Individual theory of poverty and informal sector: a case study of street vendors of NDMC, Delhi

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INDIVIDUAL THEORY OF POVERTY AND INFORMAL SECTOR

A Case Study of Street Vendors Of NDMC, Delhi

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Abstract: The poverty in general has been looked at from various perspectives and various explanations have been given for underlying causes of poverty which have translated into certain specific theories of poverty. The two main strands in theory explaining the causes of poverty are: individual theory and cultural theory of poverty. This paper is an attempt to test the individual theory of poverty on the street vendors of Delhi, a Tier I city. Age has been taken as a proxy variable for genetic factors while individual factors chosen for the study are education levels of vendors and their duration of stay in the same occupation. Since the magnitude of the vendor population is humongous in Delhi, thus the study has been confined to NDMC Area of the city. Of the 961 licensed vendors in NDMC, 610 vendors have been chosen for the study which are spread over three important markets based on commercial hierarchy of the city: Connaught Place, Sarojini Nagar and Khan Market. The method of path co-efficient has been used to assess the relationships of each variable (age, education, period of stay) with incomes of vendors. The results depict that all the three variables; age, education and period of stay have a positive relationship with income of a vendor. However structural equation results are higher for period of stay than incomes. This implies that age and education have greater influence in choice of staying the same occupation by the vendor than determining his income. While age is an important factor for period of stay of vendors, education becomes an important factor for incomes of vendors. Higher the age of vendors, longer the duration of vendors in the same occupation. Similarly more the education level of vendors, more the earnings of vendors. The variables of individual theory seem to be weaker in the case of Tier I city as Delhi than in Tier II city such as Vijayawada. Thus, it might be possible that other socio-economic and political factor might be more dominant in determining earnings of vendors in Tier I cities.

IndexTerms **- Individual theory, poverty, street vendor, NDMC, Delhi, path analysis, structural equational model**

I. INTRODUCTION

The literature on poverty has explained its underlying causes from various perspectives. While on the one hand are the *individual theories* of poverty advocated by politically conservative theoreticians, on the other hand are the *cultural theories* of advocated by progressive social theory advocates. The *individual theory* of poverty is a large and multifaceted set of explanations that focus on the individual who is himself responsible for his poverty situation. In this theory, individuals in poverty are blamed for creating their own problems (Spencer 1979). It is assumed that hard work and better choices of the poor could have saved them from poverty trap. Other underlying reasons for *individual theory* of poverty are lack of genetic qualities such as intelligence that cannot be reversed. The second theory of poverty stems from the "Culture of Poverty" (Lewis 1968). The cultural theory believes that poverty is manifestation of the sets of the beliefs, values and skills socially generated which are passed on from one generation to another. Thus it is not the individuals but the dysfunctional subculture or cultural which makes them poor.

This paper is an extension to previous paper written by the author which tested Individual theory of poverty on a class II city, Vijayawada (Sharma 2017). In the present research the same theory was tested on a Tier I city of India, i.e., Delhi. The research on Vijayawada revealed that education has a strong positive relationship with incomes of a vendor, followed by period of stay which has a negative impact on incomes. However age is the least important factor affecting income levels of vendors (Sharma 2017).

To maintain consistency, same parameters of education, age and period of stay have been used to test their impact on income levels of street vendors of Delhi. A main reason for low earnings of street vendors is explained by their lack of education. Age has been used as a proxy measure for hereditary attributes. Genetic qualities such as intelligence could not be measured and thus have been excluded from the study.

II. OBJECTIVE AND RESEARCH QUESTIONS

The objective of this paper is to examine whether the individual factors are responsible for the street vendors to be having less incomes. These individual factors can be genetic or lack of interest of vendors themselves to acquire education and skills to end up working in informal sector. The research questions are as follows:

1. What is the impact of age on income levels of vendors?
2. What is the impact of education on income levels of vendors?
3. What is the impact of PoS on the income levels of vendors?

III. CASE AREA

The Delhi metropolitan area lies within National Capital Territory of Delhi (NCT). The Municipal Corporation of Delhi, the second largest civic body, was trifurcated in the year 2012 into the South Delhi Municipal Corporation (SDMC - 656.91 sq.km), the North Delhi Municipal Corporation (NDMC- 636.37 sq.km) and the East Delhi Municipal Corporation (EDMC – 105.98 sq.km) (MCD, 2015) (SFD Report 2016). The capital of India, New Delhi, falls under the administration of NDMC. The NDMC area constitutes the core of the city. This is the old imperial Delhi, the capital established in 1911. It includes the government of India headquarters, government housing, private housing, the Central Business District of the city; and prominent institutional areas. Although low figures are recorded for resident population, NDMC has a large floating population, being the Central Business District for Delhi city as a whole. It is estimated that the daily floating population in the NDMC area has increased from an approximate number of 10, 00,000 persons per annum to 15, 00,000 per annum. (Source: Public Health Department, NDMC).

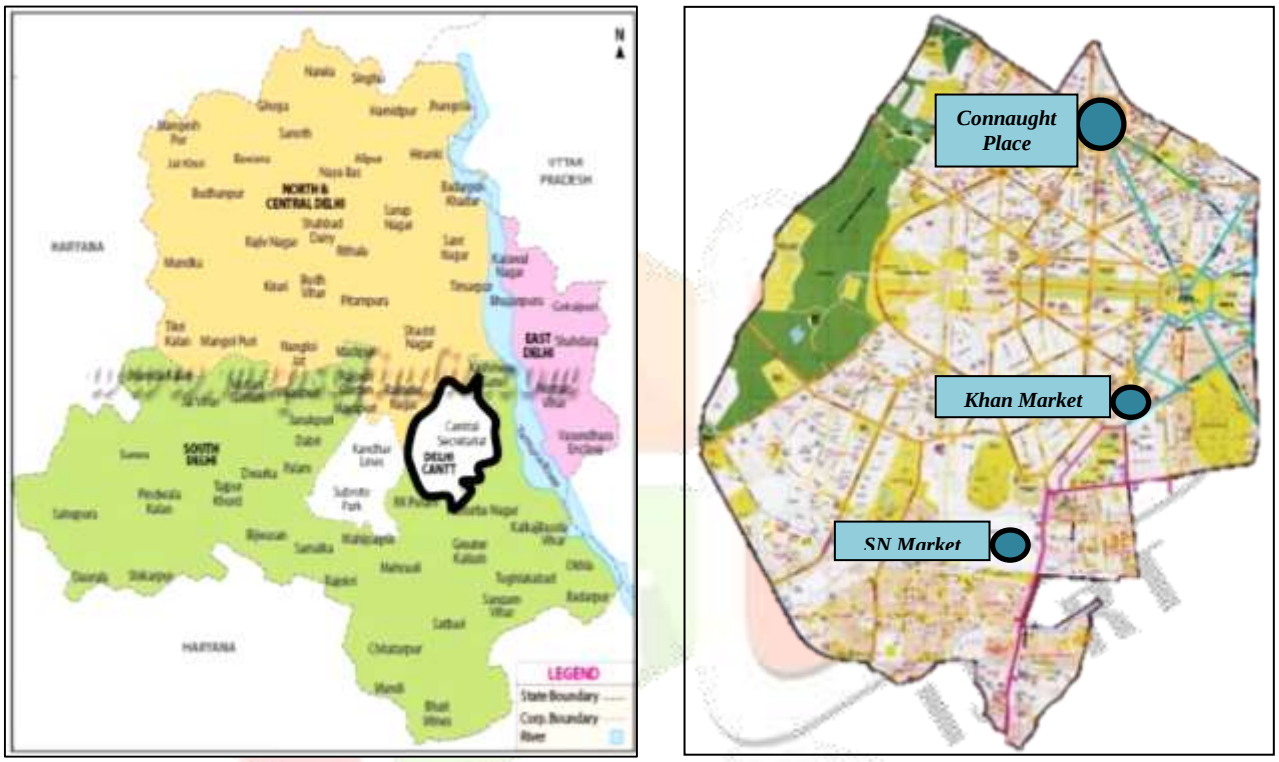

Fig. 1. (a) NDMC location in Delhi **(b) Primary survey locations**

The study focusses on three major markets of the city, Connaught Place and Extension (CBD); Sarojini Nagar (SN) Market and Khan Market., which have a good concentration of vendors of the city. Although the city has good concentration of vendors in the city but only these markets have been chosen for study for the following reasons:

a) The chosen markets have a good concentration of commercial shops which gives these markets a good enough clientele which is helpful for vendors in their business.

b) Connaught Place is the oldest market of the city, which makes it essential to test parameters such as age and period of stay for the local as well as migrant dwellers of the city.

c) SN Market and Khan Market in contrast are new markets which has arisen recently, yet attracts clientele because of the diversity of products available in the market and the ease of entry to this market place.

IV. METHODOLOGY

4.1 Participants

There are 961 licensed hawkers in NDMC (Economic Times 2015). For the study, a total of 610 total samples were collected from the three markets. 460 samples were chosen from Connaught Place (CBD), 125 samples were chosen from SN market (Non-hierarchy commercial centre) and 25 samples were chosen from Khan Market (community centre) depending on the hierarchy of commercial centres in Delhi. The sample was selected with the method of purposive sampling where data was collected only for licensed vendors in the chosen markets.

4.2 Data collection and analysis

The data has been collected from primary and secondary sources. The data collected through secondary sources was the location map of vendors and their license details from NDMC. The primary data was collected through questionnaires. The closed and open ended questionnaire was chosen as substitute to interviews because semi-structured interviews would not help in getting in-depth understanding of the vendors. The closed ended questionnaire included questions about the socio-economic conditions of vendors. Likert scale was used to assess certain qualitative questions. In conclusion, the data was collected through both qualitative and quantitative methods to cross check the reliability and validity of results collected.

4.3 Design and procedure

The data was collected through the questionnaire in approximately one month. Post data collection from the field, path analysis was done to understand the impact of age and education on PoS and finally on income of street vendors. In this diagram (figure 1), age and education are considered to be exogenous variables, that is, their variance is assumed to be caused entirely by variables not in the causal model.

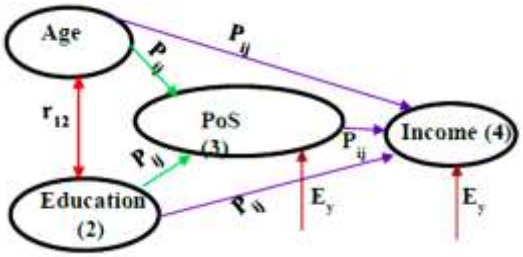

Fig. 2. Path Equation Model

The connecting line with arrows at both ends indicates that the correlation between these two variables will remain unanalyzed because we choose not to identify one variable as a cause of the other variable. Any correlation between these variables may actually be casual (1 causing 2 and/or 2 causing 1) and/or may be due to 1 and 2 sharing common causes. For example, having a certain set of positive mentality may cause one to achieve education and may independently also have a strong relationship with his/ age, creating a spurious correlation between 1 and 2 that is totally due to their sharing a common cause, with no causal relationship between 1 and 2. In this model, these relationships among the two factors have been deliberately ignored.

PoS and income are endogenous variables in this model - their variance is considered to be explained in part by other variables in the model. Paths drawn to endogenous variables are directional (arrowhead on one end only). Variance in PoS is theorized to result from variance in age, education and extraneous (not in the model) sources. The influence of these extraneous variables is indicated by the arrow from EY. Variance in income is theorized to be caused by variance in age, education, and extraneous sources.

For each path to an endogenous variable a path coefficient, pij, has been calculated, where "i" indicates the effect and "j" the cause. If we square a path coefficient we get the proportion of the affected variable's variable. The coefficient may be positive (increasing the causal variable causes increases in the dependent variable if all other causal variables are held constant) or negative (increasing causal variable decreases dependent variable).

4.4 Ethics

The ethical principles of scientific research have been followed. The data of research were not distorted. The data was analyzed and interpreted, avoiding any possible bias and prejudices, respecting objectivity. As for the conduct of the research, the purpose of research was explained to protect the human subjects, respecting their autonomy and privacy.

V. RESULTS

The values for age, education and PoS were normalised as they had different units, by the following formula:

$$Normalised\ X = \frac{Actual\ Value - Minimum\ Value}{Maximum\ Value - Minimum\ Value}$$

Path analysis has been conducted as a hierarchical (sequential) multiple regression analysis. For each endogenous variable a multiple regression analysis was done predicting income (Y) from all other variables (age, education and place of stay) which are hypothesized to have direct effects on Y. We do not include in this multiple regression any variables which are hypothesized to affect Y only indirectly (through one or more intervening variables). The beta weights from these multiple regressions are the path coefficients shown in the typical figures that are used to display the results of a path analysis.

Path co-efficient model for Delhi is illustrated in Figure 3, to which path coefficients have been computed as below:

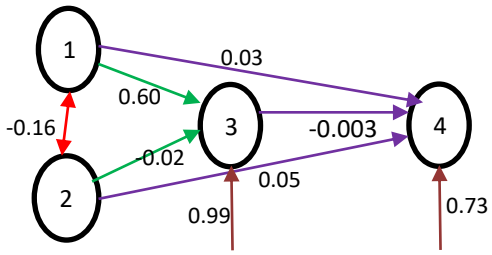

Fig. 3. Calibrated Path Co-efficient Model

Path co-efficient for Age on PoS:
Direct: 0.60
Unanalysed due to education:
-0.16x-0.02 = 0.0032
Total = 0.60+0.0032 = **0.6032**
Path co-efficient for Education on PoS:
Direct: -0.02
Unanalysed due to age:
-0.16x0.60 = -0.096
Total = -0.02-0.096 = **-0.12**

Structural equation for PoS:
0.6032-0.116+0.99= **1.48**

Path co-efficient for Age on Income:
Direct: 0.03
Indirect: 0.60x-0.003 = -0.0018
Unanalysed due to education:
-0.16x0.05 = -0.008
Unanalysed due to education and PoS:
-0.16x-0.02x-0.003 = -0.00001
Total = 0.03-0.0018-0.008-0.00001 = **0.02**

Path co-efficient for Education on Income:
Direct: 0.05
Indirect: -0.02x-0.003 = 0.00006
Unanalysed due to age:
-0.16x0.03 = -0.0048
Unanalysed due to age and PoS:
-0.16x0.60x-0.003 = 0.0003
Total = 0.05+0.00006-0.0048+0.0003 = **0.05**

Path co-efficient for PoS on Income:
Direct: -0.003
Spurious:
PoS-Education-Income:
-0.02x0.05 = -0.001
PoS -Age-Income:
0.60x0.03= 0.02
PoS -Education-Age-Income:
-0.02x-0.16x0.03 = 0.0001
PoS -Age-Education-Income:
0.60x-0.16x0.05 = -0.005
Total: -0.003-0.001+0.02+0.0001-0.005 = **0.01**

Structural equation for income:
0.03+0.05+0.01+0.73 = **0.82**

Updated Path co-efficient model for Delhi markets is illustrated in Figure 2, to which path coefficients have been computed as below:

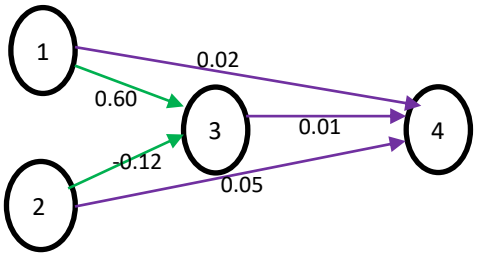

Fig. 4. Updated calibrated Path Co-efficient Model

VI. DISCUSSION

There are certain interesting points to be noted from the path co-efficient analysis.

First, Period of stay seems to have the higher overall path co-efficient than that of income. Since both the path co-efficient for PoS and income have been calculated from age and education, this it means both these genetic (age) and individual (education) factors have a strong bearing on period of stay than on income of the vendors. However what is interesting is that PoS has a higher path co-efficient than either age or education with regard to income, although the relationship is inverse.

Second, Age has a strong bearing on the PoS than education. Also higher the education of the vendors, the lesser the period of stay of vendors in this occupation, i.e. more educated the vendor is, less are his chances to be in the informal sector. Age is positively related to PoS, i.e. higher the age of the person more comfortable he/she is in the same occupation.

Third, PoS has a higher path co-efficient with regard to income than any of the other variables. However the impact of higher number of years spent in this occupation is negative on the earnings of the vendors. This implies that after few years, if the street vendors do not migrate from informal to formal sector, then their incomes would be either stagnant or declining. Thus its more remunerative to shift to formal sector over a period of time.

Fourth, the results of the analysis of the spurious relationships between variables are pretty interesting. These spurious relationships reveal the effect of sharing common variables (age and education) on the regressed variables (income and PoS). The inverse relationship between PoS and income is strengthened if only education is the spurious variable. This implies that the lesser the time period spent in vending and lesser the education level of the vendor, more the earnings of the vendors. This is perhaps true because when the less educated vendors enter into this occupation they have no other education to fall back upon and thus come with a zeal to sell more which leads to increase in their earnings. However the more educated vendors feel suffocated in this occupation over a period of time which impacts their incomes adversely. The impact of PoS on income becomes positive if only age is chosen as the spurious variable. This implies that age of the person reverses the negative relationship between PoS and income, i.e., although more years spent in the same occupation of vending would have reduced the incomes of vendors however, if the person is more aged then along with period of stay it positively impacts the income. Even though the duration of a vendor in his present occupation is less, yet more his age, will ultimately increase his earnings as a person would not like to shift from his occupation if he is old enough as it is his comfort zone, no matter he has been in this occupation for a very less time too.

Thus following relationships can be derived from the findings given above:

Impact of age on income levels of vendors

a) *If direct impact of age of a vendors and incomes levels are considered, then there is a positive relationship between age of a person and his income levels*.

b) *If indirect impact of age of a vendor on earnings is considered, then there is an inverse relationship between the two variables due to an additional variables of education and PoS*. Age becomes less important factor in increasing the incomes of vendors if education and PoS stay are also considered. More the duration of stay of a vendor in the same occupation of vending and more educated the vendors are, lesser the income levels of vendors (immaterial of their age) due to their dissatisfaction in the job and urge to shift to more formal jobs.

Impact of education on income levels of vendors

a) *The direct impact of education on income implies a positive and strong relationship between the two variables*. More educated a vendor, more are his earnings. This is perhaps due to better communication skills and knowledge of various languages which makes it easier for vendors to attract customers and earn more money.

b) *The indirect impact of education on income is negative* due to an additional parameter of age. This implies that the better education levels of the vendors do not raise his income if his age is also more. The youthful and better educated vendors are earning more than the old better educated vendors. However the impact of education on income is positive if both age and PoS are together considered. This implies that PoS has a greater impact on earnings of vendors than age if combined with education.

Impact of PoS on income levels of vendors

a) *PoS has a negative relationship with income levels of vendors*. More the period of stay in this occupation less his earnings, as there is a dissatisfaction and urge to move to more formal jobs and thus reduced interest in earning from informal sector.

b) *PoS and education together also have a negative impact on earnings of the vendor*. This is because better educated vendors who have been in the same occupation for a long period of time lose their interest in the occupation and thus are urged to look for more opportunities in formal sector which reduces their incomes in present occupation of vending.

c) *PoS and age together have positive impact on earnings of the vendors*. Age of the person reverses the negative relationship between PoS and income, i.e., although more years spent in the same occupation of vending would have reduced the incomes of vendors, however, if the person is more aged then along with period of stay it positively impacts the income. Also, more the age of the person, better he is able to network and duration of stay in this occupation further helps him to develop better customer base which increases their earnings.

VII. Comparison between Tier I (Delhi) and Tier II city (Vijayawada)

Earlier the individual theory of poverty was tested on a tier II city, Vijayawada (Sharma 2017) and on a Tier I city, Delhi, in the present paper. The results obtained from the two case studies are more or less similar however the magnitude of relationship between the variables might be varying. In case of Delhi, the variables describing individual theory of poverty (age, education and period of stay in the same occupation) seem to be weaker than in case of Vijayawada. The results have been analysed at two levels: in terms of impact of age and education on determining the period of stay of vendors in the same occupation and also in terms of impact of age and education on determining earnings of vendors.

The results are analysed below:

Table 1. Comparison of Path Co-Efficient Model variables between Delhi and Vijayawada

Variables	Vijayawada Path Co-efficient	Delhi Path Co-efficient
Period of Stay (PoS)		
Age on PoS	0.43	0.60
a) Direct	0.25	0.60
b) Unanalysed due to education	0.18	0.003
Education on PoS	-0.58	-0.12
a) Direct	-0.49	-0.02
b) Unanalysed due to education	-0.09	-0.096
Structural equation for PoS	*0.7*	*1.48*
Income		
Age on Income	0.01	0.02
c) Direct	0.25	0.03
d) Unanalysed due to education	-0.17	-0.008
e) Unanalysed due to education and PoS	-0.03	-0.00001
Education on Income	0.45	0.05
a) Direct	0.46	0.05
b) Unanalysed due to age	-0.09	-0.005
c) Unanalysed due to age and PoS	0.01	0.0003
PoS on Income	-0.13	0.01
a) Direct	-0.15	-0.003
b) PoS and Education	-0.23	-0.001
c) PoS and Age	0.08	0.02
Structural equation for income	*1.14*	*0.82*

Source: Author's work

It can be noted from the above table that the relationship between all the variables is consistent in the case of both Tier II and Tier I city. Only one variable, i.e., PoS has a positive impact on income of vendors in case of Delhi while it has a negative impact on income of vendors in case of Vijayawada. The impact of genetic factor of age and individual factors of education and PoS on earnings of the vendors is higher in case of Tier II city. These genetic and individual factors become less important when tested on a Tier I city like Delhi. This implies that individual theory of poverty seems to hold true for smaller cities in India, other factors such as social, cultural, political etc. become more dominating in influencing the earnings of vendors in large Tier I cities of the country.

VIII. Conclusion

It is always debated whether people earn less because of some genetic or individual factors or because of social, cultural or political factors. Thus this research is an attempt to understand though structural equation model whether individual theory of poverty holds true for street vendors or not. This paper is part of the series of research to be published testing each theory of poverty on the street

vendors. In the previous study conducted on a Tier II city, Vijayawada, it was found that of all individual factors, lack of willingness to acquire education has a strong bearing on earnings of vendors (Sharma 2017). Choice of staying in the same occupation of vending has a negative impact on earnings of vendors and it's the second important factor having an impact on earnings of vendors after education. However, other factors such as age has a small positive impact on earnings of vendors. When the same variable were tested on Delhi in the present study it was found that choice of staying in the same occupation actually increases the earnings of vendors and age and education have a major impact on period of stay of vendors in the same occupation than on the earnings. This implies that as the scale of the city grows in terms of better employment opportunities, the individual factors of age and education have less impact on earnings of the vendors because in large cities other social, cultural and political factors come into play their role. The next series of paper in this regard will thus test the cultural theory of poverty on Tier II cities followed by the testing of the theory in Tier I cities.

IX. Acknowledgement

The author would like to acknowledge the street vendors who participated enthusiastically in the research.

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