

**A Path Analytic Study of Profile Characteristics on Attitude and Career Preferences of Polytechnic students**

**Abstract:**

Path analysis was used to identify the direct and indirect effects of independent variables on dependent variables. The study intends to find out the key independent variables which affect the attitude and career preferences of polytechnic students. A sample of 240 students were selected from three polytechnics viz., Agriculture, Seed technology and Organic farming using simple random sampling procedure. Path analysis was used to understand the route of influence of independent variables (profile characteristics) on the dependent variables namely attitude and career preferences. Path analysis revealed that the direct effect of profile characteristics with attitude was exerted by achievement motivation followed by self confidence, mass media exposure, whereas highest total indirect effects profile characteristics with attitude was exerted by achievement motivation followed by mass media exposure, self confidence, Size of land holding. Path analysis revealed that the direct effect of profile characteristics with career preferences was exerted by caste followed by family occupation, achievement motivation, whereas highest total indirect effects profile characteristics with career preferences was exerted by family occupation followed by achievement motivation, caste.

**Keywords: Polytechnic students, Attitude, Career Preferences**

**Introduction:-**

A predominant occupation in India is agriculture. It has been the oldest as well as dominant profession in our country for centuries. The polytechnic in agriculture is one of the basic and first step in agriculture education which aimed to provide enrolled collegians with knowledge, skill, and experience, which are required to be assets in agriculture (James and Denis, 2015). Agriculture polytechnic means studying in the field of agriculture, it is also called

as Agricultural science. Diploma in agriculture is a 2 years full-time diploma course in agriculture. Grass root workers like Diploma students are required for dissemination of innovative technologies in Agriculture. Polytechnic education provides career based education. To engage diploma holders in agriculture, it is essential to inculcate favourable attitude in them for agriculture. Career is a regular occupation or the profession in which one is making a living. Career preference is the occupation with the highest positive valence among alternative form of work value. On this consideration, the present research was conducted to determine the direct and indirect effects of profile characteristics on attitude and career preferences of polytechnic students.

**Materials and Methods:**

An *Ex-post facto* research design was followed for the study. The Andhra Pradesh state was selected purposively for the study as the researcher belonged to this state and well acquainted with regional language i.e., Telugu which would help in building up good rapport with the respondents and also facilitates in depth study through personal observation. 24 polytechnics were selected for the study by purposive sampling. Ten students were selected from each polytechnic by using simple random sampling procedure thus making a total of 240 students. Path analysis adopting multivariate path model suggested by Land (1969) was used to isolate direct and indirect effects of independent variables on dependent variables of the respondents. The formula used was as follows

$$Z_{17} = P_{17.1}Z_1 + P_{17.2}Z_2 + \dots + P_{17.n}Z_n + P_{17.a}Z_a$$

Where,

$Z_{17}$  = Dependent variable

$Z_1$  to  $Z_n$  = Independent variable

$Z_a$  = Residual factor

**Results & Discussion:**

For finding a quantifiable elucidation of direct and indirect effects of profile characteristics with attitude towards diploma programme, path analysis was employed and the results have been presented in the table (Table 1).

**Table 1 Direct and Indirect effects of profile characteristics with attitude of polytechnic students**

S.No.	Variable	Direct effect	Rank	Indirect effect	Rank
1.	Gender ( $X_1$ )	-0.014	14	0.001	13
2.	Academic Achievement ( $X_2$ )	0.073	6	0.106	6
3.	Medium of Instruction ( $X_3$ )	0.041	9	0.015	12
4.	Education status of father ( $X_4$ )	0.042	8	0.077	8
5.	Education status of mother ( $X_5$ )	0.022	12	0.028	10
6.	Size of land holding( $X_6$ )	0.130	5	0.129	4
7.	Annual Income of parent ( $X_7$ )	-0.011	13	-0.012	14
8.	Type of Family ( $X_8$ )	0.037	10	0.024	11
9.	Caste( $X_9$ )	0.072	7	0.081	7
10	Family Occupation ( $X_{10}$ )	0.026	11	0.049	9
11.	Rural urban background ( $X_{11}$ )	-0.023	15	-0.031	17
12.	Participation in extracurricular and co-curricular activities ( $X_{12}$ )	0.136	4	0.121	5
13.	Library exposure ( $X_{13}$ )	-0.048	17	-0.027	16
14.	Mass media exposure ( $X_{14}$ )	0.152	3	0.326	2
15.	Infrastructure facilities ( $X_{15}$ )	-0.025	16	-0.014	15
16.	Achievement motivation ( $X_{16}$ )	0.582	1	1.358	1
17.	Self Confidence( $X_{17}$ )	0.170	2	0.307	3

**Residual effect: 0.2959**

### Direct effect

It can be observed from the table 1, that the highest direct positive influence on profile characteristics with attitude towards diploma programme was exerted by achievement motivation (0.582), followed by self-confidence (0.170), mass media exposure (0.152), Participation in extracurricular and co-curricular activities (0.136), Size of land holding (0.130), academic achievement (0.073), caste (0.072), education status of father (0.042), medium of instruction (0.041), type of family (0.037), family occupation (0.026), education status of mother (0.022), and annual income of parent (-0.011), gender (-0.014), rural urban background (-0.023),

infrastructure facilities (-0.025), library exposure (-0.048) exerted negative and direct effect on profile characteristics of polytechnic students towards attitude.

### Indirect effect

It can be noticed from the table 1, that the highest positive indirect effect on profile characteristics with attitude towards diploma programme was exerted by achievement motivation (1.358), mass media exposure (0.326), self-confidence (0.307), Size of land holding (0.129), Participation in extracurricular and co-curricular activities (0.121), academic achievement (0.106), caste (0.081), education status of father (0.077), family occupation (0.049), education status of mother (0.028), type of family (0.024), medium of instruction (0.015), gender (0.001) and annual income of parent (-0.012), infrastructure facilities (-0.014), library exposure (-0.027), rural urban background (-0.031) exerted negative and direct effect on profile characteristics of polytechnic students towards attitude.

The residual effect being 0.2959 concludes that, 29.59 per cent of the variables had been left unexplained (Bhati & Ram 2014, Lennyric 2015, AmitaYadav 2016, Deena *et al.* 2018, Uday bhaskar *et al.* 2020).

### Direct and Indirect effects of profile characteristics with career preferences of polytechnic students

For finding a quantifiable elucidation of direct and indirect effects of profile characteristics with career preferences of polytechnic students, path analysis was employed and the results have been presented in the table 2

**Table 2 Direct and Indirect effects of profile characteristics with career preferences of polytechnic students**

S.No.	Variable	Direct effect	Rank	Indirect effect	Rank
1.	Gender ( $X_1$ )	0.021	10	-0.001	11
2.	Academic Achievement ( $X_2$ )	0.064	8	0.093	8
3.	Medium of Instruction ( $X_3$ )	0.200	4	0.071	9
4.	Education status of father ( $X_4$ )	-0.036	16	-0.066	16

5.	Education status of mother ( $X_5$ )	0.188	5	0.247	4
6.	Size of land holding( $X_6$ )	-0.005	13	-0.002	12
7.	Annual Income of parent ( $X_7$ )	-0.021	15	-0.022	15
8.	Type of Family ( $X_8$ )	-0.159	17	-0.102	17
9.	Caste( $X_9$ )	0.440	1	0.496	3
10.	Family Occupation ( $X_{10}$ )	0.240	2	0.547	1
11.	Rural urban background ( $X_{11}$ )	0.018	11	0.023	10
12.	Participation in extracurricular and co-curricular activities ( $X_{12}$ )	0.172	6	0.153	6
13.	Library exposure ( $X_{13}$ )	0.002	12	-0.004	13
14.	Mass media exposure ( $X_{14}$ )	0.049	9	0.105	7
15.	Infrastructure facilities ( $X_{15}$ )	-0.007	14	-0.006	14
16.	Achievement motivation ( $X_{16}$ )	0.215	3	0.503	2
17.	Self Confidence( $X_{17}$ )	0.118	7	0.213	5

**Residual effect: 0.35199**

#### **Direct effect**

It can be observed from the table 2, the highest direct positive influence on profile characteristics with career preferences of polytechnic students was exerted by caste (0.440) followed by family occupation (0.240), achievement motivation (0.215), medium of instruction (0.200), education status of mother (0.188), Participation in extracurricular and co-curricular activities (0.172), self confidence (0.118), academic achievement (0.064), mass media exposure (0.049), gender (0.021), rural urban background (0.018), library exposure (0.002) and size of land holding (-0.005), infrastructure facilities (-0.007), annual income of parent (-0.021), education status of father (-0.036), and type of family (-0.159) exerted negative and direct effect on profile characteristics with career preferences of polytechnic students.

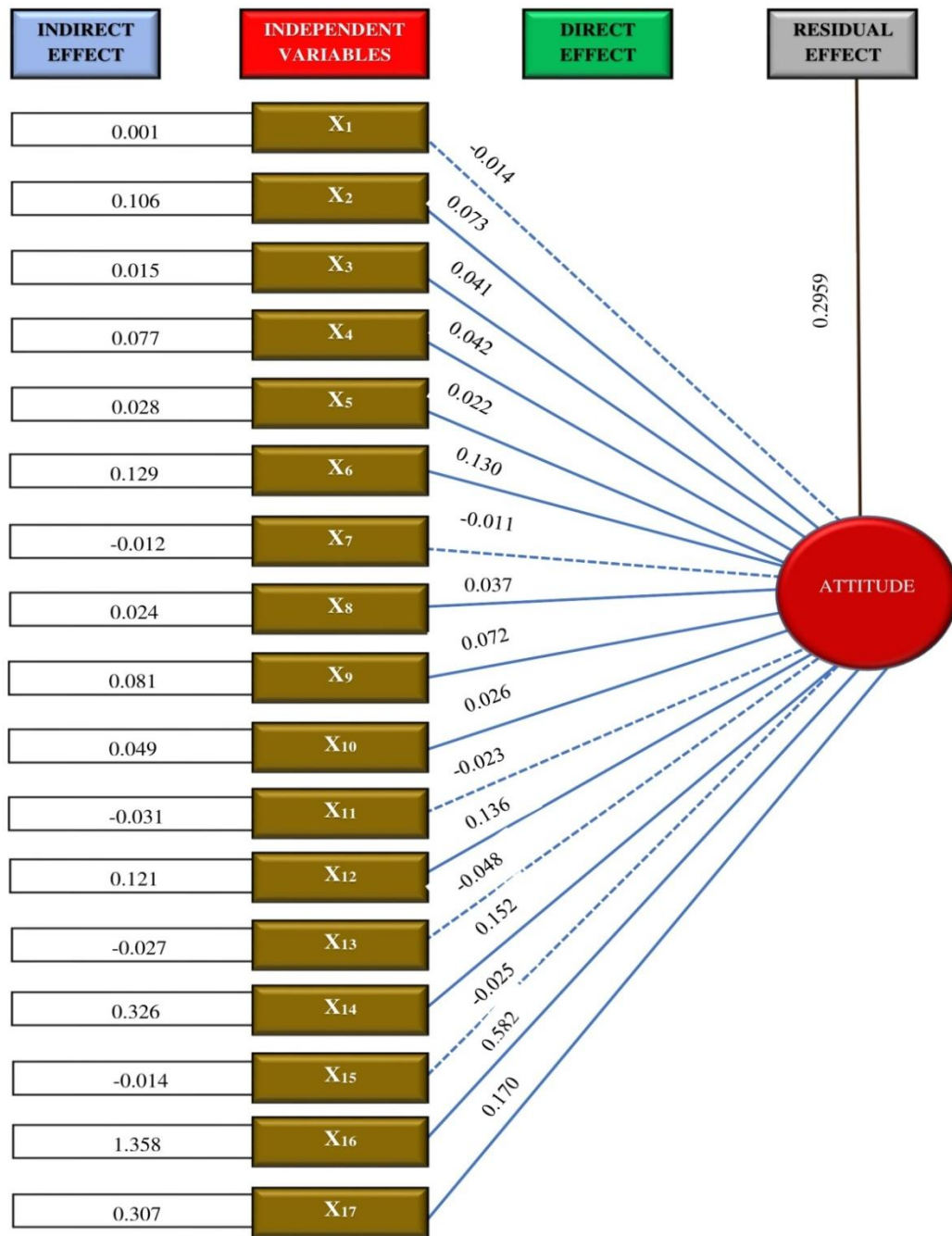
#### **Indirect effect**

It can be noticed from the table 2, that the highest positive indirect effect on profile characteristics with career preferences of polytechnic students was exerted by family occupation (0.547) followed by achievement motivation (0.503), caste (0.496), education status of mother (0.247), self confidence (0.213), Participation in extracurricular and co-curricular activities (0.153), mass media exposure (0.105), academic achievement (0.093), medium of instruction

(0.071), rural urban background (0.023) and gender (-0.001), size of land holding (-0.002), library exposure (-0.004), infrastructure facilities (-0.006), annual income of parent (-0.022), education status of father (-0.066) and type of family (-0.102) exerted negative and direct effect on profile characteristics with career preferences of polytechnic students.

The residual effect being 0.3519 concludes that, 35.19 per cent of the variables had been left unexplained. (Dahake 2009, Gude 2017, Imam Hussain 2019, Chandra 2020)

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**Fig. 1. Direct and Indirect effects of profile characteristics with attitude of polytechnic students**

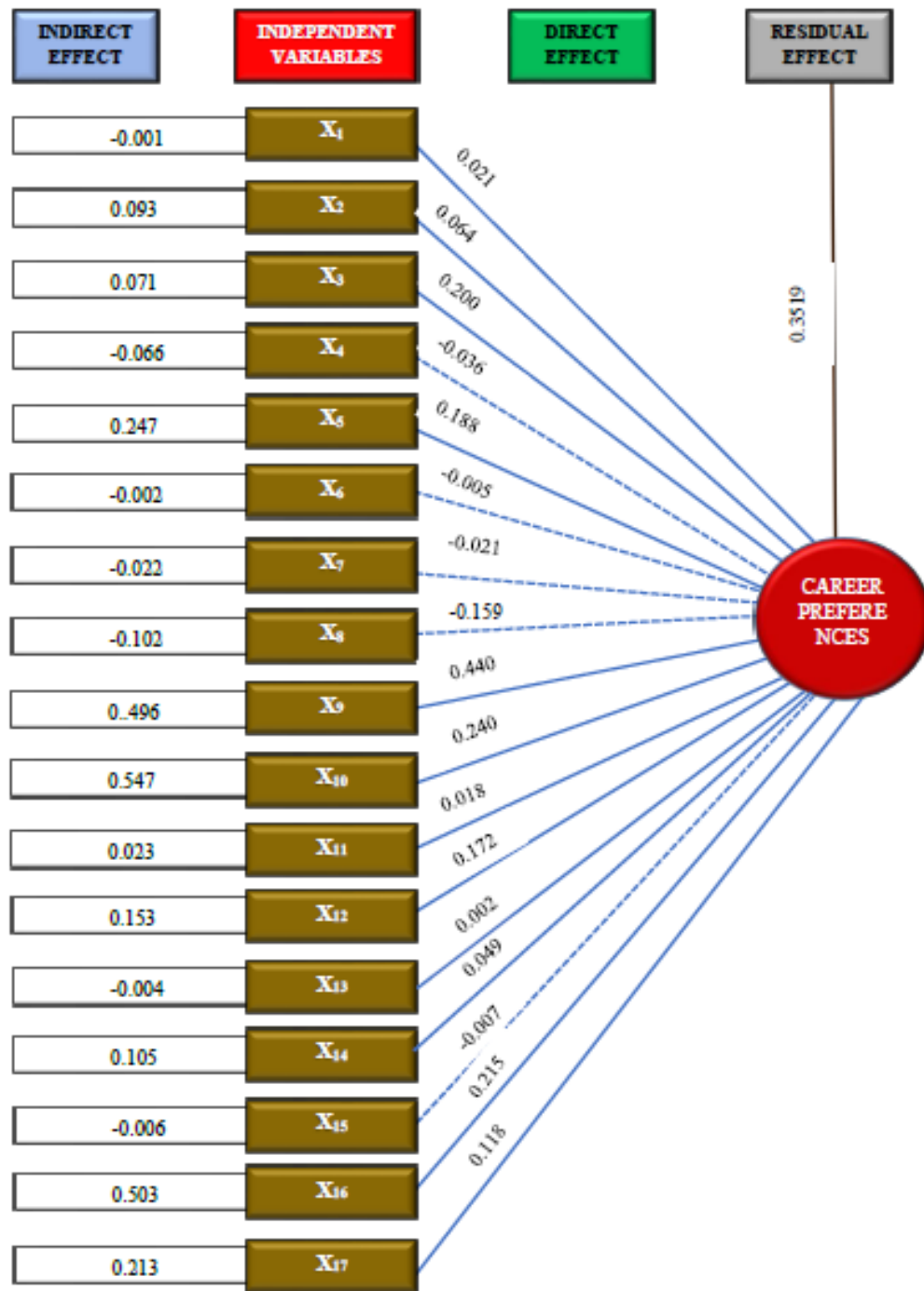


Fig.2. Direct and Indirect effects of profile characteristics with career preferences of polytechnic students

## **Conclusion:-**

Path analysis revealed that the direct effect of profile characteristics with attitude was exerted by achievement motivation followed by self confidence, mass media exposure, whereas highest total indirect effects profile characteristics with attitude was exerted by achievement motivation followed by mass media exposure, self confidence, Size of land holding. Path analysis revealed that the direct effect of profile characteristics with career preferences was exerted by caste followed by family occupation, achievement motivation, whereas highest total indirect effects profile characteristics with career preferences was exerted by family occupation followed by achievement motivation, caste.

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