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Economics and Cultural Explanations and
Indian Evidence**

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Prejudice against Female Children: Economic and Cultural Explanations and Indian Evidence

ABSTRACT

Shows how economic theories based on parental self-interest may explain parental discrimination against daughters relative to sons. However, such theories often need to be adjusted (or even discarded) to allow for altruism of parents towards their children, and to take account of cultural influences on parental desires to have children of particular gender, and care equally for their children of different gender. The latter point is illustrated by a study of two different communities. In one situated in the Santal tribal belt I West Bengal, discrimination against daughters is found to be marked and accords (given the structure of society) with predictions of economic theories based on the pursuit of parental self-interest. By contrast, it is found that although the Knondh-dominated community in Orissa experiences similar economic conditions and social structures to the West Bengal communities, parental discrimination against daughters is almost absent. The differences seem to arise from a difference between the cultural values shared by the Kondhs in Orissa and those shared by the West Bengal community consisting of Santals and Bengali Hindus. This suggests that the applicability of economic theories of the family depends significantly on the social contexts in which they are to be applied. In this respect, both social structures *and cultural values* are important.

Keywords

Child welfare, economics of the family, gender discrimination, human capital, India, Kondhs, Santals.

Prejudice Against Female Children: Economic and Cultural Explanations and Indian Evidence

1. Introduction

In many patriarchal societies, sons are favoured rather than daughters. This may express itself in different ways. First, parents may prefer the birth of male rather than female children. In extreme cases, female foeticide and infanticide, as reported from some parts of India (Sen, 2001), occurs because of this preference. However, this preference does not always result in such extreme behaviour. Secondly, daughters may be deprived of education, medical attention, food and other necessities of life relative to sons. This practice is also reported to occur widely in India, particularly in the north, and especially, in the northwest of India (Sen, 2001). Prejudice against females and their deprivation in India, results in their under-representation in the total population in all age groups. Due to such factors, the number of 'missing' women in India most likely amounts to more than 50 million, or around 5 percent of its population. In fact, Klasen (1994) estimated it to be as high as 80 million in the early 1990s so the number of Indian 'missing' women could now be well in excess of 50 million.

The rather disturbing trend in India has been for its female/male ratio (which is less than unity) to fall as Indian economic development and incomes have risen (Konar, 2001; Tisdell, 2002). Of particular concern is that this ratio continues to fall for children of 6 years of age and less (Konar, 2001).

The purpose of this article is to consider economic explanations of why, in the Indian context, parents might wish their new born to be a boy rather than a girl and why daughters may be deprived of entitlements relative to sons. The extent to which the theories of Becker (1981) and human capital theory (Jacobsen, 1999; Mincer, 1958; Schultz, 1961; Becker, 1993) help to explain such phenomena are considered. It is then argued that the operation of these theories depends significantly on the cultural and social conditions surrounding a family, and that the moral dimension (Etzioni, 1988) modifies family behaviour substantially. In some societies, their cultural and social environment modifies human behaviour to such an extent that self-centred economic theories of the family have little or no applicability.

Drawing on the results from a survey of 223 rural Indian wives located in villages in West Bengal and in Orissa, empirical support is provided for the view that differences in culturally influenced moral and personal values significantly affect gender inequality experienced by children. Such factors also alter applicability of economic theories of the family. It will be found that even though the sampled villagers in West Bengal and in Orissa experience similar economic conditions and have similar social structures, there is much less discrimination against female children in Orissa than in West Bengal. Because the historical-cultural background of the sampled villagers in Orissa differs from that in West Bengal, a different social morality appears to be present in these two sets of villages. It is hypothesised that this results in much less discrimination against daughters in the villages considered in Orissa compared to such discrimination in the sampled villages in West Bengal.

This article is developed by considering first how unitary theories of the family, such as those put forward by Gary Becker (1981), and associated human capital theories, might be used to explain discrimination against daughters relative to sons, particularly in Indian contexts. In addition, limitations to such theories are discussed. It is argued that not only do social structures influence the application of these theories, but that also the pursuit by parents of economic motives in relation to their children is significantly influenced by social (or culturally determined) values and morality. The moral dimension cannot (it is argued) be ignored. Then relevant background information is provided about the surveys undertaken of rural wives in tribal belts in West Bengal and in Orissa, and about the different communities involved. The West Bengal survey was undertaken in an area where Santal tribals predominate, and the survey in Orissa was conducted in villages dominated by Kondh tribals. The comparative survey results (about discrimination against daughters) for these two regions are then reported and discussed. Implications are drawn from these results about the ability of economic theories to explain discrimination against female children.

2. Using Economic Theories to Explain Discrimination Against Female Children

The status of children is one of dependence on their parents. They depend on their parents for their birth, survival and entitlements. Becker (1981) suggested that parental decisions about these matters reflects to a large extent the self-interest of parents as indicated by their utility function, assumed to be a unified one. This utility function can influence the size of the family, the desired gender composition of it and the comparative entitlements of sons and daughters, such as their relative access to education, health care, food and other economic

resources. In turn, this perspective can be coupled with human capital theory because children can be regarded as a form of human capital the value of which can be increased by investment in them, for example, in the education of children. Thus from a narrow economic perspective, children are considered by economic authors, such as Gary Becker, partly as a consumption good (from which some parents derive net satisfaction) plus a capital good, able in some societies to provide a return to parents in their old age or support in times of future economic need of the parents. In some less developed countries, sons (especially the eldest son) may support their parents in their old age either by remittances or by operating the family's farm or business.

Leibenstein (1957, 1974) identifies, along similar economic lines, three private considerations that may influence the attitudes of parents to children. There are (1) consumption utility, that is a child as a source of personal pleasure to parents (2) the work contribution or income utility that a child may provide to a parent by assisting with work and later, as the child grows older, contributing to family income, and (3) security utility arising because a child may provide security for parents, for example, in their old age. But he also recognises a number of disutilities and costs, and points out that the relative importance of all these components changes with socioeconomic development. His main focus in considering parental behaviour in relation to children is in terms of personal economic benefits and costs to parents.

However, the motivations of parents to have children, to provide resources to them and generally to care for their children are complex. Possibly, however, it is useful to identify, at least, four influences. These are:

- (1) The objective net economic benefit obtained by parent from children.
- (2) The subjective personal psychological benefit (or disbenefit) derived from children by parents.
- (3) The altruistic element. The extent to which parents are motivated by the welfare of their children.
- (4) Cultural influences on the relative weight parents give to each of the above three components. Cultural factors may have a moral effect, for example, concerning the amount of attention to be given to the welfare of a child itself. Social interaction can also affect the psychological welfare of parents. For instance, if others in society

praise or take more interest in boys than girls, the psychological benefits to parents of boys relative to girls can be expected to rise.

Such factors help to determine the preferences of parents for the gender of their children, and the resources that parents provide for sons relative to daughters. Since gender inequality between children is the main focus of this article, consider a simple diagram in order to illustrate the latter point.

Assume that the children in a family consists of a boy and a girl, and suppose that parents in allocating scarce resources between the boy and the girl try to maximise their own objective economic benefit. In Figure 1, line ABC represents the marginal net benefit to parents of allocating scarce resources to the boy and DEF represents that for the allocation of these scarce resources to the girl. The resources being allocated may be for education, medical care, food clothing and so on, the provision of which affects the development of children. In the case shown, the marginal net economic benefit to parents of an allocation of resources to their son is larger than for the same allocation to their daughter. This being so, parents will maximise their net objective economic benefit by allocating more scarce resources to their son than their daughter.

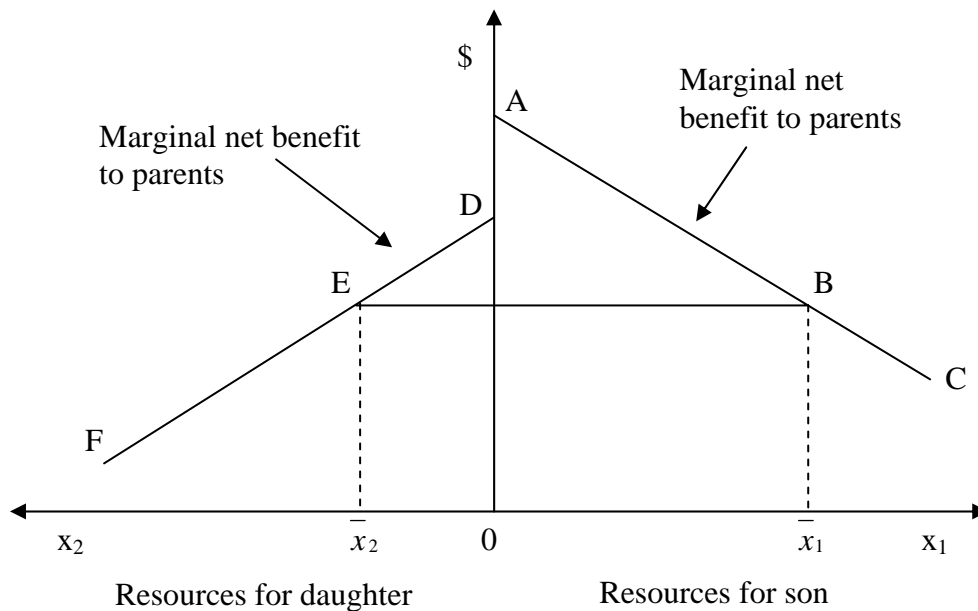


Figure 1: A case in which parents maximise their personal economic benefits by allocating more resources to their son than their daughter.

In order to maximise parental total net benefit from the allocation of resources to their children, parents must allocate these resources so as to equate the marginal net benefit obtained from the allocation of resources to each child. If in the case illustrated in Figure 1, parents are able to allocate $x = \bar{x}_1 + \bar{x}_2$ of resources to develop their children, this condition is satisfied when \bar{x}_1 of resources is allocated to the boy and \bar{x}_2 to the girl. Thus resources are allocated unequally with the son being favoured. In rural India, for example, some parents argue that because daughters leave home and join another family after marrying whereas sons stay home and help on the family farm, and support their parents as they become older, investment in sons from a parental point of view is more productive (gives higher returns to parents) than investment in daughters.

The presence of higher economic returns to parents of investments in sons rather than daughters is quite evident in most parts of India, especially in northern India. It occurs for both groups of villagers surveyed for this study. It exists mainly because of the social (institutional) customs that prevail. In most of India, marriage is patrilocal and women have no property rights.

Because marriage is patrilocal a woman joins her husband's family after marriage, usually in a different village to that of her own blood family. Subsequently, she only has limited contact with her blood family. More importantly, in her new family, she has little power of decision-making and no independent control over resources. She does not control her income and usually depends on decisions by others for clothing and food. Because a daughter in rural India has no entitlement to productive property, does not inherit property, cannot in her own right dispose of resources or income, she has no power to provide economic assistance to her parents, particularly after marriage: The situation of a son is, however, a reversed one to that of a daughter. Thus, the objective self-interest of parents is best served by investing more in the education and welfare of sons relative to daughters. At least, this is so if parents mainly look to the possibility of economic support from their children in old age or during times of hardship. In this institutional context, and despite the view of Baunach (2001) that familial theories may be more relevant, economic self-interest theory helps to explain discrimination of parents against daughters and in favour of sons. However, as supported by results from the case study discussed below, social morality can block the operation of such discrimination designed to maximise parental economic benefits from children.

Even if parents adopt an entirely altruistic point of view towards their children, they might still be inclined in some societies to invest more in the development of sons than daughters. This might occur if their aim is to maximise the aggregate return to investment in the development of their children (cf. Mincer and Polachek, 1974). If in Figure 1, the lines shown there are reinterpreted as lines of net marginal benefit to the children themselves, the aggregate benefit to the children would be maximised by favouring the son relative to the daughter. The reason why the net marginal benefit curves may be different for the son and the daughter may be because society restricts opportunities open to females in comparison to males (a social effect) or there may be biological factors (such as the child-bearing of women) that economically disadvantage females in the workforce. In fact, Mincer and Polachek (1974) have argued that when inequality occurs in such circumstances, it does not involve economic discrimination against females (cf. Tisdell, 1996).

In most parts of India, independent economic opportunities open to females are severely restricted compared to those available to males. Except in some matriarchal societies in the minority in India, women have virtually no property rights and their opportunities are primarily male-dependent. Thus, they have limited opportunities to capitalize on their human capital and returns from investment in this capital are constrained by the social situation. Males do not have these social constraints. Therefore, even if parental benefit is not a consideration, maximising total private returns to children or investment in their human capital would result in a greater investment in sons than daughters. This may not however, be the socially efficient allocation of investment in human capital for reasons outlined, for example, in Tisdell (2001).

It is hypothesised that the behaviour of parents in rearing children and in providing resources for them is shaped by their own (parental) self-interest, the interests of their children, and cultural influences on these values. Social structures also play an important role in determining the benefits from investment in the development of children. For example, children may be a relatively more important asset in less developed societies where families must provide for their own social security and cannot rely on the state for assistance. As in the typical Indian situation, sons may be relatively more important than daughters as contributors to the welfare of parents in such circumstances.

Thus, it is suggested that the behaviour of parents towards children and their discrimination (or lack of it) between children according to the child's gender depends upon the self-interest of parents, cultural values and social structures. Cultural values can significantly modify the extent to which parents pursue their own self-interest and the extent to which parents are guided purely by economic objectives in rearing children, and in providing resources to their male and female offspring. A case study from India provides evidence to support this hypothesis.

3. Background to Surveys of Wives in Tribal Areas in West Bengal and Orissa

Wives of 223 families in rural villages in West Bengal were surveyed in 1999 and in Orissa in 2000 by means of direct interviews using a structured questionnaire[1] to obtain information about their preferences for daughters and sons as children, and to determine whether boys had different resource and related entitlements to girls. The West Bengal survey involved 117 respondents in four villages and that in Orissa 106 respondents in three rural settlements. The surveys in West Bengal were conducted by Susanta Roy and in Orissa by Nanda Arati and assistants.

The Bengal survey was conducted in an area heavily populated by Santal tribals and the survey in Orissa was undertaken in an area dominated by Kondh tribals. There were also some non-tribal Hindus in the samples but they were in the minority, and nearly all belonged to a scheduled Hindu caste (a lower caste). The proportion of Hindu non-tribals was higher in the Bengal sample than in the one from Orissa.

The Bengal sample was drawn from four villages in the southwest of West Bengal located west of Midnapore. The sample from Orissa was drawn from three settlements located about five kilometres south of Phulbani in the Khandermal District[2].

Both in the Bengal sample and the Orissan sample, considerable cultural convergence appears to have occurred within each area[3]. On the whole, cultural values are, however, found at the same time to differ between the Bengal sample and the Orissan sample in some important respects.

In both samples, all families had a patriarchal structure with productive property, such as land, being owned by males and inherited by sons. Marriage is exogamous, and is in fact

patrilocal. It occurs usually with partners from outside the villagers, and daughters join their husband's family after their marriage.

In general, these villagers, especially tribals are poor, even by Indian standards. Most of these villages rely heavily on use of forests to supplement their incomes e.g. for the grazing of their livestock, collection of edible food, fuel collection and so on.

In the Bengal sample, the Santals can be divided into two groups – those who continue to follow their own religion, the Sari religion, and those who have converted to Hinduism. There is some evidence that those continuing to follow the Sari religion display a little less discrimination against females (Tisdell, 2002).

While in the Orissan sample, most respondents are Kondh tribals, some Dombs are also present. They are low caste Hindus who usually are employed as servants of the Kondhs, and they are frequently landless. The Kondhs have abandoned their own religion and most follow Hinduism. Their language appears to be of Dravidian origin. This may mean that at an earlier time they had a matriarchal society or at least, one in which females had a much higher status than is evident in the Aryan culture that dominates north-western India today (cf. Sen, 2001). As we shall see, examining the results from these samples, there is much less discrimination against daughters in Orissa than in the West Bengal sample.

4. Survey Results

One of the questions in the survey asked respondents whether they preferred more sons than daughters, more daughters than sons, or an equal number of both. As can be seen from Table I, those in Orissa were most likely to express a preference for an equal number of children of both sexes, whereas in W. Bengal, the most frequently expressed preference was in favour of more sons than daughters. Using the chi-squared test, the difference between responses in the two tribal areas is significant at the one percent level[4].

Table I:			
Preference by state of residence of respondents for children according to their gender.			
Frequency of responses and relative frequency in percent ^(a)			
Preference in gender composition of children	State***		Total
	WB	Orissa	
More sons than daughters	48	33	81
	44.9%	31.4%	38.2%
More daughters than sons	18	1	19
	16.8%	1.0%	9.0%
An equal number of sons and daughters	41	71	112
	38.3%	67.6%	52.8%
Total responses	107	105	212
	100.0%	100.0%	100.0%

^(a) Excludes non-responses. The non-response rate in Orissa is high.

*** Significant difference exists at 1% level using chi-square test.

Within the Orissan area, the pattern of responses of the Kondhs and of the Dombs were relatively similar and in the West Bengal sample, the pattern of responses of Sari Santals, Hindu Santals and scheduled caste Bengali Hindus to this question also tended to be rather similar.

Respondents were asked if daughters go to school less frequently than sons. If they do, this might indicate that less attention is given to ensuring the education of daughters than sons. Details of the responses are given in Table II. In West Bengal, the majority of respondents (63.5%) said 'Yes' whereas in Orissa, the majority 87.2% said 'No', although the non-response rate was quite high in Orissa.

Table II:			
Frequency and relative frequency with which daughters are reported to go to school compared to sons ^(a)			
Daughters go to school less frequently than sons	State***		Total
	WB	Orissa	
No	31	34	65
	36.5%	87.2%	52.4%
Yes	54	5	59
	63.5%	12.8%	47.6%
Total responses	85	39	124
	100.0%	100.0%	100.0%

^(a) Excludes non-responses. The non-response rate in Orissa was high.

*** A significant difference exists at the 1% level using the chi-squared test

A significant difference between responses in Orissa and in West Bengal using the chi-squared test is observed (at the one percent level) in plans for provision of education to sons and daughters. The majority of respondents in West Bengal (57%) said that they planned to give more education to their sons than their daughters whereas in Orissa the majority of respondents (84.1%) said that they planned to give equal education to sons and daughters. The distribution of responses is shown in Table III.

Table III: Frequency and relative frequency of responses concerning the amount of education planned for daughters and sons ^(a)			
Comparative education planned for sons and daughters	State***		Total
	WB	Orissa	
More education to sons	57	11	68
	57.0%	15.9%	40.2%
More education to daughters	6		6
	6.0%		3.6%
Equal amount of education to sons and daughters	37	58	95
	37.0%	84.1%	56.2%
Total responses	100	69	169
	100.0%	100.0%	100.0%

^(a) Excludes non-responses

*** A significant difference exists at the 1% level using the chi-squared test.

Respondents were also asked whether, when food is scarce, preference is given to sons or daughters or whether the food is shared equally. While 68.2% of respondents in West Bengal said that preference is given to sons, all respondents from Orissa said that food is shared equally between sons and daughters. As can be seen from Table IV, a significant difference exists in responses from West Bengal and Orissa.

Table IV: Frequency of responses and their relative frequency to the question concerning the relative availability of food to sons and daughters ^(a)			
When food is scarce, to whom is preference given?	State ***		Total
	WB	Orissa	
Son(s)	75		75
	68.2%		41.7%
Daughter(s)	12		12
	10.9%		6.7%
Equally shared	23	70	93
	20.9%	100.0%	51.7%
Total responses	110	70	180
	100.0%	100.0%	100.0%

^(a) Excludes non-responses

*** Significant difference exists at 1% level using the chi-squared test.

In relation to the question of whether sons or daughters are likely to receive preference for medical care or whether they are likely to be treated equally, it again emerged that significant favouritism of sons occurred in West Bengal. In West Bengal, 47.7% of respondents reported giving preference to sons. By contrast, Table V indicates that all respondents from Orissa reported equal access to medical care for sons and daughters. Using the chi-squared test, it is found that a significant difference exists at the one percent level between the responses of individuals from West Bengal and those from Orissa. However, it was found that in the West Bengal case that Santals were least likely to discriminate in favour of sons when medical attention is needed (Tisdell, 2002), although on average they discriminated in favour of sons.

Table V: Frequency of responses and their relative frequency to the question concerning the relative availability at medical care to sons and daughters ^(a)			
Who is more likely to receive medical care when needed?	State ***		Total
	WB	Orissa	
Son(s)	51		51
	47.7%		28.8%
Daughter(s)	6		6
	5.6%		3.4%
Equally treated	50	70	120
	46.7%	100.0%	67.8%
Total responses	107	70	177
	100.0%	100.0%	100.0%

^(a) Excludes non-responses

*** Significant difference exists at 1% level using the chi-squared test.

Overall, it is apparent that the attitudes and behaviour of responding parents towards daughters differs significantly between those from the Kondh-dominated area of Orissa and those from the Santal-dense area surveyed in West Bengal. While discrimination against daughters is at most minor in the former case, it is major in the latter case and displays features similar to that said to be prevalent in northwest India (Sen, 2001). The extent of differences between responses of those interviewed from each of these areas to gender-related questions involving children are apparent from the summary in Table VI. The differences in relation to all the attributes mentioned in this table are significant at the one percent level, using the chi-squared test. Note that in the West Bengal sample, a few non-tribal Hindus belonging to general castes were included. Whereas responses of scheduled caste non-tribal Hindus, on the whole, were found to be similar to those of the Santals, response patterns of general caste respondents showed some differences. However, because the numbers of general caste members in the sample are small, the significance of these differences is unclear. Therefore, this matter is not pursued here. As observed in Tisdell (2002), Santals displayed slightly less discrimination against females than Bengali Hindus in the West Bengal case.

Table VI: Modes or Most Frequent Responses of Wives to Questions about Preferences for Daughters and Sons and their 'Entitlements' – West Bengal and Orissan Samples		
Preference Characteristics	West Bengal	Orissa
1. Family composition <ul style="list-style-type: none"> • more sons than daughters • equal number of sons and daughters 	Yes (44.9) No (38.2)	No (31.4) Yes (67.6)
2. Daughters kept home from school more frequently than sons	Yes (63.5)	No (87.2)
3. Planning <ul style="list-style-type: none"> • more education for sons • equal education for daughters and sons 	Yes (57.0) No (37.0)	No (40.2) Yes (86.1)
4. When food is short <ul style="list-style-type: none"> • preference to sons • equal access to sons and daughters 	Yes (68.2) No (20.9)	No (0) Yes (100)
5. Preference for medical care <ul style="list-style-type: none"> • given to sons • equal access for daughters and sons 	Yes (47.7) No (46.7)	No (0) Yes (100)

Note: Figures in parentheses represent percentage of responses received given the responses indicated. Bold figures are the modes.

5. Discussion and Conclusions

How can we explain the occurrence of such differences given that economic conditions and social structures are so similar in the Kondh-dominated area where the survey was undertaken in Orissa and in the Santal belt where the survey was completed in West Bengal? Neither differences in economic conditions nor in social structures are capable of providing an acceptable explanation.

It is hypothesised that the main difference in parental attitudes towards daughters compared to sons arises from differences in the cultural or social values relating to the family of the two communities involved. These cultural values appear to be influential amongst the Kondhs in causing parents to treat daughters and sons with relative equality. However, such a social culture is, it seems, almost entirely absent in the Santal belt. Nevertheless, it was found that in the West Bengal sample, Santals are more likely to provide equal access of sons and daughters to medical care than Bengalis belonging to scheduled Hindu castes (Tisdell, 2002). This may be because of a cultural influence from the Sari religion. Also, Santals may have shown less discrimination against females in the past than now but as a result of strong influences from Bengali Hindu culture, this may have changed. Santals may now show greater prejudice than previously against females, especially when they have been converted to Hinduism (cf. Sahu, 1996).

Overall, the results support the view of Blake (1968) that cultural values play a major role in influencing parental attitudes to children. Cultural values may in some communities relegate economic consideration of parents about children to a minor place. This seems to have occurred in the case of the Kondhs who tend to treat daughters and sons equally. This is so, even though the objective net economic benefits of Kondh children of different gender to their parents seem similar to those of Santals and lower caste Hindus in West Bengal. Objective parental net economic benefits from daughters and investment in daughters in all these Indian rural communities are lower than for sons, given the prevailing social structures. However, cultural values in the Kondh-dominated areas in Orissa restrain parents from discriminating against daughters in order to maximise parental net economic benefit. But this is not so in the Santal belt in West Bengal. Dominant cultural values there sanction such discrimination.

The interactions between social institutions and cultural values and parental goals in relation to children are quite complex. However, Figure 2 provides an indication of these interconnections. Parental behaviour towards children (including children of different gender) depends on parental goals such as the pursuit of parental self-interest (their objective economic gain, their psychological satisfaction) and parental altruism towards their children [5], but the relative importance of these goals in determining parental behaviour depends on social structures and cultural values. In Figure 2, social structures and cultural values are shown as pathways influencing parental motivation in relation to children. Broken arrowed lines represent weak feedback mechanisms. For instance, cultural values and social structures may change as the objective net economic benefits of children to parents alter, albeit fairly slowly. Parental net benefit may alter as economies undergo structural change with development and this may slowly and eventually alter cultural values and social institutions governing the family.

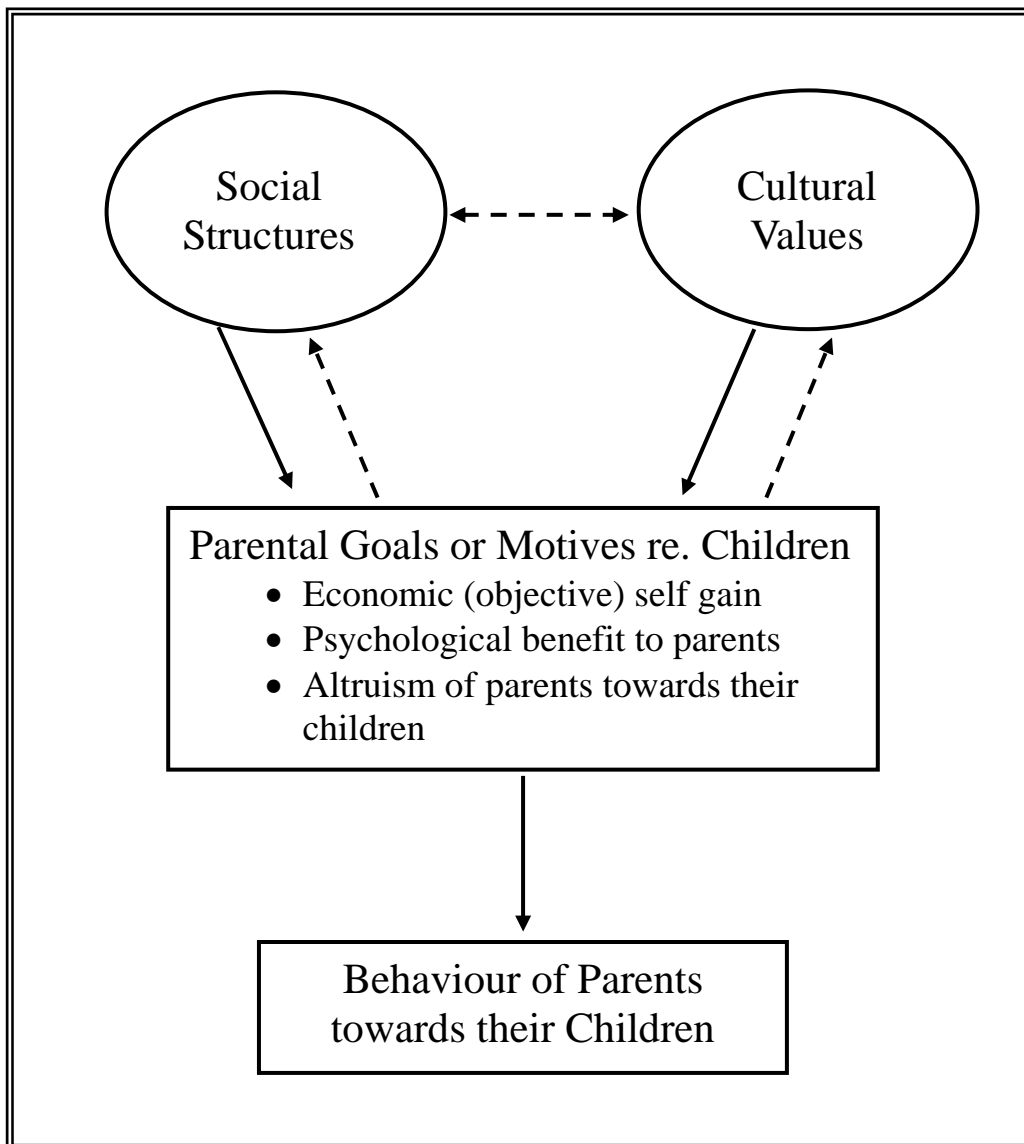


Figure 2: The behaviour of parents towards children is a result of the combined influences of personal parental goals, social structures and cultural values. In some instances, cultural values severely curtail the pursuit of personal (economic) gains of parents from the rearing of their children.

Thus, it is found that while economic theories based on maximising objective economic net benefits to parents from children of different gender provide a relatively convincing explanation of parental discrimination against daughters in the West Bengal case, they have little or not explanatory power in the Orissan case. In the latter case, there is little or no discrimination against daughters even though the objective net economic benefits of daughters relative to sons is similar to that in the West Bengal case. It is hypothesised that the difference in parental behaviour towards daughters in these two different communities stems from differences in their social or cultural values. To a large extent, prevailing cultural or

social values determine whether or not narrow economic theories of the family can be applied in particular communities or need to be modified.

Consequently, it follows that, as pointed out by John Conway O'Brien, morality, as influenced by cultural and social values, is an important determinant of 'economic' behaviour. Furthermore, the applicability of economic theories depends on the social and cultural context in which they are to be applied. This is especially important in relation to economic theories of the family. Economics alone is unable to explain the presence or absence of gender inequality.

Endnotes

1. The same questionnaire was used for both surveys to enable cross comparisons to be made. The questionnaire is quite long. A copy of it is available in Tisdell, Roy and Ghose (2002a).
2. For further information about sample selection and about communities surveyed see Tisdell (2002) and Tisdell, Roy and Ghose (2002b).
3. Sahu (1996) found from his study in Bihar that Santal cultural values have converged towards northern Hindu values.
4. Note that only responses are reported in the tables presented here. It is, therefore, assumed when the chi-square test is applied, that the distribution of non-responses would have been similar to those for those for the responses, if answers had been received from the non-respondents.
5. Although Dawkins (1989) suggests that evolution favours the replication of selfish individuals, parents who are selfish towards their children seem less likely to pass on their genes whereas those who shows some altruism towards their children are likely to be at an evolutionary advantage.

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