

ECONOMIC AND SOCIAL RESEARCH COUNCIL END OF AWARD REPORT



For awards ending on or after 1 November 2009

This End of Award Report should be completed and submitted using the **grant reference** as the email subject, to **reportsofficer@esrc.ac.uk** on or before the due date.

The final instalment of the grant will not be paid until an End of Award Report is completed in full and accepted by ESRC.

Grant holders whose End of Award Report is overdue or incomplete will not be eligible for further ESRC funding until the Report is accepted. ESRC reserves the right to recover a sum of the expenditure incurred on the grant if the End of Award Report is overdue. (Please see Section 5 of the ESRC Research Funding Guide for details.)

Please refer to the Guidance notes when completing this End of Award Report.

Grant Reference	RES-167-25-0364		
Grant Title	Chronic Poverty and Aspirations Failure		
Grant Start Date	1 st May, 2008	Total Amount Expended:	£110,605.27 (FEC £138,256.57)
Grant End Date	31 st December, 2009		
Grant holding Institution	University of Warwick		
Grant Holder	Sayantan Ghosal		
Grant Holder's Contact Details	Address	Email	
	Department of Economics, University of Warwick, Coventry, CV4 7AL U.K.	S.Ghosal@warwick.ac.uk	
		Telephone 02476523042	
Co-Investigators (as per project application):		Institution	

1. NON-TECHNICAL SUMMARY

Please provide below a project summary written in non-technical language. The summary may be used by ESRC to publicise your work and should explain the aims and findings of the project. *[Max 250 words]*

How do the extrinsic circumstances (initial status, exclusion or gender) interact with intrinsic factors (aspirations, beliefs) to perpetuate disadvantage? Our research addresses this question by both developing a theoretical framework and carrying out empirical work (two case studies and a lab experiment).

The theoretical framework (a) examines the normative and testable implications of choice in the presence of internal constraints, (b) derives the link between extrinsic circumstances and internal constraints with endogenously determined the cognitive windows and clarifies how the structure of connections between individuals (via initial distribution of status and cognitive windows) determines the transmission of aspirations within societies.

Two case studies- Orchestras for Children and Young Students in Buenos Aires and Sonagachi Project in Kolkata- document techniques (participation in orchestras, dream building sessions and the use of peer educators) used in the field to raise aspirations.

The lab experiment, with participants drawn from undergraduates at Warwick University, focused on the role of gender in determining the predictions of future productivity (goal-setting) in an unfamiliar task and the impact of such prediction on actual performance in carrying out the task. Preliminary results indicate that although, controlling for goal-setting there are no gender differences in actual productivity, men expect to have a significantly higher productivity than women, because women make lower predictions, their actual productivity is lower relative to men. The lab experiment confirmed that predictions about future performance are a reference point that determines productivity and examines the channel by which a key external marker (gender) affects such predictions.

2. PROJECT OVERVIEW

a) Objectives

Please state the aims and objectives of your project as outlined in your proposal to the ESRC. *[Max 200 words]*

Main Objective:

To provide a new conceptual framework to understand the **self-enforcing mechanisms** underlying chronic/persistent poverty

Sub-objectives:

- 1) to examine the **formation** of individual **aspirations** within the social interaction,
- 2) to study the way in which **external social conditions** such as social exclusion, income and income distribution interact with individual **aspirations**,
- 3) to analyse the relationship between **aspirations** and **choice**,
- 4) to provide an integrated platform for evaluating the **efficacy of policy initiatives** to alleviate chronic poverty,

5) to understand when should **policy** address the **psychological factors** (like aspirations, self-confidence, willpower) of individuals and when should address their **extrinsic circumstances**? What is the appropriate policy mix for alleviating persistent poverty?

b) Project Changes

Please describe any changes made to the original aims and objectives, and confirm that these were agreed with the ESRC. Please also detail any changes to the grant holder's institutional affiliation, project staffing or funding. *[Max 200 words]*

Following discussions with a new colleague Dr. Anandi Mani, an empirical development economist, who joined the Department of Economics at Warwick after the original project was started, permission was sought from the ESRC to both extend the project by 5 months and vire funds between headings to carry out a lab experiment to provide empirical content (in addition to the theoretical framework and case studies) to the analysis of the link between extrinsic circumstances and internal constraints. Permission for postponing the project completion date and reallocation of funds was granted, by the ESRC. Work on issues of experimental design had to be carried out and relevant ethics approval was sought and obtained and the actual experiment was carried out over November-December 2009. Patricio Dalton, the named RA on the grant, had to leave Warwick in August 2009 in order to take up a post as Assistant Professor in Economics at the University of Tilburg. A number of RAs and a computer programmer were hired on a casual basis in order to help with the lab experiment and the organisation of the Conference.

c) Methodology

Please describe the methodology that you employed in the project. Please also note any ethical issues that arose during the course of the work, the effects of this and any action taken. *[Max. 500 words]*

One set of methodologies related to the theoretical work and included an axiomatic characterization of internally constrained decision-making, characterizing its testable implications and examining the divergence between choice and welfare using choice data alone, providing a generic characterization of internally constrained decision-making, using lattice theoretic methods to prove the existence of solutions and characterizing the structure of these solutions, using selection techniques to derive the link between initial disadvantage and the prevalence of internal constraints, game theoretic modelling to study the role of the structure of connections between individuals in determining the interaction between individuals and the transmission of aspirations.

The other set of methodologies related to the lab experiment and included working on issues of experimental design (identifying the key hypothesis to be tested and designing appropriate treatments for these, identifying the task to be carried out by participants, the instructions to participants over the duration of the experiment), developing a computer software suitable for the purposes of the experiment to record data, designing an initial survey questionnaire and collecting (and measuring) 2D-4D ratio, collecting and analysing data using appropriate econometric techniques after controlling for various confounding factors.

d) Project Findings

Please summarise the findings of the project, referring where appropriate to outputs recorded on *ESRC Society Today*. Any future research plans should also be identified. [Max 500 words]

A conceptual framework was developed to model internally constrained decision-making (Behavioral Decisions (BD)) set against an appropriate normative benchmark (Standard Decisions (SD)) which unified seemingly disconnected models in the literature. General results obtained for the (positive and normative) properties of BD include:

- (i) An axiomatic characterization of BD- observed choices are compatible with BD if and only if the observed choice correspondence is (weakly) increasing as the choice set shrinks when all alternatives chosen in the larger set are also present in the smaller set.
- (ii) SD and BD have different testable implications; moreover, on the basis of choice data alone, it is possible to infer the divergence between choice and welfare.
- (iii) A new equilibrium existence result in pure actions without complete and/or transitive preferences.
- (iv) Deriving the necessary and sufficient conditions under which BD and SD outcomes are indistinguishable from each other and showing, in smooth settings, that the two decision problems are, generically, distinguishable.
- (v) Showing that the desirability of paternalistic interventions are limited by available information and making the case for interventions (such as cognitive behavioral therapy) that directly target the abilities needed to internalize the full consequences of chosen actions.

The framework was then used to:

- (i) Provide a formal characterization of an internally constrained decision-maker in a model where aspirations (expected status given actions) served as a reference point in ranking choices;
- (ii) Show that initial status determines the intensity and/or probability with which the internal constraint binds and thus derive the link between initial disadvantage with aspirations, choices and achievement.
- (iii) Endogenously determine the cognitive window of the individual via similarity-based learning via the trade-off between (a) looking at only those individuals who are similar and (b) observing an individual who has a higher degree of self-confidence and therefore, who has chosen a higher level of aspirations.
- (iv) Clarify how the distribution of initial status determines, via endogenously chosen cognitive windows, the pattern of connections within a society to determine the transmission of aspirations.

The analysis of the data is at a preliminary stage and possibly subject to further revision.

Existing findings are:

- (i) Although, controlling for expectations, there are no gender differences in actual productivity, men expect to have a significantly higher productivity than women, because women make lower predictions, their actual productivity is lower relative to men.
- (ii) Evidence collected on 2D-4D ratio suggests that prenatal testosterone exposure could explain the gender gap in expected productivity.
- (iii) In contrast to men, women do not increase their expectations even when they are successful in solving the task in the practice time although they do increase their productivity expectations when successful in an unrelated task.

The main policy recommendation is that techniques to alleviate internal constraints and raise aspirations need to be incorporated in any intervention designed to address disadvantage.

Planned future work includes carrying out two field experiments in Buenos Aires and Kolkata, examining the Wisconsin Longitudinal data set and the ALSPAC data set to further examine the evidence on internal constraints.

e) Contributions to wider ESRC initiatives (eg Research Programmes or Networks)

If your project was part of a wider ESRC initiative, please describe your contributions to the initiative's objectives and activities and note any effect on your project resulting from participation. *[Max. 200 words]*

This project was part of a joint DFID/ESRC scheme. It has contributed to the key issue of reducing poverty and deprivation by focusing on the interaction of internal constraints and extrinsic circumstances in perpetuating deprivation from a theoretical and empirical angle.

3. EARLY AND ANTICIPATED IMPACTS

a) Summary of Impacts to date

Please summarise any impacts of the project to date, referring where appropriate to associated outputs recorded on *ESRC Society Today*. This should include both scientific impacts (relevant to the academic community) and economic and societal impacts (relevant to broader society). The impact can be relevant to any organisation, community or individual. *[Max. 400 words]*

The main impacts of the project so far have been within the academic community. A first paper on the general welfare implications of the model of decision-making outlined in the proposal, "Behavioral Decisions and Welfare" (by P. Dalton and S. Ghosal) has already been written and submitted for publication and presented in a number of academic conferences. This paper has been cited by B. D. Bernheim in his Schumpeter Lecture "Behavioral Welfare Economics" (published in *Journal of the European Economic Association*) as an early contribution in this area and included in his reading list for a graduate course taught by him at Stanford. This paper was Patricio Dalton (the project RA) job market paper and was instrumental in him obtaining a tenure-track Assistant Professorship at Tilburg.

The PI was invited to participate in a symposium volume on 'Reconciling Normative and Behavioural Economics', edited by Robert Sugden and Ben McQuillin, to be published in *Social Choice and Welfare*. This has resulted in a new paper "Decisions with endogenous frames" (by P. Dalton and S. Ghosal) which is focused narrowly on the relation between the approach studied in the "Behavioral Decisions and Welfare" paper and the approach advocated by Bernheim and Rangel (2008).

The work on developing the theoretical framework specifically focused modeling the aspirations and disadvantage is contained in a third paper "Poverty Persistence and Aspirations Failure" (by Patricio Dalton, Sayantan Ghosal and Anandi Mani) early versions of which have also been presented at a number of conferences. The results contained in that paper has led to a number of new collaborations (with Dr. Jana at the Sonagachi Project and Dr. Espector Director of the Buenos Aires Orchestras for two new field experiments) and suggested new questions for colleagues such as Chris Woodruff in relation to their own work.

The project conference "Aspirations and Poverty" was, in the words of V. Rao (World Bank), one of its participants, the first international conference on this topic. Following the success of the conference, the PI (with P. Dalton) is in the process of establishing a network of researchers

on this topic. The idea is to make such a conference (with a mix of academics and policy makers) an annual event and put in proposals for special sessions in major international conferences and eventually publish a special issue in an academic journal to raise the academic and policy profile of the work on this topic.

b) Anticipated/Potential Future Impacts

Please outline any anticipated or potential impacts (scientific or economic and societal) that you believe your project might have in future. *[Max. 200 words]*

It is anticipated that the research carried out in the project will, over the next 5-10 years, place internal constraints squarely in the centre of any academic analysis and policy intervention relating to deprivation and welfare.

The focus of research in the project was on theoretical modelling but more mainly empirical work is required to achieve the desired impact. The PI's own reading of existing work on this topic is that it is of uneven quality. For the research on this topic to have an impact, the scientific foundations (both theoretical and empirical) will have to be put firmly in place followed (or concurrently) with work involved in establishing a network of researchers on this topic to raise the quality and profile of the work on this topic. Only then will policy-makers be interested in the findings although it is worth noting that practice in certain organisations within the third sector is already quite advanced.

By coincidence, funding for achieving such an impact is in place. The PI is the Research Director of a new ESRC Research Centre "Center for Competitive Advantage in the Global Economy" (CAGE) which will devote roughly a third of all resources at CAGE) on the topic of internal constraints over the next 5 years.

You will be asked to complete an ESRC Impact Report 12 months after the end date of your award. The Impact Report will ask for details of any impacts that have arisen since the completion of the End of Award Report.

4. DECLARATIONS

Please ensure that sections A, B and C below are completed and signed by the appropriate individuals. The End of Award Report will not be accepted unless all sections are signed.

Please note hard copies are NOT required; electronic signatures are accepted and should be used.

A: To be completed by Grant Holder

Please read the following statements. Tick ONE statement under ii) and iii), then sign with an electronic signature at the end of the section.

i) The Project

This Report is an accurate overview of the project, its findings and impacts. All co-investigators named in the proposal to ESRC or appointed subsequently have seen and approved the Report.	<input checked="" type="checkbox"/>
---	-------------------------------------

ii) Submissions to *ESRC Society Today*

Output and impact information has been submitted to <i>ESRC Society Today</i> . Details of any future outputs and impacts will be submitted as soon as they become available.	<input checked="" type="checkbox"/>
---	-------------------------------------

iii) Submission of Datasets

Datasets arising from this grant have been offered for deposit with the Economic and Social Data Service.	<input checked="" type="checkbox"/>
---	-------------------------------------