## Social Preferences as the Result of Social Intuition or Self-control? Effect of Controlled and Automatic Components in Prosocial Decision Making

LU, Su

A Thesis Submitted in Partial Fulfilment
of the Requirements for the Degree of
Doctor of Philosophy

in

Psychology

The Chinese University of Hong Kong

July 2012

## Thesis/Assessment Committee

Professor Takeshi Hamamura (Chair)

Professor Winton Wing-tung Au (Thesis Supervisor)

Professor Lin Tao (Committee Member)

Professor Xiao-ping Chen (External Examiner)

Professor Julian Chuk-ling Lai (External Examiner)

Abstract of thesis entitled:

Social Preferences as the Result of Social Intuition or Self-control? Effect of

Controlled and Automatic Components in Prosocial Decision-making

Submitted by LU, Su

for the degree of **Doctor of Philosophy in Psychology** 

at the Chinese University of Hong Kong in July 2012

Supervised by Prof. AU, Wing-Tung, Winton

From a dual-processing perspective, individuals' decision-making in social dilemmas is the result of interplay between automatic processing and controlled processing. Based on review on different lines of research, a self-controller model and an social intuitionist model of decision-making in social dilemmas are proposed with opposing assumptions about nature of human prosociality as well as roles assigned to the automatic processing and controlled processing. Specifically, the self-controller model assumes individuals' prosociality is skin-deep, and major contribution of one's prosociality comes from controlled processing, through monitoring and regulating one's behavior to confirm to social norms; while the social intuitionist model assumes individuals' prosociality is innate, and major contribution of one's prosociality comes from the automatic processing through utilizing social exchange heuristics and intuitions that anchor individuals' behavior on a cooperative end. In three studies, we compared applicability of the two models in depicting prosocial behavior in a resource dilemma with different paradigms that are typically used to dissociate two modes of processing. These include

manipulations on individuals' self-regulatory resources (Experiment 1), cognitive resources (Experiment 2), and processing goals (Experiment 3). Results from three experiments consistently advocated the self-controller model indicating that human's prosociality is the result of controlled processing. Taking individual differences concerning social preferences into the analyses, we found that proselfs' behavior was best described by the self-controller model. Results from study 3 and exploratory analysis also support that prosociality of proselfs depend heavily on controlled processing, in which people control their selfish instinct with calculation and deliberation. Prosocials' cooperative behavior did not follow prediction of the self-controller model. Instead, result from exploratory analyses suggests that prosociality of prosocials, as intuitive thinkers, depend more on automatic processing, in which people express their prosociality through utilizing heuristics and intuitions. We conclude that, although evidence from three studies favors the self-controller model, it only reflects part of the story. We need to take individual difference in social preferences in to consideration in order to deepen our understanding of the human prosociality and more effort should be done in testing mediating role of the social exchange heuristics for prosocials' cooperativeness.

*Keywords:* resource dilemma, self-controller model, social intuitionist model, dual-processing, social preferences

iν

論文摘要

社會偏好是自我控制還是社會直覺的結果?自動加工和控制加工對親社會決策

的影響

撰文: 盧蘇

目的:心理學博士學位

機構:香港中文大學 二零一二年七月

從雙加工的角度來看,個人在社會困境中的決策是自動加工和控制加工相互作 用的結果。基於對不同方向的研究結論的问顧,我們提出兩個不同的親社會行 為模型,自我控制者模型和社會直覺者模型。這兩個模型在對人性有不同的假 設,且對自動加工和控制加工在親社會行為中所扮演的角色有不同的分配。具 體來說,自我控制者模型假定個人的親社會性是表面的,人們的親社會行為主 要來自控制加工——監測並調整以使人們的行為更符合社會規範。社會直覺者 模型假定個人的親社會性是天生的,人們的親社會行為主要來自自動加工—— 社會交換啟發式把人們的行為錨定在教高的親社會水平上。我們在三個實驗中 比較並探討了兩個模型在描述人們在資源困境中的親社會行為的適用性,以及 自動加工和控制加工在決策過程中所扮演的角色。我們使用了通常用於分離兩 種加工模式的範式,包括操控個人的自我調節的資源(實驗1),認知資源(實 驗 2) ,加工目標(實驗 3)。三個實驗的結果一致地支持自我控制者型,即人 類的親社會行為是控制加工的結果。在考慮到社會偏好的個體差異之後,我們 發現,親自我個體的行為非常符合自我控制者模型。研究3和探索性分析結果 也支持作為理性思考者的親自我個體,他們的親社會行為在很大程度上依賴於

控制加工——通過計算和透徹思考來控制自私本能。親社會個體的合作行為沒有符合自我控制者模型的預測。探索性分析表明, 作為直覺思考者的親社會個體, 他們的親社會行為取決於利用啓發式和直覺的自動加工。我們認為,儘管三項研究的證據都支持自我控制者模型,它只反映到故事的一部分。我們需要考慮到社會偏好的個體差異並檢驗社會交換啓發式對親社會個體的合作行為的中介作用以深入對人類親社會性的了解。

*關鍵詞*:資源困境,自我控制者模型,社會直覺者模型,雙加工,社會偏好

## Acknowledgements

I would like to express my gratitude to those who have helped me during this research project. First of all, I would like to thank my supervisor, Prof. Wing Tung Au for his unconditional support and clear guidance during the last three years' of PhD life. He had walked me through all stages of this research project, stayed calm and patient whenever I sought him for help and guidance. Most importantly, he never loses faith in me and keeps encouraging me even in dark days of the project. Second, I would like to express my special thanks to my thesis panel. Prof. Lin Tao, thank you so much for your support in my research. You enlightened me with your sharp comments and constructive suggestions. Prof. Takeshi, Hamamura, thank you for reminding me to keep thinking about uniqueness and incremental value of my research and theory. Prof. Xiao Ping Chen, thank you for your positive feedback during the social dilemma conference, from which I have gained enormous courage to stick to and uphold my theory.

Second, I would like to thank all my friends and lab mates in Hong Kong who have helped me and listened to me all the way to completion of this project. Jane and Hildie, I was lucky to have you as my lab mates. I will always remember our days in the Huangshi project. Paton, thank you for being around during the toughest days of my project. Although you said you were a dark person, you gave me a lot of positive energy. Lestin, thank you for being critical about my research idea. I am glad that we shared the same interest of "unconscious thinking". Liman, thank you for being positive and ecouraging all the time. You also played the role model as a young scholar for me well. I wish I could be as industrious as you some day. Lin Li, thank you for being a good classmate and friend.

Last but not least, I want to thank my family for their unconditional love and support. My dearest grandfather, thank you for have being the kindest grandfather in the world. Although you might not be able to tell me how much you love me now, I can hear it every time I look you in the eyes. Jiang Feng, my husband, I am truly appreciative of all that you have done for me over the years. You've made me a better person.

## TABLE OF CONTENTS

CHAPTER ONE: INTRODUCTIONERROR! BOOKMARK NOT DEFINED.
DUAL-PROCESSING OF PROSOCIAL DECISION-MAKING ERROR! BOOKMARK NOT DEFINED.
A Self-controller Model Error! Bookmark not defined.
A Social Intuitionist Model Error! Bookmark not defined.
Comparison of Two Models Error! Bookmark not defined.
POTENTIAL MODERATOR: INDIVIDUAL DIFFERENCES IN SOCIAL PREFERENCES ERROR!
BOOKMARK NOT DEFINED.
Differences in Automatic Processing? Error! Bookmark not defined.
Differences in Controlled Processing? Error! Bookmark not defined.
DISSOCIATION OF THE TWO MODES OF PROCESSING ERROR! BOOKMARK NOT DEFINED.
Cognitive Load Error! Bookmark not defined.
Ego-depletion Error! Bookmark not defined.
Instruction Induction of the Two Modes of Processing Error! Bookmark not defined.
CHAPTER TWO: OVERVIEW OF CURRENT RESAERCH ERROR! BOOKMARK
NOT DEFINED.
CHAPTER THREE: EXPERIMENT ONEERROR! BOOKMARK NOT DEFINED.
METHOD ERROR! BOOKMARK NOT DEFINED.
RESULTS ERROR! BOOKMARK NOT DEFINED.
DISCUSSION ERROR! BOOKMARK NOT DEFINED.
CHAPTER FOUR: EXPERIMENT TWOERROR! BOOKMARK NOT DEFINED.
METHOD ERROR! BOOKMARK NOT DEFINED.
RESULTS ERROR! BOOKMARK NOT DEFINED.
DISCUSSION ERROR! BOOKMARK NOT DEFINED.
CHAPTER FOUR: EXPERIMENT THREEERROR! BOOKMARK NOT DEFINED.

METHOD ERROR! BOOKMARK NOT DEFINED.	
RESULTS ERROR! BOOKMARK NOT DEFINED.	
DISCUSSION ERROR! BOOKMARK NOT DEFINED.	
CHAPTER FIVE: EXPLORATORY ANALYSES. ERROR! BOOKMARK NOT DEFINED.	
DIFFERENCES IN SELF-CONTROL CAPACITY/MOTIVATION?ERROR! BOOKMARK NOT	
DEFINED.	
DIFFERENCES IN RELIANCE ON INTUITIVE THINKING? ERROR! BOOKMARK NOT DEFINED.	
CHAPTER SIX: GENERAL DISCUSSIONERROR! BOOKMARK NOT DEFINED.	
PROSELFS AS SELF-CONTROLLERS VS. PROSOCIALS AS SOCIAL INTUITIONISTSERROR!	
BOOKMARK NOT DEFINED.	
MEASURING SOCIAL PREFERENCES AS THE RESULT OF CONTROLLED PROCESSING ERROR!	
BOOKMARK NOT DEFINED.	
LIMITATIONS AND FUTURE DIRECTIONS ERROR! BOOKMARK NOT DEFINED.	
Implicit vs. Explicit Measure of Social Preferences Error! Bookmark not defined.	
Further Issues about Social Exchange Heuristics Error! Bookmark not defined.	
REFERENCESERROR! BOOKMARK NOT DEFINED.	