



Socioeconomic Characteristics of Adult Tribal and Non-Tribal Population in Rural and Peri-urban Areas of Birbhum district, West Bengal

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ABSTRACT

India with 8.6% of tribal population is finding it difficult to bridge the gap that exists between tribal and non-tribal population in regards to socioeconomic status. The study assesses the impact of various socio-economic and demographic factors on the tribal and non-tribal age, education, occupation, physical activity and socio-economic and demographic data were recorded from 421 adults population in 2 blocks of Birbhum district (Suri-1 & Md Bazar). In the study, tribal population was 19.75% and non-tribal population 80.25%. The percentage of kuccha house users were more for tribal than non-tribal population and percentage of open defecation was more among tribal population. Again of the significant percentage of tribal in study area was illiterate. This study will enable the planners and administrators to chalk out need based pragmatic planning to rule out differences if any.

Key Words: Socioeconomic, tribal, non-tribal

Introduction

The tribes make up a very small part of the total tribal population of the country. They have been marginalized from society in various respects. There are two hundred million tribal populations across the globe, which roughly means, about four percent of the total global population. They are spread across various regions of the world and the majority of them are poor. Article 366 (25) of the Constitution of India refers to Scheduled Tribes (ST) as those communities, who are scheduled in accordance with Article 342 of the Constitution [Indian Constitution, 1949]. Literacy rate of Scheduled Tribes (STs) as per 2011 census was 59% whereas overall literacy rate was 73% at all India level. Post-Independence the legislations enacted and funds allocated by the Government have resulted in the increase of literacy and gross enrollment ratio of boys and girls.

West Bengal's tribal population accounts for around 5.8% of the state's total population. West Bengal's tribal population accounts for about 5.08% of the country's total tribal population (Tribal Development Department, n.d.). A large number of tribal people are illiterate, unskilled, unemployed and mostly alcoholic, which leads to an insecure livelihood. Long-time insecure livelihood leads to chronic poverty. After that, they automatically are falling into the poverty trap (Ramva et al., 2017). As tribal people are predominantly non-agricultural workers with very low earnings a day and are mostly dependent on timber and non-timber forest products, their nutritional status is projected to be lower than other non-tribal communities (Bepari et al., 2015). The tribal development has challenged for government in the area of Economic, Education, Social, Political and social backwardness and exploitation of Tribal (Valvi, 2012)

Bulender (2017) had mentioned that the high incidence of rape cases and domestic violence are associated with women disempowerment which causes a source of economic poverty. He further observed that the social and economic poverty of tribal women are the significant factors for the incidence of high crime rate in the tribal areas. Awareness programs on social empowerment among the tribal women are to be imparted by both the government and non-governmental agencies.

The majority of the tribal population didn't have safe drinking water sources and also the lack of sanitation facility. The Indian contemporary economic growth, health and human development indicators of scheduled tribes (STs) or Adivasi (India's indigenous populations) lag behind national averages (Mohindra et al., 2010).

There are many acute problems of the tribal peoples in our country that needs immediate attention and early solution. The problems related to various aspects of tribal peoples viz. social, economic, educational, health, religion, land, law and order situation, self-centered tendency and so on. Many of these problems cannot be well understood due-to lack of necessary and adequate information. What is more, the caste and tribe interviewed with the process of development create new and insurmountable inequalities among social groups (Reddy, 2010)

Objective

To examine the socio-economic status of tribal and non-tribal adult population in 2 blocks of Birbhum district, West Bengal

Method of Research

The sample of the research study included tribal and non-tribal adult population of Suri-I and Md Bazar blocks of Birbhum district, West Bengal during the year 2023. The total number of participants 421 was selected out of which 385 belonged to non-tribal and 95 belonged to tribal communities. Eligible participants were evaluated using a structured questionnaire included demographic information such as sex, level of education, employment status, type of house, family type, number of rooms, type of fuel used and sanitation facility used. The data were statistically analyzed based on descriptive statistics and logistic regression using STATA (version, 12). In order to analyze the data in the light of the objectives also mean, S.D. and independent samples t-tests were applied.

Outcome Variable

Scheduled Tribe was regrouped in binary (0 and 1) as it was treated as dependent variable to find out logistic regression. These values were entered into the logistic regression model as response variables instead of the actual numeric values. Similarly, the predictor variables were coded separately and entered into the regression model as a set of dummy variables. A p-value <0.05 was considered statistically significant.

Explanatory Variables

We have taken three types of families, nuclear, joint and extended nuclear. Nuclear family consists of a married couple and their dependent children. Joint family consists of a number of married couples and their dependent children living in the same household. On the other hand, extended family consists of a family that includes in one household near relatives (such as grandparents, aunts, or uncles) in addition to a [nuclear family](#). Again, in the study, sanitary latrine has been divided into present and in use, present and not in use and absent. Open defecation is identified as absent of sanitation facility. Type of fuel used has been divided into firewood, LPG, electricity and others. Among category others Gul/coal, dung cake were included.

For simplicity, we categorized the variables into six education levels: illiterate, able to read and write, primary (1 to 4 years), middle school (5 to 8 years), Secondary and Higher Secondary school (9 to 12 years), Graduation and more (> 12 years) and don't know those who denied replying. Houses made from mud, thatch, or other low-quality materials are called kuccha houses, houses that use partly low-quality and partly high quality materials are called semi-pukka houses, and houses made with high quality materials throughout, including the floor, roof, and exterior walls, are called pukka houses.

Again, in major occupation various categories were included such as labourer, cultivator, artisans, service, professional, business, auto/taxi driver, housewife, elderly, differently able, pension holder etc. In physical activity, sedentary activity includes landlord, service, business, housewife, postman, teacher and white collar workers. Moderate activity includes labourer, other labourer, cultivator, artisan, mason, servant maid, tailor, rickshaw –puller, etc. Heavy activity includes blacksmith, stone cutter, railway gagman, wood cutter, mine worker etc. In the formation of quintile, three groups have been created such as poor, middle and upper. Quintile was calculated on the basis of type of house, type of fuel materials used for cooking, sanitation and household assets through principal components analysis (PCA) guidelines.

Results

It is clear from table 1 that Non-tribal adults had higher (2.17) mean score in socio-economic status scale compared to (1.26) tribal adult population, which was found to be statistically significant using independent samples t-test ($t = -10.90, p < 0.001$). It indicates that non-tribal students possessed high socio-economic status as compared to tribal students.

It is clear from table 2 that male adults had lower mean score (1.94) in socio-economic status scale compared to (2.05) female population, which was found to be statistically insignificant as revealed by independent samples t-test ($t = 1.45, p$ value not significant). It can be said that there exists no significant difference between the male and female population under study on socio-economic status measure.

It is clear from table 3 that non-tribal male adults have almost same (2.11) mean score in socio-economic status scale compared to (2.23) non-tribal female adults, which was found to be statistically significant using independent samples t-test ($t = 55.34, p = 0.000$). It can be said that there exists no significant difference between the non-tribal male and non-tribal female adult population under study on socio-economic status measure.

It is clear from table 4 that tribal male adolescents had almost same (1.25) mean score in socio-economic status scale compared to (1.26) female adults, which was found to be statistically significant using independent samples t-test ($t = 24.15$, $p < 0.001$). It can be said that there exists a significant relation between the tribal male and tribal female under study on SES measure.

In Table-5, it has been shown that majority (around 61 %) of non-tribal respondents in study area were living in pukka houses, while around 13.77% were living in kuccha house. But only 17.89% of tribal respondents were living in pukka houses, while 26.32% were living in kuccha house. Most of the tribal participants were living in nuclear families while comparatively more participants in non-tribal community were living in joint families.

Around 81.87% HHs in study area had sanitary latrine facilities presently used for non-tribal participants while only 73.68% used no toilet for tribal population. More than 69.17 % non-tribal participants were engaged in sedentary activities while percentage wise more tribal participants were engaged in heavy physical activities. 41.71% HHs for non-tribal participants used LPG as cooking fuel while this percentage was 7.37% for tribal participants.

According to Table- 5, 22.54% among study non-tribal population belonging to poor socio-economic group, while 76.84% tribal population belonging to poor socioeconomic sampled population. P- Value in each case highly significant.

In Table 6, the level of literacy has been shown. Among tribal population, percentage of illiterate was more than non- tribal population. 45.26 % of tribal participants were engaged as labourer in study area whereas only 18.91% of non-tribal participants were engaged in this occupation.

Table -7 the unadjusted and mutually adjusted odds ratios and 95% confidence intervals from logistic regression analyses with tribal-non-tribal group as the dependent variable in sample population has been shown. Adjusted effects on tribal group were shown in the table, kuccha type of house (odd ratio : 7.19; 95% confidence level: 3.55 14.59), moderate physical activity (odd ratio: 2.53 , 95% confidence level: 1.57 4.06), heavy physical activity (odd ratio: 2.60 ; 95% confidence level: .77 8.73) , middle quintile (odd ratio: .163; 95% confidence level .091 .292), rich quintile (odd ratio: 0.019, 95% confidence level: .005 .065), P value is significant for kuccha type of house, absent of separate kitchen, middle and rich quintile.

In Table-8 adjusted effects on tribal –non-tribal group were shown in the table, education 5-8 standard (odd ratio: 0.403, 95% confidence level: .213 .763), education 9th- 12th Standard (odd ratio: .356, 95% confidence level: .179 .707), college (odd ratio: .250, 95% confidence level: 0.071 .876). P value is significant for 5-8th Standard and 9-12th standard of education level.

Discussion

Our analysis has different major findings related to patterns of socioeconomic deprivation among indigenous peoples in India. First, there are substantial differences in literacy, type of house, sanitation facility and type of fuel used between indigenous and non-indigenous peoples, with all values being disproportionately greater for indigenous peoples. The differential distribution of socioeconomic factors in indigenous and non-indigenous populations accounts for a substantial portion of the occupation and physical activity inequalities between these two groups.

After analysis of table 01, it has been made apparent that the Tribal and Non-Tribal participants differ significantly on socioeconomic status. The mean score value of SES calculated is 2.17 for non-tribal participants which is higher than tribal participants, value (1.26) and hence, is significant at 0.0001 level. The results support that socioeconomic status of non-tribal population is higher than tribal group in study area.

The tribal literacy rate in 1981 was 16.35 per cent was, however, strikingly low in comparison to that of general population. Among the study population literacy rate increased to 51.58%. This is due to the fact various policy measures have been taken to improve the literacy level tribal group during the planning period. But till now illiteracy rate is higher among tribal group (48.42%) compared to non-tribal group (29.27%) in study area (Table-6).

This study provides comprehensive findings on type of house, sanitation, and type of fuel used among the vulnerable tribal population known for its geographical and socioeconomic barriers.

The study shows that nearly 74% households not availed sanitation facility and 77.89 % use firewood as fuel for cooking among tribal group (Table-5).

Therefore, the key findings of our study include sanitation, type of house and cooking practices in this tribal area are substantially poor which is often associated with the low per capita income; household members, especially the participants, are forced to spend considerable time to labourer in primary occupation in study area.

Conclusion

The Govt. of India has frequently admitted and accepted that the tribal populations are underprivileged in terms of education and other socioeconomic parameters compared to general population. Most of the tribes are engaged in daily labour. Hence, they were mostly in the lower class of economic status. The study finds that there is only a partial progress in the socio-economic status of the tribal people in the Birbhum district

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Conflict of interest

The authors declared no potential conflicts of interest with respect to the research, authorship, and publication of this article.

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Table-1: Comparison of Socio-economic status of tribal and non-tribal adult population in Birbhum district, West Bengal

Variable	Category	Mean	SD	t	p-value
Socioeconomic status	Non- tribal	2.17	0.77	-10.90**	0.000
	Tribal	1.26	0.50		

** Significant at 0.000, level; p < 0.001

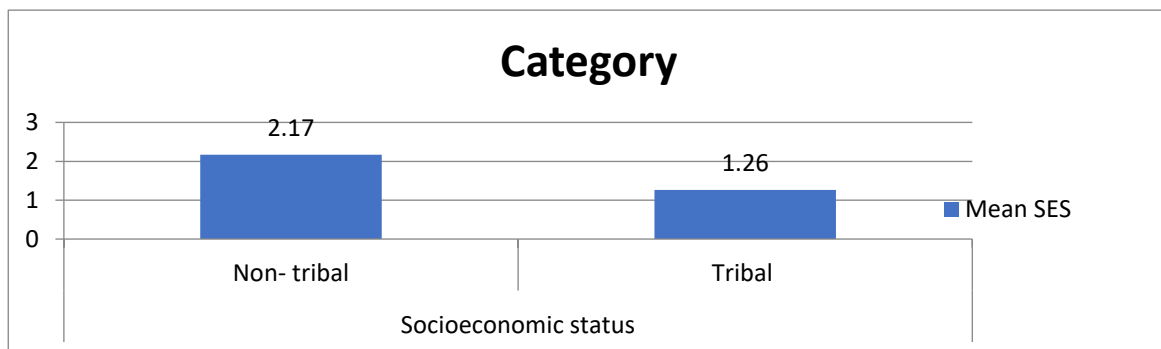


Figure 1: Comparison of mean Socio-economic status scores of tribal and non-tribal adults study population of Birbhum district

Table 2 Comparison of Socio-economic status of male and female adult population in study area

Variable	Category	Mean SES	SD	t	p-value
Socioeconomic status	Male	1.94	0.80	1.45	0.148
	Female	2.05	0.81		

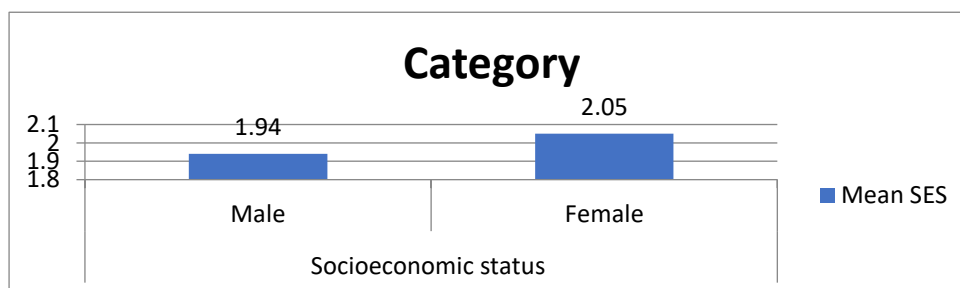


Figure 2: Comparison of mean Socio-economic status scores of male and female adult population in study area of Birbhum district

Table-3: Comparison of Socio-economic status of non -tribal male and non-tribal female adult population in Birbhum district, West Bengal

Variable	Category	Mean	SD	t	p-value
Socioeconomic status	Non tribal Male	2.11	0.77	55.34	0.000
	Non Tribal Female	2.23	0.76		

** Significant at 0.000, level; $p < 0.001$

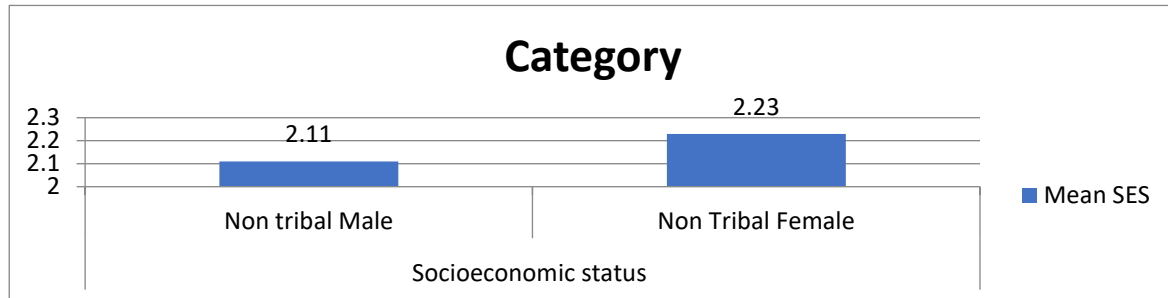


Figure 3: Comparison of mean Socio-economic status scores of male and female adults of Non Tribal of Study Population of Birbhum district

Table-4: Comparison of Socio-economic status of tribal male and tribal female adult population in Birbhum district, West Bengal

Variable	Category	Mean	SD	t	p-value
Socioeconomic status	Tribal Male	1.25	0.52	24.15	0.000
	Tribal Female	1.26	0.50		

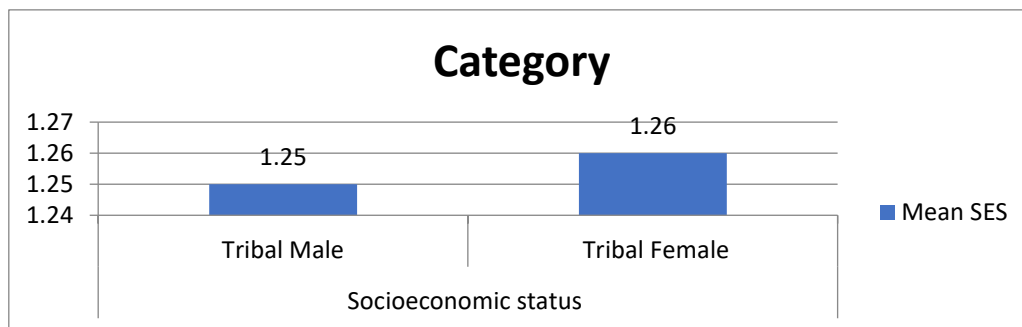


Figure 4: Comparison of mean Socio-economic status scores of male and female adults of adults Tribal Study Population of Birbhum district

Table-5: Background Characteristics of Tribal & Non-tribal Population

Indicators	Total N(481)	%	Non tribal(386)	%	Tribal (95)	%	P-value
Type of House							
Pukka	251	52.18	234	60.78	17	17.89	0.000
Semi pukka	152	31.60	99	25.71	53	55.79	
Kuccha	78	16.22	53	13.77	25	26.32	
Type of Fuel Used							
Firewood	240	49.90	166	43.01	74	77.89	0.000
LPG	168	34.93	161	41.71	7	7.37	
Electricity	6	1.25	6	1.55	0	0.00	
Others	67	13.93	53	13.73	14	14.74	
Sanitary Latrine							
Present and in use	335	69.65	316	81.87	19	20.00	0.000
Present but not in use	14	2.91	8	2.07	6	6.32	

Absent	132	27.44	62	16.06	70	73.68	
Family Type							
Nuclear	446	92.72	355	91.97	91	95.79	0.261
Extended Nuclear	5	1.04	5	1.30	0	0.00	
Joint	30	6.24	26	6.74	4	4.21	
Type of Physical Activity							
Sedentary	311	64.66	267	69.17	44	46.32	0.000
Moderate	156	32.43	109	28.24	47	49.47	
Heavy	14	2.91	10	2.59	4	4.21	
Number of Rooms(including Kitchen)							
<=3	303	62.99	244	63.21	59	62.11	0.406
4-5	146	30.35	111	28.76	35	36.84	
>=6	32	6.65	31	8.03	1	1.05	
Separate Kitchen							
Present	262	54.47	228	59.07	34	35.79	0.000
Absent	219	45.53	158	40.93	61	64.21	
Quintile							
Poor	160	33.26	87	22.54	73	76.84	0.000
Middle	165	34.30	146	37.82	19	20.00	
Rich	156	32.43	153	39.64	3	3.16	

Table-6: Background Characteristics of Tribal & Non-tribal Members in the study area

Indicators	Total N(481)	%	Non tribal(386)	%	Tribal (95)	%	P-value
Sex							
Male	263	54.68	209	54.15	54	56.84	0.637
Female	218	45.32	177	45.85	41	43.16	
Age Group							
< 35 Years	156	32.43	109	28.24	47	49.47	0.005
36 to 49 Years	147	30.56	125	32.38	22	23.16	
50 to 60 Years	103	21.41	91	23.58	12	12.63	
61 Years & Above	75	15.59	61	15.80	14	14.74	
Education Level							
Illiterate	159	33.06	113	29.27	46	48.42	0.000
Read & Write	2	0.42	2	0.52	0	0.00	
1 - 4 Standard	75	15.59	58	15.03	17	17.89	
5 - 8 Standard	113	23.49	97	25.13	16	16.84	
9th- 12th Standard	101	21.00	88	22.80	13	13.68	
College	30	6.24	27	6.99	3	3.16	
Not Applicable	1	0.21	1	0.26	0	0.00	
Major Occupation							
Labourer	116	24.12	73	18.91	43	45.26	0.000
Cultivator	26	5.41	21	5.44	5	5.26	

Artisans	5	1.04	5	1.30	0	0.00
Service	23	4.78	19	4.92	4	4.21
Professional	18	3.74	18	4.66	0	0.00
Business	51	10.60	47	12.18	4	4.21
Auto/Taxi driver	9	1.87	6	1.55	3	3.16
Housewife	151	31.39	129	33.42	22	23.16
Others(specify)	36	7.48	29	7.51	7	7.37
Pension	10	2.08	9	2.33	1	1.05
Elderly	34	7.07	28	7.25	6	6.32
Differently able	2	0.42	2	0.52	0	0.00

Artisans*(Goldsmith, Blacksmith, Carpenter, Pot maker and caste oriented occupations)

Table-7: Logistic regression for adjusted and unadjusted odds ratio (OR) of Tribal Population

Determinants	Unadjusted OR (95% CI)	p-value	Adjusted OR (95% CI)	p-value
Type of House				
Pukka(Reference)				
Semi pukka	7.36 (4.06 13.35)	0.000	8.13(4.41 14.98)	0.000
Kuccha	6.49(3.27 12.87)	0.000	7.19(3.55 14.59)	0.000
Type of Fuel Used				
Firewood(Reference)				
LPG	.097(.043 .218)	0.000	.078(.033 .180)	0.000
Electricity				
Others	.592(.309 1.13)	0.114	.650(.335 1.25)	0.202
Sanitary Latrine				
Present and in use(Reference)				
Present but not in use	12.47(3.92 39.60)	0.000	12.51(3.92 39.95)	0.000
Absent	18.77(10.56 33.38)	0.000	18.48(10.35 32.98)	0.000
Family Type				
Nuclear(Reference)				
Extended Nuclear				
Joint	.60(.204 1.76)	0.353	.60(.206 1.79)	0.369
Type of Physical Activity				
Sedentary(Reference)				
Moderate	2.61(1.63 4.17)	0.000	2.53(1.57 4.06)	0.000
Heavy	2.42(.729 8.07)	0.148	2.60(.77 8.73)	0.121
Number of Rooms(including Kitchen)				
<=3 (Reference)				
4-5	1.30(.81 2.09)	0.273	1.27(.78 2.08)	0.323
>=6	.13(.017 .99)	0.050	.115(.015 .881)	0.037
Separate Kitchen				
Present(Reference)				
Absent	2.58(1.62 4.12)	0.000	2.78(1.70 4.54)	0.000
Quintile				
Poor(Reference)				
Middle	.155(.087 .274)	0.000	.163(.091 .292)	0.000
Rich	.023(.007 .076)	0.000	.019(.005 .065)	0.000

Table-8: Logistic regression for adjusted and unadjusted odds ratio (OR) of Tribal Population

Determinants	Unadjusted OR(95% CI)	p-value	Adjusted OR(95% CI)	p-value
Sex				
Male				
Female	.89(.57 1.40)	0.636	.88(.56 1.40)	0.611
Age Group				
< 35 Years				
36 to 49 Years	.408(.23 .72)	0.002	.401(.226 .711)	0.002
50 to 60 Years	0.305(.153 .611)	0.001	.302(.150 .607)	0.001
61 Years & Above	.53(.27 1.04)	0.067	.51(.262 1.02)	0.060
Education Level				
Illiterate				
Read &Write				
1 - 4 Standard	0.720(.379 1.36)	0.314	.722(.378 1.37)	0.322
5 - 8 Standard	.405(.215 .760)	0.005	.403(.213 .763)	0.005
9th- 12thStandard	.362(.184 .713)	0.003	.356(.179 .707)	0.003
College	.272(.078 .944)	0.04	.250(.071 .876)	0.030
Not Applicable				
Major Occupation				
Labourer				
Cultivator	.404(.142 1.149)	0.090	.400(.139 1.15)	0.089
Artisans				
Service	.357(.114 1.119)	0.077	.325(.1011 1.046)	0.06
Professional				
Business	.144(.048 .428)	0.000	.154(.051 .459)	0.001
Auto/Taxi driver	.848(.201 3.569)	0.823	.900(.212 3.82)	0.887
Housewife	.289(.160 .521)	0.000	.299(.165 .542)	0.000
Others(specify)	.409(.165 1.015)	0.054	.425(.17 1.06)	0.067
Pension	.188(.023 1.54)	0.120	.168(.020 1.40)	0.100
Elderly	.363(.139 .949)	0.039	.365(.139 .961)	0.041
Differently able				