

# Methodological Issues in Negotiation Research: A State-of-the-Art-Review

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**Abstract** This study provides insight into the dominant methodological practices that have shaped the field of negotiation over the past four decades and sheds light on possible gaps and trade-offs. We content analyzed 941 peer-reviewed negotiation articles (published between 1965 and 2004) and identified the most important methodological trends over time. The results reveal significant changes in reliability, validity, and triangulation issues. In addition, the rise of multivariate statistics and multiple data sources displays positive evolution towards more sophisticated methodologies. Despite these positive evolutions, we want to encourage current and future researchers to conduct more longitudinal and qualitative research to further advance our knowledge on negotiation.

**Keywords** Negotiation · Research methodology · Review · Validity · Triangulation

## 1 Introduction

Negotiation research is marked by several research traditions in the applied behavioral sciences, such as psychology, political science, law, economics, communication, anthropology, and organizational behavior (De Dreu and Carnevale 2005). Over the past four decades, the study of negotiation has been a rapidly growing area in the field of organizational psychology. For example, the PsycINFO database for our search of peer-reviewed articles with negot\* in the title yielded 93 hits for the year 2000, whereas only one hit was recorded for 1965, indicating exponential growth and expanding interest in the topic over the last decades. With this strong growth, and the ultimate target of each field in social sciences being to progress and mature, it is essential for researchers to assess the methods that are employed. Such a profound review study not only provides insight into the rigor with which data are collected and analyzed (Pfeffer 1993; Scandura and Williams 2000), but will also contribute to the further recognition of our field.

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The number of review studies on research methodology in negotiation is rather scant. De Dreu and Carnevale's (2005) review study is one of the more comprehensive works in the field. In their inquiry, 345 articles on the methods and techniques used over a five-year period were reviewed. Evidence was found for the fact that negotiation scholars tend to rely on a handful of dominant research techniques. For example, half of the negotiation studies published between 1997 and 2001 involved applied laboratory experiments, and about one-third reported the use of mathematical modeling, surveys, and questionnaires. In light of these observations, De Dreu and Carnevale (2005) concluded that "researchers should adopt, or continue to employ triangulation as an approach to validity" (p. 201).

Although we recognize the importance and value of De Dreu and Carnevale's study, their review covers rather a short time period and excludes relevant aspects of validity, such as time frame, type of sample, reliability measures, and manipulation checks. Therefore, we argue for a large-scale review of negotiation research that addresses the progress made in the field and maps out future research directions. It is also important to note that an in-depth examination of the 'big four of validity' (i.e., internal, external, construct, and statistical conclusion; Cook and Campbell 1976) helps to put the evolution of the field into perspective, by providing us with a framework that allows rigorous comparisons across related fields (Aulakh and Kotabe 1993; Chandler and Lyon 2001; Nakata and Huang 2005; Scandura and Williams 2000).

To summarize, the purposes of this paper are threefold: (1) to give a brief overview of the current research paradigms affecting the field of negotiation; (2) to identify the main methodological shifts and patterns that have occurred in negotiation research over the past four decades; and (3) to provide insights, future directions and recommendations for the field. The remainder of the article is divided into four parts. First, we elaborate on our conceptual framework. Next, our procedures for the selection and analysis of articles are explained. Third, the results of the coding of 941 articles on negotiation over the past four decades are reported. In the final section, we conclude with a discussion of the most salient findings and suggestions for future research on negotiation.

## 2 Theoretical Framework

### 2.1 Towards a Diversity of Methods

There is a large methodological toolbox that negotiation researchers can draw upon; tools range from realistic simulations and in-field observations to mathematical modeling, case study work, and survey research. During recent decades, researchers have been overwhelmed with the introduction of alternative research strategies (e.g., ethnography, narratives, computer simulations). This increased methodological diversity can only be acclaimed, because it contributes to new empirical and theoretical insights, introduces new challenges, produces new questions and yields new answers where other single-method approaches have failed. While outlining their own methodological choices, several authors have expressed their concerns about the merits and limitations of different methods, and their possible application in negotiation research (e.g., Bazerman et al. 1991; Bazerman et al. 2000; Carnevale and Pruitt 1992; Duffy and Kavanagh 1983; Druckman 1994, 2005; Greenhalgh and Gilkey 1997; Harris 1996; Lewicki et al. 1986; Thompson 1990; Tripp and Sondak 1992; Wall and Blum 1991). Recently, Druckman (2005) discussed the use of a wide range of research methods for conflict analysis in the context of actual research projects. Furthermore, two special issues of *International Negotiation* were dedicated to the strengths and

weaknesses of different methods applied in negotiation research (Carnevale and De Dreu 2006).

While reflecting on potentially fruitful avenues for future research, a number of negotiation scholars (e.g., De Dreu and Carnevale 2005; Druckman 2005; Hopmann 2002; Moore and Murnighan 1999) call for the combination of diverse methods for the same research question, known as triangulation. For instance, Moore and Murnighan (1999) emphasize the need to bridge disparate perspectives in future negotiation research, in order to benefit theory development and improve data collection. As any research method has inherent flaws, corroborating evidence from the use of a variety of methods affords different views of the phenomenon under investigation and increases confidence in the findings (Cook and Campbell 1976; Sackett and Larson 1990; Scandura and Williams 2000). Researchers might, for instance, combine an experimental simulation with postnegotiation interviews to examine the same research question. An example of this is Barron's (2003) investigation of gender differences in negotiators' beliefs about requests for a higher salary. While the quantitative findings showed that men made significantly larger salary requests than women, the qualitative data enhanced our understanding of the different bases for the decisions and choices made by men and women.

## 2.2 Three Schools of Thought on Competent Research

To prevent researchers becoming swamped by possible research strategies, we elaborate on three philosophical schools (see Table 1), which make different knowledge claims about what constitutes excellent research: positivism; constructivism, and critical postmodernism (Creswell 2003; Gephart 1999; Lincoln and Guba 2000). These knowledge claims determine the choice of method, which tends to be quantitative, qualitative or mixed (Creswell 2003). In the next paragraphs, it is not our intention to overwhelm the reader with an overview of all possible methodological applications for each perspective. On the contrary, we want to provide examples of state-of-the-art negotiation research. In doing so, we hope to inspire current and future colleagues to adopt high quality research standards in their quest for unraveling the complexity that underlies the negotiation phenomenon.

### 2.2.1 *Positivism and Postpositivism*

The psychological tradition that smothered negotiation research over the past decades has been dominated by normal science principles, also referred to as the positivist approach in social science research (De Dreu and Carnevale 2005; Druckman 2005; Russell 2006). The urge to rely on the 'scientific method' typifies the positivist tradition. This method conceives research as the process of making claims and then refining and abandoning them for other, more strongly warranted claims (Philips and Burbules 2000). In other words, the scientific method is especially concerned with theory verification. Furthermore, positivist research seeks to develop relevant true statements that can serve to explain the situation that is of concern or that describe causal relationships (Creswell 2003).

Negotiation research embedded in this tradition typically employs experiments and surveys, using predetermined instruments to yield statistical data. These methods attach importance to careful observation and measurement of objective reality. The primary emphasis of decades of positivist negotiation research has been to identify the determinants of the outcomes of negotiation (Thompson 1990). For instance, Corfman and Lehmann (1993) conducted a computerized experiment in which students negotiated with preprogrammed simulated opponents, to examine the relationship between different outcome parameters.

**Table 1** Research paradigms<sup>a</sup>

	Postivism and postpositivism	Constructivism/interpretivism	Critical theory/ Postmodernism
Assumptions	Objective world, which science can 'mirror' with privileged knowledge	Intersubjective world, which science can represent with concepts of concepts of actors; social construction of reality	Material world of structured contradiction and/or exploitation, which can be objectively known only by removing tacit ideological biases
Key focus	Search for contextual and organizational variables, which cause organizational actions	Search for patterns of meaning	Search for disguised contradictions hidden by ideology; open spaces for previously silenced voices
Criteria for assessing research	Rigor, internal & external validity, reliability	Trustworthiness; authenticity	Theoretical consistency Historical insights Transcendent interpretations Basis for actions, change potential and mobilization
Unit of analysis	The variable	Meaning, symbolic actions	Contradictions; incidents of exploitation
Research methods	Experiments; Questionnaires; Secondary data analysis; Quantitatively coded documents  Quantitative: regression; Likert scaling; structural equation modeling Qualitative: grounded theory testing	Ethnography; participant observation; interviews; conversational analysis; grounded theory development  Case studies; conversational and textual analysis; expansion analysis	Field research; historical analysis, dialectical analysis Deconstruction; textual analysis

<sup>a</sup> This table is based on Gephart (1999), Guba and Lincoln (1994), and Lincoln and Guba (2000)

Another example is the large-scale study of Griffin, Tesluk and Jacobs (1995), who surveyed 23,170 teachers to examine bargaining outcomes in different phases of the bargaining cycle. Standards of validity and reliability are important in this kind of research. To put it differently, the quality of this type of research is assessed by the 'big four of validity' (Cook and Campbell 1976), which require attention to the design of research, cause and effect, the operationalization and measurement of variables and the generalization of findings.

A recent evolution of positivism, postpositivism, assumes that variable relations or facts are probabilistic, not deterministic. Postpositivist researchers begin with a theory, collect data that either support or refute the theory, and then make necessary revisions before additional tests are conducted (Creswell 2003). Postpositivism complements the quantitative interest for experimental, quantitative methods by an interest in using qualitative methods to gather broader information outside readily measured variables (Gephart 1999). Such multiplicity can be applied to many elements of research methods, including strategies, settings for data collection, data analyses, investigators, and sources of data (Cook 1985).

In addition to this positivist tradition, concerned with unraveling cause-effect relationships, certain types of negotiation research problems call for other approaches. In studying negotiation, the questions we ask do not always refer to 'what causes' or 'what predicts' but

also involve the ‘how’ and ‘why’ questions. The positivist perspective, however, is not the most appropriate approach to answer these questions. Therefore, in the next two paragraphs we reflect upon two perspectives that make totally different knowledge claims from those made by the positivist tradition.

### 2.2.2 *Constructivism and Interpretivism*

Contrary to positivism, constructivism assumes that such a thing as an objective truth or reality does not exist. Human beings construct meanings as they engage with the world that they are interpreting (Gephart 1999). A key assumption held by the social constructivist approach is that individuals seek understanding of the world in which they live. As we are all born into a world of meaning that is shaped by context and culture, the basic generation of knowledge always has a social dimension, arising in and out of interaction with the community. Constructivists want to get a better understanding of specific phenomena by examining the contexts and the underlying processes that drive the appearance and disappearance of these phenomena. In summary, the researcher’s intention is to generate or inductively develop a theory or pattern of meaning (Creswell 2003; Crotty 1998). While positivists seek rigor by using statistical criteria and conceptions of reliability and validity, interpretive research is assessed in terms of trustworthiness and authenticity criteria (Guba and Lincoln 1994).

The goal of this type of research is not hypothesis falsification, but to understand the actual production of meanings and concepts used by social actors in real settings. In consequence, a relative stance is adopted such that diverse meanings are assumed to exist and to affect how people understand and respond to the objective world. In short, this type of research describes how different meanings held by different persons or groups produce and sustain a sense of truth. In comparison to quantitative research, qualitative research often performs better with regard to context realism (Creswell 2003; Gephart 1999).

The primary analytic methods used in interpretive research are grounded theory and expansion analysis. Researchers can draw upon a myriad of strategies, including ethnographies, grounded theory development, case studies and phenomenological research. In one of the early ethnographic studies, Maines (1979) examined negotiation processes in New York subways, based on direct observations of seating patterns of passengers, according to race and sex. Miles (2003) examined Chinese cross-cultural negotiation processes through a phenomenological exploration. Using his own experiences in China over an 18-month period, and the experiences of others described in the literature, the author identified principles and practices useful for guiding future negotiations between Chinese and foreign negotiators.

### 2.2.3 *Critical Postmodernism*

A third metatheoretical perspective, critical postmodernism, is a combination of critical theory and postmodern scholarship. According to the advocates of critical postmodernism, social constructivism was not action oriented enough. Proponents of this metatheory believe that research needs to be intertwined with politics and a political agenda. Keeping that in mind, this kind of research should contain an action agenda for reform that may change the lives of the participants, the community and institutions in which people work and live and the researcher’s life (Creswell 2003). Through the united voice of the participants, the aim is to create a political debate so that change will occur (Kemmis and Wilkinson 1998). Critical

scholarship seeks to transcend taken-for-granted beliefs, values, and social structures by making these structures and the problems they produce visible, and by transforming existing structures of domination (Gephart 1999).

Critical postmodern theories adhere to literary and narrative forms, including historical essays and analyses, field research and case studies (Gephart 1999). Methods based on the principles of the critical postmodernist approach have a more qualitative character in comparison to the traditional normal science methods. However, some critical researchers also apply typical positivist methods such as surveys. A recent example is Denton's (2004) investigation of how gender ideology in practices of marital decision making is negotiated between different religious groups in the United States. Sisk (1993) performed a case study to identify links between negotiation and violence in South Africa, using narrative and textual analyses.

We have provided a metatheoretical framework of possible approaches and briefly referred to examples of excellent research in negotiation. The next section will address the procedure we used to review 40 years of negotiation research.

### 3 Method

#### 3.1 Literature Search

We focused on four decades of research on negotiation; the period from 1965 to 2004. Contrary to our predecessors in other fields, who centered their search on articles published in a few selected journals, we opted for a wider variety of publications. Both empirical and conceptual studies were incorporated, in order to represent the full range of research. Reviewing a broad spectrum of articles is vital for several reasons. First, limiting our analysis to a few top-tier journals might skew our findings towards methods that are predominant in those outlets. Landmark studies that appear in academic journals with a slightly lower impact score would then be excluded, even though they often represent essential contributions to the field. Second, the goal of this study is to provide insights in the trends and characteristics of research in various substantive areas within the field of negotiation, and to highlight differences in the procedures that have been embraced and abandoned over time. Therefore, having a sufficient amount of cases in each subarea is desirable.

#### 3.2 Criteria for Inclusion

One of the major challenges for this study was obtaining a large and representative sample of relevant peer-reviewed publications covering negotiation behavior within different contexts. We identified 2,163 articles in the PsycINFO database using *negot\** or *bargain\** as key words in the title or abstract for the period from 1965 to 2004. We applied three criteria for the inclusion of studies. First, studies needed to fully cover negotiation behavior in order to be included. Articles on mediation, arbitration or alternative dispute resolution were only included if they explicitly focused on negotiation. We excluded articles that used the term negotiation to describe a certain type of client–therapist relationship. It appeared that studies published in *Journal of Sex and Marital Therapy* and *Journal of Child Psychiatry* used negotiation as a key word, even though they had nothing to do with the study of negotiation behavior. To preclude irrelevant articles, these clinical–psychological and psychoanalytical journals were put aside. Accordingly, articles that interchangeably used the term negotiation

with the classic Freudian concepts of ‘transfer’ and ‘rapport’ were omitted. Second, studies needed to imply research reports on negotiation. Comments, book reviews, negotiation exercises, editorials, short notes and columns were therefore excluded. Third, studies could be either theoretical or empirical, with negotiation treated as either the independent or dependent variable, as long as they met the previous two criteria. Our literature set comprised 68 journals. Appendix 1 rank orders all academic journals featured in our PsycINFO search according to the number of negotiation articles they had published over the last 40 years. *Organizational Behavior and Human Decision Processes*, for instance, is top of our list with 84 articles.

Nine hundred and forty-one of the 2,163 initially selected articles were research articles on negotiation behavior and relevant for our purposes.<sup>1</sup> A high number of articles described several separate studies with separate samples. Consistent with [Scandura and Williams \(2000\)](#), and [Chandler and Lyon \(2001\)](#), each study from an article describing multiple studies was treated as a separate data entry. Accordingly, 1,108 studies from 941 articles were selected from our PsycINFO list. The set was not intended to be complete and exhaustive, but representative of the field’s research. We recognize the arbitrariness or the idiosyncratic nature of various decisions pertaining to the inclusion criteria of our analysis. Different classification decisions can indeed yield different results. However, we also believe that, because our inclusion criteria are an extension of the criteria applied in prior methodology reviews, our selection of papers, based on these criteria provides a good representation of high quality scholarly research.

We opted for a comparison of the methodological approaches employed in two time periods, in order to explore the dominant practices and possible gaps within negotiation research. In line with [Grégoire et al. \(2002\)](#), we chose to examine two unequal time frames, from 1965 to 1994 and from 1995 to 2004, that have roughly the same number of articles. This dichotomization allows us to detail how the most recent stream of research differs from preceding traditions, and how recent research has evolved from the more exploratory works.

### 3.3 Coding of Variables

Content analysis, an approach considered appropriate for review studies (e.g., [Aulakh and Kotabe 1993](#); [Austin et al. 2002](#); [Bartunek et al. 1993](#); [Busenitz et al. 2003](#); [Chandler and Lyon 2001](#); [Grégoire et al. 2002](#); [Nakata and Huang 2005](#); [Podsakoff and Dalton 1987](#); [Sackett and Larson 1990](#); [Scandura and Williams 2000](#); [Stone-Romero et al. 1995](#)), was used to analyze the data. We developed a coding scheme in alignment with previous methodological research ([Chandler and Lyon 2001](#); [Podsakoff and Dalton 1987](#); [Scandura and Williams 2000](#)). However, a number of items specifically tailored towards the idiosyncrasy of negotiation research were added. Studies were analyzed along 15 coding dimensions related to triangulation, validity, research design, measurement, analysis of quantitative data and content. To further refine our coding scheme and coding rules, we conducted a coding test based on 100 articles ([Harris 2001](#)).

The principal coder coded all studies. A second coder recoded approximately half of the studies ( $N = 589$ ). By coding the same article twice, we were able to check the stability ([Krippendorff 1980](#); [Weber 1990](#)). Measures of interrater agreement were obtained by calculating the percent agreement for each variable coded. We resolved ambiguities and disagreements in codings by discussing key terms and jointly reviewing the articles

<sup>1</sup> A listing of the articles used can be found on <http://www.vlerick.be/en/6311-VLK/version/default/part/AttachmentData/data/Listing%20of%20studies.pdf>

**Table 2** Research strategies in negotiation<sup>a</sup>

Research strategy	1965–1994 (%)	1995–2004 (%)
Formal theory/conceptual article	17.5	26.7 <sup>b+</sup>
Case study	2.2	3.8
Interview	1.2	2.3
Observation	0.4	0.7
Laboratory experiment	65.5	48.8 <sup>b-</sup>
Experimental simulation	7.4	10.9
Field study	2.6	2.1
Computer simulation	0.4	0.2
Meta-analysis	0.0	1.2
Sample survey	2.8	3.5

<sup>a</sup>  $N_{\text{total}} = 1,108$ ;  $N_{\text{early}} = 501$ ;  $N_{\text{recent}} = 607$

<sup>b</sup> Time-based regression analysis revealed a significant linear trend in the direction of the proportion: ‘-’ shows a significant decrease (at least  $p < 0.05$ ) and ‘+’ shows a significant increase (at least  $p < 0.05$ )

until consensus was reached. Agreement in this sample of 589 studies ranged from 79.9% to 99.8%. The median agreement was good (91.3%), as reliability measures above 85% are considered high (Kassarjian 1977). Differences in opinion on clear-cut aspects, such as time frame, sample size and focal process, were rare. Overall, disagreements appeared mainly with respect to the number of dependent variables. For a complete overview of our coding scheme, refer to Appendix 2.

### 3.4 Data Analysis

Using cross-tabulations, we compared percentages for both periods (1965–1994 and 1995–2004). In Tables 2, 5–7, we used linear regression analysis, with ‘year’ as the dependent variable and categories of interest as independent dummy variables, to determine if there was a linear trend in the proportion of studies that employed each specific research strategy. This allowed us to see whether the changes observed represent some continuity in terms of a trend or linear pattern. This method was introduced by Scandura and Williams (2000) in their review of research methodology in management. A significant result indicates that the change observed between the periods (1965–1994 and 1995–2004) represents a pattern in the use of a coding dimension. If a trend was found, we entered the superscript b with a “+” or a “-”, to indicate increases or decreases.

## 4 Results

### 4.1 Triangulation in Research Methods

Table 2 reflects the use of various research strategies during the two periods described. Of the 1,108 studies reviewed, 250 (22.6%) were purely theoretical or conceptual in nature, and 858 (77.4%) were empirical works. Laboratory experiments were the most popular strategy in both time periods. Although our findings indicate a significant drop in the proportion of laboratory



experiments ( $\beta = -0.23$ ,  $t = -7.78$ ,  $p < 0.001$ ), this evolution has not led to a significant increase in the attention given to other specific empirical techniques. We observe that 10.9% of the recent studies have employed more realistic experimental simulations than laboratory work, compared to 7.4% in the earlier period, but there was no statistical evidence of an increasing linear trend to use this technique. According to McGrath (1982), the laboratory experiment maximizes precision in measurement and internal validity but possible trade-offs are low generalizability and low realism of context. In experimental simulations, an attempt is made to retain some realism of context and external validity. This effort, however, is still marginal; we observed only a limited increase in the use of nonexperimental designs. Although the application of case studies, interviews and observations has slightly increased, it did so by nonsignificant proportions.

The findings indicate a significant increase in the number of theoretical and conceptual works ( $\beta = 0.15$ ,  $t = 4.99$ ,  $p < 0.001$ ). The magnitude of this development became even clearer when we considered the total number of *articles* in our database ( $N = 941$ ), instead of the total number of separate *entries* ( $N = 1,108$ ): at least 33.3% of recent peer-reviewed articles were theoretical, compared to 19.3% of earlier articles. This might indicate that the field is currently reconsidering its conceptual boundaries. From Table 2, it seems that some attempts towards more diversification of empirical research strategies have been made, but this development is still very much in its infancy. As the field of negotiation continues to grow, it will be vital to pay attention to whether these attempts are becoming more prominent.

Schaubroeck and Kuehn (1992) found that the research topic largely determined both the design and the setting. Table 3 shows how different research strategies are represented in the study of different types of negotiations. The large majority of nonexperimental empirical studies were conducted in the context of international and peace negotiations, whereas most studies in the context of salary and job negotiations took an experimental approach. Nonexperimental research strategies were also frequently found in labor negotiation studies. Most studies on buyer–seller and salary negotiations were empirical, with an experimental research strategy. Only a handful of articles had investigated crisis negotiations; such negotiations are probably predominantly studied from legal, political, or criminological viewpoints, and therefore do not feature very much in PsycINFO. The apparent lack of behavioral perspectives in this context may open possibilities for future psychological research.

**Table 3** Research strategy by type of negotiation<sup>a</sup>

Research strategy	Context or type of negotiation			
	International & peace negotiations	Buyer/seller negotiations	Salary & job negotiations	Labor negotiations
Theoretical/conceptual articles	35	26	2	10
Laboratory experiments	6	292	51	54
Experimental simulations	9	51	16	7
Case studies, interviews, observations and field studies	15	15	5	18
Sample surveys	4	8	2	11
Total	69	392	76	100

<sup>a</sup> Cross-tabulations are run with  $N = 637$ ; the categories ‘crisis negotiations,’ ‘environmental negotiations,’ ‘other negotiations’ (e.g., social negotiations, liability negotiations, community negotiations) and ‘not applicable’ are omitted in this analysis; cells represent absolute frequencies

**Table 4** Research strategy by focal process of negotiation<sup>a</sup>

Research strategy	Theoretic/ conceptual articles	Laboratory experiments	Experimental simulations	Case studies, interviews, observations, field studies	Sample surveys
Negotiator personality					
% Early period	4.4	82.2	11.1	0	0
% Recent period	4.7	65.1	14	7	9.3
Gender differences					
% Early period	0	72.7	9.1	9.1	9.1
% Recent period	17.4	60.9	8.7	0	4.3
Cross-cultural negotiations					
% Early period	20	30	40	10	0
% Recent period	22.4	20.4	22.4	18.3	16.3
Teaching and training					
% Early period	37.5	50	0	12.5	0
% Recent period	66.7	8.3	11.1	11.1	2.8
Emotions					
% Early period	7.7	61.5	7.7	23.1	0
% Recent period	20	64.4	11.1	4.4	0
Ethics					
% Early period	0	50	0	0	50
% Recent period	16.7	50	5.6	5.6	22.2
Communication interactions					
% Early period	18.3	73.7	9	4.6	0.8
% Recent period	12	60.1	9.2	10.5	1.3
Rationality & bias					
% Early period	20	66.2	10.8	3	0
% Recent period	11.8	67.7	15	3.2	2.4
Mathematical/game theory					
% Early period	47.3	51.4	1.4	0	0
% Recent period	72.9	22.9	1	2.1	0
Third-party influence					
% Early period	18.2	68.2	4.5	4.6	4.5
% Recent period	20	40	25	10	5

<sup>a</sup> Cross-tabulations are run with  $N_{\text{total}} = 1,108$ ;  $N_{\text{early}} = 501$ ;  $N_{\text{recent}} = 607$

<sup>b</sup> Focal Themes were coded as dummy variables to account for multiple processes in one study; total percentages therefore exceed 100 for this aspect

Table 4 details how different research methods are employed according to the behavioral process or focal theme under investigation. Most research areas are dominated by one procedure. The greater part of research on negotiator personality, communication and bias appeals to experimental methods. However, when we compared the earlier period to the last decade, we noticed a decline in the use of laboratory experiments. Comparisons between the periods from 1965 to 1994 and from 1995 to 2004 revealed an increase of qualitative procedures and conceptual articles in all content domains except for research on emotions, teaching and gender differences. Articles on mathematical models and the training of negotiator skills revert to theoretical works, while few formal theory/conceptual publications exist on gender and personality aspects. Sample surveys were mainly used in negotiation research on ethics.

In conclusion, an important observation is the limited use of triangulation of research methods. Between 1965 and 1994, no triangulation was applied to the use of research strategies. With respect to the most recent period, we note that only cross-cultural studies triangulate research strategies and made equal use of experimental methods, qualitative measures, surveys and theoretical works.

#### 4.2 The Evolution of Internal and External Validity

The widespread use of laboratory experiments in negotiation research fosters internal validity. An example of a study on internal validity is provided by [Rozelle and Druckman \(1971\)](#), who compared role-playing versus laboratory deception methods in the context of compromising behavior in negotiations. Furthermore, longitudinal designs facilitate a researcher's attempts to establish causal priorities between variables as well as the degree of mutual dependence between two or more variables ([Podsakoff and Dalton 1987](#); [Spector 2001](#)). An example of a longitudinal negotiation study is [Bluen and Jubiler-Lurie \(1990\)](#), who examined moderators and psychological consequences of participation in labor management negotiations. Data in this study were collected from industrial relations practitioners immediately before negotiations and three months later. Although slightly on the rise, the number of longitudinal studies in negotiation research has been rather low. Of the 858 empirical studies coded, only 15 (1.7%) were longitudinal. A comparison of the two periods yielded no statistically significant differences (1965–1994 = 1.2%; 1995–2004 = 2.3%).

Although the choice of research design has serious implications for the generalizability and external validity of research, several other aspects of methodology also fulfill an important role. In this inquiry, we analyzed the type of sample, the unit of analysis and the number of studies in each article. We observed interesting changes in the types of samples employed in negotiation research between both periods (see [Table 5](#)). As was the case in the earlier period, negotiation research in the last decade relied mainly on student samples. Whereas the last decade indicated lower percentages for samples drawn from psychology ( $\beta = -0.09$ ,  $t = -3.09$ ,  $p < 0.01$ ) and other or unreported student populations ( $\beta = -0.26$ ,  $t = -8.78$ ,  $p < 0.001$ ), most research during the last decade attracted business or MBA students ( $\beta = 0.07$ ,  $t = 2.15$ ,  $p < 0.05$ ).

When designing their studies, negotiation researchers choose from several levels of analysis, each with the potential to yield rich understandings of negotiation-related phenomena. We observed a significant time-based linear trend indicating an increase in the amount of research on dyadic negotiations, which replaced the studies on team or multiparty negotiations ( $\beta = 0.07$ ,  $t = 2.15$ ,  $p < 0.05$ ). The percentage of studies that relied on a dyadic level of analysis was 69.8% for the period from 1965 to 1994, compared to 77.1% for the period from 1995 to 2004. In their review, [Wall and Blum \(1991\)](#) denounced the fact that most studies in negotiation concern the dyad, however, this approach does not reflect reality because negotiation units in the real world typically consist of groups. Moreover, these authors noted that many core variables studied in negotiation research have different effects on groups than on individuals, and influences emanating from a group will also have different outcomes than those coming from an individual. In a similar vein, [Carnevale and Pruitt \(1992\)](#) proposed that more research on team and multiparty negotiations should be conducted. Yet, despite their calls, we noticed a shift towards more dyadic, and even less group-level, research. This is a trend that compromises external validity.

Another topic closely related to generalizability and external validity in negotiation behavior is the number and the approach of replication and cross-validation studies reported in each article. [Wall and Blum \(1991\)](#) made a strong argument for the replication and

**Table 5** Type of sample<sup>a</sup>

Type of sample	1965–1994 (%)	1995–2004 (%)
Psychology students	12.5	8.2 <sup>b-</sup>
Business or MBA students	14.2	35.0 <sup>b+</sup>
Other or nonspecified students	54.7	37.1 <sup>b-</sup>
Professional negotiators	3.2	2.5
Managers	1.2	3.0
Public sector employees	2.2	3.0
Private sector employees	4.2	1.6
Mixed	5.9	7.6
Not applicable	2.0	2.1

<sup>a</sup>  $N_{\text{total}} = 858$ ;  $N_{\text{early}} = 413$ ;  $N_{\text{recent}} = 445$

<sup>b</sup> Time-based regression analysis revealed a significant linear trend in the direction of the proportion: ‘–’ shows a significant decrease (at least  $p < 0.05$ ) and ‘+’ shows a significant increase (at least  $p < 0.05$ )

<sup>c</sup> ‘Professional negotiators’ are interpreted as ‘all those whose core job is to negotiate.’ We distinguish ‘managers’ as another class of experienced, real-life subjects who need to rely on negotiation skills as a necessary, but not exclusive, part of their job

refinement of results, through both identical and different settings and methods, because they felt that negotiation researchers were biased towards conducting single studies. To some extent, it seems their appeal has been answered during the past decade. As an example of research that does employ different research strategies and settings in subsequent separate studies, we note [Harinck and De Dreu \(2000\)](#). These scholars examined fixed-pie perceptions and cooperative motivation in two experiments, and then replicated their findings in an organizational field study.

We observed a statistically declining linear trend in the number of articles reporting one study ( $\beta = -0.16$ ,  $t = -5.23$ ,  $p < 0.001$ ). In addition, a significant upward linear trend was observed with regard to articles including two ( $\beta = 0.11$ ,  $t = 3.67$ ,  $p < 0.001$ ), or even three studies ( $\beta = 0.10$ ,  $t = 3.19$ ,  $p < 0.01$ ). In the last decade, 25.9% of the empirical articles contained several separate studies, compared to only 10.6% in the earlier period. It appears that more effort has been exerted over the last decade in the further testing and refining of initial findings, and the exploration of related hypotheses. However, this trend has not led to greater diversification of research methods. We calculated that, within one article describing several studies, follow-up analyses or replications of the results of a first study are conducted by means of the same research procedure in 91.1% of the cases. It is clear that triangulation in research methods is a recent phenomenon. Only one article that employed different research procedures was published before 1990.

#### 4.3 The Evolution of Construct Validity and Measurement

As summarized in [Table 6](#), a large and statistically significant increase occurred in the proportion of empirical studies that report a procedure for establishing the reliability of their findings, with Cronbach’s alpha and various estimates of interrater reliability being the most frequently cited. This increased use of reliability measures reflects a positive linear trend ( $\beta = 0.29$ ,  $t = 8.72$ ,  $p < 0.001$ ). For the subset of experimental studies, we also observe a significant rise in the number of studies that explicitly report checks for the

**Table 6** Construct validity and measurement approach<sup>a</sup>

Characteristic	1965–1994 (%)	1995–2004 (%)
<i>Construct validation</i>		
Reports of reliability estimates	21.6	43.2 <sup>b+</sup>
Reports of manipulation checks	21.1	30.5 <sup>b+</sup>
Exploratory factor analysis	5.2	5.3
Confirmatory factor analysis	1.0	2.6
<i>Type of dependent variable</i>		
Tangible negotiated outcomes	32.8	23.1 <sup>b-</sup>
Behavioral or decisional outcomes	53.2	50.1 <sup>b-</sup>
Attitudinal outcomes	9.7	11.3
Perceptual outcomes	4.3	15.5
<i>Number of data sources</i>		
Single	95.6	94.0 <sup>b-</sup>
Multiple	4.4	6.0 <sup>b+</sup>

<sup>a</sup>  $N_{\text{total}} = 858$ ;  $N_{\text{early}} = 413$ ;  $N_{\text{recent}} = 445$ , except for reports of manipulation checks:  $N_{\text{total}} = 727$ ,  $N_{\text{early}} = 365$  and  $N_{\text{recent}} = 362$  (laboratory and experimental simulations only)

<sup>b</sup> Time-based regression analysis revealed a significant linear trend in the direction of the proportion: ‘-’ shows a significant decrease (at least  $p < 0.05$ ) and ‘+’ shows a significant increase (at least  $p < 0.05$ )

manipulations of their independent variables ( $\beta = 0.09$ ,  $t = 2.63$ ,  $p < 0.01$ ). Both Wall and Blum (1991) and Duffy and Kavanagh (1983) indicated qualitative differences in the manipulation of independent variables to be one of the principal shortcomings in negotiation research, as such differences create unwanted confounds. It seems that, during the past decade, more attention has gone towards examining the adequacy of experimental manipulations.

Other techniques for assessing construct validation include confirmatory and exploratory factor analyses, the primary type of dependent variable and the number of data sources per study. For both periods, studies that measured tangible negotiated outcomes ( $\beta = -0.15$ ,  $t = -5.00$ ,  $p < 0.001$ ) and behavioral or decisional outcomes ( $\beta = -0.13$ ,  $t = -4.30$ ,  $p < 0.001$ ) have the highest percentages, although we note a significant decrease for studies with tangible negotiated outcomes, and studies with behavioral outcomes as dependent variables. There were no significant differences in proportions for attitudinal and perceptual outcomes as the primary type of dependent variable.

The number of studies using multiple data sources is still low. However, time-based regressions revealed that there was a significant upward trend towards conducting such studies ( $\beta = 0.08$ ,  $t = 2.30$ ,  $p < 0.05$ ). More negotiation researchers are becoming aware of the need for multiple data sources as a way of overcoming the threat of common method variance. In an earlier issue of this journal, Druckman (1997) developed a methodological approach for comparative analysis, using both primary (i.e., interviews and primary descriptions of cases) and secondary source materials. Another classic example is Neale and Northcraft (1986), who compared data gathered from a sample of professional corporate real estate negotiators with secondary data from an amateur student sample gathered in a previous study (Bazerman et al. 1985).

Druckman et al. (1999) provide a state-of-the-art example of construct validity. The authors subject Iklé's (1964) typology of negotiating objectives to an empirical test, reporting reliability, scaling, cluster, and discriminant analyses, as well as correlations across the cases coded.

#### 4.4 The Evolution of Statistical Conclusion Validity

Data analytical techniques and number of dependent variables are reported in Table 7. For both periods, the majority of studies used univariate analysis of variance. There were no significant differences in proportions. Furthermore, we note a significant linear increase in the use of regression analysis ( $\beta = 0.24, t = 7.21, p < 0.01$ ) and meta-analysis ( $\beta = 0.07, t = 2.06, p < 0.05$ ). The use of these techniques, however, remains marginal in negotiation research. As meta-analyses imply planned coding systems, they can deal with large numbers of variables across many studies, and are geared towards generalization (Stuhlmacher and Gillespie 2005). One recent example is a study by De Dreu and Weingart (2003) that did not support the previous finding that task conflict could be beneficial to team performance. The meta-analysis pointed out that task conflict can be as dysfunctional as relationship conflict.

Most studies we analyzed used two or three dependent variables. No significant changes or trends were observed in the number of dependent variables.

**Table 7** Aspects of statistical analysis<sup>a</sup>

Characteristic	1964–1993 (%)	1994–2004 (%)
<i>Data-analytical approaches for hypothesis testing<sup>c</sup></i>		
Univariate analysis of variance	73.4	75.3
Multivariate analysis of variance	9.6	12.2 <sup>b+</sup>
Regression analysis	11.1	28.1 <sup>b+</sup>
Correlational techniques	31.8	37.1
Nonparametric/interpretative techniques	29.6	25.7
Canonical analysis (Discriminant)	1.2	0.5
Structural equations & path analysis	1.7	1.9
Meta-analysis	0.2	1.9 <sup>b+</sup>
Cluster analysis	0.0	1.0
<i>Number of dependent variables</i>		
Single	16.3	16.2
Two or three	54.7	54.9
Four or five	23.8	21.8
More than five	5.2	7.1

<sup>a</sup>  $N_{\text{total}} = 858$ ;  $N_{\text{early}} = 413$ ;  $N_{\text{recent}} = 445$

<sup>b</sup> Time-based regression analysis revealed a significant linear trend in the direction of the proportion: '−' shows a significant decrease (at least  $p < 0.05$ ) and '+' shows a significant increase (at least  $p < 0.05$ )

<sup>c</sup> Statistical techniques were coded as dummy variables to account for multiple techniques in one study; total percentages therefore exceed 100 for this aspect

## 5 Discussion

In the present paper, we have systematically assessed the state of research methodology in the field of negotiation during the last four decades. We have compared research methods used within the past decade (1995–2004) with those employed in earlier research, dating back to 1965. We have examined and categorized the method sections of 1,108 relevant studies. The results of our analysis of articles published in 68 journals indicate some potentially important shifts in the emphasis of research methods. The need for looking back and looking ahead is born of a genuine concern to obtain a clear picture of how the field is evolving as we engage in this relevant area.

### 5.1 The Dominance of the Positivist Approach

In line with methodological reviews in related domains of negotiation, such as general management, marketing and entrepreneurship (Austin et al. 2002; Chandler and Lyon 2001; Nakata and Huang 2005; Sackett and Larson 1990; Scandura and Williams 2000), the field of negotiation remains primarily focused on a handful of dominant methods. In support of De Dreu and Carnevale's (2005) study, there seem to be some crucial differences in the application of research methods across the various substantive context areas within the field of negotiation. Experimental procedures were most often applied, especially for research on certain negotiation topics, such as communication mode or negotiator bias. Although we observed a significant drop in the proportion of laboratory experiments (from 72.9% to 59.7%), this has not yet led to increased attention to nonexperimental empirical techniques. Rather, we observe that substantially more emphasis is placed on theoretical and conceptual articles. It is yet to be seen if this theorizing will lead to new and innovative streams of research. In summary, with the exception of cross-cultural negotiation research, one could say negotiation research tends to rely on positivist methods.

### 5.2 The Issue of Validity in Negotiation Research

Methodology reviews in related management domains all noted a negative evolution with regard to internal, external and construct validity (Aulakh and Kotabe 1993; Chandler and Lyon 2001; Nakata and Huang 2005; Scandura and Williams 2000). In negotiation research, however, important evolutions have occurred on issues of internal, external, construct, and statistical conclusion validity. As our analysis demonstrated, methodologies employed in negotiation research are becoming increasingly sophisticated. However, a number of concerns should be formulated as well. Only a small number of researchers have broadened the more traditional approaches to negotiation research. In consequence, major threats for the future development of negotiation research are situated at the level of context validity, and the replication of findings through different methods, different settings, and different types of participants.

#### 5.2.1 Internal Validity

To fully grasp internal validity, we measured the timeframe of each study. The amount of longitudinal studies in negotiation research remains rather limited. However, the need for longitudinal research will likely become apparent in the near future. Despite the relatively small amount of longitudinal research that has been conducted to date, we believe that a number of relatively new and recently introduced research topics in negotiation (such as

the study of negotiators' reputations or effects of various types of negotiator training) allow for a longitudinal approach. In a similar vein, Lewicki (1992) has argued that more research should tackle the question of how negotiators' tactics and strategies change over time. As these questions gain importance, the need for longitudinal research is likely to become apparent in the near future.

### 5.2.2 External Validity

Different opinions exist on the benefits and problems of using real-life, as opposed to student populations, in negotiation research. The number of real life participants in negotiation research remains rather limited, while student populations continue to make up the large majority of samples. We observed, however, that more researchers made an appeal to professional negotiators and MBA students, rather than psychology or other students. If the goal of research is to understand negotiator behavior, then experienced negotiators should be the proper participants for research. Because much of the research and theory of negotiation claims relevance to managerial processes, our finding that only 3% of studies use practicing managers as participants is not a very positive one.

### 5.2.3 Construct Validity and Measurement

More effort is being exerted in establishing the reliability of measures and in checking the adequacy of experimental manipulations. Furthermore, negotiation researchers are making increasingly more use of multiple data sources. Substantially more emphasis is being placed on controlling construct validity. This is, of course, an outright positive shift, that is in line with methodological suggestions made in previous review articles. The fact that, despite this increase, about 70% of experimental studies still refrain from reporting such checks, is striking and open to interpretation. One could argue that many negotiation experiments have employed manipulations that are so straightforward and clear-cut that there is no need for any further inquiry on whether the manipulation actually succeeded or not. As contemporary research increasingly adopts independent variables that are 'intangible', this high nonreported percentage may cause problems. The lack of this information inhibits independent replications and extensions. Without such information, independent evaluations of research 'quality' are not possible (Albaum and Peterson 1984). Therefore, we should encourage researchers to provide information on the operationalization of their research designs.

### 5.2.4 Statistical Conclusion Validity

Increasingly, attention is directed towards issues of statistical power. It appears that research conducted during the past 10 years exhibited more sophistication in hypothesis formulation, variables conception and data analysis.

Contemporary negotiation researchers tend to include more dependent variables in their designs. In common with other management disciplines, there is a trend towards the use of multivariate models, regression analysis and meta-analyses. Univariate analysis of variance remains the dominant statistical technique, and is an appropriate technique for analyzing data collected by experimental design.



One can argue that, largely, the above evolution has been made possible by the development of highly elaborate statistical software packages. However, stating that the developments we observe on the level of analytical sophistication—combined with the aforementioned higher emphasis on construct validity—are self evident and to be expected as the natural development of a scientific field in motion, would be a harsh oversimplification. It is not ‘normal’ to observe that recent research is conducted in a more rigorous way than was the case in earlier times: the seminal overview article by [Scandura and Williams \(2000\)](#) actually demonstrated that exactly the opposite was occurring in research in general management. Scandura and Williams expressed their concerns about what struck them as “an apparent lack of preoccupation with *any* type of validity” (p. 1261). For negotiation research though, developments on the level of statistical conclusion validity seem quite favorable.

## 6 Conclusion

As a field develops, researchers begin to move away from the use of simple, descriptive statistics towards more sophisticated and complex research designs with correspondingly more opportunity for the development of interesting theory. [Greenhalgh and Gilkey’s \(1997\)](#) suggestion that the use of psychodynamic-oriented clinical methods would be a potentially useful approach in the study of personality in negotiation, is highly illustrative of the widespread interest in research innovation that we are currently witnessing in the field. In a similar vein, [Druckman and Hopmann \(1991\)](#) and [Harris \(1996\)](#) advocate using content analysis systems for analyzing and understanding negotiation processes.

A future challenge will be to overcome the differences in the assumptions of researchers who adhere to traditional quantitative methodologies, as opposed to those who apply nontraditional qualitative methodologies ([Podsakoff and Dalton 1987](#)). At the root of this dilemma is the clash between positivists and constructivist theoretical paradigms. Until now, researchers in the field of negotiation behavior have predominantly followed the “scientific” positivist school, thereby compromising the triangulation of designs and samples necessary to avoid the flaws inherent in making trade-offs in research ([Ehigie and Ehigie 2005](#)). Researchers in negotiation behavior continue to specialize in a limited number of methodological approaches, such as experimental procedures and questionnaires. It appears that they are highly successful in this specialization, but one should be aware that such practice could have serious repercussions. [Hopmann \(2002\)](#) argues that “cumulative advances in negotiation analysis have more often come through widely shared understanding of the negotiation process, which in turn are seldom derived from quantitative analysis” (p. 75). Given the rather preliminary stage in the development of negotiation theory, more works inspired by constructivist or critical postmodernist research approaches are warranted. Moreover, many different methods embedded in constructivist approaches are appropriate for theory creation and testing, and therefore one could wonder whether the study of negotiation behavior is not too strongly dependent on one method.

In the past, a number of recommendations were made to encourage triangulation. In support of [Druckman \(2005\)](#), we argue for the plausibility of a more integrated approach to doing research on negotiation. Because the field of negotiation is an interdisciplinary field, with its own specializations and research strategies, we should welcome a diversity of methodologies, rather than trying to pursue a complete theory following one single paradigm. Researchers note that the creative use of unobtrusive measures, direct observation,

time series analyses and multimethod approaches should be explored and applied, to encompass the whole spectrum of perspectives and methods, including qualitative methods. This is increasingly the case for research on cross-cultural negotiations that combines behavioral and subjective data, suggesting the plausibility of a more integrated approach to doing research (Druckman 2005). A good example of method triangulation is given by Graham (1993), who benefited from a most remarkable combination of fieldwork, interviews, laboratory simulations and videotaped observations of actual negotiations in a study on negotiation styles of business people in different countries.

In the 1970s, Chertkoff and Esser (1976), Hamner and Yukl (1977) and Rubin and Brown (1975) argued that more field studies in negotiation research were needed. Certainly, the strikingly low number of field studies being conducted, and the lack of evolution in this matter, is disconcerting. Wall and Blum (1991) similarly urged researchers to adopt research strategies with higher external validity. Druckman (1977), among others, however pointed at the considerable external constraints and hence the lack of control such studies bring about. The debate on conducting experimental versus so-called real-life studies in negotiation is already a classic one, and often the subject of fierce discussion. While it is not our aim to defend one of two camps, nor to repeat any call to arms, the fact that this widespread polemic has not provoked the least change is quite puzzling: field studies continue to represent a trivial minority of about 2%. Two main streams in scientific philosophy describe how to proceed from such a situation. One stream suggests that a scientific field should first lay a sound conceptual foundation through studies in highly controlled settings before moving to more applied work, while the other posits that scientific research should create a perpetual spiral of knowledge through the continuous and mutual exchange of real-life and experimental findings (Benton and Craib 2001). According to the first viewpoint, research triangulation or comparison of findings across research methods might be considered premature, but according to the second viewpoint, it is highly warranted and necessary.

We hope that the evolution towards methodological pluralism can serve as a stepping-stone for the further discussion, rigor and future of negotiation research. In reviewing the trends in research approaches that occurred over the past 40 years, we wanted to increase the awareness among negotiation scholars that such diversity is necessary for further scholarly development of the field. Insufficient awareness of possible methodological blind spots and trade-offs might constrain further development. Research design choices and strategies used in the past may have been inspired by the objective needs of the field, the requirements and preferences of the top journals, cultural traditions, or sometimes even by pure fad (Eccles and Nohria 1992; Sackett and Larson 1990). We also recognize that such evolution will lead to increased knowledge demands from scholars and an enlargement of their research skills repertoire, because they will be expected, more than ever before, to justify the choice made from this large pool of research methods.

To summarize, our opinion is that in scientific research, as well as in everyday life, the key word is balance. Based on all classes of evidence gathered in this study, it seems that speaking of balance in the field of negotiation is an overstatement. To use an analogy: in the fine arts, those who study painting or sculpturing are not merely evaluated on the quality on their work, but first and foremost on the evolution of their skills. When working hard, a moderate painter can obtain higher grades than an excellent one whose development has come to a standstill. Using this criterion, it appears that the field of negotiation research has already covered quite some distance, but there is still a long road ahead.

## Appendix 1

Journals searched, with corresponding number of articles found

Journal name	Number
Organizational Behavior & Human Decision Processes	84
Journal of Personality & Social Psychology	77
Negotiation Journal	73
Journal of Conflict Resolution	71
Group Decision & Negotiation	66
Journal of Experimental Social Psychology	48
International Journal of Conflict Management	48
Journal of Applied Psychology	31
Journal of Applied Social Psychology	28
Theory & Decision	28
European Journal of Social Psychology	21
Journal of Economic Psychology	20
Personality & Social Psychology Bulletin	18
Academy of Management Journal	17
Behavioral Science	17
Journal of Social Psychology	17
Organizational Behavior & Human Performance	14
Games & Economic Behavior	13
Psychological Reports	12
Human Communication Research	11
Human Relations	10
Political Psychology	9
Bulletin de Psychologie	8
Journal of Social Issues	8
Journal of Marketing Research	7
Computational Intelligence	7
Journal of Consumer Research	7
Social Psychology Quarterly	7
American Behavioral Scientist	7
Basic & Applied Social Psychology	7
Journal of Applied Behavioral Science	7
Journal of Marketing	6
Journal of Mathematical Psychology	6

Continued

Journal name	Number
Gedrag en Organisatie	6
Psychology & Marketing	6
Administrative Science Quarterly	6
International Journal of Human–Computer Studies	6
Journal of Economic Behavior & Organization	6
Journal of Business Research	6
Journal of Organizational Behavior	6
British Journal of Social Psychology	6
American Sociological Review	5
Journal of Psychology: Interdisciplinary & Applied	5
Journal of Business & Psychology	5
Journal of Socio-Economics	5
Communication Monographs	4
Social Forces	4
Peace & Conflict: Journal of Peace Psychology	4
Public Personnel Management	4
Personnel Psychology	4
Journal of Management	4
Journal of Language & Social Psychology	3
Rationality & Society	3
Simulation & Games	3
International Journal of Intercultural Relations	3
Journal of Pragmatics	3
Mathematical Social Sciences	3
Journal for the Theory of Social Behaviour	3
Conflict Resolution Quarterly	3
Simulation & Gaming	3
Mediation Quarterly	3
Small Group Research	2
Psychological Bulletin	2
Sociometry	1
Sociological Quarterly	1
Journal of Social Behavior & Personality	1
Journal of Psychology	1
Journal of Experimental Psychology	1

## Appendix 2

### Coding scheme

#### CODE 1 Primary Research Strategy

1. Formal Theory/Conceptual Article	6. Experimental Simulation
2. Case Study	7. Field Study
3. Interview	8. Computer Simulation
4. Observation	9. Meta-Analysis
5. Laboratory Experiment	10. Sample Survey

#### CODE 2 Longitudinal Study: Yes/No

#### CODE 3 Sample Size:

#### CODE 4 Type of Sample:

1. Psychology Students	6. Public Sector Employees
2. Business & MBA Students	7. Private Sector Employees
3. Other Students or Nonspecified	8. Mixed
4. Professional Negotiators	9. Not Applicable
5. Managers	

#### CODE 5 Primary Type of Dependent Variable:

1. Tangible Negotiated Outcomes
2. Behavioral or Decisional Outcomes
3. Attitudinal Outcomes
4. Perceptual Outcomes

#### CODE 6 Number of Data Sources: Single/Multiple

#### CODE 7 Number of Dependent Variables in one Study:

#### CODE 8 Reports of Reliability Estimates: Yes/No

#### CODE 9 Reports of Manipulation Check: Yes/No

#### CODE 10 Data Analysis:

1. Univariate Analysis of Variance	7. Exploratory Factor Analysis
2. Multivariate Analysis of Variance	8. Confirmatory Factor Analysis
3. Linear Regression Analysis	9. Cluster Analysis
4. Correlational Techniques	10. Canonical Analysis (Discriminant)
5. Nonparametric Techniques and Interpretative Data Analysis	11. Structural Equations (EQS, Lisrel, Amos) and Path Analysis
6. Meta-Analysis	

CODE 11 Content/Context/Setting:

1. International Negotiations	6. Labor Negotiations
2. Peace & Diplomatic Negotiations	7. Environmental Negotiations
3. Sales, Price, Commercial & Business Negotiations	8. Other (e.g. social negotiations, liability negotiations, ...)
4. Salary & Job Negotiations	9. Not Applicable
5. Crisis Negotiations (hijacking, threat, blackmail, ...)	

CODE 12 Focal Process/Theme:

1. Negotiator Personality and Characteristics (e.g. experience)	7. Communication, Interaction, Social Perception, Social Cognition
2. Gender Differences	8. Negotiator Rationality & Bias
3. Cross-Cultural Differences	9. Mathematical Models & Game Theory
4. Teaching and Training of Negotiator Skills	10. Third-Party Influence
5. Emotions in Negotiation	11. Conflict
6. Ethics in Negotiation	

CODE 13 Parties in Negotiation:

1. Dyadic Negotiations
2. Multiparty/Team Negotiations

CODE 14 Nationality of First Author:

CODE 15 International Collaborative Article: Yes/No

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