

## **Chapter XII**

# **Gender Stratification and E-Science: Can the Internet Circumvent Patrifocality?**

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## **Abstract**

*Can the internet improve the lot of women in the developing world? This study investigates the degree to which the internet affects the constraints on women pursuing scientific careers. We address this question in the context of the scientific community of Kerala, India, developing a “circumvention” argument that fundamentally implicates information and communication technologies in shaping gender roles. We begin by reviewing two main*

*constraints identified in prior research (educational and research localism) that increase the likelihood of restricted professional networks. Next, we examine the extent to which women scientists have gained access to e-science technologies. With evidence of increased access, we argue that the presence of connected computers in the home has increased consciousness of the importance of international contacts. We conclude by proposing that internet connectivity is helping women scientists to circumvent, but not yet undermine, the patrifocal social structure that reduces social capital and impedes career development.*

## Introduction

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E-science technologies have been widely heralded as an equalizer for communities of knowledge workers remote from global scientific centers. They promise to promote development by decreasing the cost and increasing the efficiency of both international and local communication, improving access to information and facilitating international collaboration. Davidson, et al. (2002) refer to such arguments promoting the internet as an “elixir” that will heal developmental woes. What is missing throughout most of this discussion is gender, particularly in reference to the issue of whether the internet differentially affects men and women scientists. Likewise, throughout the vast literature on sex differences in scientific attainment (Cole & Zuckerman, 1984, 1987; Fox, 1995; Fox & Long, 1995; Keller, 1995; Kyvik & Teigen, 1996; McElrath, 1992; Mukhopadhyay, 1994; Ranson, 2003; Wajcman, 1991, 1995; Xie & Shauman, 1998), the impact of new information and communication technologies on the careers of female scientists has largely been neglected.

The main objective of this essay is the examination of qualitative evidence for a specific idea regarding the relationship between gender inequity and e-science technologies under the social structural conditions of patrifocality that characterize most of the Indian subcontinent. We propose that Indian women scientists have begun to use the internet to circumvent gender codes that govern behavior and limit access to social capital, particularly international professional contacts. The consequences of an affirmative answer would be significant for two reasons. First, since enhanced connectivity and access to the internet might then be expected to reduce gender inequities in the knowledge sector. But perhaps more important, what might now be simple technological leverage could begin a process that would undermine the broader social structure of patrifocality.

We develop this argument through an examination of ninety qualitative interviews with agricultural and environmental scientists in Kerala, India. The main

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