Agent-based Approach to Crime and Criminal Justice Policy Analysis

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1. INTRODUCTION

Agent-based Social Simulation (ABSS) has increasingly been proving to be successful for the study of crime and criminal justice policies1. The use of techniques belonging to the field of computer simulation in policy modelling is also actually increasing2.

Early applications of simulative approach to crime analysis appeared in the field of Environmental Criminology3. In 2008, a special issue of the “Journal of Experimental Criminology” was entirely devoted to current applications of simulation methods to the study of crime and criminal justice policies4. As regards crime research, it was suggested how this technique

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could be useful to advance, test or refine theory\(^5\), to anticipate consequences accruing from one type of intervention over another\(^6\), and to provide new policy evaluation tools\(^7\). As a consequence simulation can also supply informed policy guidance to crime control agencies\(^8\).

Recently several international conferences on artificial intelligence and multi-agent systems hosted lots of contributions about applications of computer simulation to the crime problem\(^9\).

There are many reasons why it is appropriate to investigate the relationship between ABSS and crime analysis. The principal argument in criminology is the need for complementarities between the experimental or quasi-experimental approach and the simulation one\(^10\). The use of agent-based computational method would be considered particularly beneficial in cases where empirical research is limited by the inability to conduct field trials\(^11\). In some cases, simulation can be viewed as a sort of pre-test of certain crime


