



Do the Differential Education Levels and Gender Influence the Household Assets? A Study on Urban areas of West Bengal, India

David Durjoy Lal Soren^{1*}

¹ Research Scholar, Department of Geography & RM, Mizoram (Central) University, Aizawl, Mizoram-India

*Email: devid.dls.king@gmail.com

ABSTRACT

In this study, an attempt has been made to evaluate the influence of differential education levels and gender influence on urban household assets possession of West Bengal. Urban household related data was collected from Census of India (2011) and socio-economic and caste census of India (2011) websites. Urban household assets possession was shown by assets index (ASI). ASI was highest in Kolkata (1.98) followed by [North 24 Pargana](#) (0.79), [Darjeeling](#) (0.71), Hugli (0.48), [Burdwan](#) (0.46), [Haora](#) (0.31) and [Paschim Mednipur](#) (0.29) respectively. It was lowest in [Murshidabad](#) (-1.11). Correlation matrixes were formed to show the relationship of ASI with household educational levels of different household sizes and marital status of head of household of different age groups. It was found that, those household having high education levels also having high assets possession. In addition, female education had impacted more than male education on assets possession. For example, same level of education, female education level was greatly associated with assets possession than male. It was also found that, female head household having more assets concentration than male head household except windowed, divorced and separated head household. This study can be helpful towards the education centric planning and resource management.

Keywords: Urban households; Assets index (ASI); Educational level; Corrplot.

Introduction:

Education is the key of social development and referred to as the investment of human capital. It's not confined only to expand knowledge but it has also materialistic value and also defined as a primary determinant of long-term social development. It helps to sustain higher income, more stable employment and better working conditions (Fields 1980). Education and social wealth can be viewed in two ways, first the conditions which influence the education attainment such as family background, educational facility and household economic resource etc. (Haveman and Wolfe 1995, Bjo" rklund and Salvanes 2010) and secondly education makes positive influence in earning and the process of wealth accumulation during the working career of a people (James et.al 2013). There is positive relation between education, income and assets (Poterba et.al 2013; Wolla and Sullivan, 2017; Alhassan et.al 2017). Higher education tends to higher assets. Education on financial literacy and development of cognitive skills may also influence the types of assets and wealth of people (Zhan and Sherraden 2011). David et.al (2017) examined the educational attainment and link between different types of asset ownership and its trend of variation by gender. One study commissioned by the World Bank (2012) focused the role of education in income and development. It examined that relation of education and assets/wealth rest on the premise that education delegate on economic benefits of recipients of education. Gregorio and Lee (1999) highlighted the role of education on income distribution. The effects of increase average schooling on income distribution may be either positive or negative. A hypothetical model predicted towards positive association between educational and wealth distribution (Zhan et. al 2011; Jeng et.al 2015). Deininger et.al (2013) studied the systematic relationships between women's asset ownership and socio-economic outcomes that emerge due to systematic differences in preferences between males and females. Women with even exceeding male attainment level in some area, but in some region they were lag behind (Miller et.al 2017). Team (2011) Indicated education has importance to reduce gender disparity. The investigation focused on comparative view of male headed and female headed household and there assets achievement and basic focus on gender differences variations in different sectors such as assets of land, technology, financial, education, labour and services. This study presented analytical view of assets variation in respect of educational attainment of male and female to understand variation of assets possession and enlightened the view that was there any intended difference of assets possession between gender differentials and educational attendant. Hilgert et.al (2003); Jessen et.al (2011) Counted the household belongs from well educated with more financial literacy have positive relation to household wealth and higher savings. Gregorio et.al (1999) Indicated that higher educational attainment tend to more equal distribution of assets and eradicate income inequality with proper management policy. Thus the study stressed on the relationship between assets possession and attainment of differential education. For that, we have chosen all the urban areas of West Bengal, India. As a social element educational level of individuals or society as a whole is one of the strong determinants for achieving material assets by the same. Owing to high employment opportunity for educated people in urban economy, educated dwellers is generally stronger financially than the less educated one.

Study area:

West Bengal is the 13th largest state and 4th most populous state in India which contained 19 districts based on census of India (2011). It has an area of 88,752 square kilometres and situated in between 21°25'N to 27°13'N and 85°50'E to 89°50'E (Fig. 1). The state's census towns have jumped from 48 in 1971 to 780 in 2011, whereas the number of statutory town remains 127. The State has only 2.69 % of the country's geographical area and 68.11% of the population resided in rural area and 31.89% lived in urban area. Respect of municipality and census town the state contained an area of 4113.63 sq.km. Highest urban area were on district of Burdwna (754.74 sq.km), North 24 Pargan (440.67 sq.km), Howrah (438.31 sq.km) followed by South 24 Pargana, Hoogly, Nadia, Kolkata, Purba Medinipur, Paschim Medinipur, Jalpaiguri, Murshidabad, Purulia, Birbhum, Darjeeling, Bankura, Maldah, Cooch Behar, Dakshin Dinajpur, Uttar Dinajpur (respective area in sq.km 397.73, 329.6, 301.90, 223.00, 210.58, 187.32, 158.16, 151.74, 140.68, 117.88, 94.75, 66.37, 52.20, 30.97, 10.50 and 6.47). Among the 19 districts, highest urban population was recorded in state capital district of Kolkata (100%), district Howrah had second highest count of urban population (63.3%) followed by North 24 Pargan (57.59%), Burdwna (39.87%), Hoogly (38.62), Darjeeling (38.09), Nadia (27.81%), Jalpaiguri (27.00%), South 24 Pargana (25.61%), Murshidabad (19.87%), Dakshin Dinajpur (14.13%), Birbhum (12.80%), Purulia (12.75%), Uttar Dinajpur (12.07%), Paschim Medinipur (12.03%), Maldah (11.65%), Purba Medinipur (11.65%), Cooch Behar (10.25%), Bankura (8.36%)(Fig. 2). The highest urban household counted in North 24 pargana and (1352106) Kolkata (1019615) followed by Howrah, Burdwan, Hoogly and lowest household were on Bankura (65478) Dakshin Dinajpur (57007). National Sample Survey Organization (NSSO 2016) conducted a survey that revealed that rural family unit have higher debts and low assets than their urban counterparts. At the same time, an urban unit possesses more than twofold the resource than that of rural unit. The same scenario found in whole state.

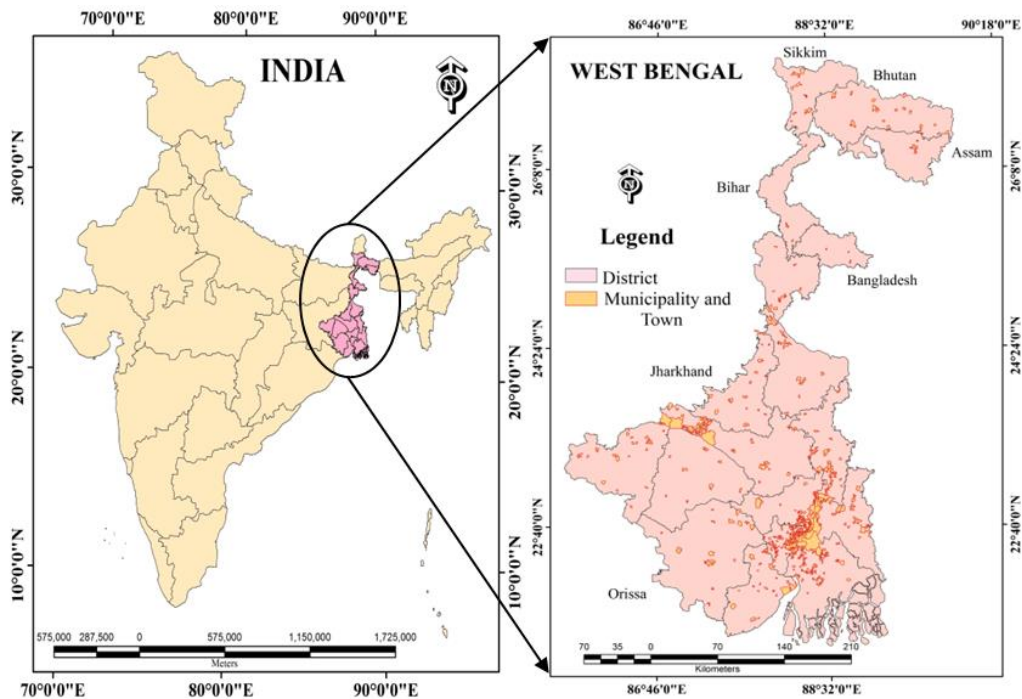


Fig. 1 Location map of the study area with urban areas

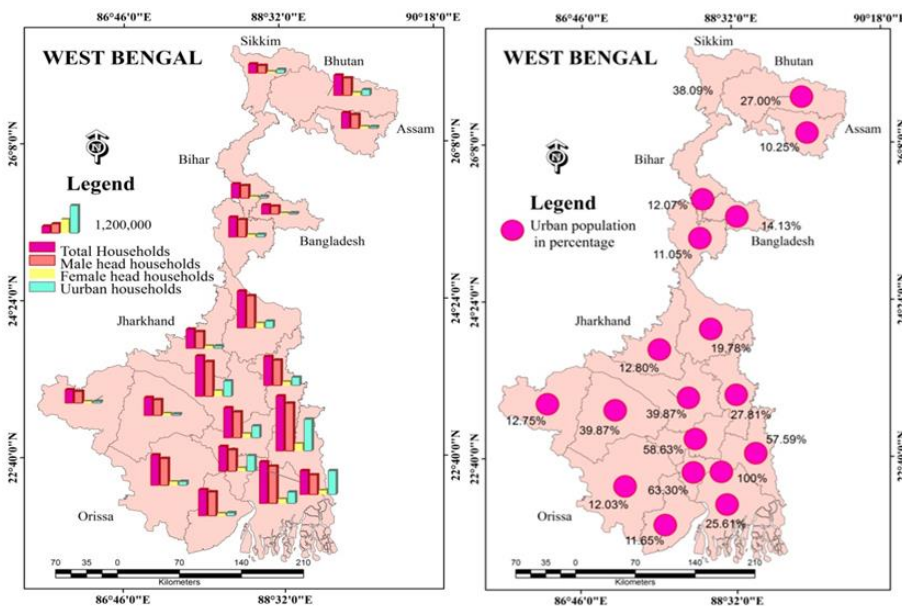


Fig. 2 Location map of the study area with urban areas

Materials and Methods:

A large number of secondary data was used to perform this study. Urban household assets data in % was collected from Census of India (2011) and Socio-economic and caste census (2011). Household educational levels of different household sizes in numbers, marital status of head of household of different age groups in numbers data and district wise administrative maps were collected from Census of India (2011) website. Based on the available assets data i.e. refrigerator, radio/transistor, television, Computer/Laptop with internet and without internet, landline only, mobile only, both landline and mobile, bicycle, scooter/ motorcycle/moped, car/ jeep/van, households with TV, computer/laptop, telephone/mobile phone and scooter/ car, household having air Conditioner, assets index (ASI) was calculated in SPSS 17.0. ASI calculation was done through two steps; first Z score was selected to normalize the individual assets indicators with the objective of minimum loss of information (Eq. 1). In the second step, ASI was calculated by summing up the Z score value (Eq. 2).

$$Z = (X - \mu) / \sigma \dots\dots\dots (Eq. 1)$$

$$ASI = \sum_{i=1}^{14} x_i / n \dots\dots\dots (Eq. 2)$$

Where, Z = Normalized z score of each parameter, X = individual observation, μ = variable mean, σ = standard deviation, ASI = Assets index, x_i = standardised Z, n = number of standardised Z variable

To relate ASI with household educational levels of different household sizes and marital status of head of household of different age-groups, correlation matrix was formed in SPSS 17.0.

Results and discussion:

Spatial distribution of urban household assets:

The comparative distribution of urban household assets was even which reflected the differential economic status among the households of urban areas of various district under consideration. Economic status depends on education, job opportunities, region’s economy and so on. ASI, a standardized technique, was brought into play to assess the assets possession. Higher the value of this index indicated greater concentration of assets and vice-versa. Kolkata was occupied in the topmost position of assets possession (1.98) followed by [North 24 Pargana](#) (0.79), [Darjeeling](#) (0.71), Hugli (0.48), [Burdwan](#) (0.46), [Haora](#) (0.31), [Paschim Medinipur](#) (0.29), Dakshin Dinajpur (-0.08), Bankura (-0.17), [Kooch Bihar](#) (-0.20), [Maldah](#) (-0.27), [South 24 Parganas](#) (-0.31), [Jalpaiguri](#) (-0.32), [Purba Medinipur](#) (-0.34), [Puruliya](#) (-0.39), [Birbhum](#) (-0.43), Nadia (-0.63), [Uttar Dinajpur](#) (-0.75) and [Murshidabad](#) (-1.11) (Fig. 2). There was a range of anomaly found in the highest and lowest assets possession districts. The range value was 3.09 whereas the mean value was .001. Kolkata, [North 24 Pargana](#), [Darjeeling](#), Hugli, [Burdwan](#), [Haora](#) and [Paschim Medinipur](#) situated in the above of mean value. Kolkata having more than 2.5 times higher ASI value than the second most position occupied district. If Kolkata was excluded, the mean value was -0.109 which added only Dakshin Dinajpur district (Fig. 2).

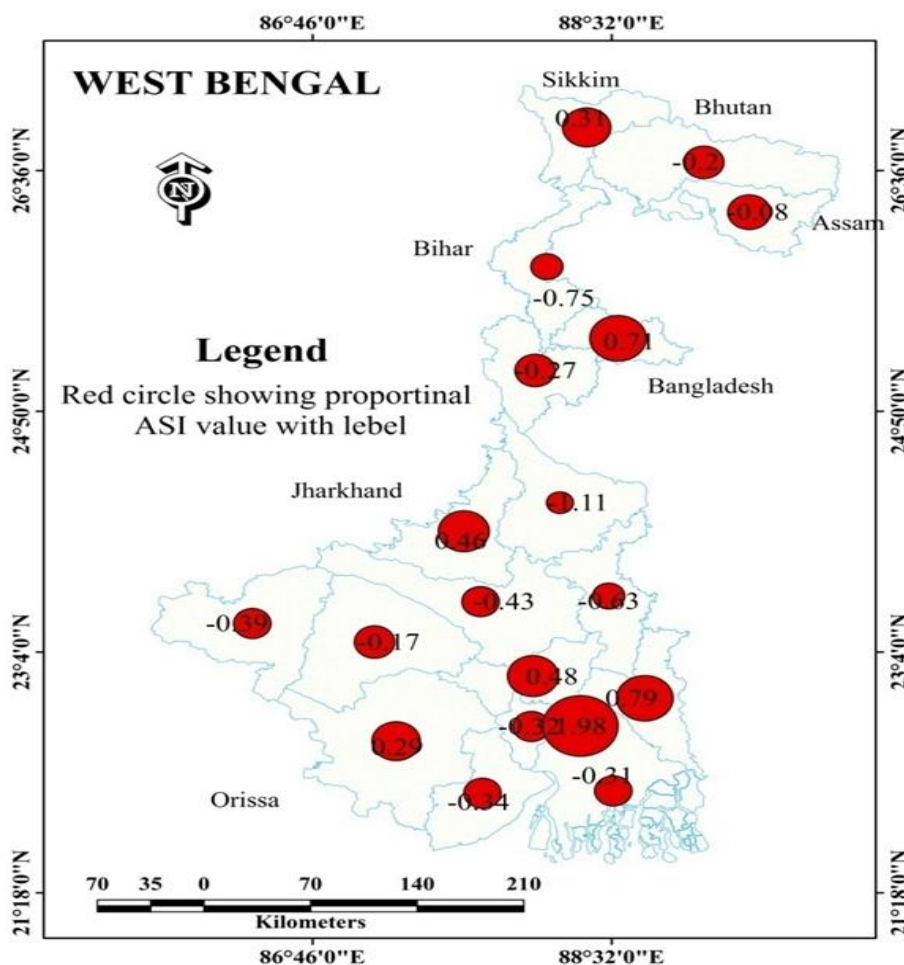


Fig. 3 Spatial distribution of ASI values for urban areas

Association between ASI and differential educational levels:

Correlation matrix was formed to assess the relation between ASI and differential educational levels of different urban household size. Urban household size was classified into six groups i.e. total urban households (%) (Group A), urban household size with at least one member age 15 years and above (1) (%) (Group B), urban household size with at least one member age 15 years and above (2) (%) (Group C), urban household size with at least one member age 15 years and above (3-6) (%) (Group D), urban household size with at least one member age 15 years and above (7-10) (%) (Group E) and urban household size with at least one member age 15 years and above (11+) (%) (Group F) whereas education level was classified into eight levels i.e. households with at least one member literate (HE1), households with no matriculate and above (HE2), households with at least one matriculate and above (HE3), households with at least one male matriculate and above (HE4), households with at least one female matriculate and above (HE5), households with at least one graduate and above (HE6), households with at least one male graduate and above (HE7) and households with at least one female graduate and above (HE8). Education had a positive influence on household assets (Table 1 and Fig. 3). It was interestingly revealed that in case of households having low level of education (HE1, HE2) in every group of household sizes (A, B, C, D, E, and F), the values of correlation in terms of ASI were was low. In respect of Group A, the educational levels were positively associated with ASI value. Excluding male and female educational level, highest correlation value was found in HE6 (.763) followed by HE3 (.728), HE1 (.668) and HE2 (.518). It was clear that, higher the educational levels greater the correlated value. Same level of education, females were higher than male as indicated by correlation value of HE4 and HE5 (.733 and .746) and HE7 and HE8 (.763 and .783). As the education level increases for both male and female correlation value also increases as suggested by the HE4 and HE7 (.733 and .763) and HE5 and HE8 (.746 and .783) (Table 1 and Fig. 3). On the other hand, in respect of Group B, Group C, Group D, Group E and Group F excluding male and female educational level the correlation value having an increasing trend. Same levels of education females having high correlation value than male except Group B because there was one member in household either male or female. One member’s female household with high education level having same income compared to one member’s male household in respect of same economic activities (Table 1 and Fig. 3). In all household sizes, the correlation value of ASI and HE2 was smaller than any other education levels. All the correlation was statistically significant at the 0.01 and 0.05 levels (2-tailed) (Table 1). In this section, member(s) of the household above 15 years old had taken in consideration unknowing their economic status. Purchasing capacity of the households is obviously dependent on the level of amount of earnings by the household members.

Table 1: Correlation between ASI and household educational levels of different household sizes

		ASI					
		Group A	Group B	Group C	Group D	Group E	Group F
HE1	Pearson Correlation	.668**	.782**	.713**	.648**	.673**	.685**
	Sig. (2-tailed)	.002	.000	.001	.003	.002	.001
	N	19	19	19	19	19	19
HE2	Pearson Correlation	.518*	.692**	.568*	.480*	.507*	.452
	Sig. (2-tailed)	.023	.001	.011	.038	.027	.052
	N	19	19	19	19	19	19
HE3	Pearson Correlation	.728**	.816**	.764**	.712**	.743**	.750**
	Sig. (2-tailed)	.000	.000	.000	.001	.000	.000
	N	19	19	19	19	19	19
HE4	Pearson Correlation	.733**	.819**	.765**	.719**	.750**	.760**
	Sig. (2-tailed)	.000	.000	.000	.001	.000	.000
	N	19	19	19	19	19	19
HE5	Pearson Correlation	.746**	.806**	.776**	.733**	.788**	.770**
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000
	N	19	19	19	19	19	19
HE6	Pearson Correlation	.763**	.816**	.786**	.752**	.771**	.810**
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000
	N	19	19	19	19	19	19
HE7	Pearson Correlation	.763**	.813**	.785**	.753**	.769**	.808**
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000
	N	19	19	19	19	19	19
HE8	Pearson Correlation	.783**	.813**	.795**	.776**	.755**	.839**
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000
	N	19	19	19	19	19	19

**Correlation is significant at the 0.01 level (2-tailed).

*Correlation is significant at the 0.05 level (2-tailed).

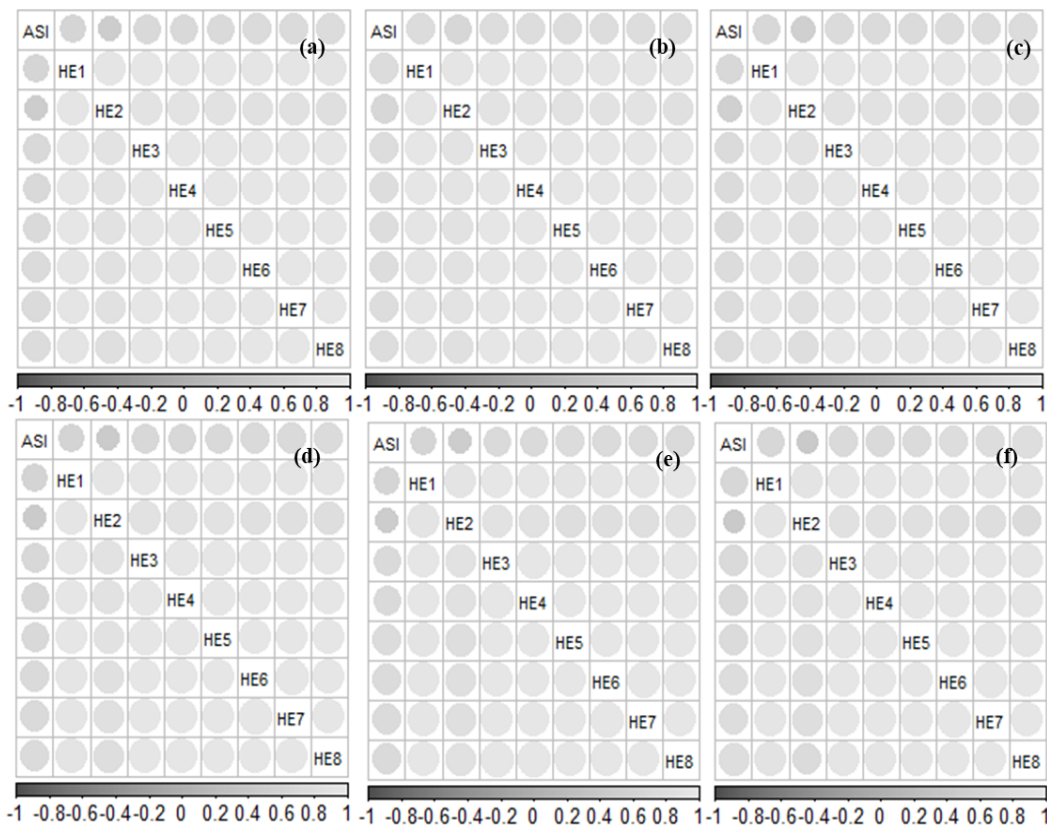


Fig. 4 Corrplot showing association between ASI value and household educational levels of different household sizes from (a) Group A (b) Group B (c) Group C (d) Group D (e) Group E and (f) Group F.

Linkage between ASI and Gender differential:

Another matrix was formed to correlate ASI and age group wise marital status of head of household. Age group was classified as <20, 20-29, 30-39, 40-49, 50-59, 60-69, 70-79, 80+, age not stated and all ages. Marital status of head of household was grouped into male head household (HH_MH), female head household (HH_FH), never married male head household (NMM), never married female head household (NMF), currently married male head household (CMM), currently married female head household (CMF), widowed male head household (WM), widowed female head household (WF), divorced male head household (DM), divorced female head household (DF), separated male head household (SM) and separated female head household (SF). In respect of all age group, it was found that female headed household (0.70) had greater assets possession than male (0.66). But it was surprisingly found that household of every age group with female head had always high concentration of assets than male except 60-69 to 80+ age groups. In <20, 20-29, 30-39, 40-49 and 50-59 age group female head household had correlation value of 0.75, 0.74, 0.69, 0.68 and 0.69 respectively whereas it was 0.71, 0.48, 0.59, 0.64 and 0.68 respectively for male head household (Table 2 and Fig. 4). In respect of never married and currently married household, females had higher correlation values compared to male in all groups. Some cases it was similar to male head household but it never crossed. The correlation difference was higher in 20-29 age group (Table 2 and Fig. 4). In case of widowed, divorced and separated household the scenario was quite different (Table 2 and Fig. 4). All the data was statistically significant (Table 2).

Table 2 Correlation between ASI and marital status of head of household of different age groups

	ASI									
	<20	20-29	30-39	40-49	50-59	60-69	70-79	80+	Age not stated	All ages
HH_MH Pearson Correlation	0.71**	0.48*	0.59**	0.64**	0.68**	0.70**	0.72**	0.72**	0.82**	0.66**
Sig. (2-tailed)	.001	.039	.008	.003	.001	.001	.000	.000	.000	.002
N	19	19	19	19	19	19	19	19	19	19
HH_FH Pearson Correlation	0.75**	0.74**	0.69**	0.68**	0.69**	0.69**	0.72**	0.72**	0.82**	0.70**
Sig. (2-tailed)	.000	.000	.001	.001	.001	.001	.001	.000	.000	.001
N	19	19	19	19	19	19	19	19	19	19
NMM Pearson Correlation	0.76**	0.73**	0.76**	0.79**	0.80**	0.81**	0.80**	0.81**	0.80**	0.79**
Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
N	19	19	19	19	19	19	19	19	19	19
NMF Pearson Correlation	0.76**	0.83**	0.81**	0.80**	0.78**	0.79**	0.82**	0.81**	0.78**	0.82**
Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
N	19	19	19	19	19	19	19	19	19	19
CMM Pearson Correlation	0.60**	0.42	0.58**	0.64**	0.67**	0.69**	0.71**	0.70**	0.82**	0.64**
Sig. (2-tailed)	.006	.072	.009	.003	.002	.001	.001	.001	.000	.003
N	19	19	19	19	19	19	19	19	19	19
CMF Pearson Correlation	0.64**	0.73**	0.75**	0.75**	0.75**	0.76**	0.77**	0.77**	0.82**	0.76**
Sig. (2-tailed)	.003	.000	.000	.000	.000	.000	.000	.000	.000	.000
N	19	19	19	19	19	19	19	19	19	19
WM Pearson Correlation	0.78**	0.70**	0.70**	0.74**	0.74**	0.75**	0.76**	0.77**	0.83**	0.76**
Sig. (2-tailed)	.000	.001	.001	.000	.000	.000	.000	.000	.000	.000
N	19	19	19	19	19	19	19	19	19	19
WF Pearson Correlation	0.72**	0.61**	0.62**	0.64**	0.67**	0.67**	0.70**	0.72**	0.81**	0.68**
Sig. (2-tailed)	.000	.005	.004	.003	.002	.002	.001	.001	.000	.001
N	19	19	19	19	19	19	19	19	19	19
DM Pearson Correlation	0.78**	0.77**	0.75**	0.76**	0.77**	0.80**	0.76**	0.68**	0.83**	0.77**
Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.001	.000	.000
N	19	19	19	19	19	19	19	19	19	19
DF Pearson Correlation	0.66**	0.53*	0.46*	0.49*	0.52*	0.59**	0.65**	0.65**	0.78**	0.51*
Sig. (2-tailed)	.002	.020	.046	.031	.024	.007	.003	.002	.000	.026
N	19	19	19	19	19	19	19	19	19	19
SM Pearson Correlation	0.79**	0.44	0.67**	0.72**	0.76**	0.75**	0.81**	0.77**	0.68**	0.73**
Sig. (2-tailed)	.000	.058	.002	.001	.000	.000	.000	.000	.001	.000
N	19	19	19	19	19	19	19	19	19	19
SF Pearson Correlation	0.56*	0.56*	0.55*	0.59**	0.60**	0.63**	0.80**	0.59**	0.66**	0.59**
Sig. (2-tailed)	.013	.013	.015	.008	.007	.004	.000	.008	.002	.007
N	19	19	19	19	19	19	19	19	19	19

**Correlation is significant at the 0.01 level (2-tailed).

*Correlation is significant at the 0.05 level (2-tailed).

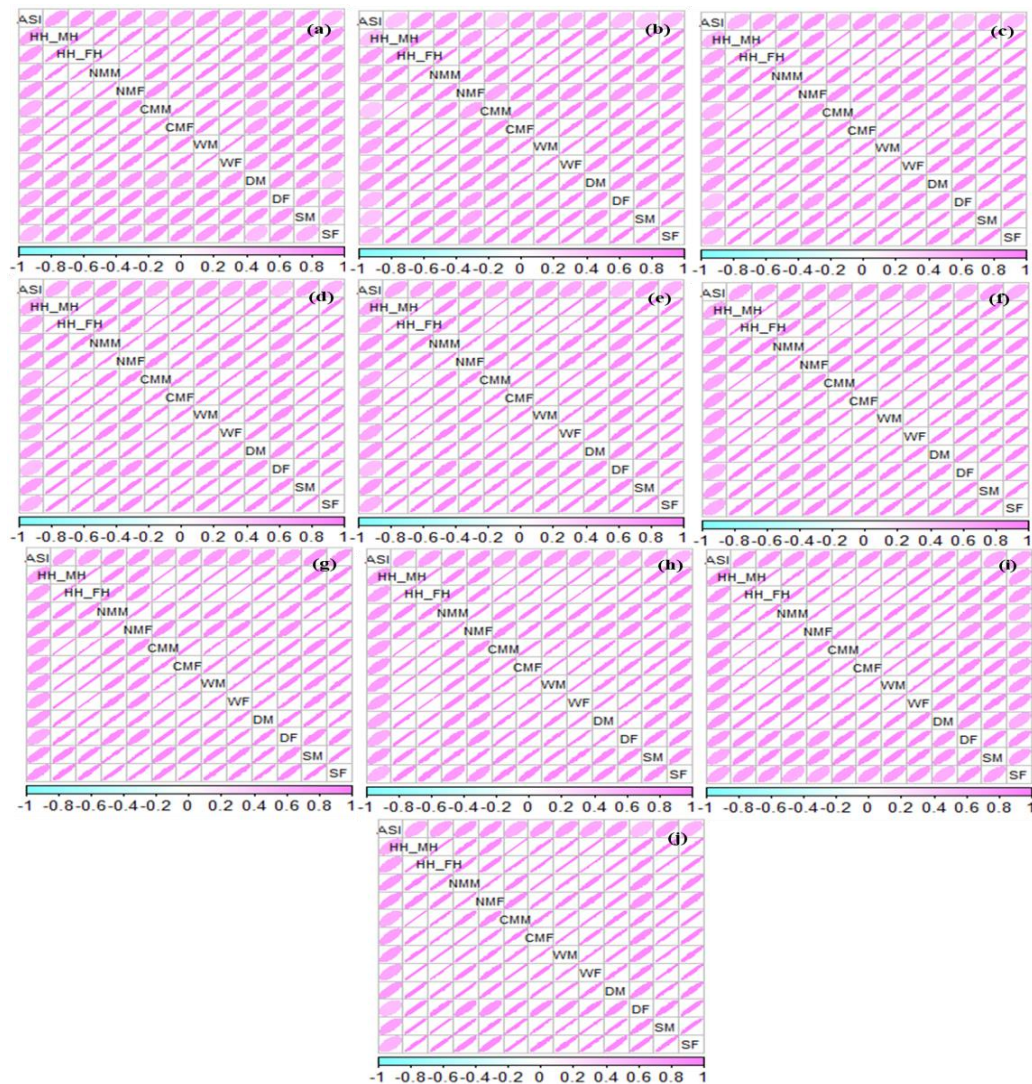


Fig. 5 Corrplot showing association between ASI value and marital status of head of household of different age-groups (a) <20 (b) 20-29 (c) 30-39 (d) 40-49 (e) 50-59 (f) 60-69 (g) 70-79 (h) 80+ (i) age not stated and (j) all ages.

Reason behind the influence of differential education level and gender in ASI:

Most of the household of urban areas of West Bengal were literate having significant correlation with assets possession. In addition, higher the education levels higher the correlation value which means that assets were higher in those household having high educational qualification. Urban areas of West Bengal were associated with the secondary, tertiary, quaternary and quinary economic activities. Higher the education level increased the chance of high salaried job and high income. People purchased different household assets. Thus education level positively associated with assets possession. On the other hand, household having same level of education of male and female, female education level was greater associated with assets possession. In addition, female head household having more assets possession than male head household except windowed, divorced and separated head household. Females have the high tendency to purchase different household assets than male for the smooth conducting their daily routine. Thus, the assets concentration was increased with high level of female education.

Conclusion:

Urban areas of West Bengal were taken into consideration to assess the relationship of education level differentials and gender with assets possession. Education level was classified into 8 heads i.e. HE1, HE2, HE3, HE4, HE5, HE6, HE7 and HE8 for each of the household sizes namely Group A, Group B, Group C, Group D, Group E and Group F. The minimum standard of educational attainment (HE1 and HE2) had lower correlation value with assets for each of the household sizes. On the other hand, higher education (HE6) level impacted more on assets concentration. It was found that, female educational attainment had much greater influence than male. Female headed family had higher positive relation and counted with greater assets than male headed family in all ASI age groups except windowed, divorced and separated household. The pick difference was recorded in active age groups of 20-29 and 30-39. In developing countries like India in 20-39 age groups male were much responsible with maintenance of family, on the other hand

female were less responsible with family maintenance. From the result of correlation a clear inference could be drawn that females had a general tendency to availed more assets comparison to male one. Even where both of the couple were employed but head of the family was a female had high concentration of assets in comparison to both employed coupled household with a male head. Thus, females were always more interested to collect the more assets in comparison to males. So, a question raised from the study that was there any psychological reason behind the high tendency in assets possession of the females? This study can be helpful to implement the education and resource management plan.

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