

**UNIVERSITA' CATTOLICA DEL SACRO CUORE
MILANO**

*Dottorato di ricerca in
Psicologia*

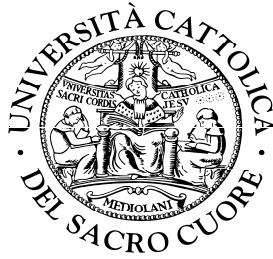
Ciclo XXI

S.S.D: M-PSI/01 – M-PSI/02 – M-PSI/03

**INTUITIVE AND ANALYTICAL THINKING
IN DECISION MAKING:
THE ROLE OF MINDREADING
AND COGNITIVE STYLE
IN A STRATEGIC INTERACTIVE CONTEXT**

**Tesi di Dottorato di: Paola Iannello
Matricola: 3480082**

Anno Accademico 2007/2008



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ABSTRACT

The present work aimed at researching into the constructs of intuition and analysis in decision-making through the integration of different sources of data in order to provide a comprehensive and multifaceted outline of the issue at hand.

Specifically, the first part of the investigation concerned the study of intuition and analysis by employing self-report inventories. The general purpose of the Study 1 and 2 was to verify the existence of relationships among different instruments which, even though providing varied conceptual and operational definitions of the same constructs, showed some points of overlapping. Basing on these relations the goal was, then, to identify broad cognitive and decision profiles including a set of characteristics, rather than defining individual styles through single and isolated dimensions.

The second part of the investigation intended to study intuition and analysis “in action”, that is to assess the role of both intuitive-analytical strategies and individual styles within a specific strategic context. Focussing on the proposer’s perspective, Study 3, 4, and 5 all employed the Ultimatum Game as experimental setting. Study 3 aimed at assessing whether people can activate relevant mindreading processes in order to successfully interact in the course of the game. Study 4, then, investigated how the monetary proposals were affected by the introduction of two distinct modes, intuitive and analytical, of processing information about the counterpart. Finally, in Study 5, the role of individual intuitive and analytical style in directly influencing the entity of the offers and, in case, modulating the effect of the intuitive and analytical modes of thinking was examined.

Results from the five studies were discussed and compared with existing literature.

RIASSUNTO

Il presente lavoro di ricerca si è proposto di indagare i costrutti di intuizione e analisi nell’ambito del decision-making attraverso l’integrazione di differenti tipologie di dati al fine di delineare un quadro esauriente e dettagliato dell’oggetto di studio.

Nello specifico, la prima parte della ricerca si è occupata dello studio di intuizione e analisi attraverso l’impiego di scale self-report. L’obiettivo generale degli Studi 1 e 2 è stato quello di verificare l’esistenza di relazioni tra differenti strumenti che, sebbene propongano definizioni e operazionalizzazioni diverse dello stesso costrutto, presentano aree di sovrapposizione. A partire da tali connessioni, ci si è, quindi, posti l’obiettivo di identificare ampi profili individuali, cognitivi e decisionali, descritti attraverso tali differenti dimensioni stilistiche.

La seconda parte della ricerca si è posta l’obiettivo di indagare intuizione e analisi “in azione”, ossia di valutare il ruolo di strategie e stili individuali intuitivi e analitici nell’ambito di uno specifico contesto strategico. Focalizzando l’indagine sulla prospettiva del proposer, negli Studi 3, 4 e 5 è stato utilizzato l’Ultimatum Game come setting sperimentale. In particolare, lo Studio 3 si è proposto di verificare se le persone siano in grado di attivare processi di mindreading pertinenti per interagire con successo nel corso del gioco. Attraverso lo Studio 4, ci si è posti l’obiettivo di valutare come l’introduzione di due distinte modalità, intuitiva e analitica, di processamento delle informazioni relative all’altro giocatore influenzi le proposte monetarie. Da ultimo, nello Studio 5 ci si è focalizzati sul ruolo giocato dallo stile individuale intuitivo e analitico nell’influenzare direttamente l’entità delle offerte e nel modulare l’effetto della modalità di pensiero intuitivo e analitico.

I risultati e le implicazioni dei cinque studi sono stati discussi anche attraverso il confronto con la più recente letteratura di settore.

INTRODUCTION

Nowadays intuition has come to a popular appeal. The best-selling book *Blink* by Gladwell (2005) testifies that this issue is not confined to the academic research, but, rather, it is widespread also across the general public. This volume has helped to shed light not only on the scientific basis of the concept, but on the powerful influence that intuition has in both everyday life choices and in various life-or-death situations, such as the decisions of firefighters (Klein, 1998), military commanders (Kaempf et al., 1996), and emergency room surgeons (Abernathy & Hamm, 1995).

The great interest which intuition has recently arisen could be due to a number of reasons. First, nowadays our environment is as complex as it has ever been (Sadler-Smith, 2008); second, everything appears to move ever-quickly and changes rapidly (Andersen, 2000); and, last, the amount of available information is overwhelming and, often, inadequate (Goodman, 1993). Given this scenario, people have little time to devote to decision-making requiring the consideration of a potentially enormous amount of information under an ever-increased time pressure (Kuo, 1998). In these days, it seems that intuition is not only necessary, but it is an absolute requirement for dealing with this reality. As a consequence, intuition could be a tool which is particularly responsive to today's environment, in that it permits an overcoming of the limits of analysis in a such unstable environment (Prietula & Simon, 1989). For all these reasons, a renewed interest in intuition arose, which has led to the claim that intuition needs not to be magical but, rather it can be defined and explained scientifically, made intuition a very intriguing and promising topic in various fields of research, such as entrepreneurship, business management, education, training, and health care (Hodgkinson, Langan-Fox & Sadler-Smith, 2008).

Even though intuition has an indubitable power, its use, however, can not be

considered as a panacea for the speed-accuracy outcomes, since it may facilitate speed at the expense of accuracy (Dane & Pratt, 2007). Traditionally, rational analysis has been considered the best, if not the only, way of thinking which allowed people to make effective decisions. However, the above-mentioned growing body of research has questioned recently the assumption concerning the supremacy of analytical thinking. An in-between position claims that none of the two modes of thinking is absolutely better than the other. Rather both kinds together are better than either alone, since the effectiveness of a decision depends on the ability to select and adapt the right mental process for the task at hand (Sadler-Smith, 2008).

In spite of the acknowledgment of the fundamental role played by intuition and analysis in decision-making, there still exist some barriers to a productive discourse on these topics. Even though intuition and analysis have been the subject of research for a very long time, any agreement has been reached yet on what intuition and analysis are, how intuition and analysis work, and under which circumstances the employment of one mode of thinking is better than the other (Dane & Pratt, 2007).

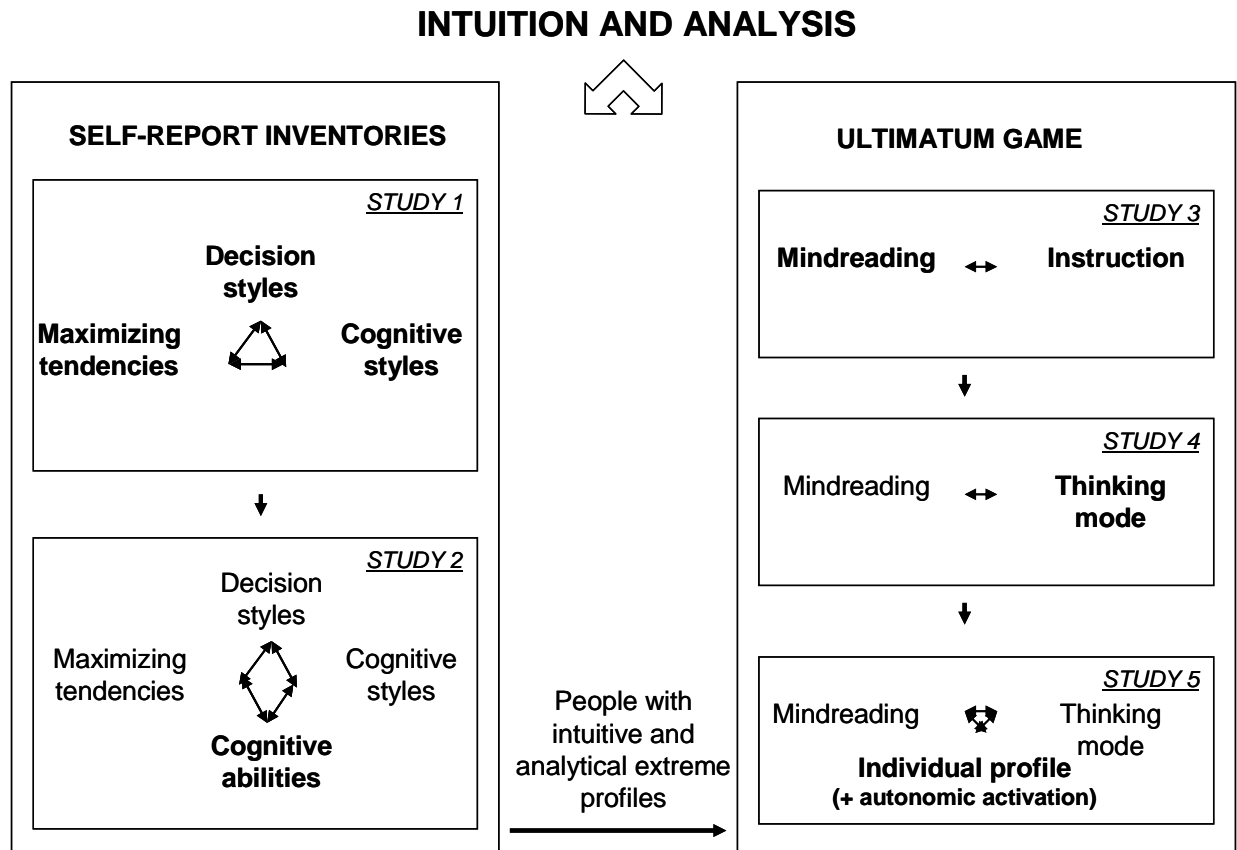
The present work aimed at researching into the constructs of intuition and analysis in decision-making through the integration of different sources of data in order to provide a comprehensive and multifaceted outline of the issue. Specifically, the first part of the investigation concerned the study of intuition and analysis by employing self-report inventories. Starting from the establishment that varied conceptual and operational definitions of the constructs underlie the existing scales, the main purpose of the first two studies was to examine the relationship between different commonly used measures of cognitive and decision styles. Basing on these relations the goal was, then, to identify, if possible, broader stylistic profiles, which constituting dimensions, even if conceptually and operationally conceived in different ways and pertained to distinct fields, tap the same intuitive-analytical dimension. Whereas in Study 1 decision-making and cognitive styles only were employed, in Study 2 the

relationships between these dimensions and mental abilities were also investigated. After the validation of those instruments whose Italian versions were neither applied nor validated yet and the subsequent comparison between different occupational groups on these scales, the connection between decision-making and cognitive styles was explored (Study 1). Then, employing a larger experimental sample, the possible relationships between decision and cognitive styles and a measure of cognitive abilities were verified so to identify broad and comprehensive cognitive and decision profiles (Study 2). Once these profiles had been established, people showing “extreme” scores within each profile were selected (Study 2) to constitute the experimental sample of Study 5, which, in fact, required the involvement of people with an intuitive or analytical stylistic profile.

The second part of the investigation intended to study intuition and analysis “in action”, that is to assess the role of both intuitive-analytical strategies and individual styles within a specific strategic context. Focussing on the proposer’s perspective, Study 3, 4, and 5 all employed the Ultimatum Game as experimental setting. Specifically, the three studies were nested, in that each subsequent study aimed at providing further support to what found in the previous study and, in addition, at investigating a specific aspect which distinctive of that study. The assessment of whether people can activate relevant mindreading processes, that is taking into account the other player’s perspective, in order to successfully interact in the course of the game (Study 3) was, then, qualified through the introduction of two distinct modes of processing information about the counterpart. How the monetary proposals were affected by these two modes of thinking, intuitive and analytical ones, was then investigated (Study 4). Afterwards, the role of individual intuitive and analytical style in directly influencing the entity of the offers and, in case, modulating the effect of the intuitive and analytical modes of thinking was examined (Study 5). Lastly, both intuitive and analytical thinking and styles were controlled for the corresponding patterns of physiological activation in order to clarify if the

possible behavioural differences depended either on general arousal activation or on the specific quality of each type of elaboration process (Study 5).

The following figure provides a general overview of the research.



As shown in the figure, every study, through its specific methods and procedures, dealt with precise and definite aims contributing to the achievement of the general purpose of the whole research, that is the investigation of intuition and analysis in decision-making.