

# Intellectual Humility and Openness in Higher Education

A synopsis of PhD thesis

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## Chapter outline

- Chapter 1: Context of the Study
- Chapter 2: Problem of the Study
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## Chapter 1: Context of the Study

This chapter introduced the concept of intellectual humility and openness, their roots and correlates, other cognitive factors associated with the phenomena, importance of the phenomena in present-day context as well as significance of the present study.

### **Introduction**

We all have limitations in our thinking, but those who are aware of it are much more fit for any purpose. Openness to opposing views and recognizing the fact that one's beliefs and opinions might be incorrect, is a quality we call intellectual humility which people are not born with, but the quality they can certainly gift to themselves. In other words, intellectual humility is recognizing the limits of one's own knowledge and at the same time appreciating other's intellectual strength. It is also basis of critical thinking which help us to grow more congruent and tolerant rather than being simply open-minded. Intellectual courage, intellectual empathy as subsets of intellectual humility strengthen peoples' cooperative behaviour and therefore, are necessary skills for realizing happiness in a democratic society. In a multi-cultural, multi-religious secular country like India, for every future citizen, practicing religious tolerance is utmost necessary. Research shows that more intellectual humility brings more religious tolerance as well as more openness to opposing views, which can be learned. Therefore, the integration of intellectual humility is one of the desirable changes that we want to bring in learners' behaviour through education. This study attempted a thoughtful investigation towards the identification of intellectual humility and openness to opposing views among learners at higher education from different socio-cultural contexts.

## **Intellectual humility and openness in education**

A big part of the point of education is to teach students things so they can have informed conversations or do well on performances. But for education to be successful and for students to do well in the classroom and in life, it can be just as important to teach them how to be productive when they don't know something. Intellectual humility, which means knowing what you don't know and being willing to learn from others, has become one of the most important traits in the new social science of character (Promoting Intellectual Humility in Classrooms, n.d.). So, if intellectual humility makes people more open to different points of view, are there ways to get more of it? A lot of research suggests that the way people think about their own intelligence might be a good way to encourage intellectual humility. A "growth mindset" about intelligence is the belief that one's intelligence can change and grow. This helps develop many qualities that are thought to be linked to intellectual humility, such as more motivation to learn, less defensiveness, and a more accurate sense of one's knowledge and abilities (Ehrlinger et al., 2016). In contrast, a fixed mindset about intelligence is the belief that intelligence, talent and other qualities are inherent and cannot be changed and there is limited or no opportunity to become good at something which an individual was not earlier. This way "fixed mindset" makes people more self-centered and defensive (Nussbaum & Dweck, 2008) in face of new situations. Therefore, it is evident that intellectual humility and openness promote a "growth mindset" which individuals in the education field, as well as in other fields, need to develop to deal with new situations and keep growth accelerated and sustained.

## **Rationale of the study**

The world is witnessing a phenomenal change in almost all domains of life due to magnificent advancements in science and technology. Knowledge generation and refinement have never been so rapid compared to other phases of human civilization. The new forms of viruses and diseases are emerging as side effects of radical shifts in lifestyle, food habits, pollution and biological experimentations with dramatic effects on the life expectancy of people, the food supply chain, ecological balance, and also in the labour market. Since human civilization, education is not only meant for knowledge gathering, application and employment but also considered a tool for survival. Life had not been so different for individuals and their predecessors born in the last century and a little prior to that, but children of the current and the last decade have been experiencing drastic change in almost everything including knowledge, beliefs, practices, lifestyle, culture, technology adoption, environmental conditions, employment opportunities and so on. The knowledge, skills and attitudes learnt by the parents are becoming less useful and backdated for their children and therefore they are forced to adapt to the new normal. Children entering school age now do not know what knowledge and skills would be of most worth for their survival, or what kind of employment would be there for them when they complete formal education, and even the teachers are unsure about the knowledge, attitude and skills they would be requiring to facilitate the learning of those children (OECD, 2018). Social, political, religious, and economic conflicts have diverted the attention of people from the fact that we are drowning in uncertainties which we need to immediately act on. Therefore, to remain open to the fact that unimaginable events are about to occur and that we have limited time and resources to deal with them, keeping ourselves alive and connected to others, we should possess the virtues of openness and humility which are crucial in this regard. The youths, who are in their

preparatory years of life and also teachers, who are taking the responsibility in preparing them well are equally needed to embrace themselves with these essential qualities of 21st-century living i.e., openness and humility with special emphasis on intellectual humility as it facilitates the other forms of humility. In order to see whether students and teachers have those qualities or not, it is essential for examining the phenomena in the scientific context. The existence of a phenomenon needs to be measured even if its sole purpose is to prove its existence. For that, a metric is required in order to determine the relative magnitude of phenomena and detect an increase in the target phenomena if we are to develop an intervention aimed at increasing its occurrence (Church & Samuelson, 2017). The present study justifies the search for existence and extent of intellectual humility and openness among people involved in and responsible for the growth of higher education.

## Chapter 2: Problem of the Study

This chapter describes the literature review, knowledge gap, major research questions, objectives, delimitations and hypotheses which have led the researcher to select and move forward with the problem of this research.

For reviewing existing studies in this field, the researcher has first located theoretical and empirical studies on intellectual humility and openness and then narrowed down to the studies conducted in the area relating to education and higher education. For this purpose, the major research databases like ERIC, EBSCOhost, ProQuest, Psych Info, and Crossref were looked for. The researcher used Publish or Perish version 8.6.4198 to narrow down the searches in the Crossref database which resulted in nearly one thousand journal articles published on intellectual humility. The researcher had chosen a total of 124 database entries from the last thirty years, mostly theoretical, in Crossref for selecting relevant research studies out of which he reviewed 42 relevant empirical studies on intellectual humility and 16 studies on openness to identify the knowledge gap for the present study.

### **Research Questions**

- a. How intellectually humble and open are the stakeholders of higher education?
- b. How do personal, social, academic and behavioural differences result in variation in intellectual humility and openness?
- c. Does intellectual humility predict openness in stakeholders of higher education?

### **Delimitations of the study**

- a) The study was to be conducted only in West Bengal.
- b) Only students and teachers in higher education were to be considered as stakeholders.
- c) Very few personal, social and demographic characteristics of the participants were to be considered, along with their basic academic details.
- d) Only three daily activities namely reading preference, frequency of newspaper reading and social media engagement of the participants were to be considered as behavioural characteristics.
- e) Intellectual humility and openness were to be measured using self-reported questionnaires, instead of observations and interventions.
- f) The relationship between intellectual humility and openness was to be checked in simple terms.
- g) A few more than one thousand participants were to be included in this study.

### **Objectives of the study**

- a) To assess intellectual humility (IH) and openness (OP) in higher education students.
- b) To check for variations in IH and OP with different personal, social, demographic, academic and behavioural characteristics of higher education students.
- c) To assess intellectual humility and openness in higher education teachers.
- d) To check for variations in IH and OP with different social, demographic, academic and behavioural characteristics of higher education teachers.
- e) To compare students and teachers in terms of IH and OP.



- f) To find out the relationship between intellectual humility and openness in students, teachers, and the whole.
- g) To check if age influences the relationship between IH and OP.

## Hypotheses

- H<sub>0</sub>1: Intellectual humility and openness do not significantly vary with participants' gender.
- H<sub>0</sub>2: Intellectual humility and openness do not significantly vary with students' birth order.
- H<sub>0</sub>3: Intellectual humility and openness do not significantly vary with participants' locality of residence.
- H<sub>0</sub>4: Intellectual humility and openness do not significantly vary with participants' family structure.
- H<sub>0</sub>5: Intellectual humility and openness do not significantly vary with participants' marital status.
- H<sub>0</sub>6: Intellectual humility and openness do not significantly vary with participants' nature of the institute.
- H<sub>0</sub>7: Intellectual humility and openness do not significantly vary with participants' faculty.
- H<sub>0</sub>8: Intellectual humility and openness do not significantly vary with students' course level.
- H<sub>0</sub>9: Intellectual humility and openness do not significantly vary with teachers' academic designation.
- H<sub>0</sub>10: Intellectual humility and openness do not significantly vary with teachers' teaching experience.
- H<sub>0</sub>11: Intellectual humility and openness do not significantly vary with teachers' highest educational qualifications.
- H<sub>0</sub>12: Intellectual humility and openness do not significantly vary with

participants' reading preferences.

**H<sub>0</sub>13:** Intellectual humility and openness do not significantly vary with participants' habit of newspaper reading.

**H<sub>0</sub>14:** Intellectual humility and openness do not significantly vary with participants' social media engagement.

**H<sub>0</sub>15:** Participants' age does not significantly correlate with their intellectual humility and openness.

**H<sub>0</sub>16:** Intellectual humility and openness do not significantly differ between students and teachers.

**H<sub>0</sub>17:** Participants' Intellectual humility does not predict their openness.

## Chapter 3: Methods and Materials

This chapter describes the method and procedures followed in the study. The researcher has adopted various techniques to structure the work by complying with different theoretical assumptions in educational research.

### **Methods & Materials**

The entire research work was divided in two studies namely study 1 for students and study 2 for teachers. A sample size of 880 students and 200 teachers from 100 colleges and 22 universities spread across 21 districts of West Bengal was studied using a cross-sectional survey method to obtain a good representation of the population in the said geographical region. The Comprehensive Intellectual Humility Scale and Openness questions from the Big Five Inventory were administered to find out the extent of intellectual humility and openness among the participants.

### **Variables**

The variables in this research were considered based on some theoretical assumptions on intellectual humility and openness as well as influenced by recent research conducted in these fields. Both studies 1 and 2 have considered a few classificatory indicators of the participants and categorized these into three groups namely, socio-demographic, academic and behavioural. These classificatory indicators were considered explanatory variables in the studies as the researcher assumed these indicators to have an effect in the variation of intellectual humility and openness. Although both studies have commonly considered three categories of explanatory variables, there are some differences. Study 1 has considered gender, age, birth order, locality of residence, family structure and marital status as socio-demographic variables; nature of institute, faculty and course level as

academic variables; and reading preference, frequency of newspaper reading and social media engagement as behavioural variables. Study 2 has considered gender, age, locality of residence, family structure and marital status as socio-demographic variables; nature of institute, faculty, designation, teaching experience and highest educational qualifications as academic variables; and behavioural variables remained the same as study 1. Intellectual humility and openness were considered as dependent variables in both the studies.

Table 1  
*Distribution of sample data based on common explanatory variables*

<b>Variable / Level</b>	Student	Teacher	% of Total
<b>Gender</b>			
Female	460	83	50.28%
Male	420	117	49.72%
<b>Age</b>			
	21.99 Years	37.39 Years	-
<b>Locality Of Residence</b>			
Rural	479	53	49.26%
Urban	401	147	50.74%
<b>Family Structure</b>			
Joint Family	248	70	29.44%
Nuclear Family	632	130	70.56%
<b>Marital Status</b>			
Unmarried	850	58	84.07%
Married	30	138	15.55%
Prefer Not To Say	0	4	0.38%
<b>Nature Of Institute</b>			
College	346	134	44.44%
University	534	66	55.56%
<b>Faculty</b>			
Arts, Humanities And Social Sciences	613	119	67.78%
Commerce, Law & Management	164	5	15.65%
Engineering & Technology	26	14	3.70%
Science	77	62	12.87%
<b>Reading Preference</b>			
Fiction	628	97	67.13%

Non-Fiction	252	69	29.72%
Other Than Mentioned	0	34	3.15%
<b>Frequency Of Newspaper Reading</b>			
Almost Never	135	10	13.43%
Rarely	297	23	29.63%
Sometimes When Not Occupied Otherwise	234	50	26.30%
Regularly	214	117	30.65%
<b>Social Media Engagement</b>			
No Social Media Account	35	5	3.70%
Less Than 1 Hour	236	101	31.20%
Between 1 & 4 Hours	489	84	53.06%
More Than 4 Hours	120	10	12.04%

Table 2  
*Distribution of sample data based on explanatory variables used only in study 1*

Variable / Level	N	% Of total
<b>Course Level</b>		
Undergraduate	450	51.14%
Postgraduate	233	26.48%
Teacher Education	105	11.93%
Research	92	10.45%
<b>Birth Order</b>		
First	455	51.70%
Second	290	32.95%
Third	82	9.32%
Beyond Third	53	6.02%

Table 3  
*Distribution of sample data based on explanatory variables used only in study 2*

Variable / Level	N	% Of Total
<b>Designation</b>		
Part-Time/Guest/Contractual Faculty	5	2.50%
State Aided College Teacher	4	2.00%
Assistant Professor	162	81.00%
Associate Professor	6	3.00%
Professor	23	11.50%
<b>Teaching Experience</b>		
Less Than 5 Years	68	34.00%
Between 5 & 10 Years	83	41.50%
Between 10 & 20 Years	31	15.50%
More Than 20 Years	18	9.00%

<b>Education Level</b>		
Master's Degree	46	23.00%
M.Phil	35	17.50%
Phd	93	46.50%
Post Doctoral Level	26	13.00%

## **Procedure & Analyses**

As the data was collected using Google Forms, a tabulation sheet for both the forms were generated from the Google server. Further, the data was cleaned and items renamed as per the criteria of variables. No addition or omission of data was made in both the tabulation sheets. The 'word-based' responses were coded into numbers and prepared for statistical data analysis software. Microsoft Excel version 16.69 was used for cleaning the tabulated response sheets. IBM SPSS version 20, Jamovi 2.3.11, JMP 17 and Intellectus Statistics were used for statistical analyses of quantitative data. Intellectus Statistics, Microsoft PowerBI and JMP 17 were used for data visualisations. The references of the research report were entirely managed by Zotero 6.0.19, following the APA 7th edition referencing style.

## Chapter 4: Analysis and Interpretation

This chapter contains all the analyses of data from both the studies and their interpretations. For better comprehension, results of two studies are presented separately followed by comparison of both. Each study addressed some descriptive data as well as inferential findings. For descriptive statistics firstly, mean and standard deviation were computed and thereafter used in parametric inferential statistics like Student's t-test (for equal variance), Welch's t-test (for unequal variance), one-way ANOVA etc. For testing normality of the data, Shapiro-Wilk test was conducted prior to each inferential test. Where normality of data was not ascertained, non-parametric Mann-Whitney U test was conducted. Pearson correlation and Spearman correlation analysis were used for finding associations between intellectual humility and openness, followed by simple linear regression to predict the relationship. Path analysis model was conducted to determine whether the model of regressions accurately describe the data.

This chapter was sub-divided into four sections namely, intellectual humility and openness in students (study 1), intellectual humility and openness in teachers (study 2), comparison between students and teachers, and further analysis.

Some highlights of the finds are as follows.

### **Study 1**

- a. Male and female students varied in terms of intellectual humility and the differences are due to random chances. But openness was significantly higher in male students.
- b. Age was found to have a moderate positive correlation with intellectual humility and openness, which is statistically significant for students.

- c. Students who are first born child of their parents were found to have significantly more intellectual humility and openness than their siblings.
- d. Urban area students were more intellectually humble and significantly more open, as found in this study.
- e. Student participants from nuclear families possessed more intellectual humility and openness, which is also statistically significant.
- f. Intellectual humility and openness of students did not significantly differ because of their marital status.
- g. University students were significantly more intellectually humble and open than college students.
- h. Science faculty students were more intellectually humble but students from commerce, law and management were significantly more open than students from other disciplines or faculties.
- i. Intellectual humility and openness were significantly high in students pursuing research degrees.
- j. Reading preference of students did not cause any variation in their intellectual humility and openness.
- k. Intellectual humility was highest among students who read daily newspapers (of any form) occasionally but who read on daily basis were significantly more open.
- l. A moderate use of social media was found to have resulted in a higher level of intellectual humility but their openness was not significantly influenced.
- m. A-category and metropolitan university (Jadavpur University, Presidency University as selected based on criteria) students were significantly more intellectually humble and open than B-category university students (Kazi Nazrul University and Raiganj University as selected based on criteria; please refer to section 4.1.3d).



- n. Intellectual humility and openness were positively correlated with a moderate effect size which was statistically significant.
- o. Components of intellectual humility in students predicted 47.38% of the variance in their openness.

## Study 2

- a. Male and female teachers did not significantly differ in their intellectual humility and openness.
- b. Age of teachers was positively correlated with their intellectual humility but openness was negatively associated with a very low effect size.
- c. Teachers living in urban areas were significantly more intellectually humble but not significantly more open than those in rural areas.
- d. Family structure was found not to have resulted in variation of intellectual humility and openness in teachers.
- e. Intellectual humility and openness of teachers had no remarkable variation when viewed in terms of their marital status.
- f. College teachers were more intellectually humble and open than university teachers but the differences were due to random chance.
- g. Although science faculty teachers were higher in intellectual humility and arts, humanities and social sciences teachers were more open than teachers from other disciplines but the variation was not statistically significant.
- h. Designation or seniority of teachers did not have resulted in variation of their intellectual humility and openness.
- i. Teachers with teaching experience between ten and twenty years were found have higher intellectual humility and openness but the difference was not statistically significant.

- j. Teachers with post-doctoral level as their highest qualification were found have higher intellectual humility and lower openness, but the difference was not statistically significant.
- k. Reading preference of teachers did not cause any variation in their intellectual humility and openness.
- l. Intellectual humility was highest among teachers who read daily newspapers (of any form) every day but who read occasionally were more open.
- m. Less use of social media was found to have resulted in a higher level of intellectual humility in teachers but their openness was not significantly influenced.
- n. Intellectual humility and openness were positively correlated in teachers with small effect size which was statistically significant.
- o. Components of intellectual humility in teachers predicted 15% of the variance in their openness.

### **Combined findings**

- a. Intellectual humility along with its three subscales namely Independence of Intellect and Ego (IIE), Openness to Revising Own's Viewpoint (OROV) and Respecting Others' Viewpoints (ROV) were moderate in both students and teachers but significantly higher in teachers compared to the student participants in this study. Both students and teachers were similar in terms of Lack of Intellectual Overconfidence (LIO) i.e., the fourth subscale of intellectual humility.
- b. Openness was not so high among students and teachers but the teacher participants demonstrated a higher level of openness than the student participants and the difference was statistically significant.
- c. Age of participants combining both studies (N=1080) significantly moderated the effect of intellectual humility had on openness which

indicated that a one-unit increase in Age will cause a 0.008 decrease in the slope of Openness on Intellectual humility.

## Chapter 5: Discussion

This chapter summarizes the significant findings on intellectual humility and openness of teachers and students concerning different socio-demographic, academic and behavioural variables. Detail discussion of the results is presented in the latter part of this chapter followed by the conclusion.

### **Discussion**

Considering the increasing importance of intellectual humility in almost all the domains of cognitive behaviours, the present study aimed to assess the same and its relation to the openness of students and teachers of higher education in West Bengal. The study also purported to find out variations of intellectual humility and openness among the students and teachers with respect to their personal, social, academic and behavioural characteristics. Statistical analyses of data from 1080 participants, the study explored interesting facts and variations which the researcher attempted to interpret and discuss through his worldviews and perspectives. Some results of the present study were aligned with other empirical studies and also contrasted in some cases.

### **Limitations of the study**

- a. Interviews with the participants on their perspectives of intellectual humility and openness could not be done.
- b. It would have been better if the study could reach participants from all 42 universities and more colleges in West Bengal.

- c. There are other factors in students' and teachers' lives which might have surprising connections with their IH and OP, which I could not address.
- d. Participatory activities could have been paired with the self-reported questionnaires to better map both the constructs i.e., intellectual humility and openness and get more perspectives on both.
- e. Administrators, parents, and policymakers as other stakeholders of higher education, could have been covered in this study.
- f. Only one state was addressed in this study instead of a handful representation of 28 states in India.

## Conclusion

Although empirical studies on intellectual humility started around the world soon after cognitive science explored the flexibility factor of the human brain and its association with varieties of cognitive events in daily life, the roots of intellectual humility can be traced back to historical times of more than two thousand years. The Thirukkural way of humility by Saint Thiruvalluvar in ancient India is also a major historical reference to the practice of intellectual humility (Gajjam, 2022). Currently, it is one of the most discussed virtues in philosophy and psychology, with major emphasis laid down by John Templeton Foundation among its three domains for character virtue development (*Character Virtue Development - Funding for Research and Practice*, n.d.). At the same time, it is thought to have an influence on personality traits as proposed in the Big Five theory. The present research also found intellectual humility as positively linked with openness or open-mindedness which the researcher thinks is of very high importance in today's knowledge society. Considering the matter, it is necessary to talk about these two phenomena in public gatherings, educational setups, informal

meetings and during other types of interpersonal communication so that, people get to know about the ideas and nurture the same for a better tomorrow.

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