

# SEM ANALYSIS OF GENDER STEREOTYPING USING SOCIAL IDENTITY AND FACEBOOK USAGE

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**Abstract.** To analyse the web of relationships among social identities, Facebook usage and attitude towards gender equality and gender-based stereotyping, an online-offline survey was conducted among 298 Indian users of the popular social network—sampled using a snowball procedure. A SEM analysis was performed to test the complex relationships among these variables and the results indicate that both the social identity variables and Facebook usage are capable of altering attitudes towards gender equality and able predictors of the outcome variables. That online social media activity is capable of altering the attitudes of users towards gender is indicative of the reemergence of the strong-effects paradigm, especially when India has overtaken the others to become the country with the largest group of Facebook users.

**Keywords** - Facebook, social identity, gender stereotyping, gender equality, social media

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## Introduction

Gender equality, widely discussed in the philosophical literature (Rolin, 2010) and mass media (Verheijen, 2006), continues to be a relevant issue (Verloo, 2016) that demands in-depth empirical investigation. In a democratic framework, gender equality becomes an important moral principle. Macro econometric ponders by and large find proof that gender uniformity positively affects financial development (Kabeer, 2016).

Manifestations of gender bias abound in Indian society in day-to-day experiences, so much so that most of the people accept it as something natural and unobjectionable, and nothing worth noticing or questioning (Shelat, 1996). In the Indian society, there are several factors that directly influence gender bias, such as laws and policies and so do media, literature, customs and folk songs. Gender categories of masculinity and femininity are created through ongoing social interactions (Morris, 2006).

Society enrolls specific desires for the genders, rendering what is fitting and unseemly conduct for men and women. Research indicates that people are raised into gender roles through a process called gender-typing (Sigelman and Ryder, 2006). As indicated by Taylor (2003), society coordinates conduct and helps shape a person's life. Such social constructions of gender roles could be region specific, varying across countries and communities. While some accept they have picked their practices based on individual attributes, Taylor would tend to disagree, contending that conduct is mingled as opposed to by regular events. He additionally proposes that people ought to perceive their gathering character and comprehend the male and female job desires kept up by society.

This study digs into the criteria that reflect the gender myths and stereotypes in the mind of a new generation which is accustomed by the influence of new media technology and categorised by their own social identity. Although there are societal attitudes, discrimination and double standards are the constant reminders of the persisting inequalities crossing the boundaries of the time, nations and cultures. With the proliferation of smartphone-enabled internet access and social media-enabled knowledge transfer and cultural osmosis, are the attitudes of the present generation, especially the digital natives, towards gender equality any different? Of the online social media that are popular across the world, Facebook is at the forefront. Interestingly, India has the largest group of Facebook users.

### Research questions

At this stage, to bring some focus to the study, the following research questions are asked:

*RQ1: Is the social identity of an individual associated with attitude towards gender equality and gender stereotyping?*

*RQ2: Is Facebook usage associated with attitude towards gender equality and gender stereotyping?*

*RQ3: Is Facebook social networking associated with attitude towards gender equality and gender stereotyping?*

*RQ4: Are Facebook activities associated with attitude towards gender equality and gender stereotyping?*

One of the outcomes of the evolving communication practices has been the introduction of Social Networking Sites (SNSs). The utilisation of an SNS can enable a person to discover others with comparative interests, regardless of whether it is for a sentimental or social reason (McKenna, Katelyn, Green, Glenson, and Marci, 2002). The other real utilisation of SNSs is to keep up prior social associations (Ellison, Steinfield, and Lampe, 2007). Facebook is the most-popular online social network. Propelled in 2004, Facebook had an expected 1.2 million clients in 2006 (Needham and Company as referred to in Spitzberg, 2006) which developed to 21 million individuals in 2007 (Needham and Company as referred to in Ellison et al., 2007). Blakley, the representative executive at the Norman Lear Center, a fair research and open strategy focus that reviews on political, social, social and financial effect of excitement on the world, gave a discourse at the TED Women meeting in Washington, D.C., titled 'Online networking and the End of Gender.' According to her, Social media would assist us with moving past the generalisations we partner with sexual orientation and it enables us to get away from our socioeconomics (The Atlantic, 2010).

A recent review of research (Perloff, 1993) indicates broad empirical support for the third-person effect (Davison, 1983), the tendency for people to assume that persuasive communications, and mass media in general, have a stronger effect on other people than on themselves. According to social identity and self-categorisation theories, an important part of the self-concept is derived from memberships in social groups (Hogg, 1999).

The connections between people's existence and identity are strong;

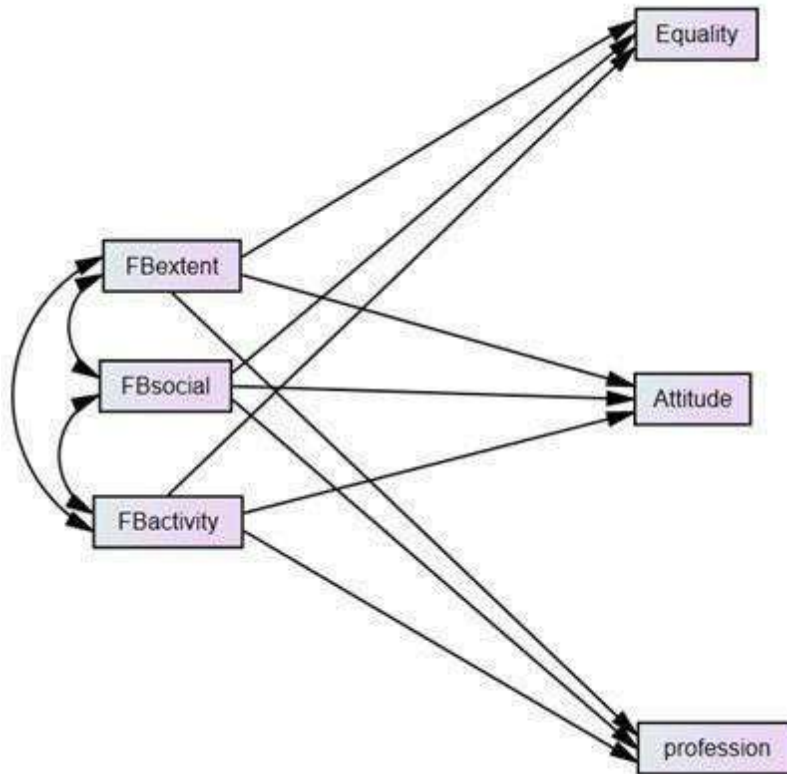
if we use media to communicate, they, in turn, enable us to fashion ourselves out of the materials or affordances that they offer us.

This may be considered to be one of the medium's messages, to quote McLuhan (2002[1962]). One of the most influential theorists of the identity, Michel Foucault (1988), argued that identity, especially subjectivity, that is, the ways in which we become unique individuals and selves, is constructed through certain techniques and practices. These are technologies of the self: the practices which we get to understand and shape ourselves. Sexual direction employments on SNSs mirror the wants for the social requests the customers address since it has been an obviously recognised idea that language and culture have a corresponding relationship and consistently sway each other (Whorf, 2012). Gefen and Straub's examination on sexual orientation checked language on electronic types of communication says only that, yet it isn't sufficient to affirm the thought since it is unsafe to expect that an investigation on a component of the World Wide Web from 16 years back is totally applicable to SNSs today and different examinations uncover progressively about contrasts in sex on SNSs (Palmer, 2012).

For instance, females are more intrigued than guys in the status of others and in keeping tabs of movement of the general population they are associated with. To put it plainly, ladies attempt to put their best self forward by contrasting themselves with others, while men don't put other clients' contemplations and convictions into thought and do what they can to be predominant and aggressive [(Parks and Robertson (2004); Gefen and Straub (1997); McAndrew and Jeong (2012))].

This study is designed to explore the impact of Social identity and Facebook usage in the formation of an attitude towards the Gender variables. Social identities, extent of usage of Facebook, the size of the social network that one builds on Facebook and indulgence in this online social network could potentially affect attitudes towards gender equality and gender stereotyping. A model had been designed in accordance with the variables selected and the relationships proposed for the study (Fig. 1).

**Fig. 1.** Relationship among Facebook and Gender-based variables



### **Attitude towards Gender Equality**

Keefer (1994) in a study titled 'Gilligan's Moral Orientation and Deliberation' focused on the psychology of moral reasoning and in particular on Carol Gilligan's gender-based claim that there are two different orientations to the construal and resolution of moral problems. The purpose of the research was to advance and test an alternative to Gilligan's gender-based theory of moral reasoning. The proposal offered was that moral reasoning involves the application of a set of norms or rules containing "all things being equal" clauses. If these conditions are assumed to be met the rule or norm excludes considerations of other concerns.

One investigation (Peirce, 1993), taking a gander at the substance in young ladies' magazines, found the fundamental points to be design, excellence, sustenance and brightening, and associations with the contrary sex. He later inferred that the magazines advanced looking great, having a critical other, and dealing with the house. At the point when a courageous

woman was referenced, it was commonly a male, showing that ladies are reliant and need a man to help take care of issues. It is critical to take note that not all females read these magazines, yet devoted per users are reliably overpowered by these cliché pictures and messages.

### **Impact of Facebook**

Facebook is at the cutting edge of the new-age web transformation (Web 2.0). Online clients taking part in web-based life connections are commonly spurred by comparative components (Amarasinghe, 2010). Alabi (2013) noticed that online interpersonal organizations have moved toward becoming incredibly and progressively prominent among young people and expert people. As indicated by Deragon (2011), web-based life diseases are conditions influencing the efficiency of human systems. It is regularly interpreted to be a social condition related to explicit indications and signs. It might be brought about by outer factors, for example, the impact of innovation/web-based social networking or just utilising innovation/internet based life in the incorrect manner and for wrong purposes. The inside elements include an absence of information or potentially shrewdness by people or gatherings in the utilisation of online networking.

With such a large number of informal community locales working on the web, understudies are enticed to desert their schoolwork and perusing times in inclination for visiting on the web with companions and many areas of now getting dependent on the online rave existing apart from everything else: Facebook and Twitter. It is additionally seen that a few highlights of Facebook have turned out to be addictive to such an extent that occasionally understudies overlook that it is only a virtual world (Alabi, 2013). Through a series of studies, Barclay et al (2015, 2015a, 2015b, 2016, 2017) have shown that social media have an influence on people's thoughts and behaviours.

### **Research Design**

The present section discusses in detail the methodology of the study which includes design of the study, sample for data collection and the sampling procedure used, description of the research tools and techniques of data collection, and procedure adopted for developing and pretesting the tools. The chapter also elaborates on the organisation of data collection and administration of the treatment.

To analyse the web of relationships among social identities, Facebook

usage and attitude towards gender equality and gender-based stereotyping, an online-offline survey was conducted among 298 Indian users of the popular social network—sampled using a snowball procedure. The questionnaire which contains 56 elements is given through social networking sites like Facebook, whatsapp and Gmail.

The study aimed at evaluating the effect of social identity and Facebook usage in terms of change in the following dependent variables: (i) attitude towards gender equality, (ii) gender stereotypes (iii) value judgment (Attitude Test). The independent variables included in the study were Social Identity of the respondent (sex of the subject, religion, education, professions, marital status and income) and the Facebook usage (extent of usage, social networking and social activity). Data regarding these variables were also required from each individual. The sampling procedure opted for the study was snowball sampling (non-probability sampling).

### **Description of the Research Tools**

The following tools developed by the investigator were used for collection of data for the study.

#### ***Social Identity Questionnaire***

A short and detailed social identity questionnaire was used to collect information about the respondents participating in the study. The questionnaire consisted of the elements like gender, age, religious status, marital status, educational qualification and income status.

#### ***Facebook usage***

The scale assessed the rate of usage of Facebook by the respondents under the categories extent of usage, social networking and social activity.

The snowball sampling which aided by the social networking sites, the samples selected for the studies were the users of Facebook or any other social networking sites. Among the total respondents, 298 respondents were using Facebook and they were selected for the study.

#### ***Attitude towards Gender Equality***

Attitude towards gender equality was measured using three instruments.

1. **Attitude scale:** A Likert-type scale was used to assess attitude towards gender equality. It had 19 attitude statements; 10 positive and 9 negative. Against each statement were given five response categories - "strongly agree, agree, undecided, disagree and strongly disagree".
2. **Professional bias:** To assess gender stereotyping, 'professions' was selected as the dimension. The profession test was a check-list of 28 professions with three response categories against each item :
  - a. The profession is appropriate for men
  - b. The profession is appropriate for women
  - c. The profession is appropriate for bothAdditionally, the participants of the study were required to give reasons in brief if they believed that a particular profession was not appropriate either for men or women.
3. **Equality values:** A common tool was used to evaluate the change in value judgment and value clarification of participants with reference to gender equality. The test consisted of nine situations derived from the experiences of adolescents in their day-to-day life. Under each situation four alternatives were given to participants from whom they had to choose one. This part of the test gave a quantitative score (ranging from 1 to 3) to each value judgment showing 'to what extent the participant valued gender equality'.

### ***Treatment of the data***

The data obtained from the survey were treated under different tests like Anova, correlation and SEM Analysis with the help of SPSS software. In the anova model, each independent variable like Age, Gender, Religion, Educational qualification, Marital status, Incomes were treated with the dependent variables like Facebook usage and gender variables.

Correlation tests are done across dependent variables like Facebook usage and attitude towards gender equality, and gender stereotyping. To show the causal relationships between variables, a SEM analysis (Structural Equation Modeling) is done between the variables like Facebook usage and attitude towards gender, gender equality, and gender stereotyping.

### **Scope and limitation**

Since the Internet can achieve such a large number of a larger number of undertakings today than before, it is anything but difficult to expect that



both a medium's capacities and its substance can impact a client's practices and frames of mind (Valenzuela, Park, and Kee, 2009).

Be that as it may, to what degree? In any case, ladies and men convey rather in an unexpected way, and their recognitions and utilizations vary extraordinarily through electronic types of talk (Gefen and Straub, 1997). Truth be told, simply adjusting to this electronic type of talk renders an incredible distinction among ladies and men. The "PC culture" was from the outset hard for females to stay aware of, however at this point even as ladies are getting up to speed to men with capability being used for innovation; their utilisations keep on contrasting (Hargittai, 2004).

As the investigation is connected with the connection between the impacts of the free factors on the reliant variable, there is a sure impediment for the examination in figuring the example blunder. The territory that the instrument could cover is restricted and there are chances for veering off the examination from the exploration questions.

### Data analysis

In the present study, the associations among Social Identity variables, Facebook usage indicators, attitudes of users towards Gender Equality and Gender Stereotyping are tested. To test the association between Age and the variables Extent of Facebook Usage, Social Network, Facebook Activity, Equality Values, Attitude Scale and Professional Bias, a One-way Anova was conducted and the results are presented in Table 1 and 2.

Table 1. One way Anova: Age vs. Dependent Variables: Table of Means

		N	Mean	Std. Deviation	Std. Error
FB extent	Below 21 years	118	6.59	2.390	.220
	21-24 years	132	7.68	2.422	.211
	25-29years	34	7.82	2.747	.471
	Above 29 years	14	5.71	2.525	.675
	Total	298	7.17	2.521	.146
FBsocial	Below 21 years	118	-.49	2.989	.275
	21-24 years	132	.74	3.343	.291
	25-29 years	34	-.17	2.594	.445
	Above 29 years	14	-2.45	1.245	.333
	Total	298	.00	3.146	.182
FB activity	Below 21 years	118	6.73	2.685	.247
	21-24 years	132	7.15	2.195	.191

	25-29	34	6.59	2.893	.496
	Above 29 years	14	6.29	2.813	.752
	Total	298	6.88	2.512	.145
Equality	Below 21 years	118	17.03	3.181	.293
	21-24 years	132	19.09	2.297	.200
	25-29 years	34	15.06	4.348	.746
	Above 29 years	14	18.86	1.791	.479
	Total	298	17.81	3.231	.187
Attitude	Below 21 years	118	32.58	6.581	.606
	21-24 years	132	34.07	6.901	.601
	25-29 years	34	27.97	9.104	1.561
	Above 29 years	14	34.14	6.526	1.744
	Total	298	32.79	7.254	.420
Profession	Below 21 years	118	14.02	3.647	.336
	21-24 years	132	15.09	3.139	.273
	25-29 years	34	13.65	4.403	.755
	Above 29 years	14	16.14	3.159	.844
	Total	298	14.55	3.554	.206

Table 2. One-way Anova results: Age vs. Dependent Variables

	Sum of Squares	df	Mean Square	F	Sig.
FB extent	118.017	3	39.339	6.538	.000
FBsocial	186.800	3	62.267	6.652	.000
FB activity	20.267	3	6.756	1.072	.361
Equality	560.341	3	186.780	21.616	.000
Attitude	1036.370	3	345.457	6.959	.000
Profession	135.391	3	45.130	3.669	.013

One-way Anova indicated that barring the variable Facebook Activity, all other dependent variables had statistically-significant associations with the variable Age (refer Table 2). Those belonging to the Age group of 25-29 years used the online social network the most (average =  $7.82 \pm 2.7$ ), while those who were above 29 years old Facebook the least (average =  $5.7 \pm 2.5$ ).

Those belonging to the Age group of 21- 24 years were more engaged in social networking (average =  $.74 \pm 3.343$ ), while those who were above 29 years engaged in Facebook social networking the least (average =  $-2.45 \pm 1.24$ ). Those belonging to the Age group of 21-24 years have disfavored gender stereotyping the most (Average =  $19.09 \pm 2.29$ ), while those who belong to the Age group of 25-29 years have favored the notion (Average =  $15.06 \pm 4.3$ ).

Similarly, the test of attitudes also reveals that those belonging to the Age groups of 25-29 years and above 29 years are more inclined towards gender equality than the other age groups. Results of the professional bias also show that those who belong to the Age group of above 29 years favour gender equality more (Average =  $16.14 \pm 3.15$ ), while those below 21 years and those between 25-29 years have more bias in the selection of a profession.

To test the association between Gender and the variables Extent of Facebook usage, Social Network, Facebook Activity, Equality Values, Attitude Scale and Professional Bias, a One-way Anova was conducted and the results are presented in Table 3.

Table 3. One-way Anova: Gender vs. Dependent Variables: Table of Means

		N	Mean	Std. Deviation	Std. Error
FB extent	Male	138	7.55	2.589	0.220
	Female	154	6.91	2.421	0.195
	Prefer not to say	6	5.33	2.066	0.843
	Total	298	7.17	2.521	0.146
FBsocial	Male	138	0.94	3.234	0.275
	Female	154	-0.84	2.887	0.233
	Prefer not to say	6	-0.17	0.245	0.100
	Total	298	0.00	3.146	0.182
FB activity	Male	138	7.17	2.452	0.209
	Female	154	6.64	2.507	0.202
	Prefer not to say	6	6.33	3.615	1.476
	Total	298	6.88	2.512	0.145
Equality	Male	138	16.67	3.681	0.313
	Female	154	18.87	2.356	0.190
	Prefer not to say	6	16.67	2.582	1.054
	Total	298	17.81	3.231	0.187
Attitude	Male	138	30.50	8.285	0.705
	Female	154	34.68	5.617	0.453
	Prefer not to say	6	36.67	2.582	1.054
	Total	298	32.79	7.254	0.420
Profession	Male	138	13.67	3.818	0.325
	Female	154	15.39	3.094	0.249
	Prefer not to say	6	13.33	3.615	1.476
	Total	298	14.55	3.554	0.206

Table 4. One-way Anova results: Gender vs. Dependent Variables

	Sum of Squares	df	Mean Square	F	Sig.
FB Extent	50.721	2	25.360	4.074	.018
FBsocial	230.316	2	115.158	12.543	.000
FB Activity	22.855	2	11.428	1.821	.164
Equality	361.309	2	180.654	19.454	.000
Attitude	1365.013	2	682.506	14.114	.000
Profession	225.122	2	112.561	9.416	.000

One-way Anova indicated that barring the variable Facebook Activity, all other dependent variables had statistically-significant associations with the variable Gender (refer Table 4).

Male participants used the online social network the most (average =  $7.55 \pm 2.7$ ), were more engaged in social networking (average =  $.94 \pm 3.24$ ), while those who belong to the Gender, Female engaged in the Facebook social networking the least (average =  $-.84 \pm 2.887$ ). All the three gender variables have shown that Female respondents have shown more inclination towards gender equality (Average =  $18.87 \pm 2.36$ ) (Equality), those belonging to the Male gender group have come up with more inclination towards gender stereotyping (Average =  $30.50 \pm 8.285$ ) (Attitude), and those who belong to the Female gender group favour gender equality the most (Average =  $15.39 \pm 3.094$ ) in the selection of a profession. To analyse the association between Religion and the variables Extent of Facebook usage, Social Network, Facebook Activity, Equality Values, Attitude Scale and Professional Bias, a One-way Anova was conducted and the results are presented in Table 5.

Table 5. One-way Anova: Religion vs. Dependent Variables: Table of Means

		N	Mean	Std. Deviation	Std. Error
FB extent	Hindu	134	6.91	2.408	.208
	Christian	94	7.00	2.234	.230
	Muslim	36	8.06	3.286	.548
	Atheist	16	8.38	2.125	.531
	Spiritual	10	7.40	3.169	1.002
	Other	8	7.00	2.726	.964
	Total	298	7.17	2.521	.146
	Hindu	134	-.18	3.090	.267
	Christian	94	-1.03	1.912	.197

FBsocial	Muslim	36	1.94	3.433	.572
	Atheist	16	3.20	5.361	1.340
	Spiritual	10	-.60	1.029	.325
	Other	8	.71	3.049	1.078
	Total	298	.00	3.146	.182
FB activity	Hindu	134	7.00	2.495	.216
	Christian	94	6.19	2.039	.210
	Muslim	36	7.22	3.090	.515
	Atheist	16	7.38	2.125	.531
	Spiritual	10	9.00	3.682	1.164
	Other	8	7.75	2.053	.726
	Total	298	6.88	2.512	.145
Equality	Hindu	134	17.46	3.020	.261
	Christian	94	17.23	3.906	.403
	Muslim	36	18.67	2.390	.398
	Atheist	16	20.38	.500	.125
	Spiritual	10	20.00	1.333	.422
	Other	8	18.50	1.604	.567
	Total	298	17.81	3.231	.187
Attitude	Hindu	134	32.01	7.218	.624
	Christian	94	30.94	7.583	.782
	Muslim	36	35.89	5.317	.886
	Atheist	16	39.25	.856	.214
	Spiritual	10	40.00	0.000	0.000
	Other	8	31.50	7.578	2.679
	Total	298	32.79	7.254	.420
Profession	Hindu	134	14.36	3.415	.295
	Christian	94	13.15	3.929	.405
	Muslim	36	16.72	2.146	.358
	Atheist	16	17.63	1.025	.256
	Spiritual	10	16.60	1.265	.400
	Other	8	15.75	1.165	.412
	Total	298	14.55	3.554	.206

Table 6. On-way Anova results: Religion

	Sum of Squares	df	Mean Square	F	Sig.
FB extent	63.962	5	12.792	2.049	.072
FB social	410.839	5	82.168	9.492	.000
FB Activity	105.626	5	21.125	3.489	.004
Equality	230.797	5	46.159	4.696	.000
Attitude	1950.112	5	390.022	8.325	.000
Profession	564.152	5	112.830	10.336	.000

One-way Anova indicated that barring the variable Extent Of Facebook Usage, all other dependent variables had statistically-significant associations with the variable Gender (refer Table 6). Those belonging to the Spiritual community were more engaged in social networking (average =  $9.00 \pm 3.682$ ), while those who belong to the Christian community engaged in the Facebook social networking the least (average =  $6.9 \pm 2.039$ ).

All the three gender variables have indicated that those belonging to the Atheist and Spiritual groups have shown more inclination towards gender equality. To evaluate the association between Education and the variables Extent of Facebook usage, Social Network, Facebook Activity, Equality Values, Attitude Scale and Professional Bias, a One-way Anova was conducted and the results are presented in Table 7.

Table 7. One-way Anova: Education vs. Dependent Variables: Table of Means

		N	Mean	Std. Deviation	Std. Error
FB extent	+2	30	6.93	2.664	.486
	UG	138	7.22	2.528	.215
	PG	108	7.50	2.405	.231
	Above PG	22	5.64	2.401	.512
	Total	298	7.17	2.521	.146
FB social	+2	30	.29	2.654	.485
	UG	138	-.31	3.207	.273
	PG	108	.05	2.494	.240
	Above PG	22	1.27	5.385	1.148
	Total	298	.00	3.146	.182
FB activity	+2	30	7.00	2.034	.371
	UG	138	6.84	2.829	.241
	PG	108	6.96	2.263	.218
	Above PG	22	6.55	2.241	.478
	Total	298	6.88	2.512	.145
Equality	+2	30	17.27	4.540	.829
	UG	138	17.55	2.699	.230
	PG	108	18.48	2.715	.261
	Above PG	22	16.82	5.465	1.165
	Total	298	17.81	3.231	.187
Attitude	+2	30	32.87	6.141	1.121
	UG	138	33.09	6.881	.586
	PG	108	33.54	6.486	.624
	Above PG	22	27.09	11.468	2.445
	Total	298	32.79	7.254	.420
Profession	+2	30	14.40	3.047	.556
	UG	138	14.61	3.634	.309
	PG	108	14.63	3.283	.316
	Above PG	22	14.00	4.938	1.053
	Total	298	14.55	3.554	.206

Table 8. Anova results: Education

	Sum of Squares	df	Mean Square	F	Sig.
FB extent	65.490	3	21.830	3.524	.015
FBsocial	51.150	3	17.050	1.736	.160
FB Activity	3.852	3	1.284	.202	.895
Equality	88.464	3	29.488	2.878	.036
Attitude	787.162	3	262.387	5.197	.002
Profession	8.490	3	2.830	.222	.881

One-way Anova indicated that barring the variables FaceBook Social Networking, Facebook Activities and Gender stereotyping all other dependent variables had statistically-significant associations with the variable Gender (refer Table 8).

The result shows that postgraduates have a higher rate of extent of usage of Facebook (average =  $7.50 \pm 2.405$ ), while those who are having the educational qualification above the post-graduation used Facebook the least (average =  $5.64 \pm 2.401$ ). Those respondents doing post-graduation have shown more inclination towards Gender Equality (Average =  $18.48 \pm 2.715$ ), while those who are having the educational qualification above the post-graduation show lesser inclination (Average =  $16.82 \pm 5.465$ ). One-way Anova results show that postgraduates shows lesser inclination towards the attitude favouring gender stereotyping (Average =  $33.54 \pm 6.486$ ), while those who are having the educational qualification above post-graduation show more inclination towards the concept (Average =  $27.09 \pm 11.468$ ).

To understand the association between Marital Status and the variables Extent of Facebook usage, Social Network, Facebook Activity, Equality Values, Attitude Scale and Professional Bias, a One-way Anova was conducted and the results are presented in Table 9.



Table 9. One-way Anova: Marital Status vs. Dependent Variables: Table of Means

		N	Mean	Std.Deviation	Std. Error
FB extent	Single	272	7.14	2.478	.150
	Married	24	7.33	2.988	.610
	Other	2	10.00	0.000	0.000
	Total	298	7.17	2.521	.146
FBsocial	Single	272	.02	2.980	.181
	Married	24	-1.43	2.016	.411
	Other	2	13.97	0.000	0.000
	Total	298	.00	3.146	.182
FB activity	Single	272	6.93	2.552	.155
	Married	24	6.08	1.792	.366
	Other	2	10.00	0.000	0.000
	Total	298	6.88	2.512	.145
Equality	Single	272	17.74	3.303	.200
	Married	24	18.25	2.270	.463
	Other	2	21.00	0.000	0.000
	Total	298	17.81	3.231	.187
Attitude	Single	272	32.76	7.232	.438
	Married	24	32.46	7.661	1.564
	Other	2	40.00	0.000	0.000
	Total	298	32.79	7.254	.420
Profession	Single	272	14.45	3.580	.217
	Married	24	15.42	3.189	.651
	Other	2	18.00	0.000	0.000
	Total	298	14.55	3.554	.206

Table 10. Anova results

	Sum of Squares	df	MeanSquare	F	Sig.
FB extent	16.902	2	8.451	1.333	.265
FB social	439.273	2	219.636	25.923	.000
FBactivity	35.288	2	17.644	2.831	.061
Equality	26.226	2	13.113	1.258	.286
Attitude	106.830	2	53.415	1.015	.364
Profession	44.632	2	22.316	1.776	.171

One-way Anova indicated that only Social Network had a statistically-significant association with the variable Gender. The respondents came under the category ‘Others’ were more engaged in social networking (average

= 13.97± 0.00), while those who came under the category 'Married' engaged in Facebook social networking the least (average =-1.43 ±2.016). To understand the association between Income and the variables Extent of Facebook usage, Social Network, Facebook Activity, Equality Values, Attitude Scale and Professional Bias, a One-way Anova was conducted (refer Table 11).

Table 11. One-way Anova: Income vs. Dependent Variables: Table of Means

		N	Mean	Std. Deviation	Std. Error
FB extent	Below 50,000	74	7.54	2.910	.338
	50001- 1 lakh	4	5.00	0.000	0.000
	Above 1 lakh - Below 3 lakh	114	7.05	2.603	.244
	3-6 lakh	62	7.23	2.357	.299
	Above 6 lakh	32	7.00	1.967	.348
	other	12	7.00	1.044	.302
	Total	298	7.17	2.521	.146
FB social	Below 50,000	74	-.22	3.034	.353
	50001- 1 lakh	4	-2.63	0.000	0.000
	Above 1 lakh - Below 3 lakh	114	.50	3.390	.317
	3-6 lakh	62	-.50	2.497	.317
	Above 6 lakh	32	-.55	2.118	.374
	other	12	1.54	5.517	1.593
	Total	298	.00	3.146	.182
FB Activity	Below 50,000	74	6.78	1.904	.221
	50001- 1 lakh	4	5.50	.577	.289
	Above 1 lakh - Below 3 lakh	114	7.09	2.840	.266
	3-6 lakh	62	6.65	2.680	.340
	Above 6 lakh	32	6.63	2.406	.425
	other	12	7.83	2.125	.613
	Total	298	6.88	2.512	.145
Equality	Below 50,000	74	16.38	4.117	.479
	50001- 1 lakh	4	17.00	0.000	0.000
	Above 1 lakh - Below 3 lakh	114	18.07	3.125	.293
	3-6 lakh	62	18.39	2.145	.272
	Above 6 lakh	32	19.19	1.575	.278
	other	12	17.67	3.798	1.096
	Total	298	17.81	3.231	.187
Attitude	Below 50,000	74	31.9196	6.671	.776
	50001- 1 lakh	4	36.00	0.000	0.000
	Above 1 lakh - Below 3 lakh	114	32.05	8.392	.786

	3-6 lakh	62	33.53	5.699	.724
	Above 6 lakh	32	35.56	7.157	1.265
	other	12	32.50	6.172	1.782
	Total	298	32.79	7.254	.420
Profession	Below 50,000	74	15.05	3.460	.402
	50000-1 lakh	4	18.00	0.000	0.000
	Above 1 lakh	114	14.18	3.726	.349
	3-6 lakh	62	14.16	3.398	.432
	Above 6 lakh	32	14.31	3.605	.637
	other	12	16.50	2.393	.691
	Total	298	14.55	3.554	.206

Table 12. One-way Anova: Income vs. Dependent Variables

	Sum of Squares	df	Mean Square	F	Sig.
FB Extent	32.025	5	6.405	1.008	.413
FBsocial	114.060	5	22.812	2.358	.040
FB Activity	29.627	5	5.925	.938	.456
Equality	243.616	5	48.723	4.980	.000
Attitude	435.382	5	87.076	1.673	.141
Profession	139.208	5	27.842	2.250	.09

One-way Anova indicated that the average size of social network and attitude towards equality varied across Income groups (refer table 12).

The result shows that the respondents who have an income of more than 6 lakh have a higher rate of engaging in Facebook social networking (average =  $1.54 \pm 5.517$ ), while those who are having an income of Rs50,000- 1 lakh used Facebook the least (average =  $-2.63 \pm 0.00$ ).

Those who have an income above Rs6 lakh have shown more inclination towards Gender Equality (Average =  $35.56 \pm 7.157$ ), while those who are having an income of below Rs50,000 show lesser inclination (Average =  $31.96 \pm 6.671$ ). To check the relationships among the variables Extent of Facebook Usage, Social Network, Facebook Activity, Equality Values, Attitude Scale and Professional Bias, a Pearson product-moment correlation test was run and the results are presented in Table 13.

Table 13. Correlation

		FBsocial	FB activity	Equality	Attitude	Profession
FB extent	Corr.	.427**	.506**	.098	.150**	.167**
	Sig.	.000	.000	.090	.010	.004
FB social	Corr.		.404**	.039	.107	.120*
	Sig.		.000	.499	.065	.039
FB activity	Corr.			.084	.018	.007
	Sig.			.147	.760	.908
Equality	Corr.				.570**	.327**
	Sig.				.000	.000
Attitude	Corr.					.497**
	Sig.					.000

Data showed no violation of normality, linearity and homoscedasticity. There was a strong, positive and statistically-significant correlation between the extent of Facebook usage by the respondents and their social networking ( $r = .427$ ,  $n = 298$ ,  $p < .0005$ ); between the extent of Facebook usage by the respondents and their Facebook activities ( $r = .506$ ,  $n = 298$ ,  $p < .0005$ ). There was a statistically-strong correlation between the Extent of Facebook Usage by the respondents and their attitude towards gender equality ( $r = .150$ ,  $n = 298$ ,  $p < .0005$ ) and between the Extent of Facebook Usage by the respondents and their professional gender bias ( $r = .232$ ,  $n = 298$ ,  $p < .0005$ ). However, there was no statistically-significant relationship between the variable Extent of Facebook Usage and their gender equality values.

There was a strong, positive and statistically-significant correlation between the Facebook Social Networking of the respondents and their Facebook activities ( $r = .404$ ,  $n = 298$ ,  $p < .0005$ ). There was a strong correlation between the Facebook Social Networking of the respondents and their response to professional gender bias ( $r = .120$ ,  $n = 298$ ,  $p < .0005$ ).

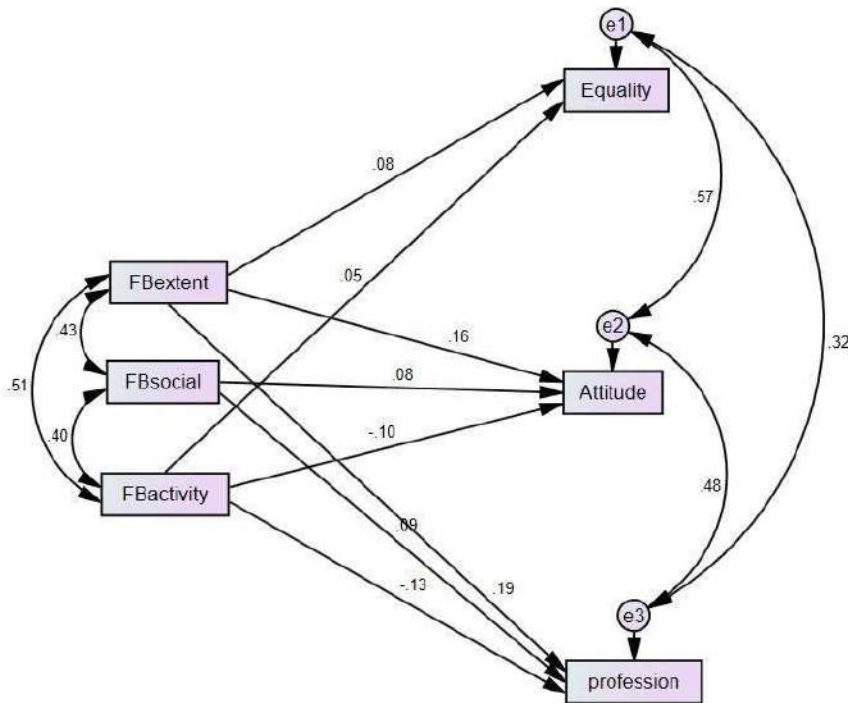
However, there was no statistically-significant relationship between the variable Facebook Social Networking of the respondents and the variables like gender equality and attitude towards gender equality. There was a strong, positive and statistically-significant correlation between the gender quality response given by the respondents and their attitude towards gender equality ( $r = .570$ ,  $n = 298$ ,  $p < .0005$ ) and between the gender quality response given by the respondents and their response to professional gender bias ( $r = .327$ ,  $n = 298$ ,  $p < .0005$ ). There was a strong, positive and statistically-significant correlation between the attitude of the respondents

towards gender equality and their response to the professional bias ( $r = .497$ ,  $n = 298$ ,  $p < .0005$ ).

MODEL TESTING (CROSS-SECTIONAL DATA ANALYSIS)

To find out the structural relationship and interrelated dependence between Facebook and gender-related variables, the initial model proposed in this study was tested employing SEM analysis and the results are presented in Fig. 2 and Table 14. In the Initial Model, the gender-related variables Equality Values (Equality), Attitude Scale (Attitude) and Professional Bias (Profession) were regressed on Facebook variables Extent, Social Network and Activity.

Fig. 2. SEM analysis results: Final model



**Table 14**

**Model fit summary**

Computation of degrees of freedom (Default model) Number of distinct sample moments:27

Number of distinct parameters to be estimated: 26

Degrees of freedom (27 - 26): 1

Result (Default model) Minimum was achieved Chi-square = .051

Degrees of freedom = 1

Probability level = .8214

GFI	AGFI	PGFI	TLI	RMSEA
1.00	0.67	0.67	1.038	.000

**Correlations: (Group number 1 - Default model)**

			Estimate
FBextent	<-->	FBsocial	.427
FBextent	<-->	FBactivity	.506
FBsocial	<-->	FBactivity	.404
e1	<-->	e2	.571
e1	<-->	e3	.323
e2	<-->	e3	.479

The result of SEM analysis shows that there is a positive correlation between the variables Facebook Extent and Facebook activity; between Facebook extent and Facebook social networking. There is a positive correlation between Facebook social networking and Facebook Activity.

**Standardised Direct Effects (Group number 1 - Default model)**

	FBsocial	FBactivity	FBextent
Profession	.093	-.128	.193
Attitude	.083	-.099	.165
Equality	.000	.046	.075

Test results indicate that Facebook usage, network and activity affect attitudes about gender equality and stereotyping. Extent of usage of social media seems to have a positive effect on gender equality overall.

## Discussion

In the present study, the associations among the social identify variables—age, gender, religion, education, profession, marital status and income—Facebook usage variables—extent of usage, social networking and activity—and the gender-related variables—equality, stereotyping and professional stereotyping—were analysed using the data collected.

Age was related to all other variables barring Facebook Activity. That is, irrespective of age, all users had more or less similar kinds of activities of usages on Facebook. Younger people tended to use this most popular online social network more than their older counterparts. Similar was the case with social networking as well as those belonging to the Age group of 21- 24 years had larger social networks than those above 29 years.

Interestingly, these younger people who have larger networks on social media were against gender stereotyping, while those who belong to the Age group of 25-29 years have favored the notion. Those belonging to the Age group of 25-29 years are more inclined towards gender stereotyping.

Those belonging to the Age group of 21 to 24 years used Facebook more, had larger social networks and were more active on the popular social network. This is also the group that favoured gender equality the most.

Males used Facebook more, had larger social networks and were more active on Facebook. However, they did not favour equality as much as women and favoured stereotypes more and inherited more professional bias.

Religion also had relevance in this study as they were related to the Facebook and gender-related variables. Those who did not subscribe to formal religions used Facebook the most, had larger social networks online and were highly active on this popular social network.

They also favoured gender equality the most. Interestingly, the postgraduates used the social network the most, while those belonging to the educational group of Plus-Two or below had larger social networks and were more active on the social network. However, when it comes to gender equality, the postgraduates were the least biased and had more favourable opinions towards gender equality. When it comes to marital status, the married ones used this popular social network the most, while the singles had larger social networks and were more active on Facebook. With regard to gender equality, singles had the least biased attitude towards women, while the married people favoured professional equality for both the genders.

Test of association among the variables income, Facebook usages and gender bias has also revealed interesting results. While those belonging to the income group of Above Rs1 lakh and Below Rs3 lakh had the largest social networks online, those earning more than Rs3 lakh had smaller social circles online. However, when it comes to gender equality, as the income increased the favouring of gender equality increased among the respondents.

Correlation tests also revealed strong-positive relationships among the three gender scales, indicating the conceptual validity of the instruments. Similarly, there were positive and strong correlations among the extent of usage of facebook, size of the online social network and Facebook activity. Positive correlations were also identified between Facebook usage, social networks and activity, and attitude towards gender equality, indicating that social media usage induces a positive attitude towards gender equality. It is also in line with the proposal of the study that social media usage can induce gender equality as the exposure on this most popular social network is global in nature. Gender equality is especially propagated as such online networks opens a window to diverse social cultures and attitudes, diminishing in-bred social stereotypes and social values.

Similar were the results of the SEM analysis as well indicating a positive relationship between the extent of usage of social media and gender equality. However, the SEM analysis also indicated that increased social media activity could be associated with certain professional and gender bias.

By large, an average social media consumer who is not that active in content generation on those platforms develops a positive attitude towards gender equality favouring equal opportunities for both the gender groups and develops a negative attitude towards traditional gender stereotypes.

Most evaluations of Facebook usage are based on the number of times one uses Facebook per day (Mazman and Usluel, 2010) and the amount of usage each day (Mazman and Usluel, 2010; Thompson and Loughheed, 2012). The effect of social networking sites (SNS) which influence their perceptions towards gender equality is observable in this study.

Study results indicate that education, increase in income and the rise in the awareness about gender-related issues, coupled with online social media usage aiding broad and instant information and opinion exchange, are creating a more favourable environment invigorating gender equality.



## Conclusion

Correlation tests revealed strong and positive relationships among the three gender scales, indicating conceptual validity of the instruments. Similarly, there were positive and strong correlations among the extent of usage of facebook, size of the online social network and Facebook activity. Positive correlations were also identified between Facebook usage, social networks and activity, and attitude towards gender equality, indicating that social media usage induces a positive attitude towards gender equality. Younger people, those who do not subscribe to formal religions and those with higher education and income levels use social media platforms more, have larger networks on social media and are more active on these online social spaces. These social groups, apart from the female social media users, are those favouring social equality more than their counterparts.

## References

- Alabi, O. F. (2013). A survey of Facebook addiction level among selected Nigerian University undergraduates. *New Media and Mass Communication*, 10(2012), 70-80.
- Amarasinghe, A. (2010). What Motivates People to Participate in Social Media?. *Social Media Today*.
- Barclay, Francis P., Pichandy, C., Venkat, A. and Sudhakaran, S. (2015). India 2014: Facebook 'like' as a predictor of election outcomes. *Asian Journal of Political Science*, 23(2): 134-160.
- Barclay, F. P. (2015a). Inter-Media Interaction and Effects in an Integrated Model of Political Communication: India 2014. *Global Media Journal*, 13(25).
- Barclay, F. P., Pichandy, C., & Venkat, A. (2015b). India elections 2014: Time-lagged correlation between media bias and facebook trend. *Global Journal of Human-Social Science Research*.
- Barclay, F. P., Pichandy, C., Venkat, A., & Sudhakaran, S. (2016). Twitter Sentiments: Pattern Recognition and Poll Prediction. In *Communication and Information Technologies Annual: [New] Media Cultures* (pp. 141-167). Emerald Group Publishing Limited.
- Barclay, Francis P. (2017). Media effect on media: Progression of political news and tweets during India 2014. *Journal of Media and Communication*, 1(1): 1-28. CUTN.
- Blais, J. J., Craig, W. M., Pepler, D., & Connolly, J. (2008). Adolescents online: The importance of Internet activity choices to salient relationships. *Journal of youth and adolescence*, 37(5), 522-536.
- Davison, W. P. (1983). The third-person effect in communication. *Public opinion quarterly*, 47(1), 1-15.
- Deragon, J. (2011). What is your social media malady?
- Ellison, N. B., Steinfield, C., & Lampe, C. (2007). The benefits of Facebook "friends:" Social

- capital and college students' use of online social network sites. *Journal of computer-mediated communication*, 12(4), 1143-1168.
- Foucault, M. (1988). *The History of Sexuality: "Vol. 3.*
- Gefen, D., & Straub, D. W. (1997). Gender differences in the perception and use of e-mail: An extension to the technology acceptance model. *MIS quarterly*, 389-400.
- Hargittai, E. (2004). Internet access and use in context. *New Media & Society*, 6(1), 137-143.
- Hearn, J., Strid, S., Husu, L., & Verloo, M. (2016). Interrogating violence against women and state violence policy: Gendered intersectionalities and the quality of policy in The Netherlands, Sweden and the UK. *Current Sociology*, 64(4), 551-567.
- Kabeer, N. (2016). Gender equality, economic growth, and women's agency: the "endless variety" and "monotonous similarity" of patriarchal constraints. *Feminist Economics*, 22(1), 295-321.
- Keefer, M. (2003). Moral reasoning and case-based approaches to ethical instruction in science. In *The role of moral reasoning on socioscientific issues and discourse in science education* (pp. 241-259). Springer, Dordrecht.
- Mazman, S. G., & Usluel, Y. K. (2010). Modeling educational usage of Facebook. *Computers & Education*, 55(2), 444-453.
- McAndrew, F. T., & Jeong, H. S. (2012). Who does what on Facebook? Age, sex, and relationship status as predictors of Facebook use. *Computers in Human Behavior*, 28(6), 2359-2365.
- McKenna, K. Y., Green, A. S., & Gleason, M. E. (2002). Relationship formation on the Internet: What's the big attraction?. *Journal of social issues*, 58(1), 9-31.
- McLuhan, M., & Powers, B. R. (1992). *The global village: Transformations in world life and media in the 21st century*. Transformations in World Life.
- Morris, P. K. (2006). Gender in print advertisements: A snapshot of representations from around the world. *Media Report to Women*, 34(3).
- Palmer, J. I. M. M. Y. (2012). The role of gender on social network websites. *Stylus Knights Write Showcase*, 35-46.
- Parks, J. B., & Mary Ann, R. (2004). Attitudes toward women mediate the gender effect on attitudes toward sexist language. *Psychology of Women Quarterly*, 28(3), 233-239.
- Peirce, B. N. (1995). Social identity, investment, and language learning. *TESOL quarterly*, 29(1), 9-31.
- Perloff, R. M. (1993). *The dynamics of persuasion: Communication and attitudes in the 21st century*. Routledge.
- Rolin, K. (2012). A feminist approach to values in science. *Perspectives on Science*, 20(3), 320-330.
- Schouten, A. P., Valkenburg, P. M., & Peter, J. (2007). Precursors and underlying processes of adolescents' online self-disclosure: Developing and testing an "Internet-attribute-perception" model. *Media Psychology*, 10(2), 292-315.
- Shelat, M. (1996). Effectiveness of value discussion model in communication for gender equality among adolescents.
- Sigelman, C. K., & Ryder, E. A. (2006). *Life-span human development*. Belmont, CA: Wadsworth.
- Smith, J. R., & Hogg, M. A. (2008). Social identity and attitudes. *Attitudes and attitude change*, 337, 360.

- Taylor, V. (1999). Gender and social movements: Gender processes in women's self-help movements. *Gender & Society*, 13(1), 8-33.
- Thompson, S. H., & Lougheed, E. (2012). Frazzled by Facebook? An exploratory study of gender differences in social network communication among undergraduate men and women. *College student journal*, 46(1), 88-99.
- Valenzuela, S., Park, N., & Kee, K. F. (2009). Is there social capital in a social network site?: Facebook use and college students' life satisfaction, trust, and participation. *Journal of computer-mediated communication*, 14(4), 875-901.
- Verheijen, J. (2006). Mass Media and Gender Equality: The Empowering Message of Romantic Love in Telenovelas. *Etnofoor*, 23-39
- WIRE, B. (2019). Needham & Company, LLC Analysts Ranked in Two Prestigious 2010 Analyst Surveys. *Businesswire.com*.
- Whorf, B. L. (2012). *Language, thought, and reality: Selected writings of Benjamin Lee Whorf*. Mit Press
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