinctiveness of this emphasis) served by each behaviour; again in the inclusive context of interrelationships among all behaviours. Thus, partitionability of the SSA-I space may be regarded as a particularly useful kind of statistic, whose “values” are judged on criteria of both empirical and theoretical clarity, and whose “meaning” relates to the pattern of occurrences among behaviour during each negotiation episode. (For extended commentaries on this methodological approach see Borg & Shye, 1995; Canter, 1985; Shye, 1978).

3.4.2 Evidence for the three facets of communication behaviour

An SSA-I in three dimensions was found to have a co-efficient of alienation of .20 in 22 iterations, indicating that the variable inter-correlations are reasonably well represented by their corresponding spatial distance in the derived configuration (Donald & Canter, 1990). Figure 3-2 shows a projection of the first and second dimensions of the resulting three-dimensional solution. The labels associated with each point correspond to one of the 41 communication behaviours defined in Table 2-4.
Hypothesis 1: Levels of Interaction

A first stage in examining the structure of the SSA-I configuration is to determine whether the conceptual emphases of the level of interaction facet can be identified in the pattern of co-occurrences depicted in the solution space. In accord with the regionality hypothesis, Figure 3-3 shows the same SSA-I configuration overlaid with a thematic interpretation relating to Avoidance, Distributive and Integrative levels of interaction predicted by Hypothesis 1. As mentioned previously, such identified regions should not be viewed as discrete categories or clusters, but rather reflect the changing emphases of communication behaviour across the pattern of co-occurrences.

Figure 3-2. Dimensions 1 and 2 of a Smallest Space Analysis of negotiation behaviour from 189 episodes of interaction. Coefficient of Alienation = 0.20 in 22 iterations.
Those behaviours located toward the left region of the configuration clearly depict a withdrawal from interaction (Avoid\(^1\), Inaction) and a refusal to acknowledge responsibility for the hostage crisis (Denial, NegReply). This standoff is further enforced through challenges in the form of provocation and accusations (Accuse, Provoke), as well as explicit attempts to retract from previous agreement (Retract). In comparison, interactions focused on the middle third of the configuration have a highly antagonistic emphasis involving both derogating criticism and insults (Criticism, Insult), and demands often reinforced by threats of action (Demand, ThreatAction). This distributive level of interaction is further characterised by a rigid, unyielding approach to communication, with parties reinforcing their current position through expressions of

\(^1\)Names in parentheses refer to the variable label representing the occurring communication behaviour as it appears on the SSA-I configuration.
commitment (Commitment), suggestions of unreasonable alternatives (Alternative) and rejection of the other party’s offers (RejectOffer). Finally, behaviours located in the right-hand region of the configuration relate to a cooperative approach that focuses on developing a jointly acceptable conclusion to the interactions. In this region are behavioural variables that depict negotiators’ willingness to comply with demands (ComplyDemand) and address the disagreement through proposing offers or integrative solutions (Integrative, Offer). Negotiators communicating in this way may also express an understanding of the others’ situation (Empathy), show a willingness to except personal responsibility (Apology, NegSelf), and make repeated efforts to develop interdependence and trust (Promise, Reassure).

The pattern of interrelationships among behaviours, summarised by the regional interpretation imposed on the SSA-I plot, also supports the hypothesised order of cooperation across the three levels of interaction with movements from left to right of the space associated with an increasing normative, problem solving emphasis. This broad interpretable pattern depicts the important role of Avoidance, Distributive, and Integrative levels of interaction, suggesting further that different orientations can dominate particular periods of dialogue, with “paths” of behaviours moving from dissensus to engagement to mutual problem solving. Since there is an interpretable structure to speakers’ overall interpersonal approach, it is appropriate to consider the possibility of finding variations in the motivational concern and intensity of behaviour across the three approaches.

**Hypothesis 2: Motivational (Qualitative) Variations in Behaviour**

Hypothesis 2 proposed that each level of interaction would be differentiated by three qualitatively distinct subgroups of behaviour that exemplify the major themes of
Identity, Instrumental and Relational concerns. Figure 3-4 displays the same SSA-I configuration superimposed with regions denoting an underlying thematic structure to negotiators’ behaviour at all three levels of interaction. In this projection, the axial role of the level of interaction facet in relation to the thematic variations in negotiation behaviour may clearly be seen, creating three regions of behaviour in the left (Avoidance), middle (Distributive) and far right (Integrative) sections of the plot. More importantly, the radial (polarising) form of this three-fold motivational theme may also be observed, with wedges or themes of interaction emerging in different directions from the centre of the Avoidance, Distributive and Integrative levels. These wedge-shaped regions reflect the three hypothesised motivational themes of communication, and were labelled within each level of interaction as Identity, Instrumental and Relational. For instance, the region situated at the top-left of the SSA-I configuration (Avoidance-Identity) reflects an avoidance of interactions focused particularly on identity concerns. Negotiators communicating in this way deny personal responsibility for the conflict (Denial) and avoid constructive interaction by attacking the other party’s credibility as a negotiator (Accuse, Provoke). In contrast to this emphasis, the occurrence of variables such as Alternative, Demand and ThreatAction within a region of the space (Distributive-Instrumental) suggests that these behaviours have a rather different application, functioning almost exclusively to maximise personal gain of tangible goals. This focus on external issues is also evident in the region partitioned towards the bottom-right of the solution space (Integrative-Instrumental), but behaviours here reflect a predominantly cooperative approach to interaction. Negotiators show a willingness to generate mutually satisfactory agreements (Integrative), conciliate with the other party’s demands (ComplyDemand), and propose equally attractive offers (Offer). Finally, other groups of behaviours in the solution space form congruent regions that emphasise the
relational element of suspect-negotiator interaction. For example, this emphasis is salient to behaviours associated with the Distributive-Relational region, whose dominant characteristic is the assertion, often through repeated justifications (Justify) and excuses (Excuse), of personal reliability and relative need within the interaction.

These nine regions represent the fundamental modes of behaviour that occur across the episodes of the conflict negotiations, and are discussed at length in subsequent sections. However, to allow a full description of the patterns among behaviours and a further elaboration of each mode of interaction, it is first useful to consider the role of intensity in structuring the solution space.
Hypothesis 3: Variations in Intensity

A two-dimensional projection of the second and third dimensions of the resulting configuration are shown in Figure 3-5, which for clarity have separated the Avoidance, Distributive and Integrative levels of interaction. The three configurations are superimposed with partitions formed by the motivational facet, together with schematic arrows portraying the direction of increasing intensity from low to high. The regionality lawfulness remains virtually invariant between this and the configuration in Figure 3-4, with only the variables denoting Profanity and Promise in different regions of the solution space. These projections therefore enable the polarising nature of the motivation facet to be seen more clearly, with qualitatively distinct themes of interactions emerging in different directions from the origin. More interestingly, these projections highlight a major distinction between the Instrumental regions and the Identity and Relational regions, with the distinction between Identity and Relational appearing as a subdivision of the relatively major partition. This regioning substantiates the widely held assumption that communication is comprised of both instrumental and expressive acts, with the latter appearing as a subdivision of the region formed by identity and relational issues (Wilson & Putnam, 1990).
Figure 3-5. Dimensions 2 and 3 of the SSA-I configuration showing the motivation facet, and the modulating intensity facet. The configuration is divided into the Avoidance (bottom), Distributive (middle) and Integrative (top) level of interaction.
The distribution of behaviours shown by the SSA-I configurations also enables clear identification of the proposed modulating intensity facet (Hypothesis 3), which may be interpreted as reflecting increasing intensity with radiation out towards the edges of the configurations. For example, the bottom-right quadrant of the plot for Integrative interactions (Identity region) depicts increasingly intense efforts to support the other negotiator’s face, moving from expressions of confidence in the other’s ability (Confidence), through to direct complements and repeated attempts to consolidate the other’s self-image using empathy (Compliment, Empathy). Interestingly, the variable Apology is located nearest to the high intensity, outer-edge of the cylinder, suggesting that negotiators may eventually shift to admitting the inappropriateness of their own actions as a way of supporting the other party’s self perception. In a similar manner, intensity modulations are evident in Distributive-Instrumental interactions, which involve increasingly direct attempts to force the other into conciliation as the behaviours escalate from rejection of demands, to statements of commitment, through to direct threats of action (Commit, RejectDemand and ThreatAction).

More interestingly, it is the nature of an SSA-I configuration that those communication variables located toward the centre of each circular (radial) level are the ones that, empirically, have the highest average association with all other behaviours. In contrast, those at the periphery are the most functionally discrete, making distinctions between the various themes of interaction clearest at the outer-periphery of each level. In the current results, therefore, as behavioural intensity increases, so communication behaviours become more representative of a particular style or theme of interaction. This means that behaviours occurring in the central core of the SSA-I configuration occur in the majority of interactions and so provide a behavioural definition of that level of
interaction, whereas other behaviours offer a more specific emphasis, giving any particular interpersonal episode its specific characteristics.

For example, the activities found as central to an Avoidance orientation to interaction represent indirect attempts to avoid important issues (Avoid) and a refusal to accept blame for events of the hostage crises (Denial, NegReply). More intense attempts to avoid interaction are afforded by behaviours that either disrupt the interpersonal process (Interrupt, Provoke) or withdraw from the process entirely (Inaction). In contrast, the behavioural core of the Distributive level, most highly correlated with each of the various emphases, relates to competitive rejection of the other party’s proposals (Excuse, RejectDemand). As behaviours begin to differ in their reference to this common core, so they reflect increasingly coercive efforts to force the other party to adopt a personal viewpoint about either an expressive or instrumental issue (PosSelf, ThreatAction). Finally, the three variables, Confidence, Offer, and Reassurance are particularly central to an Integrative approach, with other behaviours differing in their reference to this common focus of generating a cooperative and supportive interaction. Compromising, accepting offers, and conciliating to the others’ demands (AcceptOffer, ComplyDemand and Compromise) all emphasise a desire to focus discussion on generating a mutually beneficial outcome to instrumental issues. Similarly, encouraging, agreeing, and joking (Agree, Encourage and Humour) with the other party represent acts focused on developing rapport, while apologising, identifying commonalities, and admitting personal weaknesses (Apology, Common and NegSelf) are behaviours that suggest negotiators’ prominent concern is for the other party’s self-confidence. In the same manner, this aspect of the configuration can provide an important understanding of how conflict behaviours in each region vary in their centrality and functional distinction, and are addressed in Section 3.5.
3.5 A Cylindrical Model of Conflict Communication

The SSA-I configuration shows clear support for the hypothesised facets of communication, indicating that three motivational themes of interaction, modulated by intensity, occur across Avoidance, Distributive and Integrative levels of negotiation. More importantly, the SSA-I demonstrates that the orthogonal relationship between the level of interaction facet and the motivational concern facet is most appropriately modelled using a cylinder. Indeed, the model has such a clear correspondence with the interrelationships among communication behaviours that it is possible to overlay an approximation of the cylinder on the two dimensional SSA-I solution (see Figure 3-6). The cylinder model introduced in Figure 3-1, therefore, is not just a schematic illustration, but has been directly tested in the data. This suggests that a detailed interpretation of the configuration would provide insights into the behavioural differences that move discussion through various phases, and the conceptual relationships among theories that are encapsulated within the cylindrical model. The following Section elaborates both of these areas for each of the model’s nine regions. For simplicity, the regions are reported separately, though clearly different periods of interaction will only be predominated (i.e., not exclusively) by a combination of behaviours from one particular theme.
3.5.1 Avoidance level of interaction

*Identity Theme*

The behavioural variables associated with this form of negotiation reflect interactions that involve attempts to fully dissociate self from any degree of responsibility or even knowledge of events in the crisis (Denial). More specific emphasis in this region is associated with accusations (Accuse) and provocations (Provoke), suggesting that these potentially aggressive behaviours are used primarily to refocus communication on the other party and elude any constructive form of instrumental
problem solving. Importantly, however, this region does not encompass any aggressive activities against self, and so does not support considering avoidance of interactions as a marker for self-destructive behaviour (Abbott, 1986). Indeed, the emphasis of behaviours in this region has clear parallels with the defend self-face element of the facework model (Rogan & Hammer, 1994), reflecting an individual who adopts a protective orientation aimed at qualifying self-image while shifting responsibility to the other party.

Relational Theme

These behaviours are a clear indication of withdrawn, ineffective communication in which negotiators choose not to assert rights and respond unwillingly to any attempt at developing a mutual relationship. The interactions most commonly involve negative retorts (NegReply), but this antipathy towards communicating with the other party is further emphasised through submissive statements (Submit). Finally, continuous interruptions (Interrupt) of the other party particularly function to centre interactions on this aspect of concern, with the behaviour allowing a speaker to explicitly demonstrate their reluctance to even relate through passive listening to the other party. The variables associated with the Avoidance-Relational theme, then, are in accord with those accounts that take a social psychological perspective, covering interactions involving low degrees of affiliation (Donohue, Ramesh, & Borchgrevink, 1991) and trust (Powell, 1989).

Instrumental Theme

In contrast to those aspects of dialogue which reflect unwillingness to maintain personal (expressive) involvement, variables identified as relating to the Avoidance-Instrumental theme emphasise interactions involving tactics designed to minimise any problem-oriented discussion of the conflict. In these interactions, negotiators are
typically quick to terminate constructive communication through both deliberate attempts to avoid considering substantive issues (Avoidance), and more subtle attempts to shift the focus of conversation (Shift). Negotiators may also show little commitment to previous agreements (Retract), and this reluctance to engage in normative problem solving may intensify into complete unresponsiveness (Inaction). The collection of behaviours in this region, therefore, instantiates the “inaction” strategy of the dual-concern model (Pruitt, 1983), with negotiators showing little interest in either the other party’s or their own concerns.

Overall, the three motivational regions that form the Avoidance level of interaction correspond with perspectives suggesting that negotiators may adopt a regressive (Donohue, 1981) or avoidance (Sillars et al., 1982) orientation to negotiation. The collective variables therefore have some parallels with the “moving away” element of relational development (Donohue & Roberto, 1993) in which negotiators bolster their own position and credibility, and utilise messages about termination and withdrawal. Thus, the Avoidance level of interaction illustrates how the substantial emotional excitation created by conflict may yield a primitive “flight” response (i.e., “fight or flight”, Selye, 1978), where negotiators actively avoid taking any role in the interactions.

3.5.2 Distributive level of interaction

Identity Theme

These interactions typically involve highly emotional, often immoderate criticisms of the other party’s actions (Criticism) that may subsequently intensify to direct insults (Insults) as individuals vent their frustration. The negotiators may also express commitment (Commitment) to their current proposal and communicate exaggerated views of personal ability (PosSelf), these behaviours serving particularly to
demonstrate their personal superiority over the other party. This set of behaviours therefore accords well with the explanatory arguments of Strentz (1983) that suppose hostage takers respond to the face-threatening nature of a conflict by escalating behaviour into one of increased competitiveness and aggressiveness. Similarly, in terms of a facework model of negotiations, this mode of behaviour represents an “attack other” approach to interactions in which negotiators use insults and humiliation to reduce the other party’s identity and sense of self-worth (Rogan & Hammer, 1994).

Relational Theme

Social psychological discussions (e.g., DeDreu, Giebels, & Van deVliet, 1998) of negotiation often emphasise that both parties can accept an active role in the interactions, but may use relationship development as a device for pursuing and arguing the importance of personal goals (Excuse, Justify). The boundary location of the Excuse variable relative to the Justify variable in this region is logical, in that negotiators competitively protect self-face during excuses, which lack the admission of accountability associated with justifications. This need to dominate the relationship is most clearly achieved through pleas and appeals (Appeal), which are potentially aimed at persuading the other party to adopt the negotiator’s “correct” point of view. The variable Profanity is also interestingly in this region, supporting the notion that high levels of swearing are used as a means to asserting power and dominance within a relationship (Patrick, 1901). Taken together, these behaviours characterise interactions that retain the low levels of immediacy and a resistance to role obligations, but they also incorporate attempts to dominate the relationship and “move against” (Donohue & Roberto, 1993) the opposing party.
Instrumental Theme

The seven behaviours associated with this mode of negotiation have a highly antagonistic emphasis involving the assertion of several, often immoderate demands (Demand) that are met with equally hostile rejections (RejectDemand). The emphasis is on the establishment and embellishment of a maximal position as negotiators avoid direct consideration of the other party’s suggestions (RejectOffer), and propose alternatives that are biased towards personal reward (Alternative). A particularly intense focus on this aspect of interaction involves the reinforcement of demands and alternatives by threatening to punish the other party for failing to make a concession (ThreatAction). For this mode of interaction, the behaviour of negotiators is consistent with the proposals of bargaining and exchange theories (Roloff, 1981); negotiators seek to maximise achievement of personal reward with little concern for the other party.

Collectively, the regions composing the Distributive level of interactions reflect an aggressive (Putnam & Jones, 1982), win-lose mentality toward negotiation. The behaviours can be seen as synonymous with the contentious approach to interactions embodied in early dual-concern and game-theoretical models, with negotiators determined to maximise personal gain. This region may also be conceptualised as the antithesis of behaviours instantiating a flight response to negotiations, with actions indicating a primitive “fight” response rather than a more rational problem-solving approach to interactions.
3.5.3 Integrative level of interaction

Identity Theme

A coherent region of seven behaviours, in particular, supports the possibility that communication may play a highly supportive role that mitigates against the threatening nature of the hostage crisis. This mode of negotiation typically involves direct attempts to enhance interactants’ emotional esteem through both uncritical agreement with the other’s perspective (Agree) and compliments regarding his or her ability or personal composure (Compliment). This region also contains variables indicating that negotiators frequently show empathy for the other’s situation (Empathy), which they often support with reassurances about the benefits of interaction for personal satisfaction (Allure). At a more intense level, negotiators may reveal personal information regarding their position (Common, NegSelf) and even apologise for their previous actions (Apology), possibly in an effort to generate increased affiliation and understanding regarding the extenuating factors responsible for the hostage crisis. The pattern of behaviours within this region may therefore be seen to exemplify prescribed law enforcement strategies for negotiating crisis incidents, in that police negotiators are trained to help hostage takers gain emotional stability, develop a positive sense of self, and feel less overwhelmed by the presence of law enforcement personnel (Donohue et al., 1991). The region also corresponds with the restore-other face component of the facework model (Rogan & Hammer, 1994), as negotiators show concern for others’ emotional identity and make clear attempts to restore their sense of self worth.

Relational Theme

This thematic region, located toward the far right of the SSA-I plot, depicts interactions in which a negotiator utilises supportive messages and self-reflection to
foster the mutual affiliation required for a successful integrative solution. Negotiators communicating in this way typically stress the advantages of maintaining a cooperative orientation to interactions (Encourage), and may encourage such an approach by expressing confidence in the other’s ability (Confidence) while making reassurances and promises about personal behaviour (Promise, Reassure). The association of this region with the variable Humour is also consistent with this interpretation, as such behaviour potentially enables negotiators to indirectly communicate a common understanding of the major issues and share temporary release from the tensions inherent in the conflict (Foot, 1997). The location of the variable Discourage in this region is particularly interesting, since it implies that a level of honesty or sincerity is often central to developing integrative agreements. This behavioural theme therefore portrays interactions that involve a high level of interpersonal intimacy (Burgoon & Hale, 1987), as negotiators jointly encourage each other to accept some level of personal accountability for resolving the hostage crisis.

Instrumental Theme

The variables in this region emphasise the use of congenial strategies that openly provide information regarding acceptable losses with the purpose of constructing provisional offers and forming jointly acceptable agreements (Integrative, Offer). The negotiations also often involve behaviours that promote compromise and flexibility across a multiple number of issues (Compromise, Promise). In this region, the more intense outer-edge of the cylinder is associated with the variables AcceptOffer and ComplyDemand. These may arguably be interpreted as extreme behaviours because they reflect negotiators’ willingness to accept a proposed solution and give up the possibility of bargaining for further concessions. This region therefore has clear parallels with
traditional bargaining models of negotiation that posit rational discourse between contending parties in the form of cost benefit analysis or constructive conflict management (Pruitt, 1983).

These three regions collectively form the Integrative level of interaction in which negotiators adopt a cooperative (Putnam & Jones, 1982), problem solving orientation to resolving the hostage crisis. As efforts are divided equally among both parties’ concerns, negotiators adopt a “moving towards” orientation (Donohue & Roberto, 1993) as they demonstrate a high level of approval and positive affect for one another and are prepared to spend time identifying issues of high interdependence for mutual gain.

3.6 Discussion

The present results demonstrate that variations in actual interpersonal behaviour during episodes of conflict negotiations may be meaningfully conceptualised using a multidimensional cylindrical model. This empirically supported structure revealed that negotiators utilise communication behaviours that reflect withdrawn (Avoidance), highly emotional (Distributive) and more rational (Integrative) orientations to bargaining (H1). In each of these three levels of interaction, negotiators’ communication was further shown to unfold around three qualitative themes of concern that functioned to resolve both the objective (Instrumental) and expressive (Identity, Relationship) issues generated during the conflict (H2). In addition, each of the behavioural themes was found to vary in level of intensity, reflecting the important role of escalatory and de-escalatory processes in understanding progressive sequences of interactions (H3). The model’s clarity and precision in combining these behavioural distinctions illustrates the effectiveness of examining interpersonal communication directly through units of speech, with this approach allowing both identification of the actual message behaviours that relate to
different modes of interaction and specification of the relations among these communication modes. This coordination of behavioural components therefore enables development of more elegant and general models that offer a uniform theoretical basis for understanding major psychological differences and similarities in interpersonal communication behaviour.

One major implication of the derived cylindrical structure is to assert the principal (axial) role of the level of interaction facet in delineating negotiators’ dominant orientation to interactions. Specifically, the analysis showed that interrelationships among behaviours allow negotiators to move between three broad approaches to interactions (Avoidance, Distributive and Integrative). These levels of interaction are characterised by a linear dimension of increasing cooperation that runs from extreme withdrawal on the one hand, to constructive problem-solving on the other. As such, the results lend support to the previously advocated distinction between crisis-orientated and more normative approaches to bargaining, implying that one major goal of effective communication is to facilitate movement along the ordered axis, thereby supplanting coercion with cooperation and creating the possibility for a mutually satisfactory solution to the hostage crisis (Donohue et al., 1991).

The current results also elucidate this major distinction by showing that negotiators communicate across three qualitatively separable concerns that represent different emphases of the same behavioural orientation, rather than positions along any ordered dimension. This absence of interaction between the three motivational themes that give rise to the “plan” of the cylinder and the levels of interaction that make up the cylinder’s sections implies that negotiators may progress across several motivational concerns without influencing their overall predominant approach to negotiations. More importantly, however, the current results elucidate this distinction by demonstrating that
the various qualitative modes of behaviour are most closely associated (correlated) with the corresponding mode of behaviour at other interaction levels. There is no inevitable methodological reason that this pattern should emerge from the Smallest Space Analysis, and so regional relationships evident in the plot are consequently of particular substantive, theoretical interest.

In particular, the relationships allow explicit identification of behaviours that might potentially induce entrainment (McGrath & Kelly, 1986), where the adjustment of negotiators’ activity patterns causes similar synchronised shifts in the approach adopted by the hostage taker. Entrainment is important in the conflict context because it may prove a useful way of bringing the hostage taker to a more rational, problem solving orientation to interaction. Because communication behaviours in adjacent regions are relatively more likely to occur together, they are, empirically, the behaviours most likely to produce a change in an individual’s orientation (i.e., entrainment). The model, therefore, indicates that any attempt to generate entrainment and induce movement away from a particular mode of communication should focus on behaviours associated with an adjoining region, rather than the region characterising the ultimately desired orientation.

In the current model, the behavioural transitions most likely to generate reciprocation relate to movement across either a single interaction level or a different motivational theme, but not to any simultaneous change in interaction level and motivation. This interpretation highlights an important practical application of the cylindrical model as a clear heuristic summary of the behaviours most likely to achieve reciprocation in an attempt to shift the focus of interactions. Such information may easily be adapted to construct an instrument that enables negotiators to rapidly comprehend a hostage taker’s current behavioural focus or judge the extent negotiations have progressed towards a less volatile, normative context. For the researcher, the model provides a framework that
might help uncover the types of behavioural sequences that lead to abrupt shifts or turning points in the focus of interactions. For example, overall shifts between integrative and distributive bargaining are likely to occur across the same motivational theme, such as a misunderstood compliment (Integrative-Identity) that is responded to using defensive criticisms and positive statements about self (Distributive-Identity). Such turning points might be more common across some motivational themes than others, and this prevalence may well vary according to factors such as negotiators’ personality.

The results also lend support to the various perspectives advocated in conflict negotiation research (Donohue, 1998; Rogan 1999), suggesting that each explanation may be construed as relating to a different emphasis of the communication process. Indeed, the current study increases the validity of previous approaches because findings are derived from the inherent structure of the data, as opposed to being “proven” by extrinsic formal testing of the data. As the framework is based on behavioural indicators rather than inferred motivations or intentions, the emerging themes of interaction are not the arbitrary post hoc interpretations of behaviour that shape typological frameworks, but instead reflect actual differences in interpersonal communication. Indeed, the derived cylindrical structure makes explicit the relationships between various definitional systems of previous research, such that qualitatively similar, interlocking (Borg & Shye, 1995) components of the different perspectives are depicted by approximately the same region of the solution space (e.g., “fight,” Selye, 1978; “attack-face,” Rogan & Hammer, 1994).

A final implication to emerge from the present model concerns support for several recent authorities that have argued against adopting taxonomic frameworks in which communication behaviours are viewed in terms of mutually exclusive categories (Hammer & Rogan, 1997). One of the major strengths of the current model is that
communicated concerns are not parcelled into discrete components, but are conceptualised as interrelated modes of communication within a single framework. Although a negotiator may focus communication on one particular mode of interaction during a single episode, it is important to recognise that the model is derived with the assumption that each interaction is defined by a composite of behaviours from all modes of the cylindrical model. Similarly, the current model does not fall prey to the shortcomings of early static, style-based frameworks because the model enables a researcher directly to consider how a negotiator can change his or her communication behaviour over the complete negotiation process. In the derived cylindrical model, therefore, it is not only possible to examine transitions in communication among the identified modes of behaviour, but it is also feasible to examine both the type of changes that occur and the process by which they materialise.

3.7 Conclusions

The findings of this empirical study have demonstrated the utility of a multivariate-behavioural approach to differentiating the major underlying structure of communication during hostage crises. The derived model not only permits a clear appreciation of the behavioural modes inherent in negotiators’ communication during different periods of negotiation, but it also allows an appreciation of both the actual communication behaviours that compose these modes and the interconnections between these modes over the course of interactions. A negotiator’s evident capacity to adopt qualitatively distinct behaviour as negotiations progress suggests that it may not be wise to develop models peculiar to only one particular explanation of interactants’ behaviour. Instead, the current evidence supports a conceptualisation that advocates a more eclectic approach in which a diversity of perspectives, across a range of independent research
areas, can be shown to complement one another within a single framework. This framework provides a basis for moving rapidly forward in understand the intra-individual dynamics of crisis negotiation. Specifically, in the next two Chapters, the model is used to explore how differences in context (Chapter 4) and individual differences across negotiator (Chapter 5) affect the construction and relationships among the identified facets of communication behaviour.
Chapter 4

Effects of Context on the Structure of Communication Behaviour

Overview

This Chapter reports a second test of the cylindrical model that also examines how negotiators’ behaviour differs across context. Data on the occurrence of behaviours in 108 interaction episodes of simulated conflict negotiations were submitted to a Smallest Space Analysis. Results supported the hypothesis that the interrelationships among communication behaviours were structured around three facets: level of interaction (Avoidance, Distributive, Integrative), motivational concern (Identity, Instrumental, Relational), and intensity (High - Low). This solution was then used as a framework for identifying differences in the structure of behaviour across simulated and actual negotiations. Analyses showed a systematic pattern of variations in behaviour use, with simulated negotiations involving relatively more Avoidance-Relational and Distributive-Instrumental behaviour than actual negotiations. Predictable differences were also observed in the purpose or function of behaviour, with highly intense behaviours showing greater uniformity in function across contexts compared to low intensity behaviours.
Chapter 4

Effects of Context on the Structure of Communication Behaviour

By shaping dynamics such as goals, perceptions, and interdependence, the context in which a negotiation takes place has a central role in determining the kinds of behaviours negotiators use (Kelley, 1997). Nevertheless, while context has been shown to modify negotiators’ aggregate behaviour (Folger, Poole, & Stutman, 1993), less is known about how context influences negotiators use of different behaviours to pursue different goals at different times. This dynamic aspect of communication is likely affected by the context of interaction in distinctive but predictable ways. In this Chapter, we seek to develop understanding of intra-individual dynamics by examining two potential context effects.

The first effect considered is whether or not context affects the behaviours negotiators use to move through the interaction. For example, hostage negotiators and husbands in divorce mediation may both tackle substantive issues through similar problem-solving behaviours, but they may adopt very different approaches to handling relational dynamics. While such differences in occurrence have received some attention in the literature (Donohue & Roberto, 1996), pertinent questions remain about the relationship between such changes and the underlying interpersonal dimensions that structure the negotiation process. The second consideration is whether context may influence the interpersonal concern or goal a behaviour primarily addresses (i.e., the behaviour’s purpose or function). For example, the use of demands may serve a predominantly instrumental function during buyer-seller negotiations, but may take on a more relational role in terms of exerting power and influence during hostage crises. Understanding this effect, which relates to the interrelationships among behaviours over
time, should offer novel insights into the way negotiators organise their behaviour to pursue their goals.

To explore these possibilities, this Chapter uses the analysis of Chapter 3 to refine the hypotheses of the cylinder model. The model is then used as a framework for organizing predictions about differences in behaviour among actual and simulated hostage negotiations. In response to calls for replication of communication theories (Boster, 2002), the refined cylinder model is tested using a smallest space analysis (Guttman, 1968) of the coded data from 12 simulated conflict negotiations. The structure derived from this analysis is then used as a context for testing predictions about differences between simulated and actual negotiations.

4.1 Cylindrical Model of Communication Behaviour

To study the effects of context on behaviour, it is necessary to first model the major psychological dimensions over which behaviours differ. While several frameworks for discriminating behaviour are available, most consider variations in behaviour through the eyes of one particular explanation of speakers’ intentions or motivations. For example, the facework perspective, commonly used to interpret conflict interactions (Oetzel et al., 2001; Rogan & Hammer, 1994), is premised on the assumption that all communication behaviour serves to defend or attack individuals’ self-identity or face (Goffman, 1967). This perspective contrasts with the view that negotiators use behaviours rationally to solve specific problems (Weingart, Prietula, Hyder, & Genovese, 1994), or the assertion by relational order theory that communication serves to develop and manipulate the affiliation between parties (Donohue, 1998, 2001). The distinction that is proposed by each of these perspectives, as a consequence, emphasises one important difference among behaviours and not the
varieties of dimensions over which context might affect behaviour. In an attempt to combine the various perspectives into a more complete conceptualization of the similarities and differences among behaviours, Chapter 3 proposed a cylinder model of communication.

The formal predictions of the cylinder model outlined in Chapter 3 may be expressed compactly using the formal proposition of a mapping sentence (Borg & Shye, 1995; Shapira, 1976). This sentence is given in the left panel of Figure 4-1, while the right panel gives the resulting graphical representation of the model shown previously in Figure 3-1. In this sentence, each conceptual distinction or facet of behaviour is given by the alternatives in parentheses. Thus, the cylinder model classifies behaviour according to three facets: Level of interaction, Motivational source, and Intensity. The types of communication formed by these distinctions may be obtained by taking one element from each facet to form a set of ordinary sentences. Each sentence describes one framing of communication or mode of interaction (Drake & Donohue, 1996). Each mode is predicted to be instantiated by a group of highly co-occurring behaviours whose substantive meanings correspond to that described by the sentence.

Given the findings of Chapter 3, it is possible to make specific hypotheses about the behaviours associated with the different modes of interaction. Table 4-1 gives the hypothesised correspondence between regions of the cylinder model and actual communication behaviours. The first three columns of Table 4-1 correspond to the three facets in Figure 4-1. The first column relates to the orthogonal axis of the cylinder model and differentiates behaviour according to Avoidance, Distributive, and Integrative levels of interaction. The second column relates to the motivation facet and reflects the fact that negotiators can focus on Identity, Instrumental or Relational issues when adopting a particular level of interaction. This qualitative differentiation of behaviour appears in the
Effect of Situation on Structure

**Level of interaction**
- Integrative
- Distributive
- Avoidance

**Motivational Source**
- Instrumental
- Identity
- Relational
- Expressive

<table>
<thead>
<tr>
<th>Density</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>$n$</td>
</tr>
<tr>
<td>Low</td>
<td>0</td>
</tr>
</tbody>
</table>

- Increasing intensity

- Problem-solving
- Crisis
- Low rationality

- Normative

- Increasing intensity

**Identity**
- Relational
- Integrative

**Figure 4-1.** Mapping sentence and schematic representation of the cylindrical structure of negotiation behaviour.

cylinder model as unordered, wedge-like regions that emanate from the centre of each

Level of interaction. Finally, the third column relates to the Intensity facet, which recognizes that points do not fall equidistant from the cylinder’s origin and so creates degrees of behaviour for each type of motivation. These variations are given in Table 4-1 by ranking for each region the intensity of behaviours as found in Chapter 3. A higher ranking indicates a relatively more intense behaviour, as measured by the behaviour’s distance from the origin of the relevant orientation. Taken together, the various columns of Table 4-1 outline the predictions of the cylinder model:

**H1:** Subsets of conceptually related behaviours will consistently occur together according to the groupings outlined in Table 4-1.
Table 4-1.
Predicted Correspondences between the Cylinder Model and 37 Communication Behaviours.

<table>
<thead>
<tr>
<th>Facets of Behaviour</th>
<th>Behaviour</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Orientation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>AcceptOffer</td>
<td>Acceptance of a conciliatory offer from the other party.</td>
</tr>
<tr>
<td>2</td>
<td>Offer</td>
<td>An offer of sentiments or goods that precedes any request.</td>
</tr>
<tr>
<td>4</td>
<td>Compromise</td>
<td>Suggestion of a mutual concession as a substitute to directly conciliating to the other’s demand.</td>
</tr>
<tr>
<td><strong>Instrumental</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>ComplyDemand</td>
<td>Concession to a demand or request made by the other party.</td>
</tr>
<tr>
<td>6</td>
<td>Promise</td>
<td>Explicit assurance that a previous message was valid, such as the sincerity of a previous action or the performance of a future action.</td>
</tr>
<tr>
<td><strong>Integrative</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Allure</td>
<td>Effort to highlight how complying with personal requests will gratify other people, such as family members, and so lead to an increase in self-worth or personal satisfaction.</td>
</tr>
<tr>
<td>2</td>
<td>Compliment</td>
<td>Explicit praise or approval for the opposing party’s attitude or behaviour.</td>
</tr>
<tr>
<td>3</td>
<td>Empathy</td>
<td>Expression of sympathetic understanding for the circumstances, explanations or feelings presented by the other party.</td>
</tr>
<tr>
<td>4</td>
<td>NegSelf</td>
<td>A reflective criticism of personal behaviour or ability.</td>
</tr>
<tr>
<td>5</td>
<td>Apology</td>
<td>Explicit remorse for a pervious action.</td>
</tr>
<tr>
<td>6</td>
<td>Common</td>
<td>Allude to a similarity between self and the other party in terms of attitude, behaviour, or beliefs.</td>
</tr>
<tr>
<td><strong>Relational</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Reassure</td>
<td>Attempt to play down troublesome aspects of the situation or confirm a fact about the situation.</td>
</tr>
<tr>
<td>2</td>
<td>Confidence</td>
<td>Conveyance of trust or belief in the other party’s ability to perform a particular action.</td>
</tr>
<tr>
<td>3</td>
<td>Encourage</td>
<td>Active persuasion to take a particular action or adopt a viewpoint.</td>
</tr>
<tr>
<td>4</td>
<td>Discourage</td>
<td>Reasoned argument aimed at pointing out the negatives of a particular viewpoint or performing a particular action.</td>
</tr>
<tr>
<td>5</td>
<td>Humour</td>
<td>Attempt to use humour or make a joke.</td>
</tr>
<tr>
<td>Facets of Behaviour</td>
<td>Behaviour</td>
<td>Description</td>
</tr>
<tr>
<td>---------------------</td>
<td>-----------</td>
<td>-------------</td>
</tr>
<tr>
<td>6 Agree</td>
<td>Express agreement with a statement made by the other party without explicitly offering praise (Compliment) or complying with the statement (e.g., ComplyDemand).</td>
<td></td>
</tr>
<tr>
<td>1 RejectDemand</td>
<td>Refusal to comply with a demand of the other party.</td>
<td></td>
</tr>
<tr>
<td>2 ThreatAction</td>
<td>Threat to take retaliatory action if the other party does not comply with a demand or promise.</td>
<td></td>
</tr>
<tr>
<td>3 RejectOffer</td>
<td>Considered rejection of the other party’s offer without suggestion of an Integrative agreement, Compromise or Alternative.</td>
<td></td>
</tr>
<tr>
<td>4 Demand</td>
<td>Forceful expression of a concession wanted from the other party.</td>
<td></td>
</tr>
<tr>
<td>5 Alternative</td>
<td>Proposal of a concession or solution that involves something not previously considered.</td>
<td></td>
</tr>
<tr>
<td>1 Criticism</td>
<td>Condemnation of the other party’s behaviour or ability where an explanation is given for the evaluation.</td>
<td></td>
</tr>
<tr>
<td>2 Commitment</td>
<td>Express dedication to a particular issue, statement or attitude.</td>
<td></td>
</tr>
<tr>
<td>3 Insult</td>
<td>Abusive or humiliating comment directed at the opposing party.</td>
<td></td>
</tr>
<tr>
<td>4 Profanity</td>
<td>The use of obscene swearing or other indecent language.</td>
<td></td>
</tr>
<tr>
<td>5 PosSelf</td>
<td>Boasting about personal superiority over the other party in terms of ability or situation.</td>
<td></td>
</tr>
<tr>
<td>1 Excuse</td>
<td>Explanations of an action in which the speaker admits responsibility and accepts it as wrong, but suggests there are exonerating circumstances.</td>
<td></td>
</tr>
<tr>
<td>2 Justify</td>
<td>Explanation of a previous or future action in which the speaker admits responsibility but rejects the notion that the behaviour is negative.</td>
<td></td>
</tr>
<tr>
<td>3 Appeal</td>
<td>Request for the other party to consider altering his or her attitude to comply with the individual’s desire, with no suggestion of personal sacrifice.</td>
<td></td>
</tr>
<tr>
<td>1 Avoid</td>
<td>Attempt to avoid any substantive interaction through either a direct request or subtle withdrawal from interaction.</td>
<td></td>
</tr>
<tr>
<td>Facets of Behaviour</td>
<td>Behaviour</td>
<td>Description</td>
</tr>
<tr>
<td>---------------------</td>
<td>-----------</td>
<td>-------------</td>
</tr>
<tr>
<td>2</td>
<td>Shift</td>
<td>The termination of dialogue by using a message that communicates about an unrelated issue.</td>
</tr>
<tr>
<td>3</td>
<td>Retract</td>
<td>Renunciation from a previously acknowledged agreement or decision, regardless of whether the speaker gives an explanation for the action.</td>
</tr>
<tr>
<td>4</td>
<td>Inaction</td>
<td>Failure to enter dialogue despite having the opportunity. Scored when a negotiator failed to respond on three consecutive occasions.</td>
</tr>
<tr>
<td>1</td>
<td>Denial</td>
<td>Refusal to accept or acknowledge an accusation made by the other party.</td>
</tr>
<tr>
<td>2</td>
<td>Accuse</td>
<td>Challenge the other party’s assertion or fault them for performing (or not performing) a desired action.</td>
</tr>
<tr>
<td>3</td>
<td>Provoke</td>
<td>An overt attempt to aggravate the other party into taking some aversive action.</td>
</tr>
<tr>
<td>1</td>
<td>NegReply</td>
<td>Short retorts that have an unenthusiastic or uncaring tone.</td>
</tr>
<tr>
<td>2</td>
<td>Submissive</td>
<td>Statement that express apathy or a lack of appreciation for the events of the conflict.</td>
</tr>
<tr>
<td>3</td>
<td>Interrupt</td>
<td>Continuous disruption of the opposing party, scored as positive after occurring consecutively on two occasions.</td>
</tr>
</tbody>
</table>

4.2 Comparisons across Simulated and Actual Conflict Negotiations

To understand fully the psychological dynamics that underlie dialogue, it is important to consider how negotiators’ behaviour is shaped by differences in context. Negotiators may behave consistently across some contexts and display distinctive patterns of variation in behaviour over others. These differences in behaviour may vary systematically across certain facets of the cylinder model, and uncovering these connections will lead to a better understanding of how the various distinctions shape the negotiation process. For example, if context influences only the overall orientation that negotiators adopt, then orientation would be seen as particularly central to understanding differences in behaviour across contexts. Should differences over contexts not fit
meaningfully into the proposed cylindrical structure, then one would question whether the original conceptualization is effective in differentiating the ways negotiators’ use behaviour. Thus, in general, it should be possible to demonstrate within the cylindrical model systematic differences in the occurrences of behaviours across two or more contexts.

4.2.1 Variations in behaviour use

One important possibility is that context may affect the type of behaviours negotiators use to deal with the conflict. This possibility does not detract from the notion of a single model of behaviour use, but suggests that interactions in different contexts may principally depend on different aspects of the communication model. For example, clinical professionals report focusing on less competitive and more accommodating aspects of communication than business executives (Shell, 2001). More importantly, these individuals often report that the approach they adopt to communication is dependent on the context of interaction and their relationship to the other party (Miller, Boster, Roloff, & Seibold, 1977; Wish & Kaplan, 1977). As these examples illustrate, the variations in behaviour that are of particular importance relate not to individual acts but to differences in the broader patterns or emphases of behaviour use.

One contextual comparison with clear theoretical and practical implications is between real-world and simulated negotiations. For the practitioner, comparing communication across actual and simulated negotiations provides details that facilitate the continual improvement of negotiator training. At a theoretical level, this comparison addresses the often hidden inferential leap from dialogue in the experimental setting to dialogue in actual conflicts. Such generalisations make the assumption, open to empirical test, that the nature of the conflict is unimportant and that there is essentially no variation
in the extent to which negotiators in both contexts use communication behaviours. In this regard, hostage crises represent a useful comparison because they embody many of the dynamics found in other types of conflict negotiation (Donohue & Taylor, 2003). Moreover, since simulations enacted by police officers are arguably more realistic than “conflicts” negotiated by students (Holmes & Fletcher-Bergland, 1995), any disparity identified between real and simulated hostage negotiations may well be exaggerated in their student-based counterparts (Donohue & Taylor, 2003).

As argued by several authors (Donohue et al., 1991; Holmes & Sykes, 1993), a number of factors make it likely that actual conflict negotiations will involve different patterns of behaviour in comparison to simulations. Actual hostage crises are associated with tremendous uncertainties regarding the reliability of current information and the direction of future developments. The typical response to such uncertainties is to feel insecure or frustrated, which are feelings that move negotiators away from rational problem-solving and towards a more aggressive approach (Golan, 1978). The higher stakes associated with actual hostage crises (e.g., jail) are likely to add to this reaction by increasing negotiators’ willingness to take extreme actions to attain a desired outcome (Donohue et al., 1991). A final reason to believe that attacking tactics will be more frequent in actual negotiations is that speakers who are personally bound by an outcome are less likely to make sacrifices or accept compromises. Empirical work suggests that negotiators accountable for their actions are more likely to shift away from unfavourable issues (Benton & Druckman, 1973), insist on role obligations (Donohue, 2001), and engage in more contentious bargaining behaviours than those not held accountable (Ben-Yoav & Pruitt, 1984). For example, Donohue, Diez, and Hamilton (1984) showed that actual labour-management negotiations involve the assertion of more proposals, the denial of accusations, and more substantiation in comparison to simulations. Similarly, in
a study of eight hostage crises, Donohue and Roberto (1996) found some evidence to suggest that authentic negotiations involve more use of demands, rejections, and commitments to a personal position in comparison to simulated incidents. These findings suggest the second hypothesis that actual hostage crises will involve more frequent use of Avoidance and Distributive behaviours than simulated negotiations, regardless of the motivational focus.

\textit{H2:} Actual negotiations will involve the more frequent use of Avoidance and Distributive behaviours in comparison to simulated negotiations.

Certain aspects of the dynamics particular to actual and simulated negotiations enable a refinement of this general prediction. Perhaps the most influential difference is that simulated negotiations are typically designed to follow scenarios that illustrate key features and test particular skills. According to most Police models, early stages of a negotiation should emphasise the development of trust and interdependence with the perpetrator, while later stages should focus on problem elaboration and resolution (Donohue \textit{et al.}, 1991; Holmes, 1992). Consequently, in comparison to actual negotiations, simulations would be expected to involve more frequent use of Relational behaviours at the beginning of the interaction and Instrumental behaviours during the latter stages of dialogue. Since early stages are typically predominated by Avoidance messages, simulated negotiations would be expected to show a relatively higher use of Avoidance-Relational behaviours. In support of this prediction are findings showing that simulated negotiations demonstrate a more coherent focus on relationship development in the early stages of dialogue compared to actual negotiations (Holmes & Sykes, 1993).

Following a similar argument, simulations designed to evolve a focus on substantive issues would be expected to focus on Instrumental behaviours during the later stages of interaction. However, because simulated negotiations are often
constrained in the length of time available for interaction (Holmes & Sykes, 1993), negotiators arguably have less chance of developing an Integrative orientation to Instrumental issues. Consequently, simulated hostage negotiations would be expected to involve more frequent use of Distributive-Instrumental behaviours than actual hostage negotiations, but not necessarily more Integrative-Instrumental behaviour. This prediction is consistent with research showing that negotiators under time-pressure are more aggressive in resolving problem-issues and generally search only for win-loose outcomes (Carnevale & Lawler, 1987). Indeed, research has shown that greater competitiveness, firmer aspirations, and reduced information exchange are particularly pronounced when negotiators adopt an individualistic orientation, the orientation which typically results from exposure to a threatening conflict (Stuhlmacher, Gillespie, & Champagne, 1998). These observations lead to the following predictions:

\( H3: \) Simulated negotiations will involve the more frequent use of Avoidance-Relational behaviours in comparison to actual negotiations.

\( H4: \) Simulated negotiations will involve the more frequent use of Distributive-Instrumental behaviours in comparison to actual negotiations.

4.2.2 Consistency in the function of behaviour

The context of a conflict interaction may not only change the behavioural focus of negotiators’ dialogue, but it may also affect the interrelationships among the behaviours themselves. Differences at this more fundamental level relate to changes in the strategic or psychological function of communication behaviour. In theoretical terms, psychological function refers to the interpersonal goal or objective a negotiator is principally trying to pursue when using the behaviour (i.e., the behaviour’s predominant
frame, Drake & Donohue, 1996). In analytical terms, psychological function is defined by the interrelationships a particular behaviour holds with all of the other behaviours (Kinsch, 2002), with changes in function relating to systematic changes in the structure of the relations. For example, demand behaviours may serve a predominantly instrumental function during buyer-seller negotiations, but may take on a more relational role in terms of exerting power and influence during divorce mediation. Such changes in function are likely to be tied to the cognitive frames that speakers use to simplify the problem of interpreting dialogue (Solomon, Dillard, & Anderson, 2002). As with differences in behaviour use, changes in function are unlikely to be concentrated on single behaviours but rather related to general patterns of differences among the modes of interaction.

While many authors have defined the meaning of a message by the substance of closely occurring behaviours (Kinsch, 2002), there have been very few systematic predictions of how such interrelationships will change according to context. One informative suggestion comes from research on personality coherence, which expects distinctive and stable patterns of behavioural variability across contexts (Shoda, Mischel, & Wright, 1993). According to this view, some behaviours will be stable in their function across different contexts while others will show more variation in their function. Such variations are evident in factor-analytic results showing that some behaviours load almost exclusively on a single factor (i.e., are functionally uniform) while others produce a more even distribution of loadings (i.e., serve many different functions). For example, Marwell and Schmitt (1967) showed that “making promises” and “threatening action” are associated almost exclusively with a single factor, while other behaviours such as “express a debt” and “casting ideas in an alternative way” load evenly across several different factors. In a similar way, Falbo (1977) showed that some behaviours relate
closely to particular interpersonal dimensions while others regress equally across several
different dimensions.

Interestingly, these findings correspond with studies of language intensity, which
associate very specific communication behaviours (e.g., death metaphors) with high
levels of message affect or intensity (Bowers, 1963; Donohue, 1991; Rogan, 1995;
Rogan & Hammer, 1995). Behaviours that load exclusively on a single factor, such as
threatening action and boasting about personal superiority, are typically those associated
with high message intensity (Gayle & Preiss, 1999; Rogan, 1995; Taylor, 2002). Such
findings tentatively suggest the Intensity facet as the dimension along which the function
of behaviour will systematically vary when examined over contexts. In particular,
behaviours of low intensity would be expected to be flexible in their function, since these
less emotion-driven acts do not focus on a single prominent alternative and refrain from
direct attribution of blame (Donohue et al., 1991). They include behaviours such as
making offers, avoiding particular topics, reassuring the other party, and generally
sharing information. In contrast, high intensity behaviours are characterized by
unambiguous language that emphasizes specific issues or concerns and, consequently,
serves a relatively homogenous function. Behaviours predicted to be higher in
functionality include refusing to interact, threatening action if a demand is not met,
insulting the other party, and apologizing for personal behaviour. In the context of the
cylinder model, therefore, as intensity increases, so behaviours become more
functionally discrete, making distinctions between the various themes of interaction
clearest at the outer-periphery of each level. This leads to the final hypothesis:

\[ H5: \] Movement towards the periphery of the cylinder faces will be associated with
an increase in the functional discreteness of communication behaviours.
4.3  A Test of the Cylinder Model of Communication Behaviour

4.3.1  Method and analysis

*Transcription Sample*

The data matrix derived from transcripts of 12 hostage negotiator training sessions was used to test the predicted cylindrical structure. These sessions were a realistic simulation of conditions typical of a conflict incident and involved a single police negotiator interacting with one or more hostage takers and, in the case of four incidents, some of the hostages. The sessions varied in scenario from suicide intervention to criminal-barricade incidents, and were a good representation of the range of situations that are frequently encountered by police officers (Donohue & Roberto, 1996). The analysis was conducted on a matrix of 37 communication variables (columns) by 108 interaction episodes (rows), with cell values reflecting the sum frequency of thought units coded as one of the behavioural variables. Table 2-2 gives a description of the scenario used in each training session, a decomposition of talk frequencies, and coding reliability scores.

*Analysis of Communication Behaviour*

The predictions derived from the cylinder model fit those of traditional factorial approaches to research design (Fisher, 1935). The independent variables are the three facets that appear in braces on the mapping sentence outlined in Figure 4-1. The dependent variables are the frequency of occurrence of each behavioural variable across the various factors of the model, as shown by the parentheses that occur after the arrow in Figure 4-1. The design is factorial because predictions have been made about the occurrence of behaviours representing all possible combinations of facet elements. The hypotheses could, therefore, be tested using a traditional approach of studying variance,
but ANOVA is not suitable for this since it does not consider the overall pattern of interrelationships among behavioural variables. More suitable is the multi-dimensional scaling technique of Smallest Space Analysis (SSA-I; Lingoes, 1973), which was used in Chapter 3. Because this approach represents the intrinsic associations among variables as points arranged in a geometric space, the underlying organisation of the variables can be compared directly to the similarities and differences predicted by the cylinder model.

4.3.2 Evidence for the three facets of communication behaviour

The SSA-I in three dimensions has a coefficient of alienation of .22 in 21 iterations, indicating that the resulting configuration is an acceptable representation of the correlation coefficients. In accordance with the regionality hypothesis, the pattern of behavioural points can be examined for evidence of coherent regions that are consistent with predictions made in Table 4-1.

Levels of Interaction

Figure 4-2 shows dimensions 1 and 2 of the three-dimensional solution. The partitions on the space correspond to the predicted Avoidance, Distributive and Integrative levels of interaction, ordered from bottom to top of the plot according to an increasing cooperative emphasis. The six behavioural variables in the bottom region support the prediction that, on some occasions, negotiators’ communicate a reluctance to take an active role in interactions (Avoid2, Denial), explicitly retract from any previous developments (Retract), and reinforce this withdrawal through disruptions (NegReply, Shift) and irrelevant challenges (Accuse, Provoke). In comparison, behaviours in the

---

2Names in parentheses refer to the variable label representing the occurring communication behaviour as it appears on the SSA-I configuration.
middle region have a highly Distributive emphasis, with negotiators combining aggressive bargaining (Demands, RejectOffers) with threats (ThreatAction), statements of self-satisfaction (Commitment, PosSelf), and derogation of the other party (Criticism, Insult). Finally, behaviours located in the top region correspond to a more cooperative approach to interaction. Negotiators’ communicate awareness of the others’ situation (Encourage, Empathy) a willingness to accept personal responsibility (Apology, NegSelf), and a desire to jointly address the disagreement by proposing solutions (Integrative, Offer) and making sacrifices (ComplyDemand, Promise).
The placement of behaviours on the SSA-I is consistent with the predictions outlined in Table 4-1 with the exceptions of the variables RejectOffer and Submissive, which are located in different regions than hypothesised. The position of the variable Submissive is particularly interesting because it results from a degrading of the partition between the Avoidance and Distributive regions, as shown by the dotted line towards the right-hand side of Figure 4-2. This indicates that Avoidance and Distributive orientations to interaction are more integrated than found in actual negotiations (Chapter 3), suggesting that negotiators in simulated interactions do not withdraw from negotiation over an extended period of interaction without also utilising competitive behaviours.

**Motivational Source**

The distinctions hypothesised by the motivational source facet relate to differences on the circular faces of the cylinder and so should be clearly evident when adopting a “birds-eye” view of the space. Dimensions 2 and 3 of the SSA-I configuration are shown in Figure 4-3, which for clarity presents the Avoidance, Distributive and Integrative levels of interaction separately. The configurations have been partitioned in relation to the motivation source facet and the regions have accordingly been labelled as Identity, Instrumental and Relational. For example, the left region of the plot for Integrative interactions (Integrative-Instrumental region) contains messages focused almost exclusively to substantive problem solving by means of both conciliation (Accept Offer, ComplyDemand) and proposal development (Integrative, Offer). In contrast, the occurrence of variables such as Encourage, Compliment, and Confidence within a region situated towards the bottom-right of the plot (Integrative-Identity) suggests that these behaviours have a rather different application, focusing on supporting the other party’s identity and self-esteem. This focus on internal issues is also evident in the region...
Effects of Situation on Structure

Figure 3. Dimensions 2 and 3 of the SSA-I configuration showing the motivation facet, and the modulating intensity facet. The configuration is divided into the Avoidance (bottom), Distributive (middle) and Integrative (top) level of interaction.

Increasing Intensity
partitioned towards the top-right of the Integrative space (Integrative-Relational), but the behaviours here relate more to maintaining high levels of affiliation and trust between the parties.

These partitions support the predicted polarising role of the motivation facet, with qualitatively distinct wedge-shaped regions emerging in different directions from the origin of each level. Of the predictions made in Table 4-1, only three behaviours, all from the Integrative level of interaction, are found in different regions than hypothesised. The three behaviours have switched between the Identity and Relational regions, suggesting that there is less of distinction among these goals in the cooperative dialogue of simulated hostage negotiations. The overall structure of the regions is also consistent with the hypothesised cylinder, although the positioning of the two expressive groups of behaviour (relational and identity) are unexpectedly transposed at the Avoidance level. However, as noted by Shye (1985), one may expect such fluctuations, especially when the variables do not actually “cover” all of the meanings of their motivation theme but only represent a summary of its content. Indeed, both the discrepancies in behaviour placement and the structure of regions serve to highlight a major distinction between instrumental behaviours (the Instrumental region) and expressive behaviours (the Identity and Relational regions), which is consistent with previous research (Wilson & Putnam, 1990).

Intensity

The schematic arrows on Figure 4-3 indicate the distribution of the Intensity facet, which may be interpreted as reflecting increasing intensity with radiation out towards the edges of the configurations. Support for this facet comes from the clear changes in substantive meaning that occurs with movement towards the outside edges of
the plots, and the high correspondence between the current plots and the findings of Chapter 3. For example, intensity modulations are evident in Integrative-Identity interactions, which may spiral from expressions of empathy (Empathy, Encourage) and assurances (Allure), through to messages that reveal personal similarities with the other party (Common) or admit to personal weaknesses (NegSelf). Similarly, the bottom region of the plot for Avoidance interactions (Instrumental region) depicts increasingly intense efforts to terminate constructive discussion, moving from withdrawal from active participation (Avoidance), to subtle shifts away from the current focus of dialogue (Shift), through to direct revocations against previous progress (Retract). This ordering of behaviours matches that found in Chapter 3 except for the additional intense behaviour Inaction, which would presumably have appeared on the edge of the Avoidance-Instrumental region had it occurred in the simulated negotiations.

As a further test of the Intensity facet, the distance of each variable point to the origin of the regions was rank ordered and correlated with the predicted ranks given in Table 4-1. This is a very stringent test of the Intensity facet that is indifferent to variations in the motivational qualities of behaviour. Yet, if Intensity does play a modulating role in the space, then there should be a positive correspondence between predicted ranks and movement towards the outer-edges of the plots. The relationships between predicted and actual ranks were tested using monotonic (non-metric) correlation coefficients, calculated for each of the nine regions of the cylinder model and given in Table 4-2. As can be seen in Table 4-2, all but one of these correlations was positive. The exception is the coefficient for the Avoidance-Relational region, which was calculated on only two variable points and so may be attributed to insufficient data or coding error. The positive direction of these coefficients indicates that, in comparing two behaviours taken from the same region, the behaviour more distant from the origin was predicted to be
Table 4-2.  
Correlations between Predicted Behavioural Intensity Ranks and Distance Away from the Central Intersection of the Motivational Facet as a Function of Level of Interaction.

<table>
<thead>
<tr>
<th>Level of Interaction</th>
<th>Instrumental</th>
<th>Identity</th>
<th>Relational</th>
</tr>
</thead>
<tbody>
<tr>
<td>Integrative</td>
<td>0.64</td>
<td>0.81</td>
<td>0.13</td>
</tr>
<tr>
<td>Distributive</td>
<td>0.40</td>
<td>0.71</td>
<td>0.60</td>
</tr>
<tr>
<td>Avoidance</td>
<td>1.00</td>
<td>1.00</td>
<td>-1.00</td>
</tr>
</tbody>
</table>

more intense than the behaviour less distant from the origin. This supports the Intensity facet as an explanation for the varying locations of behaviours over the three levels of interaction. The fact that the order of distances in most regions was not identical to that predicted (most coefficients are not 1.00) reaffirms that intensity only modifies negotiators’ motivational goal.

4.4 Comparisons across Simulated and Actual Negotiations

The structure of the SSA-I configuration presented in Section 4.3 indicates that negotiation in hostage crises simulated by law enforcement may be meaningfully conceptualised using a cylinder model. Because actual and simulated hostage negotiations can be modelled within the same framework, it is possible to use the model to examine systematically how negotiators’ behaviour differs across these two contexts. The hypotheses relating to context effects are examined in the following Sections.
4.4.1 Method and analysis

*Comparison Sample*

Comparison data were transcripts of negotiations from the nine actual hostage incidents examined in Chapter 3. These incidents involved a similar range of scenarios, but were not conducted by the same negotiators or negotiators from the same police force. For more information about the actual negotiation data and the coding reliabilities see Table 2-1.

4.4.2 Variation in the frequency of behavioural use

To test whether simulated and actual conflict negotiations involved different patterns of behaviour use, the relative occurrence of each behavioural variable was compared over the two contexts. Specifically, for each context, the frequency of occurrence of each behavioural variable was summed across the interaction episodes and taken as a percentage of the total dialogue for that context. Then, for each behavioural variable, the percentage of occurrence associated with simulated negotiations was subtracted from the percentage of occurrence associated with actual negotiations to yield a single score. The sign of this score indicates whether the behaviour was more related to actual or simulated hostage crises, while the value depicted the magnitude of this discrepancy. For instance, insulting the other party occurred in 0.20% (21 times\(^3\)) of actual negotiations and .06% (3 times) of simulated negotiations, and so was classified as predominantly relating to actual hostage crises. This simple criterion enabled a holistic examination between actual and simulated negotiations, with differences shown as

\(^3\) A reviewer of an article reporting some of the analyses in this Chapter (Taylor & Donald, submitted) questioned whether the low frequency of occurrence of individual behaviours was problematic to the analysis. The low proportions of occurrence associated with some behaviours result from the fact that during many episodes negotiators pursue a different mode of interaction and so do not use the behaviour. Far from being problematic, low frequencies of occurrence support the notion that some behaviours are only used by a negotiator to pursue very specific goals.
overall trends in behaviour use across the SSA-I plot rather than absolute item-to-item differences between the two contexts. This approach therefore minimised the possibility that dissimilarities in occurrence are isolated chance variations or disparities caused by some other factor, rather than meaningful patterns of differences across contexts.

Figure 4-4 shows the same three faces of the cylinder model as Figure 4-3, but scores have been added to denote the relative percentage of occurrence of each variable. The symbol marking each point has also been changed to indicate whether the variable is more frequently associated with simulated (♦) or actual (■) negotiations. As shown in the middle and bottom panel of Figure 4-4, there is only partial evidence for the prediction that actual negotiations will involve more frequent use of Avoidance and Distributive behaviours in comparison to simulated negotiations (Hypothesis 2). At the Avoidance level of interactions (bottom-panel), behaviours most associated with actual negotiations reflect dialogue aimed at exonerating self from responsibility through acts that deny any personal involvement (Denial), place blame on the other party (Accuse), and avoid any substantive commitment (Avoid, Retract). Although simulated negotiations also involve some focus on these motivations (i.e., Provoke, Shift), the predominant focus of these interactions is on relinquishing personal role in the interactions through detached negative responses (NegReply, Submissive). This relatively higher frequency of occurrence of Avoidance-Relational behaviours in simulated negotiations supports Hypothesis 3.

Examining Hypothesis 4, the middle panel of Figure 4-4 shows that eight of the Distributive behaviours (62%) occur more frequently in simulated negotiations than actual negotiations. In particular, simulated negotiations are associated with behaviours that represent a competitive approach to problem solving (i.e., Distributive-Instrumental
Figure 4. Dimensions 2 and 3 of the SSA-I configuration showing, for each behaviour, the proportion of occurrence in actual negotiations minus the proportion of occurrence in simulated negotiations. The configuration is divided into the Avoidance (bottom), Distributive (middle) and Integrative (top) level of interaction.
region), as instantiated by repeated statements of demands and counter-demands (Demand) and the proposal of unreasonable alternatives (Alternative). This predicted emphasis on Instrumental success is further reflected by the predominance of commitments (Commitments) and justifications (Justify) during simulated negotiations, with such actions reaffirming the need for the other party to make concessions. A contrasting emphasis is evident for actual negotiations, which typically combine a continuing refusal to accept responsibility for the situation (Appeal, Excuse) with attacks of the other party’s face (Criticism, Insult). These actions are focused on more expressive personal issues, suggesting that actual negotiations involve a more prolonged struggle over Relational and Identity issues than simulated incidents.

Finally, the top panel of Figure 4-4 shows that almost all Integrative behaviours occur more frequently in actual negotiations than simulated negotiations. Compared to simulated negotiations, actual negotiations typically involve more use of low intensity relationship preservation (Agree, Reassurance), and a greater emphasis on boosting the other party’s sense of self worth (Compliment, Confidence, Encouragement). This emphasis combines with an interest in addressing the conflict through reasoned problem-solving (AcceptOffer, Offer) and various forms of conciliation (ComplyDemand, Promise). The relative use of Integrative behaviours in actual negotiations is so extensive that only three behaviours were used more often in simulated negotiations (i.e., Compromise, Empathy, and NegSelf), and these occurred in different regions of the Integrative level.

4.4.3 Consistency in the function of behaviour use

By defining the function of a behaviour by the “context” of messages in which it occurs, it is possible to use the co-occurrences of a behaviour with other behaviours as an
indication of meaning and, consequently, as a measure of a behaviour’s typical function. The consistency of a behaviour’s function may then be measured by the extent to which the co-occurrences of the behaviour with other behaviours stay consistent across two contexts. This consistency was measured for each behaviour by comparing the rank order of the behaviour’s correlation with all other behaviours in actual negotiations to the same rank order of correlations in simulated negotiations. Behaviours that retain a similar function across contexts would be expected to have a similar pattern of interrelationships with other variables between the contexts, and so would achieve a higher correlation than a behaviour whose function is contextually driven.

Figure 4-5 presents the plots shown previously in Figure 4-3, but labelled with a value denoting the monotonic correlation of rank orders across simulated and actual negotiations. An inspection of these correlations reveals substantial variation in the consistency of function (\( M = .72, \ SD = .16, \ Range = .19 - .93 \)), with some behaviours showing high levels of flexibility (e.g., Reassure) while others remain virtually invariant across contexts (e.g., Common). More importantly, the patterning of values across the plot supports the predicted increase in functional distinction with movement towards the outer-edge of the cylinder faces. For example, the Distributive-Identity region shown in the bottom panel of Figure 4-5 is characterised by an increase in discreteness from PosSelf (.49) and Criticism (.52), through to Profanity (.68) and Insult (.72). This finding suggests that negotiators may use criticisms not only to challenge the other party’s ability, but also to manipulate relational boundaries or reinforce an instrumental position. In contrast, insulting the other party is more likely to serve the single function of attacking the other party’s identity.

Table 4-3 gives a systematic analysis of these patterns of correlations, showing for each region the association between each behaviour’s correlation and distance from
Effects of Situation on Structure

Figure 4.5: Dimensions 2 and 3 of the SSA-I configuration showing, for each behaviour, the degree of functional distinction (decimal point omitted). The configuration is divided into the Avoidance (bottom), Distributive (middle) and Integrative (top) level of interaction.
Table 4-3

Correlations between Functional Distinction and Distance Away from the Intersection of the Motivational Facet, as a Function of the Level of Interaction.

<table>
<thead>
<tr>
<th>Level of Interaction</th>
<th>Instrumental</th>
<th>Identity</th>
<th>Relational</th>
</tr>
</thead>
<tbody>
<tr>
<td>Integrative</td>
<td>0.50</td>
<td>0.92</td>
<td>0.96</td>
</tr>
<tr>
<td>Distributive</td>
<td>0.47</td>
<td>0.75</td>
<td>0.60</td>
</tr>
<tr>
<td>Avoidance</td>
<td>-1.00</td>
<td>-1.00</td>
<td>1.00</td>
</tr>
</tbody>
</table>

the central intersection of the regions. The Distributive and Integrative levels of interaction achieve high positive correlations, supporting the predicted relationship between the degree of functional distinction and distance from the origin. More interestingly, this relationship seems to be inverted at the level of Avoidance behaviour, with movement towards the edge of the plot associated with increased flexibility in the meaning of behaviour. Since the average correlation at this level (.65) is not dissimilar to that at the Distributive (.74) or Integrative (.74) levels, this shift in direction cannot be explained readily as an artefact of lower stability at the Avoidance level of interaction.

4.5 Discussion

This Chapter sought to further understand the ways in which negotiators use communication behaviours over time in crisis negotiations. Consistent with the analysis of actual hostage negotiations (Chapter 3), the interrelationships among behaviours during police simulations were shown to be meaningfully conceptualised using a cylinder model. Negotiators’ dialogue could be differentiated as relating to withdrawn, highly emotional, and more rational orientations (Avoidance, Distributive, Integrative) that address three types of issues (Identity, Instrumental, Relational) with various degrees
of intensity (Low to High intensity). Since the imagery associated with the cylinder model is one of mapping out the complete communication process (rather than examining components of the process), the model offers a uniform theoretical basis for understanding the major psychological similarities and differences in communication behaviour. In doing so, the model enabled further analyses to show systematic quantitative and qualitative variations in behaviour across simulated and actual negotiation contexts. At a quantitative level, simulated negotiations were found to be relatively more restricted in the number of different occurring behaviours and in the type of motivations pursued. At a qualitative level, behaviours towards the periphery of each level of interaction were found to have a more homogenous function across contexts compared to behaviours towards the centre of each level.

4.5.1 A Cylindrical model of communication behaviour

The pattern of interrelationships among communication behaviours in simulated negotiations provided overwhelming support for the various distinctions proposed by the mapping sentence in Figure 4-1. The major distinction among behaviours reflects differences in negotiators’ overall interpersonal style, with movement along the ordered axis of the cylinder running from extreme withdrawal (Avoidance), to emotional aggression (Distributive), through to constructive problem solving (Integrative). At each level of interaction, negotiators’ communication was further shown to unfold around three qualitative themes of concern that functioned to resolve both the objective (Instrumental) and expressive (Identity, Relationship) issues generated during the conflict. Although a negotiator may possess many different concerns during a single episode of negotiation, the current results support the proposal that negotiators frame dialogue by focusing on a particular mode of communication at any one time (Drake &
Donohue, 1996; Rogan, 1999). The extent they pursue a single frame is denoted by the Intensity of behaviour, with some behaviours found to adopt a central role in dialogue while others function specifically to convey a strong interest in resolving a particular concern.

A limited number of variables were located in regions other than hypothesised, and this may reasonably be explained as chance variation. However, the systematic nature of the differences deserves some consideration. One important difference is the integration of the Avoidance and Distributive orientations towards the right-side of the plot in Figure 4-2. This reflects a breakdown in the variation of directness with which negotiators disclose perceptions or feelings (Sillars et al., 1982). Such confusion is likely to be the result, at least in part, of negotiators’ reluctance to use sustained withdrawal from interaction within a time-limited training situation. A second consideration is the blending of Identity and Relational components of negotiation at the Integrative level of interaction. The possibility of identifying instances in which certain dynamics of interaction merge with other dynamics is unique to an examination of communication through units of speech, where findings are derived form the inherent structure of the data rather than indirectly by imposing a statistical framework. In the current case, this amalgamation of behaviours suggests that simulations orientated towards cooperative problem solving will focus broadly on expressive issues that support the other party’s face and maintain high affiliation.

One exciting aspect of the cylinder model is the clarity with which diverse explanations of communication motivation are shown to interrelate within a single framework. This evidence not only increases the validity of previous perspectives, but it also allows researchers to understand how these factors interrelate to structure the negotiation process. For example, Selye’s (1978) early distinction between “flight” and
“fight” responses to a threat corresponds to the crisis-orientated Avoidance and Distributive approaches to dialogue. Similarly, regions of the current SSA-I configuration support aspects of the F.I.R.E. model of conflict negotiation (Rogan, 1999), although it remains unclear how the model’s “Emotion” factor relates to the facets of the cylinder model. The most likely relationship would be a strong positive association between degree of emotion and degree of intensity. Evidence to support this proposal would suggest that emotion plays a pivotal role in negotiators’ willingness to use functionally adaptive and neutral behaviours, which is consistent with the frequently asserted need to reduce conflict spiralling before a negotiation progresses (Holmes & Fletcher-Bergland, 1995).

4.5.2 Behaviour use in actual and simulated negotiations

Consistent with the predicted contextual variations, the findings indicated that simulated negotiations involved a more specialised use of behaviours than actual negotiations. Much of this specialisation may be convincingly explained as adherence to negotiator training and prescribed conflict intervention models. For example, during simulated negotiations, dialogue stemming from an Avoidance orientation focused almost exclusively on Relational issues, which matches the proposal that early stages of interaction should focus on generating the trust and affiliation needed to engage in problem solving (Donohue et al., 1991). Similarly, Distributive periods of simulated negotiations were characterised by dialogue focused almost entirely on Instrumental issues, which is consistent with a prescribed focus on problem solving during later stages where time constraints make it less likely that negotiators will evolve an Integrative orientation. These examples translate at a more general level to much less variability in the types of behaviours used in simulated negotiations compared to actual negotiations.
For example, justifications and demands are used 1.5 times as much in simulated negotiations compared to actual negotiations, while 10% more of the dialogue in simulated than actual negotiations involves only five main behaviours (Four of these behaviours, Demand, Encourage, Justify and Reassure, are the same across contexts). These observations might lead research to question whether the circumstances of actual conflicts cause negotiators to draw on wider lexicons than they do in simulations. Perhaps the higher-stakes attached to real-world incidents leaves negotiators more willing to try different approaches to the same problem.

**Implications for Law Enforcement Hostage Crisis Negotiation Simulations**

The evident similarity between the structure of dialogue in simulated and actual hostage crises indicates that negotiations simulated by law enforcement are, on the whole, excellent at replicating the communication process of actual hostage crises. However, the differences identified between the two contexts do highlight some useful areas for consideration and future development. First, simulated negotiations do not include the definite periods of Avoidance which are evident in actual negotiations, suggesting that negotiators may not fully experience interactions in which the perpetrator withdraws from dialogue using non-aggressive, passive behaviours. Second, during periods of cooperative interaction, simulated negotiations often involve high levels of interdependence on Identity and Relational issues simultaneously, rather than dialogue in which negotiators cooperate on only one of these issues. Third, simulated negotiations typically used a smaller variety of communication behaviours possibly because of a tendency to simulate prescribed models of negotiation development. Finally, evidence relating to the function of behaviours may be incorporated into strategy development to
help select the approach that will allow more control over the focus of dialogue and the development of the negotiation.

4.5.3 Consistency in behavioural function

The final implication to emerge from the current results concerns the varying flexibility of function for different behaviours. As predicted, results indicated that the number of different functions a behaviour may play in dialogue decreased with increasing behavioural intensity, such that high intensity behaviours were found to be functionally discrete. These findings reinforce the interpretation of the cylinder structure because behaviours situated towards the centre of each level are both conceptually and empirically more related to the other behavioural regions, whereas those towards the periphery are isolated into a single region. Of equal interest was the exception to this association, a negative relationship between intensity and the functional discreteness of Avoidance behaviours. This finding may tentatively be explained by arguing that low intensity Avoidance behaviours perform the single function of generally withdrawing from interaction, while high intensity behaviours, because they focus only on a particular aspect of interaction, are more flexible in the sense that they seek to avoid only one particular issue or aspect of the interaction.

4.6 Conclusions

In a more general sense, the evident variations in behavioural function are consistent with the increasingly influential conceptualisation of personality as behavioural dispositions specific to particular situations (Shoda & Mischel, 2000). Those behaviours with high functional distinctiveness may be considered contextually independent and would be expected to show high levels of consistency over different
situations. In contrast, those situated towards the centre of the cylinder’s levels seem more likely to serve different purposes across situations, and so would not emerge as a consistent measure of any sort of personality trait or dimension. Since the relative importance of situation and traits on behaviour may be manipulated by experimental design (Buss, Gomes, Higgins, & Lauterbach, 1987) this form of relationship between behavioural disposition and negotiation behaviour is open to empirical test. The impact of individual differences on negotiation behaviour is the focus of Chapter 5.
Chapter 5

Effects of Negotiation Role on the Structure of Communication Behaviour

Overview

This Chapter reports a third test of the cylinder model that examines how individual differences in role affect the way negotiators structure their communication behaviour over time. Thought units from the 283 episodes of divorce mediations were coded using 41 behavioural variables and examined over the roles of husband, mediator, and wife. Section 5.1 presents a Smallest Space Analysis that supports the hypothesised cylindrical model of behaviour as structured by the three facets identified in previous Chapters (Level of interaction, Motivational source, Intensity). Section 5.2 used the smallest space solution to explore the affect of negotiator role on the degree and consistency of behaviour use. Results show complex but coherent within-speaker differences in behaviour, while comparisons across negotiators suggest broader regional patterns of use that are common to negotiators with the same role. Further nomothetic analyses indicated a strong positive relationship between the extent negotiators use behaviour and the consistency they use behaviour over time, suggesting that previous “aggregate” analyses may have been capturing both of these dynamics.
Chapter 5
Effects of Negotiator Role on the Structure of Communication Behaviour

In contrast to the long tradition of uncovering the effect of individual differences on negotiators’ overall approaches to interaction (De Dreu, Weingart, & Kwon, 2000; Lewicki, Saunders, & Minton, 1999; Morris, Larrick, Su, 1999), the analyses reported in this Chapter focus on how individual differences affect negotiator’s use of different behaviours to pursue different goals at different times. Specifically, the first half of this Chapter works from the assumption that uncovering coherent differences in negotiator’s functioning requires an appropriate conceptualisation of how behaviours themselves differ in their contribution to the interaction process. Rather than examine variations in dialogue from one particular theoretical perspective (e.g., facework, Rogan & Hammer, 1995), the goal here was to illustrate again the dynamic, process-orientated nature of negotiation by uncovering patterns in the organisation of actual communication behaviour. For this purpose, the findings from Chapters 3 and 4 were used to refine the cylinder model, and the model used to make predictions about the interrelationships among behaviours as they occur across a negotiation. The variety of emphases predicted by the model, and the relationships among these emphases, are tested using a smallest space analysis (Guttman, 1968) of coded data from 20 divorce mediation sessions.

In most studies of negotiation, the behavioural manifestations of individual differences have been sought in the overall level or mean frequency of behaviour use (Donohue & Taylor, 2003; Lewicki, Saunders, & Minton, 1999). Thus, to the extent that social motive is an enduring personal quality, negotiators with a “proself” perspective would be expected to focus on priority information exchange and aggressive concession making compared to those with a “prosocial” orientation (De Dreu, Weingart, & Kwon,
However, as negotiation and personality theory has long recognised, the extent to which negotiators draw upon particular behaviours to pursue their goals is dependent on a set of perceptions, motivations, and beliefs that produce a far more dynamic interaction than “aggregate” observations imply (Donohue & Taylor, 2003; Dweck, 1996). This discrepancy between observations and theory raises the question of how individual differences affect the degree and consistency with which negotiators’ use behaviours (Olekalns & Weingart, 2003). To address this question, Section 5.2 sought coherent individual differences in the consistency and diversity with which a negotiator draws on particular behaviours and strategies as a negotiation unfolds.

Specifically, Section 5.2 explored the impact of one variable, negotiator role, on behavioural organisation over time. Role theory predicts that differences in expectations, perceptions and identities shape the behaviours and groups of behaviours that negotiators’ perceive as critical to their objectives (Donohue & Taylor, 2003; Rodnam, 2000). The affect of these perceptions is to bring about unique but coherent patterns of behaviour over time, where such patterns show distinctive similarities across negotiators acting out the same role. For instance, Ian’s unique conceptualisation of role may lead him to defend his identity more often than others regardless of the focus of interaction, but he may also use extreme levels of competitive bargaining tactics during problem-solving stages of interaction. At the aggregate level, one would observe for Ian higher frequencies of occurrence for both of these kinds of behaviours compared to his counterpart, but the process by which these differences emerge is very different. The disparity between the behaviour of Ian and his counterpart would be expected to depend upon the similarity of their roles, with similar roles associated with more comparable patterns of behaviour use. The major goal of Section 5.2 is to demonstrate distinctive
intra-individual patterning in communication behaviour over time, and obtain empirical evidence that such patterning varies meaningfully across different negotiator roles.

5.1 The Cylinder Model of Differences in Negotiator’s Behaviour

A first stage of investigating the affect of individual differences is to establish a framework for conceptualising the conceptual similarities and differences among behaviours. The model tested in this Section is the same as that introduced in Chapter 3 and tested in Chapters 3 and 4. To reiterate the hypotheses for this Chapter, Table 5-1 presents the 41 coded communication behaviours according to the distinctions made by the cylinder model. These groupings represent the different possible emphases of a negotiator’s dialogue and are predicted to be instantiated by a group of highly co-occurring behaviours with a coherent substantive meaning.

**H1:** Subsets of conceptually related behaviours will consistently occur together according to the groupings outlined in Table 5-1.

5.1.1 Method and analysis

*Transcript Sample*

This model was tested using the data matrix produced from 20 divorce mediation sessions, conducted in various branches of the Los Angeles County Family Mediation and Conciliation Court (see Section 2.1.3, p. 22). These interactions contained dialogue from fathers, mothers, and mediators who each have very different intentions and reasons for engaging in interaction. For example, a mediator’s role is one of facilitating problem solving around the issues that are important to the disputants. In contrast, for many disputants, the aim of mediation is to use a variety of strategies to
reduce their ex-partner’s expectations and enhance personal gain. Each of these individuals will have very different perspectives on the best way to deal with particular issues, thereby providing a rich data set for examining the impact of role on behaviour. Table 2-3 details the characteristics of the 20 transcripts, together with a decomposition of talk frequencies for each negotiating party. The terms disputant and negotiator are used interchangeably to refer to an individual involved in divorce mediation.

5.1.2 Results and discussion

The SSA-I in three dimensions had a coefficient of alienation of .19 in 18 iterations, indicating that the correlations among variables are reasonably well represented by their corresponding distances in the configuration. Figure 5-1 shows the first and second dimensions of the SSA-I solution. Each of the points and the associated labels correspond to the behaviours defined in Table 2-4, and are identical to those used in Chapters 3 and 4.
Levels of Interaction

In accordance with the regionality hypothesis, the SSA-I configuration was examined for regions that correspond with the Avoidance, Distributive and Integrative levels of interaction. Figure 5-2 shows the same configuration as Figure 5-1 but with partitions that correspond to the predicted levels, ordered from bottom to top of the configuration according to an increasing cooperative emphasis in behaviour. Those behaviours located towards the bottom of the configuration support the prediction that, on some occasions, disputants avoid engaging in substantive discussion and actively
disrupt any constructive form of problem solving (Avoid, Interrupt, Shift). This standoff is often reinforced by a defensive state of mind, with disputants accusing the other party of not playing fair (Accuse, Provoke) and refusing to accept personal responsible for developing a solution (Denial). In extreme cases, this desire to withdraw from interaction can lead disputants to retract from previous agreements (Retract).

In comparison, behaviours situated in the middle region of Figure 5-2 have a Distributive emphasis as disputants seek to argue their cases and discredit the other party. This antagonistic orientation is characterised by a rigid, unyielding mindset in which aggressive bargaining positions (Alternative, Demand) combine with an

---

*Names in parentheses refer to the variable label representing the occurring communication behaviour as it appears on the SSA-I configuration.*
unwillingness to capitulate to the other party’s wishes (RejectDemand, RejectOffer). The orientation is further characterised by attempts to discredit the other party (Criticism, Insult) while repeatedly promoting self worth (PosSelf). Finally, the 16 behaviours in the top Integrative region of the plot support the prediction that, on some occasions, couples are able to engage in constructive problem-solving in which offers and joint solutions are developed. Behaviours such as ComplyDemand, Empathy, Encourage, and Offer characterise this region and suggest a degree of respect for the other party’s position within the mediation and empathy for their concerns and desires for the child.

The configuration of behaviours in Figure 5-2 predominantly supports the predictions outlined in Table 5-1 and, consequently, the importance of the Level of interaction facet in differentiating the way disputants approach divorce mediation. However, four behaviours occurred in regions other than predicted: Apology, Avoidance, Submissive, ThreatAction. While any explanation of these misplacements can only be a post-hoc interpretation, examining the circumstances associated with these variables may provide useful insights into the use of behaviour within the divorce mediation context. For example, an examination of the dialogue surrounding ThreatAction suggests that disputants do not typically use threats to force the other into conciliation but rather use them to avoid engaging in a particular line of discussion. The threat of moving to a different city with the child (a threat that occurs several times in the current transcripts) is typically used to shift away from a solution that benefits the other party. Similarly, the location of the variable Apology in the Avoidance region of the SSA-I space may reflect disputants’ use of apologising in combination with deliberate attempt to disrupt the interaction (e.g., “I’m sorry I don’t understand what you are saying”). Disputants’ may feel that suffixing an interruption or threat of action with an apology legitimises their use in the mediation context (Schneider, 2000).
**Motivational Source**

Figure 5-3 shows dimensions 2 and 3 of the SSA-I configuration for the Avoidance, Distributive, and Integrative levels of interaction. These “bird’s-eye” views of the cylinder give the clearest account of the variation in emphasis at each level of interaction. The regions drawn on the plots in Figure 5-3 denote the sub-groups predicted by the motivational facet and exemplify the major themes of Identity, Instrumental, and Relational concerns. The polarising nature of these regions reflects the underlying qualitative nature of different motivational concerns, with distinct themes of interaction emerging in different directions from the origin of each Level of interaction. For example, at the Integrative level of interaction, the region situated towards the top-right side of the SSA-I plot (Integrative-Instrumental) reflects a problem-solving approach focused on resolving practical arrangements. Disputants communicating in this way accept the need for a mutually agreed solution and combine conciliation to the others’ demands (AcceptOffer, Agree, ComplyDemand) with suggestions of mutually beneficial solutions (Compromise, Integrative, Offer). In contrast to this emphasis, variables located towards the left side of the solution space (Integrative-Identity) focus on supporting the other’s identity through direct statements (Compliments, Empathy) and comments designed to let the other know that their feelings are normal and acceptable (Allure, Common, Negself). Finally, the occurrence of variables such as Encourage and Reassure towards the bottom-right of the Integrative level suggests that these behaviours have a rather different motivation, functioning to build the interdependence and affiliation between the parties.
Figure 5-3. Dimensions 2 and 3 of the SSA-I configuration showing the motivation facet and the modulating intensity facet. The configuration is divided into the Avoidance (bottom), Distributive (middle) and Integrative (top) level of interaction.
The regioning of behaviours in Figure 5-4 overwhelmingly fits the predictions made in Table 5-1 but for two discrepancies. The first discrepancy is the positioning of three behaviours (Apology, Commitment, and Humour) in regions other than predicted. The most interesting of these exceptions is the variable Commitment, which is found in a region of behaviours emphasising instrumental aspects of negotiation. This positioning is consistent with the view that conflict provokes disputants to show unreasonable and unrelenting commitment to a particular position or favoured solution (Donohue, 1991). The second discrepancy is the subtle twisting in the positioning of the motivational regions with movement from Avoidance to Distributive to Integrative behaviour. Such twists in the structure of an empirical space are generally considered to result from measurement error and the fact that variables are only representative points within the theoretical structure (Shye, 1995). However, it is interesting to note that a similar twist would result from interactions in which mediators were constantly shifting disputants away from criticising each other and towards collaborating to problem-solve. This transition from Distributive-Relational to Integrative-Instrumental behaviour is often cited as a characteristic of divorce mediation (Donohue, 1991).

*Variations in Intensity*

Figure 5-3 also includes schematic arrows that indicate the predicted direction of increasing intensity on each face of the cylinder. As predicted by the Intensity facet, movement in any direction from the centre towards the periphery of a cylinder face is associated with behaviours of increasing intensity. For example, the bottom-right segment of the plot for Distributive behaviour (Instrumental region) depicts increasingly aggressive attempts to force the other into conciliation. Behaviours change from making demands and commitments (Commitment, Demand) to rejecting the other party’s offers
Effect of Role on Structure

(RejectDemand, RejectOffer) though to suggesting unreasonable alternatives and threats of action if personal demands are not met (Alternative, ThreatAction). Similarly, increments in intensity are evident for the Integrative-Identity region as behaviours escalate from admitting personal weaknesses and empathising with the other party (Empathy, NegSelf) to complimenting them and suggesting a level of commonality among personal viewpoints. These behaviours represent increasingly direct attempts to build the other party’s perception of self-worth. Interestingly, the variable Humour is also located towards the outer-periphery of this region, implying that humour allows disputants to disclose personal weaknesses or express praise without loss of face (Alberts, 1990; Foot, 1997).

It is the nature of an SSA-I configuration that variables located towards the centre of each circular level are the ones that empirically and conceptually have most in common with all other behaviours. In divorce mediations, Avoidance of interaction is characterised by continual disruption of substantive discussion (Interrupt) and explicit attempts to shift away from some topics of conversation (Shift). The use of Shift is more central in divorce mediations than in the analyses of Chapters 3 and 4, where the behaviour Avoidance was more common. The increased centrality of Shift may arise from the nature of mediation, where mediators often act to mitigate any attempt to withdraw completely from discussion but may still allow a shift in focus towards a favoured concern. Behaviours central to the Distributive level of interaction are Criticism, Demand, and Excuse, which reflect the backbone of a contentious approach to mediation. As shown in previous research (Donohue, 1989), a Distributive approach is characterised by dismissive responses to the others’ concerns and lengthy justifications and excuses as to why it is acceptable to act in an egocentric manner (Excuse, Justify). Moreover, disputants adopting a Distributive orientation typically focus on the prominent
alternative (Donohue et al., 1991), and make extensive use of demands to achieve this alternative (Demand). Finally, more cooperative Integrative interactions are driven by behaviours such as Offer, NegSelf and Reassure. Attempts to comfort the other party (Reassure) and give them options regarding a possible solution (Offer) are behaviours that are central to each of the examined forms of conflict negotiation. However, the central role of comments about personal weaknesses (NegSelf) was not evident in previous analyses, and may reflect the importance of balancing identities and personal value within a close relationship (Fletcher, Fincham, Cramer, & Heron, 1987; Veroff, Sutherland, Chadiha, & Ortega, 1993).

In contrast to the behaviours at the centre of the cylinder levels, those behaviours at the periphery of each level are the most functionally discrete and reflect maximally the distinctions among the various emphases. Many of the behaviours found at the periphery are the same as those found in previous analyses (see Chapters 3 and 4). For example, the most intense Avoidance-Instrumental behaviour is retracting from a previous agreement (Retract), which reflects not only withdrawing from the interaction but also stepping back from some previous progress. Similarly, an intense Integrative-Relational behaviour is Humour, which is an act that potentially builds friendliness and reduces tension. Comparing the intensity of behaviours in divorce mediations with those in hostage crises (Chapters 3 and 4) also reveals some interesting differences. For example, the behaviour RejectDemand is central to hostage negotiations but functionally discrete in divorce mediations, perhaps because the presence of a mediator stops disputants declining requests outright. Similarly, the behaviour Confidence is far more intense in divorce mediations than hostage crises, reflecting the importance of reassuring disputants in mediation that they will be able to find a mutually acceptable resolution.
5.2 Predicting Behaviour Preference from Negotiator Role

In this Section, the cylinder framework is used to examine how individual differences in role influence the organisation of a negotiator’s behaviour over time. The analysis is based on the view that role, broadly defined, relates to a set of beliefs, attitudes, and expectations that are externally driven by parties’ interdependence and bargaining options and internally driven by each negotiators’ perceptions and social identity (Donohue & Taylor, 2003; Donohue & Taylor, in press; Rodham, 2000). These relatively enduring factors interact with situational characteristics to shape a negotiator’s perspective of what may be achieved within the interaction and how best to achieve it. The result of this evolving perspective is that the disputant will strategically adjust his or her behaviour with the aim of moving the interaction in a way that accomplishes salient objectives. For example, a husband fighting for custody of his child may come to the mediation table with feelings of anger and rage for what he sees as injustice regarding visitation rights. Such negative cognitions and emotions will activate well-practiced scripts for coercive, controlling, and even abusive behaviours that are intended to control his ex-wife’s actions. The result is complex but distinctively patterned variation in behaviour over time.

There is an important discrepancy between the above theoretical account and existing evidence of negotiators’ behaviour in divorce mediation. While theory points towards variability in behaviour, research has typically focused on the frequency of behaviour use (Donohue, 1991; Donohue & Taylor, 2003). Specifically, most research has measured the aggregate occurrence of behaviour either across the whole negotiation (Thomas, 1976) or over a finite number of interaction periods (Donohue, 1991), thereby giving only indirect consideration to how negotiators change their behaviour to deal with individual episodes of interaction. Yet, as illustrated in Figure 5-4, the question of how
role affects the use of behaviour within an interaction is quite separate from the question of how role affects the consistency of use across the interaction. Negotiators may use some behaviours frequently and do so consistently irrespective of the issues being addressed by the current dialogue. Other behaviours may be used with equal frequency but only when dealing with certain issues, such that they occur frequently but inconsistently over the interaction. Finally, a negotiator may be consistent or inconsistent in using behaviour rarely during an episode of interaction. Thus, while an analysis of aggregate frequencies or means split across several time periods gives a basic picture of behaviour use, such analyses do not provide a picture of how this patterning is shaped over time. Differences in negotiator’s strategic use of behaviours should become visible in the distinctive or unique ways his or her behaviour changes across episodes of negotiation, and not just in its overall level or mean frequency.

Figure 5-4. Potential ways in which a negotiator can use behaviour over time. $z\text{Freq} = \text{Standardised frequency of occurrence}$. $z\text{CV} = \text{Standardised Coefficient of Variation}$. 
With this distinction in mind, it is useful to re-examine theory and research to derive an understanding of how differences in role may affect the frequency and timing of behaviour use in divorce mediation. In negotiation theory, particular bargaining positions or roles are assumed to be characterised by a common set of dynamics (e.g., cognitions, emotions, perceptions, motivations) that manifest themselves as distinctive similarities in the behaviour of negotiators acting out the same role. Central to the mediator role are behaviours that facilitate dialogue by framing the disputant’s positions in a positive light and expanding the information and alternatives available to each party (Donohue 1991; Hocker & Wilmot, 1985). Accordingly, mediators would be expected to show preference for cooperative behaviours that structure the turn-taking and relationship dynamics between the disputants (Jones, 1989), empathise with disputants’ concerns and emotional issues (Thoennes & Pearson, 1985), and propose potential solutions for consideration (Donohue, Allen, & Burrell, 1985). Of equal importance, however, is that mediators are trained to adopt this role consistently in order to maintain a problem solving environment across the duration of the interaction (Donohue, 1991). Consequently, mediators are expected to adopt an Integrative orientation to behaviour sustained across all periods of interaction, with little evidence of Distributive or Avoidance behaviour (Donohue, 1991). Donohue, Allen, and Burrell (1985) note one possibility that leads to refinement of this prediction, which is that mediators may occasionally use Avoidance behaviours to refocus discussion. This use of Avoidance behaviours would be predicted to be specific to certain behaviours and would occur only occasionally.

In relation to disputants, there is likely to be a more complex set of individual differences. Donohue and Taylor (2003) argue that husbands fighting for more control “see themselves as having fewer options in comparison to the mothers” and that
consequently “they are more likely to resort to aggressive strategies as a way of seeking change in the power structure (p. 22).” Consistent with this idea, several researchers have shown the emphasis of husbands’ dialogue is on defending a personal position through face-threatening directives (Donohue & Diez, 1985), aggressively seeking to redefine the relationship structure (Donohue, 1991), and attempting to force the other into unnecessarily yielding on critical issues. Competing, it seems, is a distinctive signature of the husband role where perceptions of having lower power drive individuals to constantly work to protect their position and identity. Thus, husbands are predicted to engage in pervasive use of Distributive behaviour over the negotiation, with only occasional use of Integrative-Instrumental and Avoidance behaviours.

In contrast, wives have been shown to use a broader range of communication choices including more affiliative and interest-focused messages. “Because these negotiators have more options available that do not impinge on their overall position, they feel able to risk their social identity with more open and conciliatory dialogue (p. 23)” (Donohue & Taylor, 2003). This one-down effect predicts wives as being frequent users of behaviours that emphasise integrative bargaining and problem solving. However, it is less clear whether this cooperative orientation also extends beyond instrumental issues to supporting the husband’s identity and concerns about relational issues such as the power structure. For example, Donohue, Lyles, and Rogan (1989) noted that wives often strive for a degree of interdependence within their decision making. In contrast, Pines, Gat, and Tal (2002) report that wives were more likely than husbands to argue about relational responsibility and use aggressive relational behaviour, while simultaneously being emotional with expressions of insult and pain. The role associated with the wives position, therefore, is predicted to be characterised by
sustained use of Integrative-Instrumental behaviours, but only momentary intense use of cooperative behaviours focused on expressive (i.e., identity and relational) issues.

To explore the predicted effects of role on intra-individual behaviour, the remainder of this Section seeks to demonstrate empirically the patterns predicted above within the context of the cylinder model. The first goal of the analysis is to show that disputants’ behaviour over time is meaningful and coherent rather than random and haphazard. Specifically, while disputants will inevitably show unique and complex patterns of individual behaviour use (Funder & Colvin, 1991), it was hypothesised that they would show broad, meaningful trends in the frequency and consistency of their behaviour across the cylinder’s nine regions. Moreover, because these modes of interaction reflect the underlying goals and concerns a disputant can address, the patterning of behaviour across the regions was expected to correspond with the role differences outlined above. In short, disputants were expected to show systematic use of behaviour over time where this organisation of behaviour was driven, at least partially, by their role in the interaction.

The second goal of the analysis was to determine whether or not the intra-individual patterns of behaviour translate into distinct similarities in behaviour across negotiators with the same role and distinct differences in behaviour across negotiators with different roles. The term behavioural profile is used to refer to the frequency and consistency with which a disputant uses each of the 39 behaviour across an interaction (Mischel, 1973; Shoda, Mischel & Wright, 1994). Accepting role as a discriminating individual difference leads to the expectation of stable and distinctive profiles of behaviour among disputants with the same role. Disputants acting out the same role were hypothesised to have a higher level of similarity in their behavioural profiles compared to disputants acting out a different role. By demonstrating global similarities among the
behaviour use of disputants who share a common role, the goal was to provide potentially generalisable findings of broad relevance at a nomothetic level, while still retaining an essentially intra-individual focus (Shoda et al., 1994).

Finally, to gain a general picture of what disputants who have the same role do on average, the analysis considered the empirical relationship between the frequency and consistency of behaviour use. Several aspects of conflict and role theory suggest a strong positive relationship between the frequency and consistency with which a negotiator uses different behaviours. First, as noted above, differences in role are characterised by strong predispositions and beliefs about the best strategies and behaviours to employ to reach a successful outcome (Donohue & Taylor, 2003). Negotiators have a set belief about the best way to communicate personal concerns and they pursue this strategy frequently and consistently. Second, because conflict is characterised by inflexible problem-solving and a focus on predominant alternatives, negotiators are more likely to stay focused on a particular behavioural strategy across the duration of the interaction without changing their approach (Donohue et al., 1991). Thus, it was hypothesised that behaviours perceived as strategically central to negotiators’ goals will be used constantly and indiscriminately regardless of changing concerns, even when those responses are often less effective in moving forward an interaction (Levine & Boster, 2001). In contrast, those behaviours at the periphery of a negotiator’s strategic outlook will be used with less care and show greater variability in use.

5.2.1 Method and analysis

Transcription Sample

The data from Section 5.1 were used in this analysis. However, to enable an analysis of individual negotiator’s behaviour, the frequency of occurrence of each
variable was separated into husband, mediator, and wife behaviour. These speakers are known to have well-defined and distinctive roles within divorce mediation, such that dividing the coding in this way provides useful data for testing the predicted role effects (Donohue, 1991). Briefly, a mediator’s role is one of facilitating problem solving around the issues that are important to the disputants. The behaviours and strategies mediators use to achieve this objective are established through training and experience and remain broadly consistent across different kinds of disputes. While the exact roles of the husbands and wives depended upon their individual motivations, their positions in the dispute were sufficiently homogenous to enable a distinction of role according to the “one-down” phenomenon (Donohue & Taylor, 2003). Specifically, as shown in Table 2-3, the husbands in these transcripts were characterised by a “one-down” role in the sense that they had fewer options available to them and were seeking change in the current arrangements (e.g., to spend more time with the child). In contrast, wives in these transcripts were found to be in the one-up situation, since their position was one of defending the current arrangements and ensuring they retain the predominant control of the child’s affairs.

Assessing the Consistency of Negotiator’s Behaviour Use over Time

Although previous work has measured individual’s behavioural profiles by correlating the occurrence of behaviour observed on different occasions (Shoda, Mischel, & Wright, 1994), this approach measures the overall stability of individual’s behaviour and does not quantify variations in use among behaviours. To capture the effects of role on the use of single behaviours, this Section uses the changing occurrence of behaviour over interaction episodes as an alternative measure of consistency. Specifically, the frequency of occurrence of a given behaviour in each episode of the negotiation was
used to compute a mean and standard deviation for that behaviour. The resulting standard deviation was then divided by the resulting mean to produce a coefficient of variation (CV) (Howell, 1997). This coefficient gives a standardised index of the degree of variation in behaviour across observations. It therefore measures the consistency versus specificity of behaviour use across the episodes, with higher values reflecting greater levels of fluctuation in behaviour use. In other words, if a particular behaviour is central to enacting a role and used constantly by a negotiator regardless of the topic being discussed, then that behaviour will be associated with a relatively low CV. In contrast, if the behaviour is not central to a negotiator’s strategic orientation, then they are likely to use it only on specific occasions and the behaviour will be associated with a higher CV.

The pattern of coefficients of variation (CV) across the 41 behaviours constitutes a behaviour profile of negotiator’s tendency to act in particular ways. It would be possible, therefore, to examine differences in negotiators behaviour by comparing the resulting profiles of absolute CVs. However, doing so would confound the differences of interest with variations in how each negotiator acts in general (Thomas, 1976). For example, most negotiators are more likely to justify their own position in the interaction than they are insult the other party, such that higher coefficients of variation will be found for insult across all negotiators. To disregard this natural variation and plot the aspect of behavioural variation that is distinctive to each negotiator, the actual CV values were transformed into z-scores. Specifically, the normative (mean) CV for each of the behaviours in this sample was subtracted from negotiator’s actual CV values for that behaviour, and the results were rescaled using as units the standard deviations of the behaviour. Scores below zero indicate a behaviour that is used consistently by a
negotiator throughout the negotiation, while scores above zero indicate behaviours that are less central and used only on specific occasions.

*Assessing the Frequency of Negotiator’s Behaviour Use over Time*

To link differences in the consistency of use with differences in the frequency of use, a standardised frequency of occurrence was computed for each of the behaviours using a similar procedure as above. Specifically, for each episode of interaction, the number of times a negotiator used a behaviour was subtracted from the mean occurrence of that behaviour as observed across the 283 interaction episodes. The results were then rescaled as units of standard deviations to produce standard scores. Each of these scores depicts the relative frequency with which a speaker uses a given behaviour in an episode of interaction. Since it was not practical to represent each of these values on an SSA-I configuration, the resulting values were averaged across the episodes of a negotiation to give an indication of a negotiator’s tendency to use the behaviour more or less often than other negotiators. A mean frequency that was greater than zero indicated that the negotiator showed a greater than average tendency to use the behaviour, while a value that was below zero indicated a lower than average tendency to use the behaviour.

5.2.2 Results and discussion

*Intra-individual Organisation in Communication Behaviour*

For each disputant, the behaviour-specific standardised frequencies (zFreq) and coefficients of variation (zCV) were used to label the relevant variable points on the SSA-I configuration (see Section 5.1.2). The resulting configurations allow a test of the hypothesis that negotiators use of behaviours over the nine modes of interaction is consistent and meaningful rather than random and haphazard. Figure 5-5 to Figure 5-8
present examples of the resulting configurations for two husbands and two wives. These plots give a “profile” of the frequency and consistency with which a disputant used the various modes of behaviour over time. If disputants organise their behaviour in systematic and meaningful ways, then there should be coherent patterns in behaviour use across the SSA-I configuration, where these patterns correspond with the role predictions outlined in Section 5.2.

Figure 5-5 presents a profile of Husband A’s behaviour, which corresponds highly with the predicted locus and pattern of behavioural emphasis. Specifically, this husband used more Distributive behaviour than other husbands (average zFreq of Distributive behaviours = .55) and maintained this over the majority of episodes (average zCV of Distributive behaviours = -.45). In particular, Husband A was more likely than others to attack the identity of the other parties through criticisms (zFreq = 1.3), insults (zFreq = 1.4), and boasting of personal superiority (zFreq = .50), and he did this regardless of the interaction’s focus (zCV = -.86, -.68, and –1.2, respectively). He was also consistently more likely than average to engage in competitive problem solving, particularly threatening action if demands were not met (zFreq = 2.3, zCV = -1.5), and he always sought to justify his actions (zFreq = .16, zCV = -.80). His profile in relation to Integrative behaviours was more ambiguous, with some behaviours being used regularly (e.g., Agree, ComplyDemand) and others occurring only on specific occasions (e.g., AcceptOffer, Offer). Specifically, in line with the hypotheses, Husband A did little to build the relationship between the parties and was not proactive in creating solutions to the dispute, but he would make concessions in certain circumstances.

Figure 5-6 shows the behavioural profile of Husband B who also demonstrates the predicted stability and variation in behaviour use and whose overall profile is consequently very similar to the Husband A (see Figure 5-5). For example, over the
Figure 5-5. Dimensions 2 and 3 of the SSA-I configuration showing the intra-individual behavioural profile of Husband A. Parentheses show (zFreq / zCV).
Figure 5-6. Dimensions 2 and 3 of the SSA-I configuration showing the intra-individual behavioural profile of Husband B. Parentheses show (zFreq / zCV).
episodes of the negotiation Husband B was more likely than average to make demands 
($z$Freq = 1.4) while reject the other parties’ demands and offers ($z$Freq = .36 and .56),
and he did this consistently irrespective of the focus of dialogue ($z$CV’s = -.79, -1.5, and 
-.18). This individual was also like Husband A in that he was very unlikely to use 
Integrative behaviours, particular those focused on identity which he used on only 
several occasions. However, while there are similarities across Husband A and Husband 
B, there are also very clear differences in the way these husbands performed their role 
and pursued their objectives. For instance, while both husbands were consistently more 
likely than average to reject the other party’s offers and make their own demands,
Husband B did not typically force the issue by threatening action if his demands were not 
met (cf. the middle panels of Figure 5-5 and Figure 5-6). More critically, a comparison 
of the Distributive-Identity regions across Husband A and Husband B shows a quite 
different approach to identity, with the first husband regularly using criticisms and 
insults while the second husband is constant in not attacking the other parties’ face.
Thus, while these two husbands broadly pursued a Distributive orientation, at times they 
did so for very different reasons.

In contrast to the two husbands, Wife C, whose behavioural profile is shown in 
Figure 5-7, was distinctively focused on trying to develop a mutually satisfactory 
solution. This individual was more cooperative than others, particularly in relation to 
instrumental issues, where she constantly put forward offers ($z$Freq = 1.4, $z$CV = -.64) 
and reasonable compromises ($z$Freq = .73, $z$CV = .00) while showing little tendency to 
reject demands ($z$Freq = -.16, $z$CV = -1.7) or threaten action ($z$Freq = -.23, $z$CV = -.29). 
She also engaged in more than average supportive relational behaviour, and was constant 
in avoiding any competitive behaviour focused on identity or relational issues (average 
$z$Freq = -.18 and -.81, average $z$CV = .60 and -1.3 respectively). Perhaps most
Figure 5-7. Dimensions 2 and 3 of the SSA-I configuration showing the intra-individual behavioural profile of Wife C. Parentheses show (zFreq / zCV).
Figure 5-8. Dimensions 2 and 3 of the SSA-I configuration showing the intra-individual behavioural profile of Wife D. Parentheses show (zFreq / zCV).
interesting, however, is Wife C’s extensive use of negative replies (zFreq = .29, zCV = -1.1) and interruptions (zFreq = .15, zCV = -.76), which are used consistently throughout the negotiation as a way of withdrawing from particular lines of discussion.

Finally, the profile of Wife D’s behaviour shown in Figure 5-8 has a broad overall role orientation similar to that of the Wife C but for one important difference. Specifically, while Wife D made a considerable effort to make offers (.35, -.99), accept compromises (.23, .59), and agree with the other parties (1.1, -1.1), her level of cooperation was actually lower than average when dialogue focused on relational issues. Indeed, somewhat atypically, Wife D showed a considerable tendency to use Distributive behaviours such as Excuse (1.2, -1.1) and Justify (1.2, -1.7) to address relational aspects of the interaction.

Assessing Role Differences in Negotiator’s Behaviour over Time

As the above examples illustrate, disputants differed widely in the frequency and consistency of their behaviour use over the course of negotiation. Nevertheless, while each disputant showed a unique pattern of behaviour, comparisons across the example profiles indicate significant commonalities among those acting out the same role. To test the hypothesis that on the whole negotiators with the same role will show more similarity in their behaviour than those with different roles, the standardised frequencies (zFreq) and coefficients of variation (zCV) across the 39 behaviours were compared.

Specifically, the behavioural similarity of disputants with the same role was measured by correlating each disputant’s zFreq scores with the zFreq scores of all other disputants with the same role, and, separately, each disputant’s zCV scores with the zCV scores of others with the same role. The result was two sets of 380 correlations representing the similarity of behavioural frequency and consistency among disputants with the same role.
role. These correlations were averaged using Fisher’s $z$-to-$r$ transformation to provide an overall estimate of behavioural similarity. An identical procedure was used to calculate the behavioural similarity of disputants with different roles, but in these calculations the 39 $z$Freq and $z$CV scores of each disputant were correlated against scores of disputants with a different role. Table 5-2 gives the mean correlations among disputant’s $z$Freq and $z$CV scores as a function of role. Consistent with the hypothesis, disputants with the same role generally showed greater similarity in their behavioural profiles compared to disputants with different roles. Specifically, as shown by the correlations in the diagonal of Table 5-2, the frequency and consistency with which a disputant used the 39 behaviours was positively correlated with the way other disputants with the same role used the behaviour. This contrast the negative or near-zero correlations found among the behavioural profiles of negotiators with different roles, as shown on the off-diagonals of Table 5-2. Interestingly, the average similarities and differences among profiles are particularly salient when comparing mediators’ behaviour to that of the two disputants. Mediators showed greater similarity among their behavioural profiles compared to the disputants, perhaps because their role is more stable across conflicts and based on considerable training and rehearsed techniques (Donohue, 1991). Mediators’ behaviour also showed greater dissimilarity to the behaviour of husbands and wives, whose own behavioural profiles were less distinct. Specifically, there was only a small difference between the within-role correlations calculated among the profiles of husbands and wives, and the between-role correlations comparing the behavioural profiles of husband to those of the wives. This suggests a degree of overlap in the way these disputants used behaviour to move through the mediation. Finally, it is worth noting that all of the
The Relationship between Frequency and Consistency of Behaviour

Finally, to examine further the relationship between the frequency and consistency of behaviour use, the standardised frequency scores were correlated with the standardised coefficients of variation across the 39 behaviours. This correlation was computed separately for each transcript and the results averaged for each negotiator role using Fisher’s $r$-to-$z$ transformation. Because the pattern of behaviour occurrence for one speaker is independent of the pattern of occurrence for a second speaker with the same role, each disputant’s profile was considered as independently sampled from a distribution of profiles. The group mean stability was then tested for statistical significance through one-sample $t$-tests that estimated the sampling error using the standard deviations of the stability coefficients across individuals. The mean correlations were -.64 for husbands ($t = 23.3$, df = 19, $p < .01$), -.79 for mediators ($t = 21.9$, df = 19, $p < .01$) and -.70 for wives ($t = -24.6$, df = 19, $p < .01$). The significance of these relationships supports the prediction that behaviours used frequently during an episode of interaction are also those used consistently across the interaction.
To examine this aspect of the data further, Figure 5-9 through Figure 5-11 present scatter-plots of the relationship between standardised mean frequency and standardised mean coefficient of variation for the behaviour of husbands, mediators, and wives. These plots show the empirical relationships among behaviours in the same format as given theoretically in Figure 5-4, with axes drawn at the zero-point for each variable. The plots are therefore useful for understanding the ways in which negotiators’ use different behaviours, and also for making comparisons across the three negotiator roles. For example, as shown in Figure 5-9, husbands use the behaviours Insult and Humour equally within an interaction episode (as shown by their approximately equal position on the y-axis), but use Insult far more consistently than Humour across the episodes of the negotiation (as shown by the contrasting positions on the x-axis). Similarly, comparing the variable ThreatAction across Figure 5-9 and Figure 5-10 suggests that husbands and mediators makes threats somewhat more consistently than average over the course of an interaction. However, during any one period of interaction, husbands use threats to a much greater extent than mediators.

A closer examination of Figure 5-9 indicates that, on the whole, husbands’ dialogue is dominated by Distributive behaviours focused on instrumental and expressive concerns. In particular, criticising the other party (Criticism\textsuperscript{5}) expressing personal ability (PosSelf), and threatening action if a demand is not met (ThreatAction) are used frequently and regularly over the course of negotiation. Indeed, of the 13 behaviours that occur more regularly and more consistently than average (top-left quadrant of the plot), only the variable Agree is not a competitive attempt to either make substantive gains or aggressively manage the interpersonal dynamics of the interaction. Husbands do make

\footnote{Names in parentheses refer to the label representing the communication behaviour on the scatter-plots and in Table 2-4.}
use of cooperative behaviours, but in different ways. For example, the placement of the variable AcceptOffer in Figure 5-9 suggests that when disputants do find a solution that is favoured by the husband, he will act with some vigour to accept the solution.

Similarly, while husbands do not comply with demands to any significant degree, they do so quite frequently, perhaps to simple requests regarding how the interaction should proceed. Most cooperative behaviours, such as apologising for previous actions (Apology), expressing empathy in the other’s position (Empathy), and making reasonable offers to end the dispute (Offer), occurred neither frequently nor consistently.
Consistent with the hypotheses, the distribution of behaviours on Figure 5-10 is quite different to that on Figure 5-9, suggesting that mediators take a very different approach to the dispute compared to husbands. Specifically, mediator dialogue on average is dominated by efforts to encourage, empathise and reassure the other party (Encourage, Empathy, Reassure) combined with attempts to introduce new and inviting solutions to the disputants (Compromise, Offer). Interestingly, the mediators also showed a greater than average tendency to move away from certain topics, with the variable Shift in particular occurring both frequently and consistently within their dialogue throughout the negotiations.
Perhaps what is most striking about Figure 5-10 is that all of the Distributive behaviours occur less often in mediators’ dialogue than on average. Behaviours such as making demands (Demand), insulting the other party (Insult), and threatening action if they do not comply (ThreatAction) were used consistently within the interaction but with low frequency. Other behaviours, such as making excuses (Excuse), denying involvement in the interaction (Denial) and criticising the disputants (Criticism) were used very infrequently and inconsistently over the negotiations.

Finally, the picture of wife’s behaviour given in Figure 5-11 suggests a mixed approach to interaction. At the extremes of the wife’s dialogue are relational behaviours.
On the one hand, as can be seen in the top-left quadrant of Figure 5-11, wives are more likely than average to consistently and fervently defend their position in an interaction through excuses (Excuses), denial of responsibility (Denial), and negative remarks when the other parties are talking (NegBackfeed). On the other hand, perhaps more surprisingly, wives make very few attempts to build the relationship through reassurances (Reassure) and encouragements (Encourage), as can be seen by these variables positions in the bottom-right corner of the plot. The placement of variables within these two extremes over the plot show an interesting mix of both competitive and cooperative behaviour, divided at least partially by those that competitively seek to defend a personal position and those that are actively aggressive against the other parties. Specifically, wives show a higher than average tendency to reject the others’ demands (RejectDemand), retract from previous agreements (Retract), justify personal actions (Justify) and even apologise for having to act a particular way (Apology). These behaviours are predominantly defensive in form, seeking to maintain a bargaining position rather than gain additional ground. They contrast the proactive aggressive behaviours such as making demands (Demands), threatening action (ThreatAction), and making insults (Insult), which wives typically use very infrequently over the course of a negotiation.

5.3 Conclusion

If negotiation researchers want to fully understand the affect of individual differences on the negotiation process, and be more cognisant of why existing studies have found “average” differences between negotiators, they need to be clear about how such dispositions lead to dynamic but meaningfully organised variation in negotiator’s behaviour over time. The studies of this Chapter spoke to the nature of this kind of
organisation of a negotiator’s behaviour, one of the most basic and least understood aspects of negotiation theory. Section 5.1 mapped out the different ways negotiator’s use behaviours and the underlying goals and concerns these differences allow a negotiator to address. Section 5.2 and examined how and to what extent individual differences in role affected the way negotiators use particular behaviours over time. Thus, within the same framework, the Chapter was able to conceptualise both the overall dialogic process and the stable and more fluid aspects of personal dynamics over time.

5.3.1 Replication of the cylinder model

Section 5.1 of this Chapter tested a dynamic-structural conception of the basic psychological distinctions that organise a negotiator’s behaviour in divorce mediation. Consistent with research on other types of conflict negotiation (Chapters 3 and 4), the interrelationships among communication behaviours were shown to be meaningfully conceptualised using a cylinder model, as outlined in Table 5-1 and Figure 4-1. The major distinction among behaviours reflected differences in negotiators’ overall interpersonal style, with movement along the ordered axis of the cylinder running from extreme withdrawal (Avoidance), to emotional aggression (Distributive), through to constructive problem solving (Integrative). At each level of interaction, negotiators’ communication was further shown to unfold around three qualitative themes of concern that functioned to resolve both the objective (Instrumental) and expressive (Identity, Relationship) issues generated during the conflict. Although a negotiator may possess many different concerns during a single episode of negotiation, the current results support the proposal that negotiators frame dialogue by focusing on a particular mode of communication at any one time (Drake & Donohue, 1996; Rogan, 1999). The extent they pursue a single frame is determined by the Intensity of communication behaviour, with
some behaviours found to adopt a central role in dialogue while others function specifically to convey a strong interest in one particular concern. Since the imagery associated with the cylinder model is one of mapping out the complete communication process (rather than examining components of the process), the model offers a uniform theoretical basis for understanding the set of dynamic relations among behaviour in divorce mediations.

5.3.2 Individual behavioural profiles and role differences

The way negotiators “move around” the structure of behaviours was the focus of Section 5.2, where intra-individual differences in behaviour were examined across three negotiator roles. The results showed dynamic patterns of behaviour that were both meaningful to the individual, in the sense of indicating stable emphases in dialogue, and meaningful at the group level, in the sense of pointing towards important similarities and differences among roles.

At the individual level, disputants were shown to have unique but meaningful patterns of intra-individual behaviour variability across the episodes of conflict negotiation. Some behaviours were used constantly to maintain a negotiating position, others became critical at certain times, and still others played only a peripheral role in moving towards a resolution. The obtained behavioural profiles seem especially important to research aimed at understanding and capturing the unique ways negotiators pursue their goals. In particular, the profiles highlighted the importance of distinguishing between the frequency of behaviour use and the consistency of behaviour use over time. These two aspects of behaviour are equally important to an understanding of how behaviours contribute to intra-individual dynamics. There is, for example, a significant conceptual difference between making a specific outburst of threats during a
particular period of interaction and using threats constantly and strategically across the negotiation to achieve personal objectives.

At the group level, disputants with the same role shared more common elements in their behavioural profiles compared to disputants with different roles. While role is one of many individual differences that likely affect behaviour, it seemed that acting out the same role leads to marked similarities in the strategies and responses negotiators perceive as effective to achieving their goals. In particular, what differentiated negotiators’ behaviour in one role from behaviour in a different role, the current results imply, is not so much specific behaviours but psychological emphases that are expressed behaviourally in numerous ways (cf. Cairns & Green, 1979). Negotiators with the same role show unique preferences for individual behaviours but considerable similarity in the degree and consistently with which they address the various possible emphases of dialogue. This more nuanced conceptualisation may help to explain why negotiations in the same context with the same role dynamics often have very different outcomes (Levine and Boster, 2001; Olekalns, 1994).

5.3.3 Relationship between the frequency and consistency of use

The pattern of results found in the three scatter-plots (Figure 5-9 to Figure 5-11) suggest that the relationship between the frequency of behaviour use within episodes and the consistency of behaviour use across episodes is important to understanding negotiators’ dialogue. Results showed that, when controlling for natural variation in behaviour functionality, the degree to which negotiators’ used a particular behaviour was positively related to the consistency with which they used the behaviour. This pattern of results is consistent with the expectation that role differences amount to
variations in what negotiators perceive as critical to resolving the dispute and, consequently, what behavioural strategies they focus on throughout the interactions.

One advantage of the graphical methods used in Section 5.2.2 is that other individual differences (e.g., social motive) can be treated using the same approach. This should enable direct comparisons and cumulative development of understanding about the different ways negotiators use communication behaviour. Moreover, an interesting extension to the scatter-plot representations would be to measure change over time in the consistency and amount of behaviour use and portray this using a third dimension. For example, previous research has shown that outcome optimality is linked to the quality of relationship management in the first half of negotiations and to the effectiveness of task-management in the second half of negotiations (Natslandsmyr & Rognes, 1995; Simons, 1993). The importance of this distribution suggests that the relationship between frequency and consistency of behaviour, as shown on Figures 5-9, 5-10 and 5-11, might depend on the time stage of interaction. A behaviour may occur frequently and consistently when dealing with relational issues (and so appear in the top-left quadrant) but occur only occasionally during the rest of the negotiation (and so appear in the bottom-right quadrant). In short, by giving an indication of what occasions involve the use of particular behaviours, this third “time” dimension would further unpack the way individual’s function during negotiation.

5.4 Conclusion

According to Shoda and Mischel (1996), the fundamental goal of research on individual differences in behaviour is “to understand how the individual functions psychologically: all seek to address questions about the ‘why’ and ‘when’ and ‘how’ of the individual’s experience and behaviour” (p. 415). This Chapter addressed these
questions within the context of conflict negotiation. The question of “why” was answered by mapping out the interrelationships among behaviours and the modes of interaction these form. Different groups of behaviours were shown to be used by negotiators to pursue very different and often contrasting concerns and goals. The questions of “when” and “how” were partly answered by the relationships among the amount and consistency of behaviour use, as explored in Section 5.2. Here, the evidence suggested that at least one individual difference – negotiator role – affects the degree and consistency with which negotiators use different behaviours. In comparison to those behaviours not seen as central to negotiators’ goals, behaviours that were central to the role identity were generally used consistently and intensely over time.

The last three Chapters have developed a conceptual framework for conceptualising and conducting research into the structure of intra-individual communication behaviour. By exploring individual’s behaviour over time, this Chapter, in particular, has shown that negotiators’ pursue their goals using behavioural patterns that are meaningful and predictable rather than haphazard and inconsistent. To further understand how negotiators are able to structure their behaviour over time, the next three Chapters look for consistent patterns in the cues and responses that underlie and give rise to the structural aspects of behaviour examined so far. Specifically, in an effort to understand the connections between cue-response sequences and cylinder structure, the upcoming Chapters focus on the same aspects of negotiation as considered in Chapters 3 to 5. Chapter 6 models the basic organisation of cue-response sequences, and Chapter 7 and 8 consider how this organisation changes in different contexts and over different negotiators. The overall goal of the upcoming Chapters, therefore, is to provide an explanation for the similarities and differences in behaviour observed over the last three Chapters.
Chapter 6

Foundations for an Interaction-Based Approach to Conflict Negotiation

Overview

This Chapter outlines 4 assumptions behind attempts to explain the sequential organisation of communication behaviour during conflict. These assumptions are supported by an analysis of behavioural sequences coded from 9 actual hostage negotiations and 20 divorce mediations. Analyses showed that negotiators use only a small proportion of available responses to other party’s behaviour, and that this proportion rapidly decreases as sequence length increases. Critical to this channelling in behaviour was the triple-interact (i.e., cue-response-cue-response), which represents the maximum sequence length required to enable accurate prediction of negotiators’ future behaviour. More detailed analysis showed that the triple-interact reduced uncertainty in behaviour by over 70%, which compares to less than 1% from knowledge of negotiation context and approximately 10% from knowledge of individual differences.
Chapter 6

Foundations for an Interaction-Based Approach to Conflict Negotiation

Recall that research into the dynamics of interaction can either seek to map out the dimensions that structure communication behaviour or seek to understand how sequences of acts come together to generate the observed structure. The first section of this thesis (Chapters 3 to 5) established the interpersonal dimensions that structure negotiation and showed how changes in behaviour along these dimensions are influenced by differences in speaker and context. The second section of the thesis (Chapters 6 to 8) looks for consistent patterns in the sequences of actions that underlie and give rise to the conceptual organisation in behaviour. The Chapters investigate how negotiators’ coordinate sequences of behaviour at different times and in different contexts by responding to the other’s behaviour in a purposeful and non-random manner. Although several researchers have discussed this process in relation to negotiation (Putnam, 1985), evidence of the behavioural sequences that actually shape interaction is only beginning to emerge (Olekalns & Smith, 2003; Weingart, Prietula, Hyder, & Genovese, 1999). This Chapter adds to that growing body of work by explicating and then testing some of the assumptions that underlie an interaction-based approach to understanding conflict. These assumptions represent basic predictions about the character and limits of behavioural organisation in conflict.

6.1 The Organisation of Interaction Sequences

An interact-based explanation of negotiation proposes a changing set of responses that is shaped by prior acts and expectations about the conflict, and evolves over time as negotiators make decisions and pursue their goals and concerns. Argyle
(1969 p. 115), for example, has suggested that “utterances are generated by other utterances”, and Auld and White (1959, p.100) emphasise “the lawfulness and interconnectedness of the events’ in communication”. The negotiation process is viewed as a series of actions and reactions where recurring patterns constrain interaction by reducing the probability that other categories of talk will occur (Putnam, 1985). Watzlawick, Beavin, and Jackson (1968, p.131) describe this organisation as reflecting a more general “limitation” principle, where every exchange of messages narrows down the number of possible next moves and refines the eventual resolution. Once a dialogue has begun to follow a particular path, negotiators loose the choice of acting in other ways, and the larger the sequence of acts considered the large the discrepancy between what could have occurred and what does occur in practice.

A number of theoretical concepts in conflict research instantiate this constraining process. Conflicts are social interactions based on a set of mutually understood rules and associated cognitive scripts that guide negotiators’ behaviour down established paths of interaction (Wilson & Smith, 2000). Such scripts are triggered by a particular context and are pursued with greater or lesser rigor depending on the suitability and legitimacy of the rules to the current context, and the success associated with implementing the rules in the past. The result is constraint in the cues and responses used by negotiators, such as occurs with move-countermove sequences (Willson, 1998), “matching” (Smith, Pruitt, & Carnevale, 1982) and “tit-for-tat” behaviours (Komorita, Parks, & Hulbert, 1992). These sequences reflect instances of constraint because negotiators are more likely to follow a behaviour with a particular (usually identical) response than they are any alternative response. Other types of sequence, such as “mismatching” (Pruitt & Syna, 1985) or non-contentious reciprocation (Brett, Shapiro, & Lytle, 1998), constrain dialogue in a very different way, redirecting negotiators away from one emphasis and towards a different
pathway of development. Importantly, in all of these examples, this constraint can occur across a range of different messages including procedural statements, offers and concessions, threats, and affect statements (Donohue, 1981; Gottman, Markman, & Notarius, 1977; Putnam & Jones, 1982).

In considering the organisation of interaction sequences, it is important to consider not only the effect of the preceding behaviour but also the history of behaviours within the sequence (Clarke, 1977). For example, while evidence suggests that a complimentary behaviour will typically be responded to by cooperative behaviour focused on identity, this is not always the case. Why this is not always the case could be explained by a number of contextual factors, but it may also be explained by the behaviours that occurred previous to the last. This broader constraint is evident in a range of phenomenon, including that of conflict spiralling, where the use of increasingly intense behaviour limits the focus of interaction and constrains the options and responses available to the other party (O’Connor & Arnold, 2001; Taylor, 2002a). This spiralling can occur over sequences of more than two behaviours, with additional behaviours serving to further constrain the focus of interaction. Such consistent evidence of constraint leads to the following expectation:

**H1:** Negotiators’ will use only a small proportion of possible responses to the other party’s behaviour, with this proportion becoming smaller as the length of the interaction sequence increases.

### 6.2 The Extent of Constraint

The possibility of interaction being organised by past behaviour raises the related question of how many past behaviours constrain the focus of interaction. There has been considerable theoretical debate over the extent interaction is constrained by previous
behaviours. The possibility that communication behaviour is organised by a discrete number of preceding acts is an important principle because it begins to quantify the impact of previous behaviours and previous strategies on current movement within the interaction. At a general level, Allport (1962) characterises the possibility as one of collective structure, where behaviour of one speaker becomes interlinked or interwoven with the cue of the other speaker. The fundamental analytical unit for understanding the interaction process is the interact (a sequence of two behaviours), the double interact (a 3-behaviour sequence), the triple interact (4-behaviours), and so forth. The minimum sequence length is defined by the final message of the sequence plus the number of antecedent messages that directly constrain this final behaviour. For example, the double interact (i.e., 3-behaviour sequence) consists of an initial cue and a response that constrains the first speakers’ subsequent adjustment of the message (Weick, 1968). Consistent with this example, some authors argue that the double-interact is the typical sequence length over which behavioural constraint occurs (Krain, 1973; Mark, 1971; Weick, 1969). However, others consider successive pairs of antecedent and subsequent events, the triple-interact (e.g., cue-response-cue-response), as central to the organisation of interaction (Cappella & Planalp, 1981; Mishler, 1975; Watzlawick, Beavin, & Jackson, 1968).

Research examining the order of sequential constraint casts a similar mixed picture regarding the importance of the double- and triple-interact in organising interaction. Much of the early research into interactions such as marital communication (Parks et al., 1975 cited in Penman, 1980), informal conversations (Thomas, 1985; Thomas, Roger, & Bull, 1983), and interview communication (Hawes & Foley, 1973) have found that dialogue is principally structured by the double-interact. For example, Gottman, Markman, and Notarius (1977) showed that marital discussion could be
decomposed into 2-behaviour loops and 3-behaviour chains (e.g., probe feeling, mindreading), where these sequences had functions such as ascertaining the other party’s concerns or forming a “contract” regarding future behaviour. In contrast, other research has indicated that the triple-interact is the fundamental unit of the interaction process. For example, in a detailed analysis of long-term partner discussion, Penman (1980) found that an average of 3.86 behaviours directly influenced the content of the current message, with this value being slightly lower when dialogue was coded as actual messages (e.g., agree, concede) compared to latent relational strategies (e.g., cling, oblige). Penman found considerable variation in the extent of constraint in couples’ behaviour, with the minimum sequence length ranging from 2-behaviours through 6-behaviours.

Research on negotiation behaviour has shown similarly varied results. In examining use of Integrative and Distributive behaviour, Weingart, Prietula, Hyder, and Genovese (1999) found that negotiators only considered their own and the other party’s previous behaviour when deciding how to act. Similarly, in her association analysis of 15 labour negotiations, Koutsovoulou (2001) demonstrated clear antecedents and consequences of flexible and distributive behaviours, suggesting that the double-interact may be sufficient to organise the interaction process. In contrast, two studies have suggested that the triple-interact is central to the organisation of interaction in conflict. Olekalns and Smith (2000) found that two 4-behaviour sequences were necessary to model the interdependence in behaviour of students negotiating a six issue bargaining problem. Similarly, in the absence of information about outcome and negotiator motive, Olekalns and Smith (2003) report that a 3-behaviour sequence did not adequately capture the variation in interaction, which suggests at least a 4-behaviour sequence as necessary to model the dependencies among behaviours.
Given the mixed evidence regarding the length of sequence necessary to constrain negotiators’ behaviour, it seems unwarranted to propose an absolute length for all conflict interactions. However, it is possible to argue that the triple-interact (4-behaviour sequence) will represent the upper-limit of any organisation process in conflict negotiation. This sequence length represents an important boundary because it allows researchers to assess the extent to which other factors constrain the interaction process. For example, Olekalns and Smith (2003) found that differences in negotiators’ social motive helped to reduce the sequence length required for constraint to that of the double-interact. Since a range of other factors may have similar roles in the interaction process, the triple-interact represents a “pure” conceptualisation of constraint on which the impact of other factors can be assessed. It is the maximum sequence length necessary to constrain the interaction sufficiently to enable a negotiator’s behaviour to be predicted with no (or very little) error. Thus, it is predicted that:

**H2**: The triple interact will predict negotiator behaviour with significantly less error than the double interact and smaller sequences.

### 6.3 The Role of Dispositions and Situations

Given that external factors will affect the extent of constraint across sequences, it is appropriate to identify the kinds of factors that are likely to be most influential. The dominant view of interpersonal dynamics is that individual differences among negotiators and the situations in which they interact are both factors that are central to the organisation of behaviour (Mintu-Wimsatt & Lozada, 1999; Shoda & Mischel, 1996). A negotiator is viewed as having a unique set of abilities, cognitive scripts, and behaviour routines that come together to determine how he or she responds to the behaviour of the
other party. However, given the low levels of consistency in behaviour across different situations (Mischel, 1968; Nisbett, 1980), these behavioural tendencies are proposed to be context specific, with negotiators exhibiting consistent but different responses to the other party’s actions based on the psychological features of the situation. For example, a negotiator in the situation of an equal payoff-matrix may typically reciprocate integrative messages with integrative responses. However, the same negotiator in the lower position of an unequal payoff-matrix may respond to integrative messages with distributive strategies in an attempt to change the power structure.

This “conditional” perspective implies that three factors will have an impact on the negotiation process. One factor is the scenario or context in which the interaction is embedded. Context can differ without any variation in the task structure or relational dynamics associated with the negotiation, and has been shown to influence the strategic choices that negotiators make (Deutsch, 1982; O’Connor, 1997). A second, more common possibility is to find contextual differences subsumed by variations in the roles assumed by each negotiator (Rodham, 2000). Research has demonstrated some very consistent role effects, with hostage takers, buyers, union negotiators, and husbands all using more aggressive and power-oriented messages in comparison to their counterparts (Cai, Wilson, & Drake, 2000; Donohue, Diez, & Hamilton, 1984; Donohue & Roberto, 1993; Jones, 1989). Finally, set against the two features of the situation, research indicates that a variety of individual differences or variations in personality will influence how negotiators respond to the other party’s behaviour (De Dreu, Weingart, & Kwon, 2000; Kyl-Heku & Buss, 1996). Since individual differences may exist across similar negotiator roles, this final speaker factor would be expected to have its own unique impact on the interaction process. As a third assumption, therefore, researchers should expect knowledge of context, negotiator role, and negotiators’ individual
differences to reduce the sequence of behaviours required to organise interaction. Thus, it is hypothesised that:

\[ H3: \text{Differences in context, negotiator role and negotiators' individual differences will each significantly reduce the error associated with predicting negotiators' behaviour.} \]

6.4 The Relative Value of Previous Behaviour, Disposition and Situation

According to the conditional perspective, then, speaker-situation relations are central to how negotiators organise their responses to the other party. This, interestingly, is somewhat in contrast to the interact-based approach to understanding conflict, which views the contribution of contextual and dispositional factors as secondary to the impact of previous behaviours on negotiators’ behaviour. For the interact-based approach, there is considerable consistency in the way negotiators respond to sequences of behaviours, with dispositional and contextual factors playing an indirect role, influencing only a negotiator’s repertoire of responses and the sequences to which he or she is exposed.

There exists some support for this final proposition (Auld & White, 1959; Gouran & Baird, 1972; Penman, 1980). For example, in their analysis of the interaction within University committees, Donohue, Hawes, and Mabee (1981) found that differences among groups accounted for 5% of the uncertainty in behaviour, compared to the 21% accounted for by the preceding event. Since group differences incorporate variations in context, role, and speaker, these findings suggest that the immediately preceding behaviour alone may have a larger influence on the organisation process than the sum of individual differences. In relation to negotiation, Koutsovoulou (2001) found that the systematic use of double-interacts by negotiators was not significantly influenced by whether the interaction was an industrial or company labour disputes. Similarly,
Weingart et al. (1999) found that knowledge of bargaining dynamics only had a significant effect on behaviour when associated with a particular sequence of prior behaviours. This finding suggests that individual differences in knowledge act as a moderator of the way negotiators’ respond to previous behaviours, which is consistent with research that has found important patterns in the sequences of behaviour while holding constant factors such as negotiators’ social motives, time period, and outcome (Olekalns & Smith, 2000; Olekalns & Smith 2003).

\[ H4 \]: Previous behaviours will be a better predictor of negotiators’ future behaviour than differences in context, role, or individual differences.

6.5 Method and analysis

6.5.1 Conflict negotiation sample

Data were the hostage negotiation and divorce mediation data described in Chapter 2. Two contrasting data sets were needed to test the hypotheses about differences across context. The hostage and divorce mediation data were specifically chosen because they involve a very different set of scenarios and role dynamics, and so maximise the likelihood of finding differences in sequences across situations and dispositions. Briefly, the hostage data were a diverse group of nine hostage negotiations, from incidents in which an individual negotiated to gain a substantive benefit to those centred on a psychological or domestic concern (see Section 2.1.1, pp. 21). The data contained over 19,467 thought units spoken mainly by the hostage taker (46%) and police negotiator (43%) involved in the incident, but also by third parties such as friends or relatives (11%). The divorce mediation data consisted of the transcripts from 20 divorce mediation sessions conducted in various branches of the Los Angeles County Family Mediation and Conciliation Court (see Section 2.1.3, pp. 24). The data were
selected from a larger set of recorded sessions (Pearson & Thoenness, 1985) on the basis that the sessions focused on issues relating to a mutual son or daughter and that they did not involve dialogue from individuals other than the father, mother, and mediator (e.g., attorneys). The sessions involved 17,450 thought units that were divided evenly between husband (38%), mediator (31%) and wife (31%).

Transcript Coding Procedure

While it would be possible to use the data as coded in Chapter 2, to do so would introduce an extraordinary number of behaviour combinations into the sequences of interacts. Even for a 2-behaviour sequence, the number of possible combinations would be 1681 (i.e., 41 behaviours x 41 behaviours), making analysis difficult if not impossible to manage and interpret. Consequently, a modified coding was employed, based on the distinctions of the cylinder model established in Chapters 3 to 5. Because the distinctions in this model reflect the major similarities and differences in negotiators’ behaviour, they provide the ideal units for understanding how negotiators organise communication to manage their concerns and goals over time. Moreover, by building on the nine modes of interaction, the Chapter is better placed to draw conclusions about how the dynamic organisation of communication behaviour results in the overall structure of behaviour found in previous Chapters.

Specifically, the revised coding procedure retained the initial division of transcripts into thought units (Gottman, 1979) from Chapter 2 (Section 2.2.2, p. 34) in order to capture the use of single behaviours. These thought units were then coded using as categories the nine modes of interaction identified in Chapters 3 to 5. These categories are shown in Table 6-1 together with an example. The categories distinguish two important facets of interpersonal behaviour during conflict. The first distinction, central
to wide range of classification schemes (Sillars, Coletti, Parry, & Rogers, 1982), is between Avoidance (withdrawal), Distributive, (antagonistic) and Integrative (cooperative) behaviour. This distinction reflects negotiators’ overall approach or orientation to interaction and spans from a low-rationality crisis response through to a more normative, cooperative mentality. The second distinction reflects the three dominant motivational goals or concerns that negotiators can pursue during a negotiation. Behaviours are classified as Identity, Instrumental, or Relational depending on whether they emphasise substantive issues, the personal and social identity of the negotiators, or the degree of affiliation and interdependence among the negotiators (Donohue, 1998; Hammer, 2001; Roloff, 1981). Since negotiators can potentially communicate about each of the issues using an Avoidance, Distributive or Integrative approach, the two distinctions combine to form the nine categories shown in Table 6-1. For example, a negotiator focusing on Identity issues may adopt an Integrative orientation by communicating messages that support and empathise with the other, but they may also take a Distributive approach by using criticisms and insults. The coding

<table>
<thead>
<tr>
<th>Coding Category</th>
<th>Transcript Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avoidance-Identity</td>
<td>“I didn’t say that”</td>
</tr>
<tr>
<td>Avoidance-Instrumental</td>
<td>“I don’t know if they’ll let me do it.”</td>
</tr>
<tr>
<td>Avoidance-Relational</td>
<td>“I don’t really care”</td>
</tr>
<tr>
<td>Distributive-Identity</td>
<td>“You sound a bit immature to me”</td>
</tr>
<tr>
<td>Distributive-Instrumental</td>
<td>“I will not make any more concession today.”</td>
</tr>
<tr>
<td>Distributive-Relational</td>
<td>“You’re not showing any good faith here.”</td>
</tr>
<tr>
<td>Integrative-Identity</td>
<td>“I understand the fact that you’re very intelligent, and I appreciate that.”</td>
</tr>
<tr>
<td>Integrative-Instrumental</td>
<td>“I’m going to let you get Tracey.”</td>
</tr>
<tr>
<td>Integrative-Relational</td>
<td>“I think you guys have something in common there”</td>
</tr>
</tbody>
</table>
scheme therefore captures differences in a negotiator’s dominant interpersonal style and, at a more specific level, their predominant interests and concerns during that particular period of interaction.

The coding scheme was applied to each thought unit as it occurred in the sequential flow of dialogue. During the coding, a fifth Functional category was used to capture those aspects of dialogue that contain no objective psychological information and act as the building blocks of interaction. These included explicative acknowledgements or interjections (e.g., “uh-huh”), initiations and salutations (e.g., “bye-bye”), and questions or answers that facilitated either conversational turn taking (e.g., “nah, really?”) or basic information exchange (e.g., “could you say that again?”). However, in accordance with previous work (Donohue & Roberto, 1996; Olekalns & Smith, 2000), these thought units were excluded from subsequent analysis because their role in shaping negotiation is not well understood and is most likely to be indirect. The inclusion of these units is likely to reduce the ability of analysis to identify the organisation of communication behaviour as the negotiation unfolds.

Reliability of the coding was assessed by having one rater code approximately 5% of the thought units from the hostage negotiations, and a second rater code approximately 5% of the thought units from the divorce mediations. Agreement with the first author’s coding, measured using Cohen’s Kappa (Cohen, 1960), was .73 (Range .63 to .81) with 76% agreement for the hostage data and .74 (Range .65 to .80) with 75% agreement for the divorce mediation data. Inter-judge coding achieved a reliability of .77 (Range .69 to .85) with 80% agreement. These Kappa values suggest a good level of coding reliability (Fleiss, 1981).
6.5.2 Analysis of sequences

The coding procedure produced a sequence of coded thought units for each of the 29 transcripts. These sequences were analysed using three approaches that made different assumptions about the organisation of interaction. Since the aim of the research was to test general hypotheses about the negotiation process, examining the sequences from several different perspectives may give a better indication of the extent to which the findings represent general principals that transcend the different ways of conceptualising interaction sequences.

The first approach used the complete sequences as a representation of interaction. If a speaker used more than one thought unit in a single utterance, then each of these units was included in the data sequence. Consequently, sequences of two, three, or more thought units could contain the behaviours of just one speaker or the interaction between speakers. The merit of this inclusive approach is the recognition that all thought units may potentially have a role in shaping the way a negotiation unfolds. This is important given researchers’ current inability to say which thought units of an utterance are central to moving the negotiation in certain directions. However, this advantage is offset by the possibility of sequences containing different combinations of each speaker’s behaviour, which results in the interaction between speakers being measured inconsistently across different sequences. Specifically, the process of interaction among negotiators (i.e., a cue-response-cue…) is ignored within this approach because it focuses on a sequence of thought units rather than a sequence of interconnected messages communicated by an utterance of thought units. The result is that negotiators’ may constrain their own behaviour in isolation from the other interactant, and may be found to act “independently” of the other party purely because they typically use more thought units to express their message.
The second approach included only the first thought unit of each utterance in the sequences. This “hitting behaviour” approach (Weingart et al., 1999) reduced the data into “clean” sequences of behaviour in the sense that a single thought unit represented each speaker’s message. The approach therefore considers the first behaviour as key to understanding an utterance, with subsequent behaviours working only to elaborate and refine the message provided in the first unit. Because negotiators’ behaviour is represented by one unit, this approach provides a consistent conceptualisation of the cues and responses of negotiators in a way that allows the mutual constrain of each to be analysed effectively. However, the approach achieves this clean representation of interaction by ignoring completely the way negotiators’ organise an utterance to have a particular impact. This “internal” process is important to the way a negotiation unfolds (Donohue, Diez, & Hamilton, 1984)

The final approach stems from arguments that utterances should be coded as both a response to the prior utterance and as a cue or attempt to structure the subsequent utterance (Donohue, Diez, & Hamilton, 1984; Olekalns & Smith, 2000). For this approach, the first thought unit of an utterance was taken as the speakers’ response to the previous utterance, while the final thought unit of an utterance was taken as the speakers cue for the other party. By representing each utterance twice, this approach produced sequences that allowed the impact of negotiators’ behaviour on the other party to be assessed. However, by coding the beginning and the end of each utterance, this approach also provided some measure of the internal structure of a negotiator’s message. This approach therefore considers both the way negotiators’ organise their own messages and the interdependence among negotiators’ messages as important to the interaction process.
6.6 Results

The analyses presented in this Chapter were computed from data coded using the third interaction approach. This approach provided the useful compromise of capturing within-negotiator and between-negotiator message organisation in a way that was consistent across utterances and, consequently, effectively handled by analytical techniques. Furthermore, since the average number of thought units per utterance was 2.51 (SD = 2.73, Range = 1 – 74) for the hostage negotiation data and 2.78 (SD = 3.51, Range = 1 – 54) for the divorce mediation data, the number of thought units ignored by using this approach was typically less than one per utterance. Coding each utterance as a cue and response was therefore sufficient to capture the way negotiators developed the majority of utterances. However, results from all three methods of coding showed remarkably similar patterns, and equivalent analyses of data coded using the other two approaches are given in the Appendix.

6.6.1 Hypothesis 1: Canalising of behaviour

Figure 6-1 plots the mean proportion of different occurring sequences for lengths of 1 behaviour through to 7 behaviours. As a prerequisite to testing Hypothesis 1, it is necessary to test whether the available data is sufficient to have enabled further sequences to be observed if negotiators used them. If the number of different sequences used comes close to the number that would be observed if each sequence was unique, then the problem arises that further alternative sequences might have occurred given more data (i.e., ceiling effects). To check for this possibility, the number of different sequences in each transcript was considered as a proportion of the number that would have been observed if every sequence in the transcript was different. For example, an average of 487.5 different 2-behaviours sequences could have occurred across the 29
transcripts, but only an average of 118.5 were actually observed. Therefore, about 24% of the 2-behaviour sequences in each of the transcripts were unique (i.e., $118.5 \div 487.5 = .24$). The mean proportion of unique sequences across each transcript is given for each of the sequence lengths by the dotted line emanating from the bottom of Figure 6-1. This proportion falls safely below the potential maximum number until sequences involve more than 5 behaviours. Specifically, sequences of 6 behaviours are unique in 96% of the observed sequences, while sequences of 7 behaviours are unique in 98% of the observed sequences. An indication of whether the change in variety comes from natural constraint or ceiling effects was obtained by testing the significance of the increase in variety at adjacent sequence lengths. The increase in mean occurrences across sequence length was significant, $F(6,399) = 36.0, p < .05, \mu^2 = .35$, with post-hoc Bonferroni t-tests indicating significant increases in mean occurrence between 1-behaviour and 2-behaviour sequences ($t = 9.5, df = 114, p < .05$) and 2-behaviour and 3-behaviour sequences.
sequences \( (t = 6.4, \ df = 114, \ p < .05) \), but no significant differences in mean occurrences between adjacent sequences of larger lengths. Since the natural constraint in the number of sequences used occurs before the problematic sequences of 6 and 7 behaviours, the data would seem to give a reliable representation of behaviour use for this Chapter.

The solid line in Figure 6-1 plots the mean number of different sequences as a proportion of the number of theoretically possible combinations of behaviours at each sequence length. For example, there are 9 different possible 1-behaviour sequences (i.e., the 9 codes) and negotiators used each of them. In contrast, there are 81 different possible 2-behaviour sequences (i.e., 9 behaviours x 9 behaviours), but only an average of 56% of these combinations actually occurred within the interactions. More generally, as can be seen in Figure 6-1, the actual number of different responses used compared to those that are possible decreases rapidly with increasing sequence length. Specifically, sequences of three behaviours involve 18% of the possible sequences, while sequence of 4 behaviours use only 3% of the possible combinations. This rapid decrease in the proportion of behavioural combinations used by negotiators gives strong support to the hypothesised channelling in behaviour with increasing sequence length.

6.6.2 Hypothesis 2: The extent of constraint

Figure 6-2 shows the mean number of different behaviours used as a response to a particular sequence of cues and responses, for both the hostage and divorce negotiations. The mean number of exits can range from 9, indicating all behaviours follow a particular sequence, to 1, indicating that only one behaviour follows a given sequence (i.e., perfect predictability). As can be seen on Figure 6-2, the mean number of exits used following a cue falls below the possible 9, suggesting that certain cues generally elicit certain responses. More importantly, the number of different exits used
by negotiators decline rapidly with increasing sequence length. At the point of three preceding behaviours the line shows some indications of levelling off (i.e., the “elbow”), providing initial evidence that the triple-interact (i.e., cue-response-cue-response) plays an important role in organising the interaction process. Specifically, on average, the same three previous behaviours elicited a mean of 1.2 ($SD = .48$) different responses in hostage negotiations and 1.7 ($SD = 1.1$) different responses in divorce mediations. The constantly higher number of exits associated with divorce mediations compared to hostage negotiations suggests that divorce mediations typically involve greater variety and flexibility in the interaction process. Part of this flexibility may be the result of divorce negotiations involving three major participants (i.e., wife, husband, and
mediator) rather than the two participants involved in hostage negotiations (i.e., police negotiator and hostage taker) (Stech, 1975).

In order to provide a more detailed analysis of how previous behaviours contribute to the interaction process, it is necessary to turn to a quantitative analysis of the sequences. Information theory (Shannon & Weaver, 1949) provides a useful methodology for examining the contribution of different variables to a single process because it provides estimates of each variable’s relative impact on negotiators’ use of behaviours. Information theory simply examines the extent to which each of the examined variables allows subsequent behaviour to be predicted accurately. This is achieved through a measure of uncertainty, \( H(X) \), which quantifies the number of yes-no questions required to accurately predict the subsequent behaviour. One unit of uncertainty is equivalent to the amount of information required in choosing between two equiprobable alternatives, while a choice between four equiprobable events would require two units of information. However, because communication behaviours rarely occur with equal frequency, the degree of uncertainty in a particular condition takes into account the probability with which a particular predictor is associated with a given behavioural response. In a situation where one event is relatively highly probable, \( H(X) \) will be lower than if the events were more nearly equally probable. In a situation where a negotiator always sends the same message, such that there is no uncertainty about their behaviour, then \( H(X) \) will equal zero. By comparing the average uncertainty \( H(X) \) with and without knowledge of a particular variable, it is possible to estimate how much each variable contributes to the organisation of the interaction process. The larger the reduction in \( H(X) \) following the introduction of a variable, the more that variable influences negotiators’ choice of communication behaviour. For details of the mathematics used to calculate \( H(X) \) and make comparisons, see Attneave (1959),

For the current analysis, in which there are 9 different possible behaviours, H(X) cannot exceed 3.17 units, the value which represents the upper limit of the uncertainty and is achieved only if all 9 behaviours occur with equal probability. As would be expected, this is not the case with negotiation behaviour. The uncertainty associated with cues, H(cues) = 2.99, and responses, H(response) = 3.04, falls below the maximum H(X), indicating that, negotiators use some behaviours more often than other behaviours. The discrepancy in H(cues) and H(responses) suggests a slightly higher degree of homogeneity in negotiators’ use of cues compared to responses. This bias in the probability of predicting cues and responses makes it necessary to separately consider the effect of variables on the organisation of cues and responses.

The measure of uncertainty H(X) was calculated from the relevant marginal frequencies for up to five previous utterances, as well as for negotiation context, negotiator role, and speaker. These are reported in Table 6-2 for predicting cues and Table 6-3 for predicting responses. Each row of these Tables considers the reduction in uncertainty provided by a group of predictors (excluding the behaviour to be predicted), with predictors being systematically added with movement down the Tables. In order to assess the importance of the predictors to the organisation of interaction, the Tables report the amount and proportion of reduction in uncertainty provided by the considered set of variables. This value, often known as Transmission (T), reflects the difference between uncertainty in behaviour given no predictors and the reduced uncertainty given the group of predictors. The Tables also report a transmission value for the differences in uncertainty between a predictor group and the prior group, thereby giving an indication of the contribution made by the additional variable. In both cases, the higher the
Table 6-2.
Uncertainty Values and Contributions to Predicting Cue Behaviour for Past Behaviours, Context, Negotiator Role, and Speaker.

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Uncertainty (H)</th>
<th>Overall</th>
<th>Added variable</th>
</tr>
</thead>
<tbody>
<tr>
<td>(None)</td>
<td>2.99</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cue(C)response(r)</td>
<td>2.83</td>
<td>0.16</td>
<td>0.155</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(.052)</td>
<td>(.052)</td>
</tr>
<tr>
<td>Cr.Cr</td>
<td>1.89</td>
<td>1.10</td>
<td>.940</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(.366)</td>
<td>(.315)</td>
</tr>
<tr>
<td>Cr.Cr.Cr</td>
<td>0.64</td>
<td>2.35</td>
<td>1.26</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(.787)</td>
<td>(.420)</td>
</tr>
<tr>
<td>Cr.Cr.Cr.Cr</td>
<td>0.11</td>
<td>2.88</td>
<td>0.525</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(.963)</td>
<td>(.176)</td>
</tr>
<tr>
<td>Cr.Cr.Cr.Cr.Cr</td>
<td>0.01</td>
<td>2.97</td>
<td>0.098</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(.995)</td>
<td>(.033)</td>
</tr>
<tr>
<td>Cr.Cr.Cr.Cr.Cr.Cr</td>
<td>0.00</td>
<td>2.98</td>
<td>0.01</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(.999)</td>
<td>(.004)</td>
</tr>
<tr>
<td>Context</td>
<td>2.97</td>
<td>0.02</td>
<td>0.021</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(.007)</td>
<td>(.007)</td>
</tr>
<tr>
<td>Context.Role</td>
<td>2.86</td>
<td>0.13</td>
<td>.107</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(.043)</td>
<td>(.036)</td>
</tr>
<tr>
<td>Context.Role.Speaker</td>
<td>2.67</td>
<td>0.32</td>
<td>.192</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(.107)</td>
<td>(.064)</td>
</tr>
</tbody>
</table>

NOTE: Numbers in parentheses are standardised values.
C = between-speaker cues; r = within-speaker responses.

transmission value the greater the influence of the predictor group on the interaction process.

The first half of Table 6-2 and Table 6-3 report the reduction in uncertainty associated with knowledge of previous behaviours within the interaction. Each row of these Tables considers the impact of either alternate speaker’s previous responses on the current response (Table 6-2) or alternate speaker’s previous cues on the current cue (Table 6-3). However, by focusing on these uncertainty values, the Tables also incorporate the reduction in uncertainty produced by within-speaker structuring of the interaction. For example, the predictor Cue(C)response(r) in the second row of Table 6-2 reports the uncertainty of predicting one speaker’s cue based on the cue of the other
Table 6-3. Uncertainty Values and Contributions to Predicting Response Behaviour for Past Behaviours, Context, Negotiator Role, and Speaker.

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Uncertainty (H)</th>
<th>Reduction in Uncertainty</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Overall</td>
<td>Added variable</td>
</tr>
<tr>
<td>(None)</td>
<td>3.04</td>
<td></td>
</tr>
<tr>
<td>Cue</td>
<td>2.90</td>
<td>0.14 (.045)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>.136 (.045)</td>
</tr>
<tr>
<td>C.rC</td>
<td>2.45</td>
<td>0.59 (.195)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>.456 (.150)</td>
</tr>
<tr>
<td>C.rC.rC</td>
<td>1.08</td>
<td>1.96 (.646)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1.37 (.451)</td>
</tr>
<tr>
<td>C.rC.rC.rC</td>
<td>0.22</td>
<td>2.82 (.929)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>.860 (.283)</td>
</tr>
<tr>
<td>C.rC.rC.rC.rC</td>
<td>0.03</td>
<td>3.01 (.991)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>.187 (.062)</td>
</tr>
<tr>
<td>C.rC.rC.rC.rC.rC</td>
<td>0.00</td>
<td>3.04 (.999)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>.025 (.008)</td>
</tr>
<tr>
<td>Context</td>
<td>3.03</td>
<td>0.02 (.005)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>.015 (.005)</td>
</tr>
<tr>
<td>Context.Role</td>
<td>2.93</td>
<td>0.11 (.037)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>.099 (.033)</td>
</tr>
<tr>
<td>Context.Role.Speaker</td>
<td>2.74</td>
<td>0.30 (.098)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>.184 (.060)</td>
</tr>
</tbody>
</table>

NOTE: Numbers in parentheses are standardised values.
C = between-speaker cues; r = within-speaker responses.

Speaker and the first speaker’s response to that cue. Given the unique impact that within-speaker dialogue may have on the channelling process, it was important to consider both of these behaviours as predictors when calculating uncertainty. The result of doing this was that each Table row shows both the within- and between-speaker constraint produced by an additional utterance.

The contributions of additional variable to the uncertainty in the interaction is shown graphically in Figure 6-3, which plots H(X) and the contribution of each variable as an average taken across cues and responses. As can be seen from the descending curve in Figure 6-3, as well as the associated values in Table 6-1 and Table 6-3, the uncertainty of negotiators’ future behaviours reduces as more previous behaviours are considered. At
the point of considering six previous utterances, a negotiators’ subsequent cue or response is over 99% predictable for both cues and responses. In contrast, the preceding behaviour within a sequence makes only a small contribution to the organisation of behaviour. Consistent with Hypothesis 2, a significant majority of the channelling in behaviour transpires during 3-behaviour (double-interact) and 4-behaviour (triple-interact) sequences, as shown by the sharper gradient of the curve.

The relative importance of these behavioural sequences in organising interaction may be assessed by comparing the reduction in uncertainty achieved by adding an additional predictor. The values in the final column of Table 6-2 and Table 6-3 reflect the reduction in uncertainty achieved by adding a further variable to the sequence length, and so enables comparisons of the relative contributions made by each variable as sequence length increases. Figure 6-3 shows the impact of each additional variable taken as an average across cues and responses. As can be seen on Figure 6-3, the influence of previous behaviours rises to a sequence length of four (i.e., the triple-interact), beyond
which the relative contribution of additional behaviours begins to decrease. Indeed, adding a fourth behaviour to a complete sequence reduces uncertainty by 1.26 (42%) in cues and 1.37 (45%) in responses, which is by far the largest reduction.

6.6.3 Hypotheses 3: The contribution of disposition and situation factors

The second part of Table 6-2 and Table 6-3 considers how differences among negotiators and negotiation contexts affect behaviour use. As can be seen in Table 6-2, there is very little difference in the use of cues between actual negotiations and divorce mediations, H\(\text{(none)} - H\text{(context)} = 0.02\). Far more variance in behaviour was associated with differences among negotiators. Specifically, the contribution of role to the prediction of behaviour was about 3.5%, while individual differences beyond role reduced uncertainty by approximately 6.5%. The overall reduction in uncertainty of 0.32 (11%) represents the combined contribution of context, role and speaker to the organisation of behaviour. An almost identical pattern is evident for the prediction of responses, with slightly lower H\(X\) values occurring due to the initial relative uncertainty associated with responses compared to cues. Both context and role contribute even less to the prediction of responses (i.e., .11 compared to .13), but this is compensated by a slightly larger contribution of speaker differences to the way negotiators respond (.18). Thus, situation accounts for less than 1% of the variation in negotiators’ responses, role accounts for 3%, and individual differences beyond role account for 6% of the uncertainty in behaviour.
6.6.4 Hypothesis 4: The relative value of previous behaviour, disposition and situation

Comparisons among the top and bottom sections of Table 6-2 and Table 6-3 permit an evaluation of the relative contributions of previous behaviours, context, and individual differences to the organisation of the interaction process. Table 6-2 indicates that the reduction in uncertainty provided by knowledge of context (less than 1%) is small compared to the contribution of other predictors. For example, knowledge of either negotiator role, their individual differences beyond role, or the previous behaviour reduces uncertainty of the next cue by about 5%. Combining knowledge of context, role and speaker enables a reduction of uncertainty to just below 11% of the variation in behaviour. However, the importance of context and individual differences in organising negotiators use of cues is small when compared to that of previous behaviours. In particular, adding a third behaviour to the sequence of predictors reduces uncertainty by 42%, almost 4.5 times that of knowledge about individual differences and context. The complete triple-interact (i.e., all three behaviours) reduces uncertainty by almost 80%.

A similar pattern of influence is evident for the prediction of responses (Table 6-3) but for the fact that cues are relatively more important in organising the interaction sequence than responses. In particular, knowledge of the previous cue accounts for approximately 4.5% of the variation in behaviour, which compares to a 3% reduction that comes from knowledge of context and role. Speaker differences play a more prominent role in predicting responses, with knowledge of speaker alone reducing uncertainly slightly more than knowledge of the preceding behaviour (i.e., .06 compared to .05). However, as with the organisation of responses, knowledge of context, role and speaker account for almost 10% of uncertainty in behaviour, which is again small when compared to the 65% provided by the triple-interact.
6.7 Discussion

Research into the process of interaction during conflict negotiation rests on a number of implied, but largely untested foundations regarding the organisation of behaviour over time. This Chapter explicated these principles and tested them in the patterns of behaviour that occurred during two types of conflict negotiation. Regardless of the contextual and individual differences associated with the interaction, negotiators’ were found to use only a small proportion of their possible cues and responses when reacting to the other party’s behaviour. Of particular importance was the triple-interact, which represented the point at which a sequence of behaviours had served the majority of its function in terms of advancing the negotiation. The important role of preceding behaviours in shaping negotiation was further highlighted when compared against the effect of situational and individual differences, which had relatively little impact on the paths of behaviours pursued by negotiators.

The evident influence of previous messages on negotiators’ current behaviour demonstrates the important role that local interaction-based dynamics play in structuring the progress and outcome of a negotiation. Consistent with previous research, negotiators were shown to be systematic in their use of dialogue, with responses to particular messages determined or organised by the string of previous utterances. At this level, negotiators are clearly interdependent, with their own and the other party’s messages jointly shaping the focus on interaction and the strategic path that is pursued. In other words, as negotiators respond to previous behaviours they seek to change the dynamics of the interaction on a number of dimensions, with some behaviours serving to organise particular dynamics while others serve to shape the process on a number of levels (Taylor, 2002a).
One major implication of the findings is to assert the triple-interact as an essential unit in the organisation of dialogue during conflict. Specifically, the triple-interact (e.g., cue-response-cue-response) represents the point at which a particular behavioural sequence has served the majority of its function in moving the interaction forward. In other words, the triple-interact denotes the cognitive frame (Goffman, 1967) or social memory (Altmann, 1965) of conflict negotiation, with behaviours within this “window” of interaction directly constraining a negotiator’s current behaviour. Although taking account of additional previous behaviours may indirectly constrain the current behaviour, these have more bearing on the subsequent behaviours within the interaction. The notion that a single behaviour impacts on past, current, and future triple-interacts demonstrates how each sequence links with the next to form the dynamic, unfolding interaction observed during conflict.

Given the triple-interact as a major building block of interaction, the question arises as to what this unit represents within the negotiation process? One compelling answer is that the triple-interact reflects an instance of negotiators implementing and responding to an individual “strategy”. For example, the triple-interact may consist of short sequences of reciprocation that either build levels of interdependence and affiliation or attempts to move the other party’s position towards a personal goal (Donohue, 1981; Putnam, 1990). Other sequences may combine cooperative and competitive behaviours as a way of shifting away from a spiralling conflict or as a way of exploiting an unwary opponent (Olekalns & Smith, 2000; Pruitt & Carnevale, 1993). It is important to note in this regard that previous research has largely focused on 2-behaviour sequences, but that the current findings suggest these units are actually part of larger more elaborate strategies. Such strategies may reflect the continual interplay between substantive and relational levels of dialogue, with particular components (e.g.,
thought units) of the strategy focusing on one or both of these dynamics. More importantly, the findings suggested that dispositional and contextual factors may play a role in reducing the number and type of sequences used by negotiators. Both negotiator role and individual differences were found to reduce the uncertainty of negotiators’ future behaviour, suggesting that these factors may have systematic and predictable effects on the content of triple-interacts as well as when they are used.

The finding that context and dispositions play a small role in determining negotiators’ behaviour should come as no surprise to conflict scholars because it is consistent with previous research (e.g., Olekalns & Smith, 2003). However, it is less appreciated by psychologists who have traditionally considered the interaction between person and context as the main determinant of individuals’ tendency to act in particular ways (Mintu-Wimsatt & Lozada, 1999; Shoda & Mischel, 1996). The relatively minor role of person and context in comparison to previous behaviours raises the possibility that negotiators have set responses to different behavioural sequences that they employ consistently irrespective of the context and their negotiation role. In other words, negotiators develop a set repertoire of responses to behavioural sequences that may be generic enough to be useable over a range of different interactions, with individual differences emerging only in the composition of the repertoire (i.e., the responses that a negotiator gives to a particular sequence). This perspective is not inconsistent with existing evidence of cross-situational variability (Shoda, Mischel, & Wright, 1993), which may be reinterpreted parsimoniously as the oversight of not considering differences in sequences of previous behaviours and how these shape negotiators’ responses. This possibility is considered in detail by Chapter 8.
6.8 Conclusions

Although this Chapter presented an analysis in which each utterance was coded as both a cue and a response (Donohue, Diez, & Hamilton, 1984), results from analyses using other methods of coding the utterances produced comparable support for the hypotheses. Regularities that transcend the method of coding used are likely to represent some basic principles that form the foundation of a general theory of the negotiation process (Taylor, 2002b). On the basis of previous findings and those of this study, it seems reasonable to assert that one regularity is that negotiators’ behaviour is constrained by their own and the other party’s behaviour over time. Moreover, since this narrowing of options occurs predominantly within the triple-interact (i.e., 4-behaviour sequence), it is likely that further consistencies and regularities will emerge in such short sequences of behaviour. As additional strategies are identified, so research will gain a better understanding of the organisation of behaviour that governs the interaction process. By then learning how these strategies come together, as well as how the process is affected by dispositional and contextual factors, researchers will be able to move towards uncovering how the interaction process produces the dynamic patterns observed across interpersonal dimensions over time.
Chapter 7

The Triple-Interact as an Organisation of Local-Context

**Overview**

To further understand the organisation of behavioural sequences, this Chapter examines the different forms and functions of the triple-interact. By combining theories on interpersonal orientation (Kelley, 1997) and framing (Drake & Donohue, 1996), the Chapter identifies 4 generic types of triple-interact and makes predictions about the relative occurrence and behavioural content of each type in negotiation dialogue. Predictions are tested by analysing the conditional probabilities of behaviours in 9 hostage negotiations and 20 divorce mediations. Negotiators were found to be highly consistent in their relative use of the different triple-interacts, irrespective of the time period or outcome of the interaction. In order of decreasing frequency, negotiators used triple-interacts that reciprocated the current position, reoriented between cooperative and competitive positions, refocused the interaction onto a different issue, and restructured the interaction onto a new issue. The behavioural content of the triple-interacts did differ significantly over time and negotiation outcome. In comparison to unsuccessful negotiations, successful negotiations were associated with triple-interacts that more frequently ended in Integrative behaviour, less frequently ended in Avoidance or Distributive behaviour, and more frequently focused on Instrumental behaviour during the second half of interaction.
Chapter 7

The Triple-Interact as an Organisation of Local-Context

Because negotiations are driven by complex patterns of cues and responses, researchers have moved away from analysing aggregate behaviour to focus instead on uncovering regularities in local sequences of messages (Olekalns & Smith, 2000; Weingart et al., 1999). As argued in Chapter 6, there is considerable evidence to suggest that one important regularity in behaviour is the triple-interact, a cue-response-cue-response sequence that is the “window” or “local-context” within which negotiators shape the development of an interaction (see Chapter 6; Kelley, 1997). To date, studies have involved the triple-interact only indirectly by examining how different independent variables affect the occurring patterns of cues and responses (Olekalns & Smith, 2003). Relatively less attention has been given to identifying logically the types of triple-interact that are formed by these dependencies, and the types of roles that such units might play in an unfolding interaction. However, understanding the actual make up of the triple-interact is important to negotiation theory because it provides insight into the process by which various cues and responses come together to allow a conflict to begin, unfold, and resolve.

The goal of this Chapter is to increase understanding of the negotiation process by exploring the regularities and varieties of triple-interacts. Of greatest interest are differences among the various types of occurring triple-interact, and how the behavioural compositions of these sequences differ over time and across negotiation outcome. To address these issues, the Chapter begins with a review of the literature that is perhaps most informative about the possible types of triple-interacts and their roles in the negotiation process. The Chapter then considers how negotiators organise their
behaviours to produce these different triple-interacts, as well as how such organisation varies over time and across outcome. These reviews are used to form hypotheses about the type and composition of the triple-interacts that occur in conflict negotiation. Following on from Chapter 6, these predictions are tested in the data derived from 9 actual hostage crises and 20 divorce mediations.

7.1 The Triple-Interact as an Organising Unit

A sequence-based analysis of negotiation focuses on the way negotiators organise their cues and response over time to pursue their goals. One characteristic of such organisation, central to several independent theories and research areas, is the triple-interact (Cappella & Planalp, 1981; Kelley, 1997; Watzlawick, Beavin, & Jackson, 1968). The triple-interact is a sequence of four behaviours consisting of an initial cue, a response by the second speaker, a subsequent adjustment by the initial speaker, and a final closure message that moves the interaction in a particular direction. The importance of this behavioural sequence is evident, for example, in Kelley’s (1997) analysis of social orientations, where three within-situation choices lead to an outcome-specific transformation and the next transition sequence. For Kelley, the triple-interact represents a “local-context” or “move” in the negotiation process, an exchange in which negotiators modify one another’s understandings and perceptions of the conflict and its resolution. Similarly, research on a range of social interactions has established that the fourth behaviour of a triple-interact may be predicted accurately from knowledge of the three previous behaviours (see Chapter 6; Cappella & Planalp, 1981; Olekalns & Smith, 2000; Penman, 1980; Watzlawick, Beavin, & Jackson, 1968). These findings have typically been interpreted as demonstrating the extent to which one behaviour affects negotiators’ subsequent behaviours in the interaction, thereby quantifying the interdependence or
influence of individual messages on the way a dialogue unfolds. The interweaving of
cues and responses through the triple-interact brings about an unfolding behavioural
sequence in which negotiators work continually to express their own views, modify each
other’s position, and reach a resolution.

While the triple-interact is generally recognised as important to how an
interaction unfolds, less is understood about what the triple-interact achieves within
interaction. In examining the various contributions, it is important to distinguish between
the unit as a generic entity and the unit with behavioural content. As a generic entity, the
triple-interact is a small sequence of behaviours that restructures or advances the current
state of affairs (e.g., negotiators’ understandings, perceptions, goals) in a particular way.
A triple-interact may reciprocate the ideas put forward by the other party (Putnam &
Jones, 1982), or shift the focus of interaction to an entirely new topic (Rogan &
Hammer, 1994). However, the actual function of such reciprocation or shift in focus is
dependent on the behaviours that negotiators use to construct the generic units. For
example, while two negotiations may involve the same number of reciprocating triple-
interacts, one of these negotiations may involve sequences of cooperative behaviour that
move interaction towards agreement, whereas the other may involve triple-interacts that
reciprocate competitive behaviour and result in conflict spiralling. Both interactions
involve sequences of the same generic form, but the way they progress is made quite
different by the behaviours that negotiators use to build the sequences. Thus, from a
generic viewpoint, the way a negotiation unfolds is influenced by the relative occurrence
of the various triple-interacts, while from a behavioural perspective it is influenced by
the types of behaviours that populate the triple-interact. Since both of these aspects are
potentially critical to how the triple-interact organises an interaction, they are considered
in Sections 7.2 and 7.3, respectively.
7.2 The Types of Triple-Interact

Whilst researchers have made headway in outlining specific cue-response strategies (e.g., mismatching, Pruitt & Syna, 1985; attack-defend sequences, Drake & Donohue, 1996), there has yet to be a systematic conceptual clarification of the different types of triple-interact that can occur. Two existing theoretical constructs seem to speak particularly to the ways negotiators might use triple-interacts to transform the negotiation process. The first distinction, advanced by work on social orientations (Kelley, 1997) and found in a wide range of classification schemes (Sillars, Coletti, Parry, & Rogers, 1982), is that negotiators may assume similar or disparate orientations towards their goals. A negotiators’ orientation to interaction is defined by their overall approach to receiving the other party’s message and pursuing their own goals (Brett, Northcraft, & Pinkley, 1999). For example, they may decide to cooperate or compete over a particular issue, with their decision to do so influenced by both relatively stable belief systems (Olekalns & Smith, 1999) and more localised strategic changes in behaviour (Taylor, 2002a).

The second consideration reflects the possibility that negotiators may perceive or interpret a sequence of interaction from a variety of motivational perspectives (Folger, Poole, & Stutman, 1993; Hammer & Rogan, 1997) or interpretive schemata (Green, Smith, & Lindsey, 1990; Newcomb, 1953). This distinction connects with the view that negotiators understand dialogue through a dominant perspective or frame, and that how triple-interacts advance interaction depends on whether or not negotiators share the same interpretation of recent messages (Drake & Donohue, 1996). Negotiators that share the same interpretation can set out their positions and move forward, while those who frame issues differently must use the triple-interact to bring some clarity to their contrasting views. Because negotiators can potentially be congruent or disparate on both their
orientation to and framing of dialogue, these constructs combine to suggest four conditions under which triple-interacts occur. These are named here as reciprocation, reorientation, reframing, and restructuring, and are explored briefly below.

Reciprocation occurs when negotiators approach the interaction with the same orientation and the same immediate concern or goal. The result is a sequence in which negotiators respond to each other’s behaviour by matching it exactly (e.g., a concession from one negotiator elicits a concession from the other party). Such matching can pair either cooperative or competitive behaviours. For instance, negotiators might reciprocate the other party’s cooperative instrumental behaviours as they build agreements (e.g., tit-for-tat) or respond-in-kind to affective behaviours as a way of building trust, but they may also reciprocate antagonistic behaviour as they compete for fixed resources (Donohue, 1981; Weingart, Thompson, Bazerman, & Carroll, 1990). The role of such matching is to reinforce an existing message, moving negotiators further down their particular developmental path and to a more extreme outcome (Putnam, 1990; Olekalns & Smith, 2003).

When negotiators continue to address the same concern but do so through dissimilar orientations (e.g., one cooperative and one competitive), the result is a reorientation of dialogue. Negotiators dialogue continues to focus on a particular topic but their differing orientations cause the concluding response of the triple-interact to have a different social orientation to the initiating cue. This reorientation is evident in strategies such as move-countermove sequences (Willson, 1998), attack-defined cycles (Donohue, Diez, & Hamilton, 1982), and asymmetric information exchanges (Olekalns & Smith, 1999). Common to each of these sequences is a situation where one negotiator hopes to cooperate while the other sees competition as the best way of protecting themselves while influencing the other party’s expectations (Camac, 1992).
Sequences that reframe and restructure interaction develop from negotiators’ interpreting an exchange as relating to different aspects of the interaction, such as a perpetrator who frames the questions “Still get flashbacks from that?” as a possible attack on personal identity rather than an effort to empathise with a personal history (Hammer & Rogan, 1997, p.20). Reframing occurs when negotiators use behaviours that are congruent in orientation (e.g., both competitive) but not identical in their motivational emphasis. The result is characterised by convergence or divergence in perspective and a shift in the focal issue of the dialogue (Drake & Donohue, 1996). Such reframing may result from the confusion brought about by conflict, but it might also be used purposefully to establish a shared perspective or extent information search (Ben-Yoav & Pruitt, 1984; Weingart, Bennett, & Brett, 1993).

Finally, when a triple-interact concludes by changing both the orientation and motivational focus of dialogue, then the result is a restructuring of interaction. These triple-interacts occur in negotiations as an attempt to avoid a particular issue (Taylor, 2002a) or as a method of moving to consider a different aspect of the problem (Taylor, 2002b). Alternatively, as the pressures of the interaction reduce individuals ability to think clearly, such sequences may simply result from negotiators focusing on their prominent alternative without giving due consideration to the other party (Donohue et al., 1991). These triple-interacts, therefore, represent an incongruent shift in the focus of dialogue.

Given the extensive theoretical background that underpins the proposed triple-interact types, and their clear relations to previously observed behavioural sequences, it is predicted:

$H1$: Triple-interacts that reciprocate, reorient, reframe and restructure negotiation dialogue will occur in conflict negotiations.
7.2.1 Frequency of Occurrence of the Triple-Interacts

As implied by Kelley’s (1997) analysis of social interactions, negotiators’ goals and expectations about an interaction will determine the frequency with which they use each of the four triple-interacts. While the extent to which different triple-interacts occur will vary from negotiation to negotiation, the term “negotiation process” suggests that there is likely to be some consistency to the relative occurrences of each type (Holmes & Sykes, 1993; Olekalns & Smith, 2003). This is expected because some types of exchange will be central to how negotiators resolve disagreements and manage relational dynamics, while others will be useful only on specific occasions. Consequently, it should be possible to make predictions about the relative occurrences of each type of triple-interact based on a theoretical understanding of their role in negotiation.

Reciprocation is perhaps the most common type of triple-interact because it underlies a range of dynamics including logrolling, substantiation of a position, conflict spiralling, and the creation of integrative agreements (Axelrod, 1984; Gouldner, 1960; Holmes & Fletcher-Bergland, 1995; Putnam & Jones, 1982). These dynamics are known to be central to the way a negotiation develops as well as the outcome that is achieved (McGinn, Thompson, & Bazerman, 2003; Weingart et al., 1999). For example, in a multi-issue bargaining task, Brett, Shapiro and Lytle (1998) found that unsuccessful interactions were characterised by reciprocation of rights and power statements in approximately 25% of the observed cue-response pairs. Interestingly, Brett, Shapiro and Lytle’s study reported a level of reciprocation that was higher than that reported by studies using more restricted bargaining tasks (e.g., Weingart et al., 1990), suggesting that reciprocation as a function of the triple-interact will be particularly prominent in a real-world negotiation settings.
Several theories and findings would suggest reorientation as the next most common transition provided by the triple-interact. In conflict situations, the natural tendency for at least one party to act aggressively to change the power structure or obtain a prominent goal must be countered quite regularly for negotiation to make progress (see Chapter 6; Donohue & Taylor 2003). According to Drake and Donohue (1996), negotiators achieve favourable solutions to conflicts when they successfully manage a shift away from aggression and towards cooperation without being exploited by the other party. This transition is typically achieved through cycles of attacking and defending (Donohue, 1981) or conciliation and competition (Walton & McKersie, 1965), which are sequences that have been shown to occur in a variety of different contexts (Donohue & Roberto, 1993; Donohue & Roberto, 1996; Putnam & Jones, 1982). Indeed, as several authors have noted, progress in negotiation depends on negotiators switching between expanding their information and generating possible agreements on the one hand, and guarding their personal position and status on the other hand (Holmes & Fletcher-Bergland, 1995).

While reframing complements reorientation as a strategy for exchanging information and generating solutions, the role of reframing is centred on rectifying instances where negotiators have contrasting perspectives. This suggests that it may not occur as frequently as reorientation, since it does not contribute as directly to dialogue in which negotiators bargain and problem solve. In other words, reframing is most likely to be used to overcome barriers that negotiators face rather than as a central bargaining strategy, and negotiations generally involve periods of exchange and discussion of interests than they do realignment of perspectives. To be sure, negotiations would be expected to involve some instances of reframing as negotiators move back from the general interchange of messages to spend time attempting to converge personal
interpretations (Drake & Donohue, 1996; Hammer & Rogan, 1997). However, reframing would not be expected to play a major role in moving negotiations forward, serving instead to put negotiators in a position where they can use other strategies to pursue an agreement (Cassey, 2001; Olekalns & Frey, 1994; Schweitzer & DeChurch, 2001). Thus, as noted by Van Levven (2002), negotiators may retreat to reframing an issue when a problem arises with pursuing goals through other strategies.

Finally, since triple-interacts that restructure dialogue must achieve a shift in both orientation and interpretative frame, these interacts would be expected to occur least often in dialogue. Even in conflict, negotiators generally follow the basic rules of conversational exchange (Donohue & Roberto, 1993; Wilson & Smith, 2000). Triple-interacts that restructure negotiation are expected to be used in very specific circumstances, such as when a divorce mediator changes the orientation and focus of an interaction to avoid discussion of an irrelevant or conflict-provoking issue (Donohue, Allen, & Burrell, 1985). But frequent restructuring of an interaction is not expected because it would lead to a breakdown in the dialogic flow of interaction and disrupt the interdependence among negotiators’ understanding of the issues (Watzlawick, Beavin, & Jackson, 1968). If restructuring was a frequently occurring triple-interact, then existing evidence of stable patterns of change in behaviour (Donohue & Roberto, 1993) or meaningful interrelations among behaviours (Chapters 3, 4 and 5) would not have been forthcoming.

Given these arguments and the supporting evidence, it is predicted:

*H2*: The occurrence of the triple-interacts will be, in order of decreasing frequency, reciprocation, reorientation, reframing, and restructuring.
7.2.2 Variations in the Triple interact across Outcome and Time

To provide a more complete picture of the generic triple-interact, it is useful to explore how the various types occur over time and whether or not such patterns of occurrence are systematically related to negotiation outcome. Because research has yet to address these questions in connection with the triple-interact, it is useful to base predictions on what researchers know generally about the dynamics of conflict. Central to conflicts are a set of perceptions and expectations that focus negotiators on the differences between positions and the incompatibility of respective goals and activities (Donohue & Taylor, in press). This focus is exacerbated by the mixed-motive structure of the task and the reduced problem-solving capacity that comes from the emotions and anxieties of conflict (Donohue et al., 1991). The result is a natural tendency to compete for fixed resources (i.e., the fixed-sum bias; Putnam & Roloff, 1992), where this tendency for competition escalates unless negotiators make active efforts to find a common goal or viewpoint. Given this focus on differences, triple-interacts that act to confirm or reinforce a particular situation are likely to emphasise differences among disputants and therefore only increase conflict. In contrast, triple-interact that force a change in perspective may provide an opportunity for negotiators to consider alternative positions and engage in collaborative problem solving. Based on this understanding of conflict, it is possible to make predictions about the likely relationships between the types of triple-interact and negotiation outcome.

Two types of triple-interact are likely to occur more often in unsuccessful negotiations than successful negotiations: reciprocation and restructuring. While negotiators may reciprocate cooperative and competitive behaviours, the predominance of competition in conflict would mean that reciprocity is principally associated with conflict spiralling and unsuccessful outcomes. Research typically supports this view,
showing that negotiators engaged in conflict are more likely to be drawn into reciprocating sequences of competitive behaviours than cooperative behaviours (Donohue & Taylor, in press; Druckman, 1986; Goodwin, 2001; Rogan & Hammer, 1994). As Wills, Weiss, and Patterson (1974) conclude, “the tendency to reciprocate displeasurable behaviour is stronger than the tendency to reciprocate pleasurable behaviours.” While reciprocation may sometimes be associated with cooperation, interactions that involve consistent restructuring of dialogue are unlikely to generate any form of constructive interaction. Negotiators who constantly generate triple-interacts that restructure dialogue are more concerned with focusing on their prominent concern than they are building up an interdependence and focus needed to resolve a particular problem. Consequently, this type of triple-interact is expected to be associated with poor interaction development and unsuccessful outcomes. Consistent with this idea, research has shown that low levels of interdependence, the inability to adhere to turn taking, and an unremitting focus on a prominent alternative are each positively associated with unsuccessful outcomes (Donohue et al., 1991; Donohue & Hoobler, 2002; Donohue & Roberto, 1996). Similarly, case study evidence suggests that many failures in international agreements stem at least in part from an inability to find a common negotiating process that is acceptable to both parties (Donohue & Hoobler, 2002; Druckman, 1986).

In contrast to these sequences, triple-interacts that reorient or reframe dialogue act to move the focus of interaction away from conflict and towards success. The importance of reorientation to the success of negotiation is recognised by professionals who assert the importance of facilitating a change from low rationality (conflict) to normative interaction by supplanting aggressive reactions with cooperative behaviours (Donohue et al., 1991). This experience is backed by empirical research showing that
successful negotiations involve a balance between competitive and cooperative moves (Donohue, 1981; Donohue, Diez, & Hamilton, 1984; Putnam & Jones, 1982), as negotiators take due care within the bargaining process (Walton, Cutcher-Gershenfeld, & McKersie, 1994). The reframing triple-interact is likely to play a similar organisational role in dialogue. Because a mismatch in frame is known to lead to comparatively worse outcomes (Olekalns, 1994) and protracted disagreement (Lax & Sebenius, 1986), triple-interacts that provide the opportunity of aligning negotiators’ perspectives might be expected to correlate positively with negotiation success. Consistent with this idea, research has shown that negotiators are more likely to take active steps to converge their interpretations of the current issue in successful negotiations than they are in unsuccessful negotiations (Drake & Donohue, 1996; Ehrlich & Graeven, 1971).

Similarly, other researcher has shown that negotiators use refocusing triple-interacts to challenge the way a party interprets an issue and open up discussion and constructive problems solving (Putnam & Holmer, 1992). This is particularly true of negotiators who want to achieve high joint gain, since they must establish a shared perspective on what each other prioritises and is willing to exchange (Olekalns & Smith, 2000).

Given this range of evidence, it is predicted:

**H3a:** Reciprocating triple-interacts will be more frequent in unsuccessful negotiations compared to successful negotiations.

**H3b:** Reorienting triple-interacts will be more frequent in successful negotiations compared to unsuccessful negotiations.

**H3c:** Reframing triple-interacts will be more frequent in successful negotiations compared to unsuccessful negotiations.

**H3d:** Restructuring triple-interacts will be more frequent in unsuccessful negotiations compared to successful negotiations.
Evidence to support these predictions will suggest important relationships between the underlying organisation of cues and responses and negotiation outcome. However, as shown by previous research (Olekalns & Smith, 2000), these relationships may be affected by the way triple-interacts are distributed over time. Specifically, studies of aggregate behaviour have shown that timing of behaviour use affects whether disputes are resolved or unresolved (Donohue, 1989; Jones, 1988) and also the level of joint gain (Olekalns, Smith, & Walsh, 1996). These observations raise the possibility that the generic triple-interacts may also be distributed differently over time. Consequently, as an initial investigation of this possible relationship, the analysis examines the distribution of the triple-interact types over two halves of negotiation.

7.3 The Behavioural Content of the Triple-interact

As introduced in Section 7.1, an equally important aspect of the triple-interact is the behaviour from which it is constructed. A considerable amount of research supports the proposition that triple-interact content may be an essential determinant of negotiation progress. For example, the transition from crisis to more normative bargaining is often proposed to require the use of integrative strategies such as linking issues, expressing empathy and understanding, and building trust (Donohue et al., 1991; Fuselier, 1986). What defines these strategies is not an association with a particular type of triple-interact, since each may potentially be achieved by using each of the different sequences. Rather, what is important about each of these strategies is their behavioural content, which is one of cooperating and promoting a mutually-agreeable resolution.

To explore the role of behaviour within the triple-interact, the analysis in this Chapter differentiates behaviour using the categories defined in Chapter 6 (see Table 6-1). Briefly, the coding categories view negotiators as being able to change the
behavioural focus of the triple-interact in two ways. First, negotiators can vary their overall approach to interaction between withdrawing from substantive discussion (Avoidance), taking an aggressive position (Distributive), and cooperating with a view to reaching a mutual agreement (Integrative) (Sillars, Coletti, Parry, & Rogers, 1982).

Second, negotiators can choose to vary the concern or goal that they emphasise. They can address substantive issues (Instrumental), the personal and social identity of the negotiators (Identity), or the degree of affiliation and interdependence among the negotiators (Relational) (Donohue, 1998; Hammer, 2001; Roloff, 1981). Since each of these concerns can be addressed through an Avoidance, Distributive or Integrative approach, the two distinctions combine to form the nine categories shown in Table 6-1.

### 7.3.1 Differences in behavioural orientation

One way in which triple-interacts may differ is that they end with behaviour that expresses a desire to withdraw (Avoidance), compete (Distributive), or co-operate (Integrative) with the other party (Donohue, Diez, & Hamilton, 1984; Sillars et al., 1982; Weingart, Bennett, & Brett, 1993). Research on aggregate behaviour use has shown that successful negotiations are associated with more frequent use of Integrative behaviours such as willingness to make concessions, expressing confidence in the others ability, and building relationships (Donohue & Roberto, 1996; Putnam & Jones, 1982; Olekalns & Smith, 2000). In contrast, negotiations characterised by frequent use of Distributive behaviours or intentional Avoidance of constructive discussion are more likely to result in unsuccessful outcomes. Argumentative expressions, personal attacks and unrealistic demands, when combined with attempts to shift the focus of interaction, reflect an apathetic attitude towards negotiation success (Folger, Poole, & Stutman, 1993; Putnam & Wilson, 1989; Rogan & Hammer, 1994). Because these aggregate findings are the
result of differences among the cue-response sequences of interactions, similar
dissimilarities are expected in the frequency of behaviours that compose the triple-
interacts. In particular, it is predicted:

\[ H4a: \] Triple-interacts that end in Avoidance or Distributive behaviour will be more
common in unsuccessful negotiations compared to successful negotiations.

\[ H4b: \] Triple-interacts that end in Integrative behaviour will be more common in
successful negotiations compared to unsuccessful negotiations.

7.3.2 Differences in behavioural orientation over time

The re-conceptualisation of conflict negotiation as “crisis bargaining” highlights
the importance of achieving a shift in orientation from competition to cooperation as a
negotiation progresses (Donohue et al., 1991). Consistent with this idea, a number of
experimental studies (Chatman, Putnam, & Sondak, 1991; Holmes, 1992; Olekalns,
Smith, & Walsh, 1996) have shown that negotiators’ orientation has a different impact
on outcome depending on the timing of the behaviour. Specifically, studies have shown
that successful and unsuccessful outcomes are related to increasing levels of Integrative
and Distributive behaviour over time, respectively (Lim & Murnigham, 1994; Putnam &
Jones, 1982; Weingart, Bennett, & Brett, 1993). Negotiations characterised by high
levels of self-focus and low levels of information exchange are typically unsuccessful,
since these behaviours discourage mutual discussion and the development of reasonable
compromises. In contrast, successful negotiations are associated with a focus on issue
development and an increase in flexibility and creativity, which improves the
cooperative interdependence among parties. Accordingly, these patterns in overall
behaviour would be expected to have their counterparts in the cues and responses of
triple-interacts. Thus, it is predicted:
$H5a$: The frequency of triple-interacts that end in Avoidance or Distributive behaviour will increase over time in unsuccessful negotiations.

$H5b$: The frequency of triple-interacts that end in Integrative behaviours will increase over time in successful negotiations.

7.3.3 Differences in behavioural motivation

Research has demonstrated that the changing pattern of negotiators’ motivational goal over time is directly related to the success of negotiation. For example, phase models of negotiation emphasize the importance of reducing personal insecurities and improving trust prior to engaging in problem solving (Abbot, 1986; Douglas, 1962). This theme is also echoed by law enforcement practitioners, who advise using empathic listening and openness during early stages of negotiation to establish rapport, and problem-solving and information sharing during later stages to reach a resolution (Fuselier, 1986; McCaffery, 1994; Strenz, 1983). As noted by Donohue et al. (1991), “building trust and attraction through informal communication that does not threaten control helps build a relational foundation that can ultimately move the bargaining to a more normative level.” Further support for this idea is found in the mediation literature, which suggests that adequate resolution of positional and identity issues is essential for generating the levels of affiliation required to facilitate successful problem-solving (Donohue, 1989; Jones, 1988). Finally, recent experimental work has shown that successful negotiations are characterized by higher levels of relationship management during early stages of negotiation, but more effective problem-solving during the later stages of negotiation (Natslandsmyr & Rognes, 1995; Simons, 1993). It is therefore expect that, in comparison to unsuccessful negotiations, successful negotiations will be associated with a more pronounced change from expressive (Identity and Relational) to
Instrumental communication in the content of triple-interacts. Specifically, it is predicted:

\(H6a\): In comparison to unsuccessful negotiations, the first half of successful negotiations will be associated with more frequent use of triple-interacts that address expressive issues (Identity and Relational).

\(H6b\): In comparison to unsuccessful negotiations, the second half of successful negotiations will be associated with more frequent use of triple-interacts that address instrumental issues.

7.4 Method and Analysis

7.4.1 Sequence data

Data were sequences of coded behaviour from the 29 crisis negotiations used in Chapter 6. Briefly, the sample consisted of 9 actual hostage negotiations and 20 divorce mediations that involve a variety of scenarios and both successful and unsuccessful outcomes. As described in Chapter 6, the negotiations were divided into thought units (Gottman, 1979) and coded using as categories the nine modes of interaction established in the cylinder model (see Chapters 3 to 5), and defined again in Table 6-1. These categories differentiate the overall interpersonal orientation of behaviour (Avoidance, Distributive, and Integrative) and the motivational concern or goal the behaviour predominantly addresses (Identity, Instrumental, and Relational). The coding scheme therefore captures differences in a negotiator’s dominant interpersonal style and, at a more specific level, their predominant interests and concerns during that particular period of interaction.

As explained in Chapter 6, the interchange between negotiators was standardised by coding each utterance twice, once as a response to the previous utterance and once as
a cue to the subsequent utterance. Specifically, the first thought unit of an utterance was
taken as the speakers’ response to the previous utterance, while the final thought unit of
an utterance was taken as the speakers cue for the other party. This approach has been
shown to be a useful way of capturing the difference in substance between negotiators’
cues and responses while also preserving equality in the contribution that any one
negotiator makes to the contingencies among behaviours (Donohue, Diez, & Hamilton,
1984; Olekalns & Smith, 2000). However, as noted in Chapter 6, the downside of this
strategy is that analysis may be conducted on two kinds of sequence, those beginning
with cues (e.g., cue-response-cue) and those beginning with responses (e.g., response-
cue-response). To avoid this complication, this Chapter considers only those sequences
beginning with cues. This simplification is justified because the organisation of
behavioural sequences beginning with responses has been shown to be very similar
empirically to that of sequences beginning with cues (cf. Table 6-2 and Table 6-3).

7.4.2 Classification of Outcome

To test the hypotheses concerned with negotiation outcome, it was necessary to
generate a criterion for classifying each negotiation as successful or unsuccessful.
Although any such categorisation remains impressionistic and open to criticism, the
criterion for unsuccessful hostage negotiations was that law enforcement officials were
forced to employ some form of tactical intervention (see also Holmes & Sykes, 1993).
Similarly, the criterion for unsuccessful divorce mediations was that no signed
agreement was produced by the end of the session. It is important to emphasise that these
criterions focused only on the effectiveness of negotiation as a strategy for resolving a
conflict, and not on whether the outcome itself was successful (e.g., tactical resolutions
may also yield successful outcomes). These criterions therefore possess some validity
because they only assume that mediators or law enforcement personnel will seek a negotiated agreement prior to resorting to an imposed solution (e.g., judicial settlement). This assumption is supported by previous research (Butler, Leitenberg, & Fuselier, 1993; Donohue, 1991; Fuselier, 1988).

Application of this criterion was based on a reading of the transcripts, but was verified by cross-referencing to accompanying summaries and, in the case of the hostage negotiations, reports in local and national newspapers. Five of the hostage negotiations were classed as unsuccessful (Cases B, C, D, E, and I) while the remaining four negotiations were classed as successful (Cases A, F, G, and H) (see Table 2-1). Thirteen of the divorce mediations were classed as unsuccessful (Child custody 1 to 6, Child standards 2, and Child visitation 4 to 9), while seven were classed as successful (Child standards 1, Child visitation 1 to 3, and Child visitation 10 to 12) (see Table 2-3).

7.5 Results and Discussion

Prior to testing the hypotheses, it was necessary to verify that the triple-interact (i.e., cue-response-cue-response) represents the limit of a behaviour’s influence on the subsequent interaction. This was established in Chapter 6, where the triple-interact sequence was shown to account for over 90% of the total variation in behaviour. However, to reinforce this analysis, the measures of uncertainty for up to five previous utterances (see Table 6-2, p. 199) were compared using a chi-square likelihood ratio test (Chatfield & Lemon, 1970). This test assesses whether or not prediction of behaviour is significantly improved by adding a further behaviour to the sequence of predictors. Table 7-1 presents the relevant uncertainty values, $H(X)$, from Chapter 6 together with the associated chi-square comparisons. Each row of Table 7-1 considers the reduction in uncertainty provided by adding a further behaviour to the predicting sequence. The chi-
### Table 7-1.
*Uncertainty Values and Contributions to Predicting Cue Behaviour for Past Behaviours, Context, Negotiator Role, and Speaker.*

<table>
<thead>
<tr>
<th>Previous Behaviour</th>
<th>Uncertainty $H(X)$</th>
<th>$T$</th>
<th>Chi-square</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>2.99</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-Behaviour</td>
<td>2.83</td>
<td>0.16</td>
<td>1659.6</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(7482)</td>
</tr>
<tr>
<td>2-Behaviour</td>
<td>1.89</td>
<td>0.94</td>
<td>9712.1*</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(7453)</td>
</tr>
<tr>
<td>3-Behaviour</td>
<td>0.64</td>
<td>1.26</td>
<td>12864.8*</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(7424)</td>
</tr>
<tr>
<td>4-Behaviour</td>
<td>0.11</td>
<td>0.53</td>
<td>5433.4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(7395)</td>
</tr>
<tr>
<td>5-Behaviour</td>
<td>0.01</td>
<td>0.10</td>
<td>1021.1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(7366)</td>
</tr>
</tbody>
</table>

NOTE: Degrees of freedom in parentheses; * = $p < .05$.

The chi-square value associated with each row gives the statistical significance of this reduction in uncertainty compared to the uncertainty of the row above (i.e., transmission, see Chapter 6). If the chi-square value is not statistically significant, then the sequence associated with the row does not predict the subsequent responses of negotiators any better than the previous row’s sequence. Thus, the last sequence to show a statistically significant improvement in prediction (i.e., significant chi-square) represents the average limit of constraint within the sequences. Consistent with expectations, the limit of constraint was the triple-interact (3-previous behaviours), since adding a fourth behaviour to the predicting sequence did not significantly improve prediction, $\chi^2 = 5433.4$, df = 7395, ns.

#### 7.5.1 Hypothesis 1: Occurrence of four types of triple-interact

To test whether the proposed types of triple-interact occur in dialogue (H1), the conditional probabilities of the four types were calculated separately for each of the 29
negotiations. Specifically, for each negotiation, a 9 x 9 contingency matrix was created that scored the frequency with which a triple-interact began and resolved with one of the nine communication behaviours. These matrices may be used to examine directly the occurrence of the various types of triple-interact because each of the cells relate to a different function. For example, the diagonal of the contingency matrices measured the extent to which triple-interacts served a reciprocating function in dialogue (e.g., the occurrence of triple-interacts that begin and resolve with Avoidance-Identity behaviours). In contrast, the immediate off-diagonals of the contingency matrices measure the degree negotiators use triple-interacts to reframe dialogue (e.g., the extent Avoidance-Identity was reframed into Avoidance-Instrumental or Avoidance-Relational). By averaging the frequencies relevant to a particular function, it was possible to calculate the proportion of times the occurring triple-interacts reciprocated, reoriented, reframed, and restructured the interaction. Table 7-2 shows the proportion of triple-interacts that served each the four function in each of the 29 negotiations. As can be seen on Table 7-2, the four types of triple-interact occurred in each of the 29 negotiations, thereby supporting H1.

7.5.2 Hypothesis 2: Frequency of occurrence

As can be seen in Table 7-2 the relative frequency of occurrence for the four types of triple-interact across the transcripts were broadly consistent with Hypothesis 2. The occurrences of the four functions of triple-interacts were, in decreasing order of frequency, reciprocation (mean occurrence = .33, $SD = .05$, Range = .25 – .45), reorientation ($M = .24$, $SD = .03$, Range = .17 – .29), reframing ($M = .22$, $SD = .03$, Range .11 – .29) and restructuring ($M = .20$, $SD = .04$, Range = .12 – .29). A non-parametric one-way ANOVA’s (Kruskal-Wallis, 1952) confirmed that there were
Table 7-2
Proportions of Triple-interacts Serving the Four Functions as a Function of Transcript Type. Rank Orders of Proportions for each Case are given in Parentheses.

<table>
<thead>
<tr>
<th>Transcript</th>
<th>Type of Change</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Reciprocate</td>
</tr>
<tr>
<td><strong>Actual Hostage Negotiations</strong></td>
<td></td>
</tr>
<tr>
<td>Criminal Case A</td>
<td>.36 (1)</td>
</tr>
<tr>
<td>Criminal Case B</td>
<td>.41 (1)</td>
</tr>
<tr>
<td>Criminal Case C</td>
<td>.31 (1)</td>
</tr>
<tr>
<td>Criminal Case D</td>
<td>.29 (1)</td>
</tr>
<tr>
<td>Criminal Case E</td>
<td>.26 (2)</td>
</tr>
<tr>
<td>Domestic Case F</td>
<td>.34 (1)</td>
</tr>
<tr>
<td>Domestic Case G</td>
<td>.45 (1)</td>
</tr>
<tr>
<td>Political Case H</td>
<td>.30 (1)</td>
</tr>
<tr>
<td>Political Case I</td>
<td>.32 (1)</td>
</tr>
<tr>
<td><strong>Divorce Mediations</strong></td>
<td></td>
</tr>
<tr>
<td>Child custody 1</td>
<td>.35 (1)</td>
</tr>
<tr>
<td>Child custody 2</td>
<td>.42 (1)</td>
</tr>
<tr>
<td>Child custody 3</td>
<td>.32 (1)</td>
</tr>
<tr>
<td>Child custody 4</td>
<td>.35 (1)</td>
</tr>
<tr>
<td>Child custody 5</td>
<td>.34 (1)</td>
</tr>
<tr>
<td>Child custody 6</td>
<td>.29 (1)</td>
</tr>
<tr>
<td>Child standards 1</td>
<td>.35 (1)</td>
</tr>
<tr>
<td>Child standards 2</td>
<td>.31 (1)</td>
</tr>
<tr>
<td>Child visitation 1</td>
<td>.35 (1)</td>
</tr>
<tr>
<td>Child visitation 2</td>
<td>.29 (1)</td>
</tr>
<tr>
<td>Child visitation 3</td>
<td>.36 (1)</td>
</tr>
<tr>
<td>Child visitation 4</td>
<td>.43 (1)</td>
</tr>
<tr>
<td>Child visitation 5</td>
<td>.29 (1)</td>
</tr>
<tr>
<td>Child visitation 6</td>
<td>.31 (1)</td>
</tr>
<tr>
<td>Child visitation 7</td>
<td>.26 (2)</td>
</tr>
<tr>
<td>Child visitation 8</td>
<td>.31 (1)</td>
</tr>
<tr>
<td>Child visitation 9</td>
<td>.25 (3)</td>
</tr>
<tr>
<td>Child visitation 10</td>
<td>.36 (1)</td>
</tr>
<tr>
<td>Child visitation 11</td>
<td>.38 (1)</td>
</tr>
<tr>
<td>Child visitation 12</td>
<td>.33 (1)</td>
</tr>
</tbody>
</table>

significant differences in the extent to which negotiators used the four types of triple-interact, H(3,112) = 59.6, p < .05. Subsequent planned comparisons (Marascuilo & McSweeney, 1977) supported the predicted decrease in proportion of occurrence from reciprocation to reorientation to reframing to restructuring (H2). Reciprocation occurred significantly more often than reorientation (ψ = 38.8, p < .05), reorientation occurred
significantly more often than refocusing ($\psi = 18.7, p < .05$), and refocusing occurred significantly more often than restructuring ($\psi = 10.5, p < .05$).

A case-based analysis of the occurrences indicates that 41% of the transcripts fitted the predicted decrease in occurrence among the four types of triple-interacts (H2). Exceptions to this predicted rank-order were mainly due to inversions in the proportion of triple-interacts associated with reorientation and reframing. Reorienting units were the second most frequent triple-interact in 17 (59%) negotiations and the third most frequent triple-interact in 7 (25%) cases. Similarly, reframing units were the third most frequent in 15 (52%) cases and second most frequent in 4 (14%) cases. This compares, for example, to reciprocation, which was the most frequent function of the triple-interact in 26 of the 29 negotiations (90%).

7.5.3 Hypotheses 3: Frequency across outcome and time

To test the hypotheses that examine the affect of triple-interact frequency and timing on negotiation outcome, the contingency matrix for each negotiation was recalculated as a function of outcome and time period. Specifically, the complete sequence of each transcript was divided into two sub-sequences of equal length, and the $9 \times 9$ contingency matrices recalculated for each half of the interactions. These time-specific matrices were then used to compute the probabilities of triple-interacts resolving with competitive or cooperative behaviour for each of the 29 negotiations. Finally, these conditional probabilities were divided into those associated with unsuccessful negotiations and those associated with successful negotiations.

To test the relationship between the four types of triple-interact and negotiation outcome (H3), the occurrence of the four types were compared across successful and unsuccessful negotiations. In contrast to Hypotheses 3a to 3d, there were no significant
differences in the use of behaviour across outcome. The average proportions of occurrence for the four types of triple-interact were, for successful and unsuccessful negotiations respectively, .33 and .31 for reciprocation, .24 and .26 for reorientation, .22 and .22 for reframing, and .21 and .21 for restructuring (Mann-Whitney U = 60.5, 91.5, 71.0, and 82.0, respectively, ns). A similar method was used to explore whether the use of different triple-interacts varied over time. The average proportions of occurrence for the four types were, for the first and second period respectively, .31 and .35 for reciprocation, .23 and .23 for reorientation, .25 and .23 for reframing, and .20 and .20 for restructuring (Wilcoxon z = 1.6, 0.2, 1.1, and 1.4, respectively, ns).

7.5.4 Hypotheses 4: Differences in behavioural orientation

In support of Hypothesis 4a and 4b, there was a general tendency for triple-interacts ending with competitive behaviour to occur in unsuccessful negotiations and triple-interacts ending in cooperative behaviour to occur in successful negotiations. Specifically, the average conditional probability of a triple-interact ending with Avoidance or Distributive behaviour was significantly greater in unsuccessful negotiations ($M = .71, SD = .10, \text{Range .52} - .89$) compared to successful negotiations ($M = .57, SD = .10, \text{Range .42} - .82$)(Mann-Whitney U = 146.5, $z = 4.0, p < .05$). This difference remained when the comparison was computed separately for Avoidance behaviour ($U = 243.0, z = 2.5, p < .05$) and Distributive behaviour ($U = 208.5, z = 3.0, p < .05$). This trend was mirrored by a significant tendency for triple-interacts ending with Integrative behaviour to occur more often in successful negotiations ($M = .42$) compared to unsuccessful negotiations ($M = .30$)(U = 146.5, $z = 4.0, p < .05$).

To obtain a more detailed analysis of how the behavioural makeup of triple-interacts differed across negotiation outcome, the relevant occurrence of individual
contingencies (rather than contingencies aggregated into cooperative and competitive behaviour) were examined. Specifically, the time-specific contingency matrices, divided into those related to successful and unsuccessful negotiations, were summed to produce four aggregate matrices. These aggregate matrices contained the frequency of occurrence for contingencies in the first and second half of successful negotiations and the frequency of occurrence for contingencies in the first and second half of unsuccessful negotiations.

Rather than present the four raw matrices, Table 7-3 and Table 7-4 summarise information that is most relevant to testing Hypotheses 4. Specifically, the three columns associated with each time period report the first, second and third most frequent endings or exits to triple-interacts beginning with one of the 9 behaviours. Table 7-3 presents this information for the first and second time period of unsuccessful negotiations, while Table 7-4 shows this information for the first and second time period of successful negotiations. For example, the first column of the first row of Table 7-3 indicates that triple-interacts beginning with Avoidance-Identity behaviour were most likely to end with Distributive-Relational behaviour. The second and third most frequent exits for Avoidance-Identity behaviour in these negotiations was Avoidance-Identity and Distributive-Identity behaviour respectively, as shown by the second and third column entries.

In support of the predicted differences across outcome in behavioural orientation (H4a and H4b), Table 7-3 and Table 7-4 suggest that unsuccessful negotiations were more likely to contain triple-interacts that ended with competitive behaviours than successful negotiations. Specifically, as shown in Table 7-3, 18 of the 27 exits for the first period of unsuccessful negotiations involved competitive behaviours, and four of these were Avoidance behaviours. This contrasts with the 12 occurrences of competitive behaviours in the first period of successful negotiations (see Table 7-4), of which none
Table 7-3. 
Relative Contributions of Behaviours to the Development of Unsuccessful Negotiations with the Most Frequent Exits as a Function of Time Period.

<table>
<thead>
<tr>
<th>Behaviour</th>
<th>Most Frequent Exits</th>
<th>Most Frequent Exits</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Av-Id</td>
<td>Dist-Rel</td>
<td>Av-Id</td>
</tr>
<tr>
<td></td>
<td>(19)</td>
<td>(18)</td>
</tr>
<tr>
<td>Av-Inst</td>
<td>Dist-Rel</td>
<td>Dist-Inst</td>
</tr>
<tr>
<td></td>
<td>(26)</td>
<td>(16)</td>
</tr>
<tr>
<td>Av-Rel</td>
<td>Dist-Rel</td>
<td>Int-Rel</td>
</tr>
<tr>
<td></td>
<td>(19)</td>
<td>(19)</td>
</tr>
<tr>
<td>Dist-Id</td>
<td>Dist-Rel</td>
<td>Int-Rel</td>
</tr>
<tr>
<td></td>
<td>(23)</td>
<td>(18)</td>
</tr>
<tr>
<td>Dist-Inst</td>
<td>Dist-Rel</td>
<td>Int-Rel</td>
</tr>
<tr>
<td></td>
<td>(21)</td>
<td>(18)</td>
</tr>
<tr>
<td>Dist-Rel</td>
<td>Dist-Rel</td>
<td>Av-Id</td>
</tr>
<tr>
<td></td>
<td>(25)</td>
<td>(18)</td>
</tr>
<tr>
<td>Int-Id</td>
<td>Dist-Rel</td>
<td>Int-Rel</td>
</tr>
<tr>
<td></td>
<td>(24)</td>
<td>(16)</td>
</tr>
<tr>
<td>Int-Inst</td>
<td>Dist-Rel</td>
<td>Int-Rel</td>
</tr>
<tr>
<td></td>
<td>(19)</td>
<td>(17)</td>
</tr>
<tr>
<td>Int-Rel</td>
<td>Dist-Rel</td>
<td>Int-Rel</td>
</tr>
<tr>
<td></td>
<td>(21)</td>
<td>(17)</td>
</tr>
</tbody>
</table>

NOTE: Av-Id = Avoidance-Identity; Av-Inst = Avoidance-Instrumental; Av-Rel = Avoidance-Relational; Dist-Id = Distributive-Identity; Dist-Inst = Distributive-Instrumental; Dist-Rel = Distributive-Relational; Int-Id = Integrative-Identity; Int-Inst = Integrative-Instrumental; Int-Rel = Integrative-Relational.

were Avoidance behaviours. While the frequency with which triple-interacts ended competitively diminished in the second period of interaction, this reduction in antagonism was relative, with unsuccessful negotiations still containing comparatively more Avoidance and Distributive moves. Specifically, Distributive behaviours comprised of about 40% of first-period exits and 36% of second-period exits for the triple-interact in unsuccessful negotiations, but only 28% of first-period exits and 23% of second-period exits for successful negotiations. Perhaps more interestingly, during the first period of unsuccessful negotiations, Distributive-Relational behaviour was the most frequent ending of the triple-interact regardless of how the sequence initiated. While Relational behaviours also dominate the first period of successful negotiations, the exits
Table 7-4.  
Relative Contributions of Behaviours to Interaction Development of Successful Negotiations with the Most Frequent Exits as a Function of Time Period.

<table>
<thead>
<tr>
<th>Behaviour</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av-Id</td>
<td>Dist-Rel</td>
<td>Int-Rel</td>
<td>Int-Inst</td>
<td>Int-Rel</td>
<td>Av-Id</td>
<td>Dist-Rel</td>
</tr>
<tr>
<td></td>
<td>(23)</td>
<td>(17)</td>
<td>(16)</td>
<td>(18)</td>
<td>(16)</td>
<td>(14)</td>
</tr>
<tr>
<td>Av-Inst</td>
<td>Dist-Inst</td>
<td>Int-Inst</td>
<td>Int-Rel</td>
<td>Int-Inst</td>
<td>Dist-Inst</td>
<td>Int-Rel</td>
</tr>
<tr>
<td></td>
<td>(23)</td>
<td>(18)</td>
<td>(16)</td>
<td>(30)</td>
<td>(15)</td>
<td>(15)</td>
</tr>
<tr>
<td>Av-Rel</td>
<td>Dist-Rel</td>
<td>Int-Rel</td>
<td>Int-Inst</td>
<td>Int-Rel</td>
<td>Dist-Rel</td>
<td>Av-Rel</td>
</tr>
<tr>
<td></td>
<td>(25)</td>
<td>(15)</td>
<td>(14)</td>
<td>(16)</td>
<td>(16)</td>
<td>(16)</td>
</tr>
<tr>
<td>Dist-Id</td>
<td>Int-Rel</td>
<td>Dist-Rel</td>
<td>Int-Inst</td>
<td>Dist-Inst</td>
<td>Int-Inst</td>
<td>Dist-Rel</td>
</tr>
<tr>
<td></td>
<td>(23)</td>
<td>(22)</td>
<td>(13)</td>
<td>(28)</td>
<td>(19)</td>
<td>(12)</td>
</tr>
<tr>
<td>Dist-Inst</td>
<td>Int-Rel</td>
<td>Int-Inst</td>
<td>Dist-Rel</td>
<td>Dist-Inst</td>
<td>Int-Rel</td>
<td>Int-Inst</td>
</tr>
<tr>
<td></td>
<td>(26)</td>
<td>(16)</td>
<td>(16)</td>
<td>(20)</td>
<td>(17)</td>
<td>(16)</td>
</tr>
<tr>
<td>Dist-Rel</td>
<td>Dist-Rel</td>
<td>Int-Inst</td>
<td>Int-Rel</td>
<td>Int-Rel</td>
<td>Int-Inst</td>
<td>Dist-Rel</td>
</tr>
<tr>
<td></td>
<td>(20)</td>
<td>(20)</td>
<td>(15)</td>
<td>(21)</td>
<td>(18)</td>
<td>(16)</td>
</tr>
<tr>
<td>Int-Id</td>
<td>Dist-Rel</td>
<td>Int-Rel</td>
<td>Int-Id</td>
<td>Int-Rel</td>
<td>Dist-Rel</td>
<td>Int-Inst</td>
</tr>
<tr>
<td></td>
<td>(25)</td>
<td>(20)</td>
<td>(11)</td>
<td>(30)</td>
<td>(24)</td>
<td>(18)</td>
</tr>
<tr>
<td>Int-Inst</td>
<td>Int-Rel</td>
<td>Dist-Int</td>
<td>Dist-Rel</td>
<td>Int-Rel</td>
<td>Int-Inst</td>
<td>Dist-Rel</td>
</tr>
<tr>
<td></td>
<td>(22)</td>
<td>(20)</td>
<td>(18)</td>
<td>(24)</td>
<td>(20)</td>
<td>(17)</td>
</tr>
<tr>
<td>Int-Rel</td>
<td>Int-Rel</td>
<td>Dist-Rel</td>
<td>Dist-Inst</td>
<td>Int-Rel</td>
<td>Int-Inst</td>
<td>Dist-Rel</td>
</tr>
<tr>
<td></td>
<td>(23)</td>
<td>(22)</td>
<td>(18)</td>
<td>(24)</td>
<td>(15)</td>
<td>(15)</td>
</tr>
</tbody>
</table>

NOTE: Av-Id = Avoidance-Identity; Av-Inst = Avoidance-Instrumental; Av-Rel = Avoidance-Relational; Dist-Id = Distributive-Identity; Dist-Inst = Distributive-Instrumental; Dist-Rel = Distributive-Relational; Int-Id = Integrative-Identity; Int-Inst = Integrative-Instrumental; Int-Rel = Integrative-Relational.

of triple-interacts in these negotiations was split between continuing to compete and reorienting to an Integrative approach.

7.5.5 Hypotheses 5: Differences in behavioural orientation over time

In contrast to Hypotheses H5a and H5b, there was no evidence to suggest that negotiators changed their orientation to interaction over time. Specifically, the conditional probability of triple-interacts from unsuccessful negotiations ending in Avoidance or Distributive behaviour was .72 in the first half of interaction and .69 in the second half of interaction (Wilcoxon z = -.81, ns). This trend remained when the comparisons were made separately for Avoidance (z = -.28, ns) and Distributive (z = 1.2,
Character of the Triple-Interact

$n$s) behaviour. Similarly, the conditional probability of triple-interacts from successful negotiations being associated with Integrative behaviour was .40 in the first half of interaction and .46 in the second half of interaction (Wilcoxon $z = -1.2, p > .05$).

Tables 7.3 and 7.4 confirm that the endings of the most frequent triple-interacts in successful negotiation are associated with a much greater shift from competitive to cooperative behaviour over time. Specifically, the proportions of cooperative behaviours associated with the most frequent ending of the triple-interact were .00 for the first time period and .22 for the second time period of unsuccessful negotiations (an increase of .22), and .44 for the first time period and .78 for the second time period of successful negotiations (an increase of .34). However, this move towards cooperative behaviour is less evident when considering the proportion of cooperative behaviours that occur in the three most frequent exits. The proportion of cooperative behaviours in unsuccessful negotiations changed from .30 in the first time period to .33 in the second time period (an increase of .03), while for successful negotiations it changed from .56 in the first time period to .63 in the second time period (an increase of .07).

7.5.6 Hypotheses 6: Outcome and the behavioural motivation of triple-interacts

Using the time-specific matrices to calculate the conditional probabilities of instrumental or expressive behaviour revealed mixed support for the predicted changes in motivational focus across successful and unsuccessful negotiations (H6a and H6b). Specifically, there was no support for the prediction that successful negotiations focus on expressive issues during the first time period (H6a). The average proportion of triple-interacts that ended with a focus on expressive issues was .80 in unsuccessful negotiations and .72 in successful negotiations (Mann-Whitney $U = 79.0, z = -.89, p >$
.05). In contrast, there was significant support for Hypothesis 6b that the second half of successful negotiations would be associated with more frequent use of triple-interacts that address instrumental issues. The average proportion of triple-interact that ended with a focus on expressive issues was .30 in unsuccessful negotiations and .37 in successful negotiations (U = 55.0, z = -1.98, p < .05).

Table 7-3 and Table 7-4 provide some insight into the mixed support for the predicted changes in motivation focus. In examining the most common ending, there is little evidence of a different focus across unsuccessful and successful negotiations. Both groups overwhelmingly focus on Relational behaviours during the first period of interaction and show a slight shift of emphasis to Instrumental behaviours during the second period of interaction. However, more distinct patterns of change are evident when considering the three most frequent exits. In contrast to Hypothesis 6a, it is unsuccessful rather than successful negotiations that show a greater focus on expressive issues during the first time period. This unexpected focus is the result of negotiators refocusing dialogue onto Identity issues. Consistent with Hypothesis 6b, however, the predicted increase in Instrumental behaviours during the second period of successful negotiations is the result of a reduced tendency to focus on Relational behaviours. This contrast with unsuccessful negotiations, which show an increase in the focus of Relational issues from the first to second time period.

7.6 Discussion

An increasingly popular area of research focuses on understanding how dynamic but organised sequences of cues and responses come together to form the interaction process. This Chapter sought to extend current understand by explicating one important component of this process, a cue-response-cue-response sequence known as the triple-
interact. To do this, the analysis moved away from the commonplace approach of observing the triple-interact under different conditions of an independent variable (e.g., individual differences), and instead focused directly on the types of cue-response relations that construct the sequence. By bringing together the established concepts of orientation and framing (Drake & Donohue, 1996; Kelley, 1997), it was possible to develop a very simple, yet adequate, differentiation of the different ways in which cue-response sequences move an interaction forward. Using these distinctions, analysis demonstrated for the first time predictable patterns in two separate aspects of the triple-interact; one at the generic level in terms of the frequency of the different types, and one at the behavioural level in terms of differences in the cues and responses used to construct the sequences over time and across outcomes.

7.6.1 The Types of triple-interact

At the generic level, the Chapter showed that dependencies among communication behaviours in 29 conflict negotiations were adequately modelled by four types of triple-interact (reciprocation, reorientation, reframing, and restructuring). Each of these types changed the current state of affairs of an interaction in the sense that it either advanced negotiators through the bargaining process or realigned their perspectives about the issues important to discussion. By conceptualising triple-interacts at this generic level rather than in terms of absolute behaviours, it was possible to demonstrate that simple patterns underlie what is traditionally viewed as a complex set of interrelations. Specifically, negotiators used the four types of triple-interact in remarkably stable and consistent ways, despite the negotiations dealing with a diverse number of issues and relational dynamics. In order of decreasing frequency, negotiations involved reciprocating sequences, then exchanges that reoriented the interaction, then
those that reframed the interpersonal perspective, and lastly those that changed the entire focus of dialogue. The consistency of this patterning in occurrence suggests that the conceptual dimensions underlying the four types (interpersonal orientation and framing theories, Drake & Donohue, 1996; Kelley, 1997) represent important distinctions for understanding the way a negotiator organises his or her responses. Indeed, these distinctions form the basis of an initial theoretical framework for understanding the functions of the triple-interact, and for examining systematically the ways negotiators use communication behaviours.

Perhaps more interestingly, the use of different triple-interacts was not found to vary significantly over time or across negotiation outcomes. This suggests that generic triple-interacts form a stable interpersonal framework or architecture which remains fairly stable across a variety of negotiation settings. According to the current results, underlying the complex behavioural dynamics that characterise negotiation is a simple set of sequences or “local-contexts” (Kelley, 1997) that occur more or less in the same way. Should these types of sequences be found consistently over replications with different samples of variables (and across different transcripts), then it might be inferred, by way of generalization, that the negotiation process itself is built on these units. This would represent important progress in negotiation theory because it would begin to uncover the organization of the interaction process in a way that was independent of the behaviours or coding scheme examined. Such findings would pave the way to more general and elegant theories of communication behaviour.

7.6.2 The behavioural content of the triple-interact

Analyses at the behavioural level showed a completely different picture to that for the generic triple-interacts. Specifically, compared to unsuccessful negotiations,
successful negotiations were associated with triple-interacts that more frequently ended in Integrative behaviour, less frequently ended in Avoidance or Distributive behaviour, and more frequently focused on Instrumental behaviour during the second half of interaction. These findings will not come as a great surprise to communication researchers, since they correspond with the major findings of behavioural differences in aggregate analyses of negotiation (e.g., Olekalns, Smith, & Walsh, 1996). However, such a correspondence is not trivial, because it provides initial support for the largely untested assumption that aggregate differences accurately reflect differences in localised patterns of cues and responses. Such connections are not inevitable (Olekalns & Smith, 2003), and provide important insights into the generalisability of existing research and theory.

The implication of finding that the progress of interaction is dependent on the behavioural content of the triple-interact but not the generic type of triple-interact is that these two aspects of behavioural sequences have very different roles in the negotiation process. This argument is consistent with Olekalns and Smith’s (1999) proposal that simple frequency effects (i.e., what behaviours occur) are a sufficient mechanism for transforming interaction, and that the principle role of strategic sequences (i.e., different types of sequences) is tightly bound to the micro-processes of goal management. The generic triple-interacts shape the way in which negotiators move through issues, and the current findings suggest there is some consistency to the way this is done. However, the outcome of such microprocesses seems to be tied to the behaviours that negotiators use. Consequently, further research aimed at understanding the behavioural aspects of the triple-interact is theoretically important for gleaning a clearer picture of how negotiators strategically manage their goals (Olekalns & Smith, 2003). However, such research also has practical implications in terms of uncovering the types of cue-response sequences.
negotiators should rely on to improve the probability of negotiation success (Touval & Zartman, 1989).

7.7 Conclusions

Overall, the results of this study demonstrate that simple sequences of cues and responses, occurring in the form of triple-interacts, underlie what is traditionally seen as a complex and dynamic process. By distinguishing between the generic form and behavioural content of the triple-interact, the Chapter provided initial evidence that two very different processes contribute to the way in which the triple-interact organises interaction. At the generic level, conflict negotiations are organized by four different types of triple-interact whose occurrence is remarkably consistent over time and across different settings and outcomes. At a behaviour level, negotiators in conflict show systematic differences in their behaviour use that dramatically affect the progress and outcome of interaction. These findings emphasise the need for future work to clearly distinguish hypotheses relating to the generic form and behavioural content of the triple-interact.
Chapter 8

The Triple-interact as a Locus of Consistency in Intra-individual Behaviour

Overview

This Chapter examines whether the consistency of negotiators’ behaviour observed on different occasions is dependent on the similarity of the situation (conditional account) or the composition of past behaviours (interact account). Predictions from these accounts were tested using data of cue-response sequences from 11 negotiators across an average of 3 interactions. Consistent with the interact account, results showed that negotiators respond consistently to groups of preceding behaviours irrespective of the context of interaction. Further analyses revealed no differences in behavioural responses to the triple-interact (4-behaviour sequence) across diverse interpersonal situations. In particular, there was no evident difference between within- and cross-situation consistency coefficients, implying that situational contingencies vanish when sufficient previous behaviours are taken into account. The possibility that previous evidence of person-situation interaction may be reinterpreted parsimoniously as the result of differences in the cue-response sequences encountered leads to an interesting resolution of the consistency paradox, which is discussed.
Chapter 8

The Triple-interact as a Locus of Consistency in Intra-individual Behaviour

Social scientists have long been interested in explaining the factors that mediate the consistency versus diversity of an individual’s behaviour on different occasions (Allport, 1937; Gottman, 1979). In response to findings of low behavioural consistency across different situations, most psychologists have adopted a conditional account that posits distinctive but predictable behaviour across different types of interpersonal situation (Shoda, Mischel, & Wright, 1994). From the conditional perspective, an individual may respond differently to events that vary in pertinent features (e.g., nominal context, interactant role), but they will act consistently when observed under these same conditions on two separate occasions. However, this model of individual functioning is less favoured in the communication literature where evidence of stable connections among sequences of acts has often led to the proposal that an individual responds consistency to specific groupings of previous behaviours (Taylor & Donald, in press). The implication of this interact account is that behavioural consistency depends only on the composition of previous acts, irrespective of other situational features. This Chapter discusses and compares the conditional and interact accounts, and presents an initial test of their predictions.

8.1 Explaining Behavioural Consistency: The Consistency Paradox

Both the conditional and interact accounts of behavioural consistency have their origins as explanations of the “consistency paradox” (Bem & Allen, 1974): the contradiction between the widely held intuitive belief that individuals are characterised by dispositions that lead them to act consistently across situations, and the inability to
find evidence of such stability in behaviour (Mischel, 1968; Rubin & Brown, 1975). The conditional account originated in psychological research, where the consistency of individuals’ behaviours measured over different situations was repeatedly found to be above zero but low in magnitude (Epstein & O’Brien, 1985; Mischel & Peake, 1982; Snyder & Ickes, 1985). A number of explanations have been put forward for these findings, including the possibility that they result from poor measurement or that they reflect the futility of predicting behavioural consistency in the first place (see Shoda, 1990). However, by far the most positive and theoretically constructive response has been the conditional approach, which seeks to better understand the conditions under which individuals might be expected to show consistency in their behaviour (Mintu-Wimsatt & Lozada, 1999; Nisbett & Ross, 1980; Shoda & Mischel, 1996).

In what might be considered a “parallel universe” of research (Shoda, 1990), the interact account emerged from communication scholars’ struggle to show consistency in the strategies and behaviours that negotiators use. As Lewicki, Saunders, and Minton (1999) summarise, after over three decades of studying individual differences in negotiation behaviour, the evidence accumulated by the communication field is at best “fragmented, contradictory, and difficult to apply in practical settings” (p. 353). However, unlike personality psychologists, communication researchers moved away from deliberately explaining the low-consistency in negotiators’ behaviour and focused instead on understanding the verbal dynamics that emerge over sequences of cues and responses. The result of this focus has been accumulating evidence that behavioural consistency emerges from a constraint process in which previous cues and responses narrow down the possible next moves (Auld & White, 1959; Watzlawick, Beavin, & Jackson, 1968).
8.1.1 The conditional account of consistency

The conditional account resolves the consistency paradox by proposing that individuals’ behavioural tendencies are situational-specific, manifesting as consistent but different responses based on pertinent features of the situation. An individual is expected to behave consistently when observed on two separate occasions, but only when these occasions involve the same situational features. For example, a negotiator in the situation of an equal payoff-matrix may typically reciprocate integrative messages with integrative responses. However, the same negotiator in the lower position of an unequal payoff-matrix may respond to integrative messages with distributive strategies in an attempt to change the power structure. Evidence to support such situation-behaviour relations has typically come from measures of consistency and their correlation with, for example, the similarity of situations faced by children during six weeks of observations at a child residential camp (Shoda, Mischel, & Wright, 1993, see also Gottman, Swanson, & Swanson, 2002; Shoda & Mischel, 1993). Results of studies almost always show a positive relationship between the similarity of the situations in which the individual was observed and the consistency of their behaviour. Individuals are more likely to use the same kind of behaviour in situations that are similar than they are in situations that are different.

One feature of the conditional account is that it incorporates both person and situation into a single account of behavioural consistency. In doing so, the account avoids treating situational factors as unexplainable variance and instead insists on explicit predictions about the types of situational differences that will affect behavioural consistency. The features proposed as important are collectively known as psychological features, and typically include a combination of overall setting (e.g., work or home), nominal situation (e.g., informal discussion or formal bargaining), the type of interactant
Consistency and Behavioural Sequences

(e.g., peer or adult), and the immediate behavioural cue of the other party (e.g., threaten or insult) (Cervone & Shoda, 1999; Shoda, Mischel, 1996). For instance, Shoda, Mischel and Wright (1994) distinguished among peer and adult interactants, the positive versus negative nature of the behaviour, and the exact quality of the behaviour (e.g., teased, provoked or threatened). Their findings indicate that having more of these situational ingredients in common over comparisons resulted in higher levels of behavioural consistency, thereby suggesting that each of these features is important to conditioning an individual’s behaviour. The important detail to notice about these psychological features is that they refer to immediate aspects of the situation, and not to the evolving character of the interaction built up over time.

8.1.2 The interact account of consistency

It is the evolving character of interaction over time that is proposed as the locus of behavioural consistency by the interact account. The account proposes that individuals’ respond consistently to particular groupings of cues and responses, where these set responses are generic enough to be useable over a range of different interactions. For example, after initially rejecting a demand made by the other party, a negotiator may respond positively to the subsequent suggestion of a compromise in order to maintain a degree of cooperation. However, the same negotiator may respond aggressively to the subsequent adjustment in message when the other party simply repeats their demand without any suggestion of compromise. Evidence of this channelling of behaviour comes primarily from analyses of the cue-response sequences found in coded transcripts of various kinds of interaction (Auld & White, 1959; Gouran & Baird, 1972; Penman, 1980). As described in Chapter 6, research has repeatedly found it possible to predict individuals’ final behaviour following a cue-response-cue-response...
sequence known as the triple-interact (Gottman, Markman, & Notarius, 1977; Mark, 1971; Cappella & Planalp, 1981; Olekalns & Smith, 2000; Watzlawick, Beavin, & Jackson, 1968; Weick, 1969). More importantly, as the analysis of Chapter 6 showed (see also Taylor & Donald, in press), the interact account proposes that individuals’ behaviour is not conditional on the immediate past behaviour (i.e., predictability is not improved) but rather is dependent on the collective character of behaviours within the triple-interact sequence. Consistency in negotiators behaviour manifests in the kinds of responses that they give to particular combinations of behaviours, where each combination may be associated with a different response.

Unlike the conditional account, the interact account views features external to dialogue (e.g., context or speaker) as playing only an indirect role in the organisation of negotiators’ behaviour. These features affect only the types of sequences encountered by a negotiator, and he or she would be predicted to respond consistently to a particular sequence of behaviours given any situation. In other words, the interaction context may affect the sequences of cues and responses to which a negotiator is exposed (and he or she may respond differently to these sequences), but when exposed to the same cue-response sequence in different situations the negotiator would be expected to respond consistently. Thus, rather than introduce situational differences as a second factor in an explanation of the consistency paradox (as done by the conditional approach), the interact explanation eliminates the need for a separate situation factor by recognising that information about context may be “embedded” in sequences of cues and responses. This explanation is consistent with data from a range of settings that show only a small proportion of behavioural variation may be accounted for by person or situation factors in comparison to that accounted for by previous behaviours (see Chapter 6 and Donohue, Hawes, & Mabee, 1981; Penman, 1980). Perhaps more interestingly, the interact account
Consistency and Behavioural Sequences

provides an alternative explanation for studies that show situations-specific consistency in behaviour. This evidence, originally used to support the conditional account, may be reinterpreted parsimoniously as the result of the fact that similar situations typically involve similar cue-response sequences. Because negotiators respond consistently to the same cue-response sequence, the similar situations appear to bring about the observed higher levels of consistency. For the interact account, however, it is negotiators’ unique responses to the various compositions of triple-interacts that leads to the higher observed consistency.

8.2 Relative predictions

The conditional and interact accounts provide some identical and some contrasting predictions regarding the locus of consistency in social behaviour. Both accounts regard behavioural consistency as occurring under conditions that are more specific than predicted by an aggregate trait model of behaviour. However, they disagree on whether these conditions are formed by differences in the pertinent features of situations (i.e., conditional account) or similarities in the behavioural makeup of past cues and responses (i.e., interact account). Guided by earlier efforts to study the conditional explanations (e.g., Shoda, Mischel, & Wright, 1993), this Chapter examines predictions from the accounts using consistency coefficients that were computed from behaviour observed on different occasions. In particular, the coefficients were used to investigate alternative hypotheses derived from the interact explanation, but by implication some of these predictions challenge the conditional account in the sense that supporting evidence would contradict the account’s expectations.

The initial focus of this Chapter is on the stability of behaviour within each negotiator. This is assessed by examining the distinctive ways in which negotiators’
behaviour varies across particular types of event. First, the analysis examined the prediction that a negotiator’s behaviour is determined by preceding behaviours beyond the immediate prior act. Specifically, it is hypothesised that there would be no significant difference in the consistency of negotiator’s behaviour when measured across nominal situations and the immediate interpersonal situation (i.e., 1-previous behaviour). In contrast, it is hypothesised that there would be significant increases in consistency coefficients when comparing the immediate interpersonal situation with behaviour following a particular 2-behaviour and 3-behaviour sequence.

Second, the analysis examined the possibility that negotiators respond consistently to particular sequences of preceding behaviours irrespective of situational factors. Namely, the analysis focused on whether negotiators varied their behaviour as a result of one salient situational feature, the other speaker, and tested the extent these speaker-dependent patterns in behaviour remained when examined under conditions of preceding behaviours. If situation-specific contingencies do vanish when sufficient previous behaviours are considered, then analysis would expect the consistency of negotiator’s behaviour towards different speakers to be a function of sequence length. Specifically, it is hypothesised that the difference between speaker-specific and speaker-independent consistency coefficients would vanish when considered in the context of the triple-interact (i.e., 4-behaviour sequence).

Finally, to test further the proposition that only previous behaviours are important to behavioural stability, the Chapter examines the implications of the interact account for a nomothetic analysis of cross-situational consistency. Specifically, the constraining process that is expected to generate stable behaviour use within a negotiation is also hypothesised to generate consistent behaviour use between situations to the extent that situational differences are irrelevant to the ways that negotiators’ behave. If individuals’
respond to behavioural sequences consistently irrespective of situation, then we should observe increasing cross-situation consistency as the behavioural sequences to which individuals respond are lengthened. This would be evidenced by the degree of cross-situational consistency converging to that of within-situational consistency as a function of the number of previous behaviours considered. Convergence in these statistics would suggest that factors outside of the sequence play no role in determining how individuals act.

8.3 Method and Analysis

8.3.1 Negotiation data

Data were transcripts of 28 conflict negotiations selected on the basis that they involved extensive dialogue by 9 negotiators. Nineteen of the interactions were from the divorce mediation data (see Section 2.1.3 p. 24) and were conducted by one of six mediators. The remaining nine sessions were taken from the simulated hostage negotiation data (see Section 2.1.2 p. 22), where one of three speakers acting as hostage takers interacted with a number of trainee police negotiators. Combining these types of crises was necessary to provide sufficient data for analysis, but it is also theoretically justified given the evidence showing that both types of conflict involve similar patterns of behavioural dynamics (see Chapters 4 and 5). Of the 9 negotiators, 2 conducted two negotiations, 5 conducted three negotiations, 1 conducted four negotiations, and 1 conducted five negotiations. Each negotiation provided an average of 52.2 utterances ($SD = 24.6$, Range 17 – 103) that served as observations of behaviour for the analyses.
8.3.2 Transcript coding procedure

Previous research has identified a number of constructs that shape communicative interaction (e.g., relational, Donohue & Hoobler, 2002; identity, Rogan & Hammer, 1994) and it is possible that negotiators will demonstrate different patterns of consistency on each of these dimensions. To avoid confounding measures of consistency with the interrelationships among these dimensions, the dialogue was coded using the distinctions of only one widely-accepted dimension. Specifically, in order to maintain continuity with previous analyses, the coding differentiated behaviours according to the Level of interaction facet. This facet is fundamental to the structure of behaviour as established in Chapters 3, 4 and 5, and is also central to a wide range of negotiation research (Donohue & Roberto, 1996; Taylor, 2002a; Weingart, Prietula, Hyder, & Genovese, 1999) and associated classification schemes (Donohue, Diez, & Hamilton, 1984; Putnam & Jones, 1982; Sillars, Coletti, Parry, & Rogers, 1982).

Briefly, the Level of interaction facet differentiates three types of behaviour: Avoidance, Distributive and Integrative. Avoidance behaviours are characterised by messages that combine direct and subtle withdrawal from dialogue with a refusal to accept responsibility for or even knowledge of the interaction (Donohue, 1998; Sillars et al., 1982). Distributive behaviours, in contrast, have an aggressive orientation that involves attacking the other party’s position or credibility (e.g., demands, personal attacks) while simultaneously restoring a personal position through self supporting messages such as positional arguing and boasting (Wilson & Putnam, 1990). Finally, Integrative interactions are characterised by negotiators expressing a concern for their own and the other party’s goals through prosocial behaviours such as a willingness to make concessions, expressions of confidence in the other’s ability, and efforts to build
relationships (Donohue & Roberto, 1996; Olekalns & Smith, 2000; Putnam & Jones, 1982).

This modified coding scheme was implemented using a similar procedure to the one described in Chapter 2. The transcripts were initially divided into thought units (Gottman, 1979) to enable the subsequent coding to capture the use of single behaviours (see Section 2.2.2, p. 34). These thought units were then coded as they occurred in the sequential flow of dialogue as either Avoidance, Distributive, or Integrative behaviour. During the coding, a fourth Functional category was also used to capture those aspects of dialogue that contain no objective psychological information and act as the building blocks of interaction. These included explicative acknowledgements or interjections (e.g., “uh-huh”), initiations and salutations (e.g., “bye-bye”), and questions or answers that facilitated either conversational turn taking (e.g., “nah, really?”) or basic information exchange (e.g., “could you say that again?”). However, in accordance with previous analyses (Chapters 3 to 7, Donohue & Roberto, 1996; Olekalns & Smith, 2000), these thought units were excluded from subsequent analysis because their role in shaping negotiation is not well understood and is most likely to be indirect. The inclusion of these units is likely to reduce the ability of analysis to identify the consistencies in negotiators’ behaviour.

Reliability of the coding was assessed by having three raters code 60 thought units from the divorce mediations. The reliability of coding, measured at the thought unit level with Cohen’s Kappa (Cohen, 1960) was .77 (Range = .72 – .85) with 85% for the first coder, .70 (Range = .66 – .75) with 80% for the second coder, and .80 (Range = .73 – .86) with 87% for the third coder. Inter-coder agreements were .75 (83%, Range = .71 – .81) between the first and second coder, .73 (82%, Range = .64 – .81) between the first and third coder, and .60 (73%, Range = .55 – .64) between the second and third coder.
The fact that Kappa was above .70 for all but one of the comparisons suggests a very good level of coding reliability (Fleiss, 1981).

8.3.3 Conditional probabilities of behaviour

The conditional probabilities of behaviours were based on the frequency of occurrences of the three types of behaviour described above, observed within the thought units of a single utterance. For example, if an utterance contained 10 thought units and 7 of these were coded as Integrative behaviour, then a probability of 0.7 would be associated with Integrative behaviour. The term context is used for the conditions under which the probabilities were calculated, and these varied depending on the hypothesis being tested. For each occurrence of a particular context, the probabilities of the behaviours within the sequence were used to calculate the conditional probability of an Avoidance, Distributive, and Integrative behaviour occurring following that context of previous behaviours. For example, to test the consistency of behaviour under the context of a single preceding behaviour, the frequency with which a negotiator used Avoidance, Distributive or Integrative behaviour following an occurrence of Avoidance, Distributive or Integrative behaviour was used as the basis of calculating the conditional probabilities. Therefore, for this example, because each of the three cues could precede Avoidance, Distributive or Integrative response, a total of nine conditional probabilities were calculated.

To compute conditional probabilities of negotiators’ behavioural responses in each context reliably, it was necessary that the available data were sufficient to allow different patterns of behaviour to be observed if negotiators used them. The transcripts provided a total of 4272 observations, which would theoretically enable each combination of preceding behaviour to be observed an average of 50.9 times in each
transcript. However, consistent with previous research (Taylor & Donald, in press), there existed constraint in the way negotiators’ communicated such that not every combination of behaviours occurred in each negotiation. This resulted in some types of sequences having fewer observations available to them than other types of sequence. Specifically, for each transcript, each preceding 1-behaviour sequence was observed an average of 23.3 times (SD = 6.4), each preceding 2-behaviour sequence was observed an average of 10.7 times (SD = 3.0), and each preceding 3-behaviour sequence was observed an average of 5.02 times (SD = 1.9). Thus, data on negotiators responses to sequences of previous behaviours were available for an average of at least 5 occasions.

8.3.4 Assessing the stability of negotiator behaviour

As shown in Table 2-2 and Table 2-3, the negotiations differed considerably in length and consequently the number of observations from them. If all available observations were averaged within each negotiation to form a composite, such a composite would reduce the fluctuation in behaviour to a different degree. That is, a higher degree of error reduction would be possible in conditions for which many observations were available than in conditions with only a few observations. Consequently, if analyses were computed between averages of all available observations, then two negotiations with more observations (hence less “error” in the aggregate) would necessarily yield higher consistencies scores regardless of their actual similarity. To avoid this potential source of confounding, in each of the analyses described below, a small but equal number of observations were randomly sampled from each negotiation so that the degree of error reduction remained comparable for each negotiation.
Assessing the Stability of Intra-individual Profiles

To test the stability with which a given type of behaviour was used in response to a set of conditions, the occurrences of behaviours from each negotiation were used to form two sets of observations. Specifically, for each negotiation, the probability of Avoidance behaviour being used in response to a condition (e.g., 2-behaviour sequence Avoidance-Avoidance) was aggregated over five separate, randomly-selected occasions. This was then repeated for the other possible conditions, and the resulting conditional probabilities used to form an intra-individual “profile” for the use of Avoidance behaviour. However, using the absolute probabilities in these profiles would be to incorporate the differences among conditions in how people behave in general, and so obscure patterns specific to the speaker. For example, negotiators are typically far more likely to use Integrative behaviour in responding to an Integrative cue than they are when responding to an Avoidance cue (see Chapter 6; Putnam & Jones, 1982). Therefore, to examine the aspect of behaviour variation that is distinctive for each negotiator, the mean (normative) profile observed across the negotiators was subtracted from each of the individual profiles, and the results rescaled using as units the standard deviations of the behaviour within each condition. In short, a negotiator’s distinctive profile of behaviour variability across conditions was captured using z-scores computed across the negotiations. This method was repeated for Distributive and Integrative behaviour to produce intra-individual profiles for these behaviours in each negotiation.

Since each negotiator conducted more than one negotiation, it was possible to compare the stability of the profiles for Avoidance, Distributive, and Integrative behaviour over different interactions. For example, if a negotiator conducted three negotiations, it was possible to compare the behavioural profiles taken from one negotiation to the profile computed from the second and third negotiation. To compare
the profile for a particular behaviour, the similarity of the “shapes” of the two profiles was measured using an ipsative correlation coefficient, computed for each individual separately, with the various conditions as the units of analysis. For example, if a negotiator’s behaviour profile for responses to an immediate preceding behaviour in one negotiation was [0.5, 1.5, -2.0] and the profile for a second negotiation was [0.0, 1.0, -1.0], the correlation between the two would be 1.00. In this example, both profiles indicate that the standardised (i.e., relative to the situational norm) behaviour probability was highest when responding to Distributive behaviour, followed by Avoidance and then Integrative behaviour. The stability coefficient of 1.00 indicates that the intra-individual rank order of conditions was preserved perfectly across the two negotiations. In contrast, if the profile from the second negotiation was [-0.5, -1.5, 2.0], it would indicate a complete reversal of the intra-individual rank ordering of the conditions, and the profile stability correlation would be -1.00.

Assessing Within- and Cross-Situational Consistency in Behaviour

As noted in the introduction, a prediction of the interact account is that negotiators’ will respond identically to a particular behavioural sequence irrespective of other situational factors. To test this prediction it is necessary to show that consistencies calculated within the same situation and across different situations converge as the relevant probabilities are conditioned on more previous behaviours. For this purpose, the consistency of negotiator’s behaviour within a particular interaction was compared with the consistency of their behaviour across different interactions in which they were involved. To assess the consistency of behaviour within particular situations, for each transcript, the mean behaviour over five randomly sampled occasions from a given situation category (e.g., Integrative) was matched with the mean behaviour over five
other occasions from the same situation. These scores were then correlated across the 21 transcripts using Pearson’s $r$ to produce a measure of within-situational consistency. By comparing the scores from one transcript to those of the other transcripts involving the same speaker, it was possible to compute a similar index of cross-situational consistency. Specifically, for each negotiator, the mean behaviour (over five randomly sampled occasions) in one negotiation was separately matched with their mean behaviour (over another randomly sample of five occasions) in each of the other negotiations in which they participated, and a correlation was computed across the negotiators.

To minimise the chance associations present in any specific selection of observations, and to reflect the available data fully, this procedure was repeated 100 times. The hypotheses were then tested on the average within- and cross-situational consistency computed using Fisher’s $r$-to-$z$ transformation. This approach, introduced by Shoda, Wright, and Mischel (1994), recognises that average correlations are less subject to the sampling error associated with the random grouping of five behaviours. The resulting average correlations should represent more stable measures of consistency whose standard error is smaller than is expected for a single correlation. If the 100 iterations had been taken from independent samples, then it should be possible to compute the expected standard error of the mean coefficient following the central limit theorem. However, the 100 iterations do not constitute independent samples, and therefore it is not possible to compute estimates of the standard error by simply applying the theorem, which assumes independence of sampling. Therefore, a bootstrapping procedure was used, whose method and theoretical rationale are described elsewhere in detail (Efron, 1985; Efron & Tibshirani, 1986).

Briefly, this computation-intensive, nonparametric method of estimating standard errors involved drawing random samples from the data pool of 100 correlations and
computing the mean correlation coefficient in each random sample. Each of the samples drawn contains the same number of observations as the original data pool but they do not necessarily contain the exact same values. This is because the bootstrap procedure samples with replacement; an observation is replaced back into the data pool once sampled so that it may be chosen again. Consequently, the exact composition of a random sample can vary, with some observations being represented multiple times and other observations not being represented in the sample. The distribution of the random samples’ mean coefficient provides an estimate of the sampling distribution. The correlations reported in Table 8-2 are based on 1,000 such random samples.

8.4 Results

Table 8-1 presents the consistency coefficients for intra-individual profiles calculated for the contexts of 1, 2, and 3 previous behaviours. The first of the two columns of coefficients calculated for each behaviour (labelled NSS) reports the average consistency of a negotiator’s responses to previous utterances regardless of the identity of the previous speaker. The second speaker-specific columns (labelled SS) give the average consistency coefficients for negotiator’s responses to previous utterances of the two possible previous speakers (i.e., police negotiator or third party, husband or wife). The z-scores in the third column of each type of response behaviour give an indication of the differences between the speaker-independent and speaker-specific consistency coefficients. The z-scores given in the second half of Table 8-1 show the extent to which the consistency coefficients differ across the various contexts of previous behaviours.

For example, the first column of the row “z (1- vs. 2-behaviour)” reports for Avoidance behaviour a z-score of the differences in mean consistency following each 2-behaviour sequences (.58) and following each 1-behaviours sequence (.29).
Table 8-1.

<table>
<thead>
<tr>
<th>Context</th>
<th>Avoidance</th>
<th></th>
<th>Distributive</th>
<th></th>
<th>Integrative</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SI</td>
<td>SS</td>
<td></td>
<td>SI</td>
<td>SS</td>
<td></td>
</tr>
<tr>
<td>Situation</td>
<td>.38</td>
<td>.53</td>
<td>1.04</td>
<td>.46</td>
<td>.53</td>
<td>0.49</td>
</tr>
<tr>
<td>1-Behaviour (t-1)</td>
<td>.29</td>
<td>.44</td>
<td>1.04</td>
<td>.39</td>
<td>.48</td>
<td>0.63</td>
</tr>
<tr>
<td>2-Behaviour (t-2)</td>
<td>.58</td>
<td>.63</td>
<td>0.35</td>
<td>.56</td>
<td>.65</td>
<td>0.63</td>
</tr>
<tr>
<td>3-Behaviour (t-3)</td>
<td>.71</td>
<td>.76</td>
<td>0.35</td>
<td>.73</td>
<td>.78</td>
<td>0.35</td>
</tr>
</tbody>
</table>

z (Situation vs. 1-beh) | -0.63 | -0.63 | -0.49 | -0.35 | -0.49 | -0.70 |
| z (1- vs. 2-behaviour) | 2.01  | 1.32  | 1.18  | 1.18  | 1.32  | 1.18  |
| z (2- vs. 3-behaviour) | 0.91  | 0.91  | 1.18  | 0.91  | 0.70  | 0.49  |
| z (Overall 1- vs. 3-beh) | 9.38  | 7.14  | 7.59  | 6.70  | 6.47  | 5.36  |

NOTE: SI = Speaker-independent (Context not conditional on speaker)
      SS = Speaker-specific (Context conditional on speaker).

Correlations in the three speaker-independent (NS) columns of Table 8-1 test the hypothesis that additional previous behaviours are associated with the consistency of negotiators’ responses. Consistent with Hypothesis 1, these correlations show no increase in consistency between coefficients based on nominal situations (i.e., Situation) and those based on the immediate preceding behaviour (i.e., 1-Behaviour). Rather, in support of Hypothesis 2, the correlations indicate that negotiators’ use of Avoidance, Distributive and Integrative behaviour is far more consistent under the condition of the triple-interact (i.e., 3-Behaviour) than it is under the condition of a single previous behaviour. Specifically, the consistency of negotiators’ behaviour increased from an average of .38 under the context of one previous behaviour to an average of .73 when under the context of three previous behaviours. As suggested by the relevant z-scores, the correlations between adjacent contexts suggest large positive rises in consistency as previous behaviours are considered, with the overall increase between 1-behaviour and
3-behaviour sequences being highly significant. These findings therefore support the prediction that negotiators’ give consistent responses to sequences of previous behaviours.

Comparing the correlations in the speaker-independent (NS) columns to those in the speaker-dependent (S) columns of Table 8-1 enables a test of the Hypothesis 3 that negotiators differentiate their responses by previous behaviours and not by speaker. First, as would be expected, the consistency coefficients for speaker-specific comparisons show the same pattern of increase as observed for the speaker-independent values, but with slightly higher averages (i.e., .48 to .77). However, consistent with the hypothesis, the difference between speaker-independent and speaker-specific consistencies in each context reduces as additional behaviours are considered. At the point of the triple-interact, there exists virtually no difference between the two correlations, suggesting that negotiators’ respond to a particular sequence consistently irrespective of who is being spoken to (All z-scores < 0.35).

Examining Hypothesis 4, Table 8-2 shows the mean within- and cross-situational consistencies for 1-, 2- and 3- behaviour sequences as a function of Avoidance, Distributive and Integrative behaviour. As can be seen from Table 8-2, negotiators generally showed higher levels of within-situation consistency (Mean = .57) than they did cross-situation consistency (Mean = .40), indicating that the observed situations were functionally different to some extent. However, more importantly, movement down the Table to consider more previous behaviours results in a reduction in the level of difference between the within- and between-situation consistencies. While the within-situation consistencies stay relatively constant across the comparisons, the between-situation consistencies increase monotonically until the point of the triple-interact, where the difference between the two consistency scores vanish.
Table 8-2.
Mean Consistency Correlations Calculated Within the Same Negotiation and Across Different Negotiations.

<table>
<thead>
<tr>
<th>Behaviour Type</th>
<th>Previous Behaviour</th>
<th>Within-situational</th>
<th>Between-situational</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avoidance</td>
<td>None</td>
<td>.82</td>
<td>.31</td>
<td>.51</td>
</tr>
<tr>
<td></td>
<td>1-behaviour</td>
<td>.68</td>
<td>.47</td>
<td>.21</td>
</tr>
<tr>
<td></td>
<td>2-behaviours</td>
<td>.53</td>
<td>.48</td>
<td>.05</td>
</tr>
<tr>
<td></td>
<td>3-behaviours</td>
<td>.54</td>
<td>.56</td>
<td>-.02</td>
</tr>
<tr>
<td></td>
<td>None</td>
<td>.67</td>
<td>.29</td>
<td>.38</td>
</tr>
<tr>
<td>Distributive</td>
<td>1- behaviour</td>
<td>.66</td>
<td>.31</td>
<td>.35</td>
</tr>
<tr>
<td></td>
<td>2- behaviours</td>
<td>.56</td>
<td>.34</td>
<td>.22</td>
</tr>
<tr>
<td></td>
<td>3-behaviours</td>
<td>.37</td>
<td>.41</td>
<td>-.04</td>
</tr>
<tr>
<td></td>
<td>None</td>
<td>.48</td>
<td>.37</td>
<td>.11</td>
</tr>
<tr>
<td>Integrative</td>
<td>1- behaviour</td>
<td>.59</td>
<td>.40</td>
<td>.19</td>
</tr>
<tr>
<td></td>
<td>2- behaviours</td>
<td>.45</td>
<td>.43</td>
<td>.02</td>
</tr>
<tr>
<td></td>
<td>3-behaviours</td>
<td>.46</td>
<td>.43</td>
<td>.03</td>
</tr>
</tbody>
</table>

8.5 Discussion

This Chapter has shown how consistent responses to previous sequences of behaviours could account for the well known consistency paradox: the inability to find convincing evidence of the widely expected cross-situational consistency in behaviour (Bem & Allen, 1974). In comparison to the conditional explanation, which predicts distinct but predictable patterns of behaviour variation across particular psychological situations, this Chapter outlined an “interact” explanation that views consistency as emerging from stable responses to behavioural sequences irrespective of other situational differences. This account solves the consistency paradox not through differentiation of
potential situational features, but by providing a more detailed theory of how aspects internal to the interaction process come together. The interact explanation was tested within the methodological framework of previous studies of the conditional account, thereby providing a sketch for more detailed and illuminating research into the locus of consistency.

The essence of the interact account is that underlying dispositions generate stable but discriminative patterns of behavioural responses that depend on the character of preceding behaviours. Consistent with this prediction, the intra-individual analysis showed that the negotiators in the present sample were characterised by distinctive and predictable patterns of behaviour variation across different sequences of preceding behaviours. Specifically, the pattern of consistency that emerged was similar to the findings of Chapter 6, with immediately preceding behaviours playing an insignificant role in individuals’ functioning, while the double- and triple-interact played a significant role in determining behaviour. Certainly, the behavioural coherence observed for the immediately preceding behaviours (average $r = .38$) were similar to that found in previous studies in which this behaviour is seen as a situational feature (cf. Shoda, Mischel, & Wright, 1994). But, this coefficient becomes trivial when compared to the remarkably high levels of stability found in negotiator’s responses to particular cue-response sequences over repeated occasions.

A second implication of the interact account is that other features of the interpersonal situation, such as nominal context or interactant role, have little impact on the consistency of negotiators’ behaviour. Consistent with this prediction, this Chapter presented two separate kinds of evidence that demonstrated the possibility of achieving high levels of behavioural consistency across situations with dissimilar features. At the ideographic level, variations in the identity of the other person interacting (e.g., husband
or wife) were shown to be irrelevant to the value of consistency coefficients calculated while taking into account three previous behaviours. At the nomothetic level, differences between within- and cross-situational consistencies were found to reduce as previous behaviours were taken into consideration. At the point of a 4-behaviour sequence (i.e., triple-interact), there was no evident difference between within- and cross-situation consistency, implying that situational contingencies vanish when sufficient behavioural constraint in taken into account. Differences in consistency coefficients across these comparisons has been used previously as evidence for the conditional account (Shoda, Mischel, & Wright, 1993), but these findings highlight the possibility that this support was an artefact of not considering the process of interaction to sufficient depth.

The possibility that previous evidence of stable behaviour may be reinterpreted parsimoniously as the result of differences in the cue-response sequences encountered leads to an interesting resolution of the consistency paradox. Rather than incorporate situation-specific dependencies as part of an individual’s functioning, differences among situations become embedded in the observable patterns of behavioural sequences. By removing the dichotomy between situational features and individuals behaviours, it is, for example, no longer necessary to discriminate among situational and behavioural units and speculate on how this may materialise in the brain (Shoda, Tiernan, & Mischel, 2002). At a technical level, removing the dichotomy does away with the need to group “similar” situations or predict the number and type of psychological features (and consequently number of situational profiles) that individuals choose between when reacting to a situation. These tasks introduce considerable complexity and are fraught with difficulties (Krahe, 1990; Magnusson, Grezen, & Nyman, 1968). The problem relates to the potential of identifying an infinite number of situational features, or at least not knowing when all features have been accounted for, and it is sometimes difficult to
conceive how individuals genuinely discriminate among the myriad of psychological features and nominal situations. In contrast, the interact explanation predicts only a finite number of states whose maximum is defined by the possible permutations of a finite sequence of a four behaviour sequence (i.e., the triple-interact).

8.6 Conclusions

This Chapter has shown how considering small sequences of previous behaviours leads to very high levels of behavioural consistency and a reduction in the importance of person-situation interaction. The interact explanation could provide an alternative to the popular conditional picture of individual functioning, and furthermore eliminate the need to define “prototypical situations” or “salient psychological features”. However, evidence to distinguish clearly between these two explanations and the locus of behavioural consistency that they predict is not readily available, and one purpose of this Chapter is to stimulate further work. At a fundamental level, such research will expand understanding of the social-cognitive theory of behaviour, allowing researchers to state in more concrete terms the exact nature of mediating cognitions and their contributions to interpersonal interaction.
Chapter 9

Toward a Unified Analysis of the Organisation of Communication Behaviour

Overview

This Chapter presents an empirical test of the relationship between the organisation of cue-response sequences (Chapters 6 to 8) and the conceptual structure of communication behaviour (Chapters 3 to 5). A family of proximity coefficients are proposed that take the form of traditional coefficients but measure the interrelationships among behaviours based on only their intrinsic organisation within a sequence. Results of a non-metric multi-dimensional scaling solution provide clear support for the cylindrical structure of communication behaviour predicted by both previous theory and the findings reported in previous Chapters. Further comparisons indicate considerable variable- and case-wise variation in the proximity coefficients, suggesting the measure might provide a useful method for identifying differences across speakers, sub-sequences, and contexts. The relationship of the coefficients to gamma and phase analyses of sequence data, and the implications for future research, are discussed.
Chapter 9

Toward a Unified Analysis of the Organisation of Communication Behaviour

While psychologists generally assume that complex sequences of cues and responses underlie the differences observed over independent variables and dimension of communication, few studies have explicitly tested for a connection between local dynamics and the global aggregate (Taylor & Donald, in press). Probably this neglect reflects not a lack of interest but an absence of appropriate method and theory for studying the global interrelationships among negotiators’ immediate behavioural choices. As noted by Olekalns and Weingart (2003), a clear theory about how local dynamics lead to the global similarities and differences observed in behaviour is essential if researchers are to build a detailed knowledge of the negotiation process. This Chapter addresses this need by developing the theoretical rationale and algebraic structure of a new family of “proximity” coefficients. The coefficients are free from typical and often misleading statistical assumptions (e.g., “normality” of distribution), and provide an efficient use of data that facilitates comparisons among transcripts, across speakers, and across time periods.

9.1 Background and Significance

Studies attempting to uncover consistencies in interpersonal behaviour and their relationship to psychological characteristics have typically tested predictions using three sequential stages of analysis (Rubin & Brown, 1975; Taylor, 2002a). This process is shown as movement down Figure 9-1, with different methods being used to i) convert dialogue into a single time-ordered sequence of (coded) behaviours ii) measure the
interrelationships among behaviours in the sequence, and iii) represent these interrelationships in a form that enables a hypothesis to be tested. Of these stages, the coding of discourse into sequence data (Stage 1) may be resolved by using well known classification methods, while both graphical and statistical techniques are widely available for the representation of the relationships among sequence elements (Stage 3).

In contrast, there has been no standard approach to measuring the interrelationships among behaviours in an interaction sequence (Stage 2). One popular way of handling this problem is to form a series of smaller sub-sequences in which the relative co-occurrence of two behaviours is measured using an association coefficient (e.g., the episode divisions used in Chapters 3 to 5). Other methods, such as phase analysis, consider two behaviours as related if they form part of an uninterrupted sequence of behaviours (the length of which is pre-defined) whose substantive function is constant (Holmes, 1992). These methods, therefore, work indirectly through the imposition of extrinsic criteria on the sequence, even though such interventions can only move analyses away from the true dynamics of negotiation. Perhaps more importantly, the
output of these methods typically depends on the length of the sequence being examined, making them an inconsistent estimate of the relationships among behaviours in a sequence. Thus, although existing methods yield useful results, the relative value of a study’s findings and conclusions will always depend on the tolerance of data to the various assumptions of the method. This is problematic since the research framework shown in Figure 9-1 operates in a sequential fashion, making the entire process reliant on the adequacy of the method used at Stage 2.

This Chapter is devoted to presenting and implementing one of a family of coefficients that express the interrelationships among two types of behaviour as a direct function of their relative placements in a sequence. A sequence is defined as a single stream of observations (e.g., A..B..A..B..A..B..C..C..D..) in which different behaviours (e.g., A, B, etc.) may occur rarely or frequently and in any order. The coefficient varies between .00 and 1.00. It equals .00 if the behaviours being considered occur only at the first and last position of the sequence, and 1.00 if one of the behaviours immediately precedes the other without exception. Values between these two extremes reflect differing amounts of separation between the two behaviours being examined. Specifically, values are calculated as a function of the number of codes separating relevant behaviour pairs across the sequence. The exact nature of the function may differ depending on theoretical considerations, but a simple count of intervening behaviours suffices in most cases. Regardless of the function used, the proximity coefficient decreases monotonically as more behaviours are found to separate the two behaviours being examined on average.
9.2 The Concept of Proximity

Central to the thinking outlined above is the notion of relative collocation within a sequence. This notion may be seen as a general proximity principle: those behaviours located together in the temporal order of a sequence contribute to the same part of the interaction and have more in common – in terms of the speaker’s motivating concerns, strategies and cognitions – compared to those that occur apart in the sequence. Far from being a new concept, proximity may be shown to have roots in previous approaches to analysing sequences. For example, the phase analysis technique typically operationalises proximity using a strict all-or-none criterion under which only uninterrupted sequences of identical behaviours are considered related to a common “phase” (Donohue & Roberto, 1993; Holmes & Sykes, 1993). The episodic analyses of Chapters 3, 4 and 5 are also based on “proximity”, measured across episodes of a sequence using Pearson’s correlation (Pearson, 1927). Proximity in these analyses was therefore created by imposing sub-sequences beyond which no similarity or association among behaviours was assumed. Thus, previous approaches may be seen as special cases of a more general notion of proximity among behaviours in an interaction sequence.

The concept of proximity is also embedded in negotiation theory and research. Support for theories about the dimensions that structure behaviour has generally come from evidence showing that theoretically similar behaviours occur together more frequently than behaviours expected to be dissimilar (Donohue & Roberto, 1993; Taylor, 2002a). For example, the concepts of distributive and integrative interaction are widely accepted because researchers have repeatedly found that behaviours associated with each orientation occur in greater proximity to one another than they do to those associated with the other orientation (Donohue et al., 1991; Taylor, 2002b). At a local level, the suggestion that “utterances are generated by other utterances” (Argyle, 1969 p. 115) and
the general principle of “limitation” (Watzlawick, Beavin, & Jackson, 1968, p.131) both speak to the idea of behaviours shaping the meaning and impact of other behaviours that have high proximity in the sequence. The result is a moving window of influence or connectedness, something akin to the moving “frame” of interaction underlying Goffman’s (1967) theory of interaction.

From a broader perspective, the notion of proximity is also consistent with current social-cognitive theories and insights from cognitive neuroscience, such as the neural network theories and connectionist models (e.g., Anderson, 1996; Kandel & Hawkins, 1992; Rumelhart & McClelland, 1986). These theories conceptualise behaviour as emerging from the distributed set of units whose “activation levels” are triggered by recent (i.e., proximal) as well as current events. These activations decay over time such that behaviours with a high proximity to the current action have a much greater effect on the state of the network than behaviours with low proximity. Conversely, those behaviours associated with high levels of proximity would be predicted to have strong positive connections linking their representative units in the network.

Experience has shown that behaviours occur within an interaction sequence in complex and dynamic ways (Olekalns & Smith, 2003; Taylor & Donald, in press). Consequently, encountering coherent subsequence of behaviours is unlikely and it is necessary to consider the loss function given to various amounts of proximity. Before going on to the algebra of the proximity coefficient, it may be useful to look at two examples that show the different meanings and implications of the coefficient. The first example is of artificial data, while the second is of actually observed data. Following these presentations, the algebra for the coefficients will be developed in a systematic
framework. This framework allows for generalisations of the coefficient that differ in the way they measure proximity.

9.3 The First (Artificial) Numerical Example

To illustrate the proximity-distance principle in terms of sample data, suppose a set of event (ordinal) sequence data for two separate interactions. The left side of Table 9-1 illustrates these sequences using letters to denote the occurrence of a type of observation as it occurred in the single stream of behaviours. Sequence 1 involves 5 behaviours that occur in a sequence of 10 units. Sequence 2 involves the same 5 codes but is 20 units in length. The matrices on the right side of Table 9-1 give the proximity coefficients associated with each sequence. The mathematical derivation of these matrices is given later but the conceptual derivation is considered here.

An inspection of Sequence 1 shows that behaviour E and behaviour D occur only once and at opposing ends of the event sequence, such that their proximity (and therefore proximity coefficient) is the minimum possible. In contrast, behaviour B always occurs directly after behaviour A, such that the proximity of these behaviours is the maximum possible. Consistent with these two limits, the coefficients matrix reports a perfect association between A and B (1.00) and a complete non-association between E and D (0.00). All of the other relationships among the codes have intermediate values that are dependent on their distances apart in the sequence. For instance, there are descending values of coefficients for behaviour A, moving from its relation to B (1.00), to C (.63), through to D (.38). Examining the sequence confirms that behaviour A is closest on average to behaviour B, is slightly less close to the two occurrences of behaviour C, and is furthest away from the concluding behaviour D.
Table 9-1. *An Example of Three Event Sequences and Their Resulting Proximity-Distance Coefficient Matrices.*

**Resulting Distance-Proximity Coefficient Matrix**

<table>
<thead>
<tr>
<th>Event Sequence</th>
<th>Observation-Type ((P_i))</th>
<th>Observation-Type ((P_j))</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(A)</td>
<td>(B)</td>
</tr>
<tr>
<td>Sequence 1: E A B A B A B C C D</td>
<td>(A)</td>
<td>88(^a)</td>
</tr>
<tr>
<td></td>
<td>(B)</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>(C)</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>(D)</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>(E)</td>
<td>100</td>
</tr>
<tr>
<td>Sequence 2: E A B A B A B C C D</td>
<td>(A)</td>
<td>90</td>
</tr>
<tr>
<td></td>
<td>(B)</td>
<td>96</td>
</tr>
<tr>
<td></td>
<td>(C)</td>
<td>86</td>
</tr>
<tr>
<td></td>
<td>(D)</td>
<td>94</td>
</tr>
<tr>
<td></td>
<td>(E)</td>
<td>100</td>
</tr>
</tbody>
</table>

\(^a\)Decimal point omitted.

The undefined value of the coefficient measuring the relationship of \(A\) to \(E\) is appropriate for Sequence 1 because \(E\) never follows \(A\). While missing coefficients are an inevitable consequence of short sequences, the interpretation of missing coefficients within longer data streams can provide an indication of the relative distribution of the behaviour within the sequence. A large number of missing values in a variable row indicates that most observations of the variable occurred toward the end of the sequence, as occurs for behaviour \(C\) in Sequence 1. At the extreme, a column of missing values indicates a code that occurs only at the beginning of a sequence (e.g., behaviour \(E\) in Sequence 1), while a row of missing values indicates that the associated code occurs only at the last position in the sequence (e.g., behaviour \(D\) in Sequence 1).

Note that the matrix for Sequence 1 also reports a coefficient for a behaviour preceding itself over the course of the interaction. Proximity coefficients on the diagonal of a matrix are meaningful and provide a measure of the amount of reciprocity (Putnam & Jones, 1982) associated with the relevant variable. The coefficients actually provide a
graded measure of reciprocation in the sense that they quantify the number of intervening
codes that occur on average before reciprocation, rather than simply the proportion of
immediate reciprocation. Thus, coefficients on the diagonal may be used to test
hypotheses about the nature and breadth of reciprocity, such as the possibility (suggested
in Chapter 7) that reciprocation may not necessarily occur immediately but as a result of
a response to several intermediate behaviours. In general, predictions about reciprocity or
any other relationship may be defined in terms of the proximity between two behaviours,
where deviation from the predicted proximity may be measured for its statistical
likelihood (Efron & Tibshirani, 1986). If the deviation is small enough, then it might be
possible to conclude that the predicted degree of proximity could not have occurred by
chance.

Sequence 2 contains the same behaviours as Sequence 1 but includes a repeat of
the 10 unit interaction in Sequence 1. The extra length of Sequence 2 provides sufficient
observations to allow the calculation of proximity coefficients for all of the behaviour
pairs (which is not necessarily true of existing methods), thereby leaving no empty cells
in the matrix. As before, relative proximity in the sequence is reflected in the
coefficients, with, for example, descending values occurring for the relation of behaviour
A to B (1.00), to C (.83), to D (.72), and finally to E (.67). Since Sequence 2 only repeats
the ordering of behaviours in Sequence 1, the distribution of behaviours remains constant
across the two sequences and, consequently, so does the rank ordering of the coefficient
values. The absolute values of the coefficients are higher for Sequence 2 compared to
Sequence 1, however, because proximity is always estimated in the context of the
complete sequence. Since it is not necessary to search through more than 50% of the
sequence to find an occurrence of A preceding B, C, D or E, the coefficients for
behaviour A are above .50. Indeed, in the current sequence, this happens to be the case for each of the 5 behaviours.

A second difference between the matrix produced from Sequence 1 and Sequence 2 is asymmetry in the coefficient values. For example, the coefficient for behaviour A preceding B (i.e., 1.00) is no longer identical to the coefficient for behaviour B preceding A (i.e., .96). In general, matrices of proximity coefficients will be asymmetrical, reflecting the likely possibility that one code occurs before the second on the majority of occasions. Given any two variables, the one with the higher coefficient value will precede the second code on the majority of occasions. Disparity between the two coefficients gives an indication of the extent to which one code precedes the second code, with an absolute value of 1.00 indicating that one code always occurs immediately before the second code. The difference between coefficient values therefore has a linear relationship to Pelz’s gamma (Pelz, 1985) in providing a measure of the relative distribution of codes within a sequence. However, the proximity coefficient is more precise than gamma because it is based on the distances between codes and not just on the relative proportions of preceding and succeeding codes.

9.4 Second (Real-World) Illustrative Example

The second example is of actual data, using the proximity coefficient to test a theory about the structure and organisation of communication behaviour in conflict negotiation (Taylor, 2002; Taylor & Donald, submitted). The structure of behaviour refers to the overall theoretical dimensions that summarise the similarities and differences in communication behaviours. The problem of proposing fruitful ways to differentiate behaviour is well-known for non-sequence data, where it has led to developments such as the interpersonal circumplex (Lorr, 1996) and replicable laws of
attitude (Guttman & Levy, 1982) and intelligence (Guttman & Levy, 1991). An equivalent analysis of sequence data was presented in Chapters 3 to 5, where the integration of perspectives (e.g., relational-order theory, Donohue, 2001; facework theory, Rogan & Hammer, 1994) into a cylindrical model was used to provide a comprehensive differentiation of negotiators’ communication behaviour. However, as elaborated in Chapter 6, the assumption of such conceptual research into negotiation is that aggregate patterns in behaviour result from the dynamic ways in which negotiators bring together their individual cues and responses. Negotiators are predicted to act locally in complex but organised ways, such that it should be possible to demonstrate an empirical correspondence between the local proximity of behaviours and the overall structure of the sequences. The second example reports a re-analysis of the data used in previous Chapters to determine whether the organisation of behaviour in sequences of interaction, as measured in terms of proximity, leads to the cylindrical structure found in the previous analyses.

The structure proposed by the cylindrical model was comprehensively described in Chapters 3 to 5. As a brief review of the model, Figure 9-2 portrays the predicted ways of differentiating behaviour. The various distinctions are based on the interrelation of three facets (Level of interaction, Motivational source, and Intensity), which form nine different modes of communication that may be adopted by a negotiator during a particular period of interaction. Each mode is expected to have a subgroup of observable behavioural counterparts in dialogue, with support for a mode coming from evidence that the behaviours predicted to form a subgroup occurred together consistently across the negotiation process. In other words, if negotiators do focus on the predicted modes of interaction, then there will be evidence that behaviours instantiating the same mode have a higher proximity within the sequence than behaviours associated with different modes.
The behaviours predicted to form the nine modes of interaction are shown in Table 9-2, and are derived from the analyses of Chapters 3 to 5 and previous theory and research (see Taylor, 2002). Note, however, that to support the cylinder model the relative proximities among behaviours must not only form the subgroups predicted in Table 9-2, but the subgroups themselves must interrelate in a way that corresponds to the cylinder structure. For example, the behaviours predicted to instantiate Avoidance interaction should hold higher proximities with behaviours denoting Distributive interaction than those associated with Integrative interaction. Thus, the greater the conceptual similarity between two modes of interaction the more likely their behavioural counterparts should be found to occur together within the sequences of interaction.
Table 9-2. Predicted Correspondences between the Cylinder Model and 37 Communication Behaviours. Behaviour Labels are Defined in Table 2-4.

<table>
<thead>
<tr>
<th>Level of interaction</th>
<th>Integrative</th>
<th>Distributive</th>
<th>Avoidance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Identity</td>
<td>Instrumental</td>
<td>Relational</td>
</tr>
<tr>
<td>Allure</td>
<td>AcceptOffer</td>
<td>Agree</td>
<td></td>
</tr>
<tr>
<td>Apology</td>
<td>ComplyDemand</td>
<td>Confidence</td>
<td></td>
</tr>
<tr>
<td>Common</td>
<td>Compromise</td>
<td>Discourage</td>
<td></td>
</tr>
<tr>
<td>Compliment</td>
<td>Offer</td>
<td>Encourage</td>
<td></td>
</tr>
<tr>
<td>Empathy</td>
<td>Promise</td>
<td>Humour</td>
<td></td>
</tr>
<tr>
<td>NegSelf</td>
<td></td>
<td>Reassure</td>
<td></td>
</tr>
<tr>
<td>Commitment</td>
<td>Alternative</td>
<td>Appeal</td>
<td></td>
</tr>
<tr>
<td>Criticism</td>
<td>Demand</td>
<td>Excuse</td>
<td></td>
</tr>
<tr>
<td>Insult</td>
<td>RejectDemand</td>
<td>Justify</td>
<td></td>
</tr>
<tr>
<td>PosSelf</td>
<td>RejectOffer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Profanity</td>
<td>ThreatAction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accuse</td>
<td>Avoidance</td>
<td>Interrupt</td>
<td></td>
</tr>
<tr>
<td>Denial</td>
<td>Inaction</td>
<td>NegReply</td>
<td></td>
</tr>
<tr>
<td>Provoke</td>
<td>Retract</td>
<td>Submissive</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Shift</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

9.4.1 Method and analysis

Transcription Sample

This analysis was based on 21 sequences generated from transcripts of 9 actual hostage negotiations and 12 hostage negotiator training sessions. The characteristics of the transcripts, together with a decomposition of talk frequencies for each negotiating party are given in Table 2-1 and Table 2-2 (pp. 23 - 24). The sequence data were generated from the transcripts using the procedure described in Chapter 2 but the initial division into episodes was discarded. Since the proximity coefficient eliminates the need for sub-sequences in which to determine variable interrelationships, it was not necessary to make this extrinsic and potentially misleading division. Thus, as described in Section 2.2.2, each negotiation was initially divided into thought units (e.g., “I want to get out of here”; Gottman, 1979) and these coded by applying a content dictionary of 59 variables to each unit as it occurred over the unfolding interactions (see Section 2.2.3). For each
transcript, the series of assigned codes were used to generate a single sequence, which
was then refined so as to include only the 41 behaviours that possessed a clear
psychological function (see Table 9-2). This elimination of functional behaviours is in
line with the previous analyses (Chapters 3 to 8) and other research (Donohue &
Roberto, 1996; Olekalns & Smith, 2000).

9.4.2 Results and discussion

For each sequence, proximity coefficients were computed as a measure of the
relationships between each behavioural variable and every other behaviour variable.
These coefficients were then averaged across the 21 sequences and the resulting
association matrix was made symmetrical by taking the mean of the coefficient for the
two variables. For example, for the mean coefficients $P_{(Accuse, Allure)} = .84$ and $P_{(Allure, Accuse)} = .90$, the value .87 appeared in the symmetrical matrix. The resulting matrix
contained 1560 (41 variables x 40 variables) different comparisons that measured the
average proximity of any two behaviours within the negotiations.

The matrix was submitted to an SSA-I in three dimensions. Figure 9-3 shows the
first and second dimensions of the resulting solution, which had a coefficient of
alienation of .23 in 26 iterations. Each point on this plot represents one of the 41 coded
behavioural variable defined in Table 2-4 (p. 38), and are identical to those in previous
Chapters. As with the previous SSA-I analyses, the closer two points appear on the plot,
the more likely they were to occur together in the dialogue of negotiators. However,
rather than relating to co-occurrence within a particular episode, the SSA-I relations
depicted in Figure 9-3 show the extent to which one behaviour is followed by a second
behaviour within the unfolding sequence of dialogue. For example, as can be seen at the
top of Figure 9-3, accepting the other party’s offer and making a promise were typically
closely located in interactions, and so may be thought of having more in common psychologically. In contrast, making a promise and insulting the other party were not typically used together in dialogue, as shown by their variables placement at opposing ends of the configuration.

9.4.3 Testing the cylinder model of communication behaviour

Does the cylinder model still exist when the interrelationships among behaviours are measured in terms of proximity? To answer this question, the configuration of behaviours on the SSA-I plot may be examined for evidence of regions that are
consistent with the predictions of the cylinder model. As mentioned previously, such regions should not be viewed as discrete categories or clusters, but as an aid to determining whether the predicted modes of interaction are found empirically in sequences of behaviour.

Levels of Interaction

Figure 9-4 is overlaid with partitions that correspond to the predicted Avoidance, Distributive and Integrative levels of interaction, ordered from bottom to top of the space according to an increasing normative, problem-solving emphasis. The six behaviours in the bottom region of the configuration support the prediction that, on some occasions, negotiators’ communicate a reluctance to take an active role in interactions (Avoid⁶, Denial), explicitly retract from any previous developments (Retract) and reinforce this withdrawal through disruptions (NegReply, Shift) and irrelevant challenges (Accuse, Provoke). In comparison, behaviours in the middle third of the configuration have a highly Distributive emphasis, with negotiators combining aggressive bargaining (Demands, RejectOffers) with threats (ThreatAction), statements of self-satisfaction (Commitment, PosSelf), and personal attacks of the other party (Criticism, Insult).

Finally, behaviours located in the top region of the configuration depict a more cooperative approach to interaction as negotiators communicate awareness of the others’ situation (Encourage, Empathy), a willingness to accept personal responsibility (Apology, NegSelf), and a desire to tackle the disagreement through proposing solutions (Integrative, Offer) and making sacrifices (ComplyDemand, Promise).

⁶ Names in parentheses refer to the variable label representing the occurring communication behaviour as it appears on the SSA-I configuration.
**Motivational source**

Since there is an interpretable structure to speakers’ overall interpersonal approach, it is appropriate to test for variations in behaviours’ motivational emphasis. These distinctions relate to differences in the circular faces of the cylinder and so are most evident when adopting a “birds-eye” view of the SSA-I configuration. Figure 9-5 shows the second and third dimensions of the SSA-I solution separated into the Avoidance, Distributive and Integrative levels for clarity. The three configurations are superimposed with partitions supporting the regions predicted by the motivational facet (see Table 9-2), with qualitatively distinct wedge-shaped regions emerging in different...
Figure 9-5. Dimensions 2 and 3 of the SSA-I configuration showing the motivation facet, and the modulating intensity facet. The configuration is divided into the Avoidance (bottom), Distributive (middle) and Integrative (top) level of interaction.
directions from the origin. Accordingly, the regions have been labelled as Identity, Instrumental and Relational. For example, the left region of the plot for Avoidance interactions (Avoidance-Instrumental) contains behaviours that seek to draw back from previous progress (Retract) and move away from the current topic of conversation (Avoidance, Shift) or interaction entirely (Inaction). In contrast, the occurrence of the variables Accuse, Denial, and Provoke within a region situated towards the bottom-right of the plot (Avoidance-Identity) suggests that these behaviours have a rather different application, focusing on removing personal self from the interaction. Note, also, that the partitions among the different motivational sources retain the major distinction between Instrumental goals and Identity and Relational goals, as found in the analyses of previous Chapters. This regioning substantiates the widely held assumption that communication is comprised of both instrumental and expressive acts, with the latter formed by identity and relational issues (Wilson & Putnam, 1990).

Intensity

As shown by the arrows overlaid on Figure 9-5, the distribution of behaviours also supports the proposed modulating intensity facet, with radiation out towards the edges of the configurations associated with increasingly intense behaviours. Support for this facet primarily comes from the clear change in substantive meaning with movement towards the outside edges of the plots, but this evidence is substantiated by the high correspondence between the current plots and the findings of previous Chapters. For example, intensity modulations are evident in Integrative-Relational interactions, which may spiral from expressions of empathy (Encourage) and assurance that progress is personally beneficial (Reassure), through to messages that reveal personal similarities with the other party (Common) or express confidence in the working relationship
(Confidence). Similarly, the left region of the plot for Integrative interactions (Identity region) depicts increasingly intense efforts to support the other’s face, moving from empathising with their situation (Empathy) to praising their ability (Compliment) and highlighting instances where their actions were more appropriate than personal behaviour (Apology, NegSelf).

9.4.4 Comparisons across sequences

By comparing each act to every other act, the proximity coefficient makes efficient use of the information within a sequence. This opens up the possibility of conducting analyses that have traditionally remained intractable because of limitations in the quantity of data available. For example, a researcher may compare matrices of coefficients computed from a number of sequences and, in doing so, uncover differences among transcripts, across speakers, and even across different sections of the same sequence (e.g., before and after intervention). To illustrate the kinds of detailed analyses that are possible, the coefficient was used to examine variations in the organisation of behaviour among the 21 transcripts. Differences in the proximities across transcripts reflect variation in the content and sequencing of negotiators’ dialogue, and one should expect systematic differences among the various types of conflict included in the current data. The comparison was achieved by computing a separate matrix of proximity coefficients for the sequence data representing each transcript. These matrices were then compared for similarity using Pearson’s correlation. The resulting inter-correlations among the transcripts’ proximity scores were submitted to an SSA-I for examination.

The SSA-I in three dimensions had a coefficient of alienation of .18 in 14 iterations, indicating that the correlations among variables are reasonably well represented by their corresponding spatial distances in the configuration. Figure 9-6
Figure 9-6. Dimensions 1 and 2 of a Smallest Space Analysis of inter-behaviour proximity matrices for 21 interaction sequences, with regional interpretations showing Criminal, Domestic, and Political incidents. The dotted-line divides actual hostage crises from the majority of simulated hostage crises. Coefficient of alienation = .18 in 14 iterations.

shows the first and second dimensions of the SSA-I solution. Each of the points represents one of the 21 transcripts and may be identified by the associated labels, which correspond to the variables defined in Table 2-1 and Table 2-2 (pp. 23 to 24). Specifically, the labels indicate whether the negotiation was related to criminal, domestic or political issues, and whether the negotiation was from the actual hostage negotiations (denoted using a letter) or the simulated negotiations (denoted using a number).

An examination of Figure 9-6 reveals a substantial amount of variation in the proximity structure of the transcripts. For example, the close placement of cases Political
I and Political 11 in the SSA-I space suggests that these incidents involved a similar organisation of cues and responses over time. This is arguably consistent with the scenarios of the incidents, which for case Political I was interaction with activists for a religious sect and for Political 11 was interaction with activists for animal rights. Both of these interactions evolve around proclaiming a message and justifying the necessity of personal actions. In contrast to these cases, Criminal B and Domestic 6 involved very different patterns of cues and responses, as indicated by their position at opposing corners of the SSA-I plot. Criminal B involved a violent, aggressive male who had taken an elderly couple hostage after shooting an officer during an attempted bank robbery. Domestic 6 involved a young, drug dependent and clinically depressed suicidal female who quietly contemplates whether it is worth carrying on in life. The way negotiators approach these scenarios and the type of dialogues that ensue are likely to be quite different. Interestingly, while set within the context of a bank robbery, Criminal A also centred on issues of the perpetrators committing suicide, which may explain this case’s closer association with Domestic 6.

As the examples above illustrate, there is a systematic pattern to the variation in structural proximity among the transcripts. This pattern is summarised by the regions depicted with solid lines in Figure 9-6, which depict the widely accept classification of incident types (Donohue & Roberto, 1996; McMains & Mullins; 2001; Rogan, Hammer, & Van Zandt, 1997; Taylor, 2002a). Specifically, the four cases situated towards the right hand-side of the SSA-I plot are incidents in which the perpetrator seeks to promote an extreme socio-political or religious agenda, such as the supremacy of the African as God’s chosen people (Political 12). In contrast, incidents situated in the left region of the solution space are centred on psychological or domestic issues, where the hostage taker’s focus is on attracting empathic attention for a personal cause. Finally, incidents in the top
and bottom regions have a criminal emphasis in which an individual negotiates to extort money or gain some other personal benefit, typically after being caught in the act of committing a crime. The character of this variation is unordered, with the regions of the incident types emanating in different direction from the centre of the SSA-I space. This suggests that these variations reflect qualitative differences in the interaction among incidents.

The division of criminal incidents into two separate regions of the SSA-I space would not be expected by current theory and research, and suggests that some criminal incidents involve very different dynamics to other incidents. A theoretical justification for why behaviour in criminal incidents may be organised in different ways is important for further understanding the factors that structure the interaction process. This justification is likely to come from additional in-depth qualitative examination of the transcripts and is not forthcoming from the current analysis. However, it is possible to rule out plausible alternatives. For example, as the dotted line in Figure 9-6 suggests, the division does not seem to result from a distinction between actual and simulated hostage crises. The nine actual hostage crises are located to the right of the dotted line while all but three simulated incidents are located to the left of the line. Since this division is almost perpendicular to the two Criminal regions, and since both simulated and actual incidents occur in each region, this would suggest that the division between Criminal incidents is not dependent on whether or not the incident was a simulation.

9.5 The Algebraic Structure of the Proximity Coefficient

The previous examples sought to provide a conceptual understanding of how the proximity coefficients measure interrelationships among communication behaviours. This Section explicates this conceptual understanding by defining the algebraic structure
of the coefficient. As with many coefficients of association, the coefficient of proximity introduced here was constructed to vary between .00 and 1.00. A zero coefficient between two occurring behaviours A and B implied that the distance between the occurrence of A and the occurrence of B is maximum (i.e., the length of the transcript). A coefficient whose absolute value is 1.00 implies that behaviour A immediately precedes B throughout the sequence with no exception. Coefficients whose value is between these two extremes reflect intermediate proximity (distance) of occurrence between A and B.

9.5.1 Algebraic notation

Consider the case of a single interaction sequence obtained from a coded set of data. Let the position of elements (e.g., coded thought units) in the sequence be indexed by $x$ ($x = 1, 2, \ldots, n$), where $x = 1$ denotes the first element of the sequence and $x = n$ denotes the final element. Thus, for example, elements of Sequence 1 in Table 9-1 would be indexed as $E = 1, A = 2, B = 3,$ and so forth. The set of codes to which elements may be assigned will be denoted by an unordered set $V(v_a, v_b, \ldots, v_m)$, where $m$ varies depending on the number of coding categories used to represent the sequence. Because the estimation of proximity requires comparing one element to a series of future elements, it will be convenient to also define index-specific occurrences of $V$ as $xv_a, xv_b, \ldots$, and so forth. Let $n_{v_a}$ denote the number of times a particular code occurs over the sequence. Finally, if element $x$ has been coded as belonging to $v_a$, we write $x \in v_a$.

9.5.2 The coefficient of proximity

The proximity coefficient between any two codes $v_a$ and $v_b$ can be regarded as asking, for each $xv_a$: to what extent must one move through the sequence to observe $v_b$. It
is important to note that this question seeks to find the distance between a given \( v_a \) and the first following instance of \( v_b \), rather than every following instance of \( v_b \). This search for the minimum distance between codes is both theoretically and statistically important.

It is theoretically important for ensuring that proximity is measured constantly for relations across a sequence. For example, if there are only two occurrences of \( A \) in a sequence and both are immediately followed by \( B \), this should result in \( P_{(A,B)} \) equalling maximum proximity regardless of whether the two occurrence of \( A \) were occurred adjacent to one another or at opposite ends of the sequence. Similarly, it is statistically important for ensuring that the coefficient’s value is not dependent on the number of occurrence of a given code within the sequence. If the coefficient was calculated from proximities to all following behaviours, then those behaviours that occurred more frequently within a sequence would necessarily have higher coefficient values because their greater frequency would cause them to be located closer together within the sequence.

The answer to finding the first instance of \( v_b \) from \( v_a \) is given by \( D_{\text{min}} \), which is the smallest value returned by the array \( D \) obtained from:

\[
D = (x - x_{va}) - 1; \quad \forall (x \in \nu_b)
\]

where \( x_{va} \) is the indexed position of the considered \( v_a \) and \( x \) is the index of codes assigned to the variable \( v_b \) (where \( x_{vb} > x_{va} \)). The subtraction of 1 is necessary to ensure that \( D \) equals zero when \( x_{vb} \) immediately follows \( x_{va} \), since this is conceptualised as a case of perfect proximity (i.e., no intermediate elements).

Since \( v_a \) may occur many times within a sequence, it is possible to obtain a more accurate estimation of \( D_{\text{min}} \) by averaging across every occurrence of \( v_a \):

\[
\frac{1}{n_{va}} \sum_{x_{va}} D_{\text{min}}
\]
The proximity coefficient simply restates equation 2 in a standardised form, as a proportion of \( n \):

\[
P(v_a, v_b) = 1 - \left( \frac{\sum_{x \in v_a} D_{\min}}{n_{v_a}(n-2)} \right). \tag{3}
\]

The addition to the denominator is \( n-2 \) rather than \( n \) to give a count of the number of possible distances between the two end codes rather than simply the number of codes.

An inspection of the limits of \( D_{\min} \) confirms that the proximity coefficient \( P \) is bound between 0 and 1. Take the case of minimum proximity when \( v_a \) occurs once at the beginning of the sequence (i.e., \( x_{v_a} = 1 \)) and \( v_b \) once at the end of a sequence (i.e., \( x_{v_b} = n \)). Restating equation 1 in sample terms gives:

\[
D = (n - 1) - 1 \tag{4}
\]

which used with equation 3 gives:

\[
P(v_a, v_b) = 1 - \left( \frac{(n-1) - 1}{n_{v_a}(n-2)} \right). \tag{5}
\]

Since \( n_{v_a} = 1 \), the members of the loss function in parentheses equate to 1 and \( P(v_a,v_b) = 0.00 \). The upper limit \( P(v_a,v_b) = 1.00 \) occurs only when \( v_b \) always immediately follows \( n_{v_a} \), and is established by replacing \( x \) with \((x_{v_a} + 1)\) in equation 2. This results in \( D_{\min} \) equalling zero and, consequently, the loss function equating to 0 and \( P(v_a,v_b) = 1.00 \).

The approach described above is an example of a general approach to measuring the interrelations among sequence data that rely on proximity or distance among codes. One simple generalisation of the equations given above is to introduce a weighting \( w \) to the value returned by \( D_{\min} \) in equation 2:

\[
\frac{1}{n_{v_a}} \sum_{x \in v_a} wD_{\min} \tag{6}
\]
w may be an arithmetic weighting that changes the way distances among elements are measured, or a conditional weighting that returns a particular value of $D_{\text{min}}$ based on some property of the minimum value returned by $D$. Some of the possibilities are explored in the Section 9.6.1. A family of proximity coefficients can be derived that are based on the notion that the nearer two codes occur within a sequence the more (psychologically) related they are.

9.6 Discussion

This Chapter sought to define an empirical (mathematical) method of drawing together theories about the conceptual dimensions of interpersonal dialogue and the complex organisation of behaviour sequences that underlie this structure. Most existing research has tackled this relationship indirectly, by imposing extrinsic divisions of the data and analysing structure (e.g., Chapters 3 to 5), or by focusing on consistencies in the organisation of local sequences of behaviour (e.g., Chapters 6 to 8). However, in order to explore systematically how negotiators “act locally to pursue their global objectives” (Olekalns & Weingart, 2003), it becomes beneficial to introduce a precise way of measuring the overall structure of localised connections among behaviours. The concept proposed in this Chapter was the notion of proximity: that behaviours occurring closer together within dialogue have more psychologically in common than those occurring further apart. The Chapter operationalised proximity by introducing an association coefficient that expressed the interrelationships among behaviours as a direct function of their relative placements to each other across a sequence. An analysis of artificial data confirmed that the coefficient had some useful properties, including a meaningful expression of the relationship between two occurrences of the same behaviour, and asymmetry in the coefficient when comparing A to B and B to A. Results of an applied
analysis supported the cylindrical model, thereby providing initial support for the assumption that dynamic patterns of cues and responses underlie the conceptual structure of communication behaviour in conflict negotiation.

9.6.1 Extensions of proximity coefficients

It has already been remarked that $P$ is but a special case of a whole family of proximity coefficients for sequences, the difference among the coefficients laying in the way they weight proximity among elements. The present choice of weighting (i.e., $w = 1$) was made in order to illustrate the notion of distance among elements independent of further theoretical restrictions. However, it is easy to perceive a situation where it is appropriate to restrict the scope of proximity on the basis of theoretical or data considerations. For example, if the four-behaviour sequence (i.e., triple-interact, see Chapters 6 and 7) is the accepted “window” within which thought units influence the progress of an interaction, then adopting $w = (N - 2)/4$ (where $D_{\text{min}} \geq 0$), will limit estimation of proximity to only those behaviours found within the triple-interact sequence. Other choices do not necessarily revolve around the number of intervening elements, and may instead consider the type (quality) of previous behaviour or other external criteria.

Perhaps more importantly, $P$ is analytical in $D_{\text{min}}$, facilitating multivariate extensions. The treatment above has been for the case of assigning each element one code, but it is possible to compute a single proximity coefficient for more than one coding of behaviour. A standard approach would be to calculate conditional proximities of the form:

$$P(x_{v_1}, x_{v_2}, x_{v_3}, \ldots, x_{v_n}, x_{v_k}) = 1 - \frac{w_1 D_{\text{min}_{b_1}}}{n_{v_1}(N - 2)} \times \frac{w_2 D_{\text{min}_{b_2}}}{n_{v_2}(N - 2)} \times \ldots \times \frac{w_k D_{\text{min}_{b_k}}}{n_{v_k}(N - 2)}$$ (7)
where each $D_{min_{b_k}}$ is a different coding applied to the sequence of behaviours, $w_k$ the proximity weighting for that coding, and $n_{v_k}$ is the number of times the behaviour occurs over the sequence. Equation 7 gives the average proximity of each of the $x_{v_{h_k}}$ codes following each behaviour $x_{v_{a_k}}$, but replacing the multiplication with a search for the maximum $\frac{w_k D_{min_{b_k}}}{n_{v_{a_k}} (N - 2)}$ would give a coefficient indicating the proximity distance in which both behaviours occur on average. The possibility of calculating interrelationships based on the occurrence of several types of behaviour should be particularly useful for researchers interested in mapping the organisation of negotiators’ self-reported “stream of thought” to behaviour use over time (Sillars, Roberts, Leonard, & Dun, 2000). For instance, meaningful connections might be predicted between the structure of cognitive units and groups of behaviours, with future analyses examining how changes in context or person variables mediate these connections. Other extensions might combine an analysis of dialogue with an analysis of non-verbal cues, or examine facework (Rogan & Hammer, 1994) and relational-order (Donohue, 1998) aspects of dialogue by simultaneously employing the relevant coding schemes.

9.6.2 Extensions in analytical techniques

Some researchers may be interested in statistically testing the likelihood of two (or more) proximity coefficients differing by a particular value. Comparisons between coefficient values may be used to test the impact of a range of independent variables on how negotiators’ organise behaviour. It would be desirable for a method of testing differences in $P$ to have a form similar to those used when comparing other coefficients (e.g., $r$, Fisher, 1921). The method may assume independence of sampling when calculations are made across different sequences but would require adjustment to account
for dependence among observations when comparing within a single sequence. While deriving such a method is beyond the scope of this Chapter, it is interesting to note that the proximity coefficients for the second real-world example (Section 9.4) were approximately normally distributed around the arithmetic mean (Skewness = -0.45, SE = 0.083; Kurtosis = 0.22; SE = 0.16). A method for testing differences among proximity coefficients may do well to utilise this property.

One attractive feature of the proximity coefficient is the ability to measure asymmetry in the relative ordering among behaviours. This may provide a flexible way of testing a range of hypotheses about negotiation development, from the possibility that behaviours serve as antecedents and consequences (Koutsovoulou, 2001) to the possibility of computing refined measures of phase ordering (Holmes & Sykes, 1993). In particular, it would be useful to develop a method for representing asymmetry when displaying graphically the structure of the proximity coefficients (e.g., SSA-I), rather than taking the average coefficient as was done in Section 9.4. One small step forward would be to compare solutions separately derived from coefficients above and below the matrix diagonal, since disparities in the resulting configurations would give some indication of the ordering of behaviours within the sequence. It would be desirable, however, to find a standard and more efficient method for representing local ordering in structural terms.

9.6.3 Relationships with other techniques

To help round out the picture of where proximity coefficients fits as a technique for analysing sequences, it may be useful to show that $P$ has precise equalities with previous approaches.
**Gamma Analysis**

Gamma analysis is a set of non-parametric statistics that provide a measure of the general order of elements in a sequence and a measure of the distinctiveness or overlap of element types (Pelz, 1985). Psychological research has typically used three measures: Pelz’s gamma, which measures the proportion of A events that precede or follow B events in a sequence; Precedence scores, which indicate the location of the element in the overall ordering of element types; and Separation scores, which give an indication of the relative distinctiveness of element types. There is no direct relation between \( P \) and Pelz’s gamma or Precedence scores because \( P \) is based on distances between elements and not on the relative ordering of the elements. However, a parallel measure is given by the disparity in \( P \) for any two elements (i.e., \( P_{(A,B)} \) and \( P_{(B,A)} \)), where the resulting value provides an indication of the difference in likelihood of A events preceding or succeeding B events. For example, in Sequence 2 of Table 9-1, subtracting \( P_{(A,B)} = 1.00 \) from \( P_{(B,A)} = .96 \) reveals only a small difference in the degree code A precedes code B (i.e., .04). Since the bounds of \( P \) are .00 and 1.00, the limits of this calculation vary between -1.00 for initiating units and 1.00 for terminating units, which is identical to the limits of precedence scores (Pelz, 1985).

In contrast to the above indirect relationship, a direct relation exists between Separation scores and the diagonal of a \( P \) matrix, since these coefficients denote the extent to which a single behaviour reciprocates without intervening or “separating” behaviours. A high coefficient on the diagonal for a particular behaviour will indicate a relatively coherent, separate period of occurrence for the behaviour, while a low coefficient suggests little separation of the behaviour from other acts in the sequence. However, while the separation score measures the extent a behaviour forms one coherent sub-sequence of dialogue, the diagonal value of \( P \) is less stringent and allows for the
possibility of two or more coherent sub-sequences. This should be particularly useful for measuring the structure of interactions that are likely to repeat the same phases of action (e.g., decision making meeting, Holmes & Sykes, 1993).

*Sequence and Phase Analysis*

Phase analysis represents the pattern of behaviours in a sequence by providing a serial map of coherent periods or phases of functioning. As has already been noted, phase analysis uses a special case of proximity in which the weighting given to adjacent behaviours depends on whether or not they form unified periods of activity that serve a particular function. Because the proximity coefficient takes a more general form than this all-or-none criterion of phase analysis, it provides a refined picture of the extent to which an interaction moves through coherent phases. Within the framework of proximity, a perfect phase structure would be represented by a (re-arranged) matrix in which the upper off-diagonal coefficients were missing (since previous phases should not occur again), the coefficients on the diagonal equalled 1.00 (since phases are defined as uninterrupted occurrences of a particular code), and the lower off-diagonal coefficients were monotonically decreasing in a manner that represent the order of phases. Coefficient values of less than 1.00 on the diagonal would indicate a separation or recycling of the phases. A detailed analysis of the lower matrix coefficients would give some indication as to whether such reoccurrence in phases had a common predecessor.

An extension of phase analysis, known as optimal matching analysis, consists of techniques that compute either the overall similarity of two or more sequences or the similarity of these sequences to a prototypical sequence (Holmes, 1992; Sankoff & Kruskal, 1983). The result of optimal matching is a dissimilarity score that can be compared with other scores (e.g., through multidimensional scaling) to give an indication
of the differences among sequences. While there is no direct comparison to this approach, one may generate a similar analysis by computing correlations across matrices of proximity coefficients measured from different transcripts. This approach was shown in Section 9.4.4, where the relative correlations were used to examine the similarity and differences in unfolding dialogue among the sequence. Such an approach provides a useful compliment to optimal matching because it compares the organisation of unfolding sequences without requiring an exact temporal ordering of behaviours. Furthermore, the approach does not require the stipulation of substitution costs, which are external to the data and can dramatically affect the results of optimal matching analysis.

9.7 Conclusion

Proximity may be seen as the principle that underlies theories about the conceptual dimensions of interpersonal dialogue and the complex organisation of cues and responses that bring about this structure. This Chapter developed the principle of proximity and established its empirical counterpart in the form of a proximity coefficient. The coefficient is a general, computationally-simple measure of local interrelationships in a sequence, which avoided the arithmetic manipulations or data reduction restrictions of existing techniques. Perhaps the coefficient’s biggest advantage is that it remains constant across different computations, such that it becomes meaningful to make comparisons across speakers, among transcripts, and even across different sections of the same sequence (e.g., before and after intervention). Future work may therefore use the coefficient to test detailed theories about how contextual factors affect both the global and local dynamics of interpersonal interaction.
Chapter 10 Summary and General Conclusions

A fundamental goal of negotiation research is to understand how an individual brings together behaviours and strategies in an organised way to pursue his or her complex and often contradictory goals. Nonetheless, this *intra-individual* goal has largely been bypassed by mainstream research in favour of examining the actions of a hypothetical “average” negotiator over single dimensions and across different contexts or conditions. This thesis returned to the goal of understanding the dynamic and meaningful ways in which a single negotiator uses different behaviours to pursue their different goals at different times.

One initial barrier to the investigation of intra-individual dynamics comes from the fact that most existing approaches to measurement confound an account of behaviour with explanations of speakers’ motivations, goals, or dispositions (e.g., facework, Rogan & Hammer, 1994; relational order theory, Donohue, 1998). Built around one conceptual perspective, these approaches have provided important and useful insights into particular aspects of interaction, but they are unable to provide a comprehensive description of the various functions of behaviour. They confuse definable behaviours with correlates of these behaviours. This made it desirable for Chapter 2 to examine dialogue in terms of the frequency and timing of occurrence of 41 actual communication behaviours. The generic nature of actual behaviours provided the best possible opportunity to understand how and why negotiators act in three types of conflict negotiation (hostage negotiations, police simulations, and divorce mediations), without making assumptions about what was important psychologically within that particular context. The result was a rich multivariate measurement of 41 actual behaviours that differed in their frequency and timing of occurrence across both negotiators and negotiations, thereby capturing a
significant part of the complex behavioural dynamics thought to occur in conflict negotiation.

10.1 The Structure of Communication Behaviour

The more traditional approach to understanding conflict negotiation has been to explore the conceptual structure of behaviour, the major dimensions over which negotiations are played out over time (Barry & Friedman, 1998; Donohue & Roberto, 1996). In seeking a comprehensive account of the structure of negotiators' behaviours, Chapter 3 combined existing perspectives on message content and negotiator motivation to provide a definitional model of communication behaviour in conflict negotiation. The interrelationships among the proposed dimensions of communication were formulated through a mapping sentence (see Figure 4-1), which defined precisely the emphases behaviour can take over time and the set of relations among these emphases. Separate analyses of three data sets (Chapters 3 to 5) established that behaviour was consistently structured around three facets: level of interaction (Avoidance, Distributive, Integrative), motivational concern (Identity, Instrumental, Relational), and intensity (High – Low). Negotiators tend to approach interaction with an avoidant, competitive or cooperative orientation and, in doing so, systematically use behaviours in varying amounts to pursue their substantive goals and objectives while simultaneously managing identity and relational dynamics.

The derived model represents the first attempt to provide a coherent, unifying framework within which to conceptualise the basic ways that negotiators’ communicate in crises. The three replications provide unique support for the various explanatory constructs advocated in previous research (e.g., relational order theory, Donohue, 1998; facework, Rogan & Hammer, 1994), showing that each explanation relates to a different
emphasis of the communication process. The model’s clarity and precision in combining
these distinctions illustrates the effectiveness of examining communication directly
through units of speech. This approach allowed both an identification of the actual
behaviours that negotiators emphasise to pursue particular concerns or modes of
interaction, and a specification of the relations among these modes. In the derived model,
therefore, it is not only possible to examine transitions in communication among the
identified modes of behaviour, but it is also feasible to examine the type of changes that
occur and the process by which they materialise.

Chapters 4 and 5 presented additional analyses that exploited the model to show
how previously unrelated findings of differences in behaviour use – across contexts and
among individuals – are actually parts of a common, systematic pattern of variations.
Chapter 4 investigated the long assumed but rarely examined impact of negotiation
context on the use of communication behaviour. One effect of context is to influence the
modes of interaction that are most salient in negotiators’ behaviour. For example,
compared to those in actual hostage incidents, negotiators engaged in simulations
typically adopt a more aggressive approach to instrumental concerns and show far less
concern about issues to do with interdependence and affiliation. Perhaps more
interestingly, the psychological function of behaviour (i.e., the issue is principally serves
to address) was shown to associate with the intensity a negotiator pursues a particular
concern. Behaviours typical of highly intense dialogue showed greater uniformity in
function across contexts compared to those of low intensity. Thus, far from just
influencing a negotiator’s preference for strategies and expectations about the others’
behaviour, context modifies the actual purpose of behaviours in the interaction, but in
systematic and meaningful ways that are open to future investigation.
In Chapter 5, the cylindrical structure of the divorce mediation data was used as a basis for uncovering what characterises and differentiates the behaviour of negotiators with different roles. While there is little doubt that individual differences in behaviour exist, evidence of stable and predictable differences in behaviour use among speakers has remained illusive to negotiation research (Lewicki, Saunders, & Minton, 1999). Guided by past empirical and theoretical work, the analysis in Chapter 5 assessed the specific ways in which a negotiator’s behaviour varied from one episode to another in frequency and timing. Each negotiator was characterised by complex but non-random patterns of behaviour variation across the modes of interaction, with negotiators acting out the same role showing greater similarity in their behaviour compared to negotiators with different roles. Further nomothetic analyses indicated a strong positive relationship between the extent negotiators use behaviour and the consistency they use behaviour over time, suggesting that previous “aggregate” analyses may have been capturing both of these dynamics. In particular, what differentiated negotiators’ behaviour in one role from behaviour in a different role were not so much specific behaviours but psychological emphases (i.e., modes of interaction) that are expressed behaviourally in numerous ways (cf. Cairns & Green, 1979). This more nuanced view of role differences may help to explain why negotiations set in the same context often lead to very different outcomes (Levine & Boster, 2001).

Perhaps what is most apparent from the explorations of person and context factors within the structural framework of the cylinder model is that these background factors (Guttman, 1994a) moderate negotiators’ use of a stable content. The fact that the interrelationships among behaviours could be well-represented in a three-dimensional space means that differences across any such outside factor (e.g., types of hostage taker) should be evident across no more than three-dimensions. For example, a researcher
predicting that negotiators’ gender leads to difference in communication behaviour would need to show that episodes involving male negotiators and episodes involving female negotiators fall into distinct regions of the current SSA-I spaces. If no systematic pattern emerges, then the difference, if any, between male and female negotiators is focused on a “fourth dimension” of the negotiation process that is not encapsulated in the variables studied in the current cylinder framework.

10.2 The Organisation of Communication Behaviour

Recent attempts to understand the processes driving negotiation have looked to identify consistent patterns in the organisation of cues and responses that underlie the conceptual structure of negotiation (Olekalns & Smith, 2003; Weingart, Prietula, Hyder, & Genovese, 1999). Chapters 6 to 8 of this thesis added to that growing body of work by demonstrating empirically both general principles in the organisation of behaviour and distinctive patterns of individual differences. Chapter 6 showed that information about previous acts explained a greater proportion of the variance in negotiators’ behaviour than person or situation variables. Specifically, the triple-interact (4-behaviour sequence) reduced uncertainty in behaviour by over 70%, which compares to less than 1% from knowledge of negotiation context and approximately 10% from knowledge of individual differences. Negotiators typically respond to sequence of three previous behaviours (i.e., triple-interact), where these behaviours overlap with the next sequences to produce an unfolding flow or “window” through which negotiators shape the interaction.

The exact purpose of the triple-interact was the focus of Chapter 7. By bringing together the established concepts of interpersonal orientation (Kelley, 1997) and framing (Drake & Donohue, 1996), the Chapter identified four generic types of triple-interact (Reciprocation, reorientation, reframing, and restructuring) that encapsulated the variety
of specific cue-response strategies found in previous research. These four types were found to be associated with remarkably similar patterns of occurrence over diverse conflicts, regardless of the period or outcome of the interaction. Differences among conflicts was instead found in the behavioural content of the triple-interacts, which was shown to vary systematically over time and negotiation outcome. This distinction between type and content promotes the view that the four general types of triple-interact, and relations among these types, might represent important building blocks that are the foundations of intra-individual differences in communication behaviour.

Chapter 8 argued that consistency in negotiators’ communication behaviour emerges largely from the channelling effect of previous behaviours, rather than the situation-specific tendencies posited by conditional theories (Shoda & Mischel, 1996). The Chapter showed a strong positive relationship between the consistency of negotiator’s behaviour and the similarity of the cues and responses that preceded the observed behaviour. A sequence of three previous behaviours (i.e., the triple-interact) almost perfectly predicted negotiators’ subsequent response. Moreover, the differences across within-situation and between-situation consistency coefficients, a measure often used to support a conditional account, were found to vanish when coefficients were calculated as a function of the previous cue-response-cue sequence. Behavioural variation, according to the present data, occurs not from differences in the nominal situation but from distinctive and predictable responses to short sequences of past behaviour.

The findings from Chapters 6 to 8 speak directly to the question of how complex sequences of behaviour function to allow negotiators to pursue their various goals (Weingart et al., 1999). The Chapters make an important theoretical and conceptual contribution to conflict research by testing a number of key assumptions about the
organisation and consistency of negotiators’ behaviour. In particular, the analyses developed previous work (Olekalns & Smith, 2000; 2003) by explicating the variety of functions the triple-interact plays in organising a sequence of interaction. More generally, the findings suggest a unique development of the influential conditional account of personality and behaviour (Shoda & Mischel, 1996), showing that behavioural responses have a larger role to play than is often credited in this theory.

10.3 Proximity as the Connection between Communication Structure and Organisation

Finally, in an attempt to link the underlying interact-based dynamics with the stable conceptual differences of the cylinder model, Chapter 9 explicated a general concept of proximity: the closer two behaviours occur in dialogue the more they have in common conceptually. To test the importance of proximity as a unifying construct, a new association coefficient was developed that measures the psychological similarity of behaviours on the basis of their distribution within a sequence. Results from an analysis using the measure mirrored the original cylinder model, thereby providing some early evidence of how complex and dynamic patterns of behaviour produce the stable organisation of dialogue. The synthesis offered by the proximity was also shown to have other attractive properties, including a method of analysing the cause-and-effect (asymmetrical) relationships among behaviours, a direct relationship to other measurement techniques, and an efficient use of data that should enable detailed analyses across speakers, over different context, and between single cases.
10.4 Future Research

10.4.1 Structure of communication behaviour

The mapping sentence first presented in Figure 4-1 provides an ideal basis for developing the systematic study of the structure of communication behaviour. Three extensions of this mapping sentence highlight important areas for future development and cumulative research. It would certainly be useful to explore the stability of the cylinder structure across variations in the two background facets of context “C” and speaker “S”. In relation to context, demonstrating a similar structure (or at least parts of the structure) in other types of conflict or in other domains of communication will emphasise the possibility of the cylinder model providing a general conceptualisation of communication behaviour. For example, it would be useful to attempt to replicate the findings while taking account of potentially influential variables, such as gender (Pruitt et al., 1986) or time pressure (Carnevale & Lawler, 1987). The findings that emerge from replications with larger, more varied data will allow conclusions regarding the generalisability of the current model in different negotiation contexts. This, in turn, may be used as a basis for refining the interpreted structure and provide an improved representation of negotiators’ behaviour during a particular sub-group of conflict. An extension of this kind will result in a portfolio of empirically based models that provide a more accurate representation of the complexities inherent to communication within particular contexts.

Explorations of the differences in dialogue among speakers will identify if there are systematic differences in the way individuals orientate to the process of conflict negotiation. Studies explicating this second speaker facet should consider the possibility that each of the nine communication themes has the potential of correlating with different sets of negotiator characteristics or history. Examining these relationships will
add new fuel to studies attempting to link interpersonal communication with measures of personality or psychiatric diagnosis (Mintu-Wimsatt & Lozada, 1999), or with differences over cultures (Tinsley, 2001). However, studies that combine an analysis of different speakers with variation in context will yield particularly important results, testing the extent to which the conditional account of behavioural consistency provides a convincing explanation of negotiators’ communication behaviour.

A second important distinction can be inserted into the mapping sentence directly after the context facet, by conceptualising the phrase “communication behaviour” as one of a number of different possible units of observation. For example, further research may find it useful to attend to negotiators’ intuitive judgments regarding the other party’s motivation and the implicit theories of communication behaviour and motivation that guide their judgments. Identifying differences between the dynamics of conflict negotiation and negotiators’ implicit judgments may not only highlight potential reasons for the various outcomes generated by negotiation, but may also shed light on the characteristics of cognitive frames and heuristics that lead to these outcomes. The methodology used to evaluate changes in the structure of communication behaviour in Chapter 3 may provide a way of accessing such cognitions, by providing a test of the hypothesis that similarity of structure between two cognitive fields increases the efficacy of communication between them (Runkel, 1956; 1963). Since the effects of communication depends on the manner in which it “meshes” with an existing cognitive map, it is reasonable to entertain the notion that these effects will take place more readily when the cognitive maps of the communicators are similar in structure. The degree of similarity in the structure of different negotiators’ communication behaviour may therefore provide a way to operationalise at a global level the notion of cognitive similarity.
A final development of the mapping sentence in Figure 4-1 is to refine the stratification of content by extending current facets or adding new facets. Developing a fruitful facet design for content is an evolutionary process, and there is always room for corroboration, correction, and extension of the cylinder model by systematically testing possibilities. Some of the facets would be expected to be appropriate to all types of communication studies, some to a large class of negotiation, and some specific to the study of conflict negotiation. Should it be found that all existing tests have in fact held these additional facets constant, then an extended conceptualisation to express the full differences according to these facets will probably require a dimensionality higher than three. The cylinder would then be but a special case of a more complex structure of higher dimensionality.

10.4.2 Further research on the organisation of communication behaviour

Evidence for the theoretical foundations of an interact-based approach proposed in Chapter 6 provides empirical justification for viewing conflict negotiation as involving constant “limitation” (Watzlawick, Beavin, & Jackson, 1968), where every exchange of messages narrows down the number of possible next moves and refines the eventual resolution. However, while the triple-interact, backed by theory, illustrates that very simple sequences of behaviour underlie what is traditionally viewed as a complex process, the true importance of showing that negotiation can be modelled in this way lies elsewhere. If the triple-interact is consistently found over replications with different transcripts (and across different samples of variables), then it might be inferred, by way of generalisation, that the interaction process itself is organised around the triple-interact. In other words, it may be possible to identify patterns in communication that are independent of the behaviours or contexts examined, thereby identifying regularities that
form the basis of a general theory of interpersonal interaction. Revealing regularities in communication that transcend the variety of possible contexts and coding schemes is likely to be particularly important to cumulative progress in communication research (Taylor, 2002b).

Of equal importance to determining the basic organisation of behaviour is to assess the extent to which other factors lead to further constraint in sequences of behaviour. This is particularly important for the triple-interact since, as has already been mentioned, this sequence represents the upper-limit of any organisation process in conflict negotiation. Research in this domain may become very intricate, with dispositional and contextual factors being shown to have varying emphases on negotiators’ use of certain communication behaviours. However, these intricate relations should themselves be grounded in theoretical constructs and fit within the limits of the foundations demonstrated in Chapter 6. For example, Shoda, Mischel, & Wright (1993) showed that individuals with high situation discriminativenss were able to react purposely to different cues and, consequently, showed higher levels of consistency in behaviour compared to those with low discriminativeness. Accordingly, the interact-based account would expect those with high discrimination to show relatively higher levels of variety in their responses and less predictability in behaviour over the triple-interact, compared to those with low discrimination. By learning how and why dispositional and contextual factors affect the ways behaviours are brought together by negotiators, researchers will be able to move towards uncovering how the interaction process produces the dynamic patterns observed over the cylinder model. It is in striving toward this refined understanding of sequences that the proximity coefficient introduced in Chapter 9 will be most useful.
10.5 User Group Application

Given the recently solicited body of knowledge about the psychological dynamics of conflict negotiation (Giebels, 1999; Justice, 1993), it is desirable to address the practical utility of this research to conflict negotiators. While both the cylinder model and sequence-based consistencies have implications for the way negotiators’ behave, advice is likely to be most productive when given within the context of the modes of interaction outlined in the cylinder model. This is because the cylinder model may easily be adapted to construct an instrument that offers negotiators a visual overview of the behavioural orientation and motivations of the other party. When used across time, the model also provides a firm basis for examining the progression of a negotiation, as interactions move from region to region of the model. At this level the model is useful for two reasons. First, it provides heuristic aid to decision makers that summarises a large amount of information. Second, it provides negotiators with information regarding the other party’s primary concerns and overall interpersonal approach.

The cylinder model is also capable of fulfilling a proactive function, allowing negotiators to identify the course of action that is likely to be the most beneficial. Comparing current patterns of progression with previous incidents may provide an indication of likely future development. The model also allows identification of behaviours that might induce entrainment, where the adjustment of the negotiator’s communication focus causes similar synchronised shifts in the approach adopted by the other party. Entrainment is important in the crisis context because it may prove a useful way of making the competing party adopt a more rational, problem-solving orientation. Since communication behaviours in adjacent regions are relatively more likely to occur together, they are also those which, empirically, are most likely to produce a change in a negotiator’s behavioural orientation. The model therefore provides a basis for identifying
the behavioural strategies that allow a negotiator to develop entrainment. Such strategy planning may also be complemented by drawing on models of local sequence dynamics. Knowing what kinds of behaviours are likely to generate reciprocation and what kinds are likely to lead to shifts in the emphasis of dialogue immediately provides a list of potentially useful messages.

A third level of application for the derived models is in formalising post-event evaluation, providing a non-textual method for systematically describing and documenting the interactions of a particular negotiation. This will not only provide a resource for possible legal clarification, but may also prove a useful way of providing individuals with a much clearer understanding of the psychological dynamics of a particular conflict. For example, police negotiators may use the cylinder model as a template for recording the major events of an incident and as a framework for pedagogical evaluation. Standardising the way incidents are recorded will facilitate comparisons and aid in the development of negotiators’ understanding of the overall negotiation process. Similarly, comparisons of aggregate data across geographic regions may prove useful in pinpointing local training needs.

Given these advantages, a very real long-term goal is one of integrating research findings into a computer-based support system that generates output directly from negotiator interaction. At one level this system may provide useful summary information about the negotiation, such as, for example, a list of the hostage taker’s demands. However, by recording the kinds of sequences and modes of interaction being used by a negotiator, the system may also provide a succinct visual overview of the predominant behavioural concerns of the other party. This would allow negotiators to focus on these concerns, build a rapport with the other party, and slowly move the conflict towards a more problem-orientated, cooperative discussion. Finally, the system may use a cylinder
model derived from proximity coefficients to yield advice about how best to deal with
the other party’s interpersonal mode of interaction. One possibility is the ability to
identify those behaviours that would maximise a negotiator’s chance of developing
entrainment and moving the other party to a preferred mode of interaction (see Chapter
3). Since there are differences in the type of triple-interact used by negotiators, a second
possibility is to analyse the kinds of local cues and responses given by the other party
and link these to individual differences and likely future actions (Toural & Zartman,
1989). Although development of such a system is a long-term objective, having the
appropriate models for the system in place means that, given the appropriate data, the
development of a support system is a very real prospect.

The central theme of this thesis has been the content of negotiation and the
complex but meaningful ways in which a negotiator uses communication behaviour.
Over an unfolding conflict a negotiator has the capacity to adopt qualitatively distinct
modes of behaviour to deal with different issues and pursue their main goals and
objectives. Although negotiators move through these modes in a fluid and dynamic way,
the modes themselves are common to all conflicts and are only moderated by differences
in contexts or negotiator role. The reason for this common structure rests in the local
organisation of cues and responses, which are channelled down particular paths through
the mechanism of the triple-interact. Indeed, on the basis of this research, the
interconnections among individual behaviours should be seen as critical to understanding
the interaction process and intra-individual functioning. The current trend in negotiation
research is still to take different groups of negotiators and assess either their overall
behavioural emphases or the pattern of cues and responses they choose to use. It is hoped
that the present work highlights the importance of understanding the content of
negotiator’s behaviour in a far more dynamic way, understanding how their immediate behavioural choices are systematically and intelligently tied to their broader strategic objectives and motivations.
References


Taylor, P. J., Bennell, C., & Snook, B. (2002). Problems of classification in investigative psychology. In K. Jajuga, A. Sokolowski, and H. H. Bock (Eds.), *Classification,*
clustering, and data analysis: Recent advances and applications (pp. 479–487).

Heidelberg: Springer.


Appendix

Table 1A and Table 2A report the reduction in uncertainty associated with predicting negotiators’ behaviour in marginal frequencies derived using two alternative coding approaches (see Section 6.6). The values of uncertainty, $H(X)$, shown in Table A1 are calculated from marginal frequencies produced from an analysis in which all thought units were considered part of the sequence. The values of $H(X)$ shown in Table A2 are calculated from marginal frequencies derived from the “hitting behaviour” approach (Weingart et al., 1999), in which only the first thought unit of negotiators’ utterances were included within the sequence. These Tables may be interpreted in the same manner as Tables 6-2 and 6-3 (See Section 6.6). Briefly, both Tables show a similar pattern to the analysis in Reference source not found., with the uncertainty of negotiators’ future behaviours systematically reducing as more previous behaviours are considered. Consistent with the interact-based analysis in Reference source not found., a significant majority of the channelling in behaviour transpires during 4-behaviour (triple-interact) sequences, as shown by the relatively large reduction in uncertainty associated with this sequence length. The high predictive value of 5-behaviour sequences found in Table A1 is not inconsistent with this interpretation. This value suggests a delayed predictability in these sequences that is likely to be the result of short sequences involving thought units from only one speaker. Given that negotiators’ utterances contained an average of 2.65 thought units (2.51 for the hostage negotiation data and 2.78 for the divorce mediation data), a low average reduction in uncertainty would be expected for 2-behaviour and possibly 3-behaviour sequences (as found in Table 1A) because these sequences do not include the channelling associated with negotiator interaction.
Table A1
Uncertainty Values and Contributions to Predicting Response Behaviour for Past Behaviours, Context, Negotiator Role, and Speaker. Behaviours were Analysed using Marginal Frequencies Derived from all Thought Units in the Negotiations.

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Uncertainty (H)</th>
<th>Reduction in Uncertainty</th>
<th>Overall</th>
<th>Added variable</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(None)</td>
<td>2.95</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-behaviour</td>
<td>2.69</td>
<td>0.26</td>
<td>0.258</td>
<td>0.087</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.087)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-behaviour</td>
<td>2.61</td>
<td>0.34</td>
<td>0.085</td>
<td>0.116</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.116)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3-behaviour</td>
<td>2.43</td>
<td>0.52</td>
<td>0.177</td>
<td>0.176</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.176)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4-behaviour</td>
<td>1.81</td>
<td>1.14</td>
<td>0.625</td>
<td>0.388</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.388)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5-behaviour</td>
<td>0.99</td>
<td>1.97</td>
<td>0.821</td>
<td>0.666</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.666)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6-behaviour</td>
<td>0.44</td>
<td>2.51</td>
<td>0.543</td>
<td>0.850</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.850)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Context</td>
<td>2.93</td>
<td>0.02</td>
<td>0.025</td>
<td>0.007</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.007)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Context.Role</td>
<td>2.79</td>
<td>0.16</td>
<td>0.139</td>
<td>0.054</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.054)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Context.Role.Speaker</td>
<td>2.64</td>
<td>0.31</td>
<td>0.144</td>
<td>0.105</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.105)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table A2

Uncertainty Values and Contributions to Predicting Response Behaviour for Past Behaviours, Context, Negotiator Role, and Speaker. Behaviours were Analysed Using Marginal Frequencies Derived from the First Thought Unit of each Utterance only (Hitting Approach).

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Uncertainty (H)</th>
<th>Reduction in Uncertainty</th>
<th>Overall</th>
<th>Added variable</th>
</tr>
</thead>
<tbody>
<tr>
<td>(None)</td>
<td>3.04</td>
<td>0.08</td>
<td>0.082</td>
<td></td>
</tr>
<tr>
<td>1-behaviour</td>
<td>2.96</td>
<td>(.027)</td>
<td>(.027)</td>
<td></td>
</tr>
<tr>
<td>2-behaviour</td>
<td>2.85</td>
<td>0.19</td>
<td>0.112</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(.064)</td>
<td>(.037)</td>
<td></td>
</tr>
<tr>
<td>3-behaviour</td>
<td>2.38</td>
<td>0.66</td>
<td>0.470</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(.218)</td>
<td>(.155)</td>
<td></td>
</tr>
<tr>
<td>4-behaviour</td>
<td>1.18</td>
<td>1.86</td>
<td>1.192</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(.610)</td>
<td>(.392)</td>
<td></td>
</tr>
<tr>
<td>5-behaviour</td>
<td>0.34</td>
<td>2.70</td>
<td>0.840</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(.887)</td>
<td>(.276)</td>
<td></td>
</tr>
<tr>
<td>6-behaviour</td>
<td>0.08</td>
<td>2.96</td>
<td>0.266</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(.974)</td>
<td>(.087)</td>
<td></td>
</tr>
<tr>
<td>Context</td>
<td>3.03</td>
<td>0.01</td>
<td>0.014</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(.003)</td>
<td>(.003)</td>
<td></td>
</tr>
<tr>
<td>Context.Role</td>
<td>2.93</td>
<td>0.11</td>
<td>.100</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(.036)</td>
<td>(.047)</td>
<td></td>
</tr>
<tr>
<td>Context.Role.Speaker</td>
<td>2.64</td>
<td>0.40</td>
<td>.283</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(.131)</td>
<td>(.049)</td>
<td></td>
</tr>
</tbody>
</table>