

## EPISTEMOLOGICAL BELIEFS AND ACADEMIC MOTIVATION OF ARTS AND SCIENCE COLLEGE STUDENTS

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Epistemological beliefs of students is an important factor for students' coherent and deep learning. Understanding their own epistemologies helps students to choose better learning strategies and enhance their academic performance. This paper examined the epistemological beliefs and academic motivation of undergraduate students studying in arts and science colleges based on the selected background variables. A sample of 1000 arts and science college students were surveyed using Epistemological Beliefs Scale developed and validated by the investigators and a revalidated Deo – Mohan Achievement Motivation (n-Ach) scale developed by Pratibha Deo and Asha Mohan (1985). The collected data were analysed using t-test, ANOVA, Chi square and Correlation using SPSS software. The study found that female students have sophisticated epistemological beliefs and better academic motivation. The findings showed that urban college students have sophisticated epistemological beliefs and better academic motivation than the rural college students. It was also found that students belonging to science streams were found to have sophisticated epistemological beliefs and better academic motivation than the arts students. The findings were interpreted, discussed and appropriate recommendations were made.

**Keywords:** Epistemological Beliefs, Academic Motivation, Sophisticated beliefs, Arts and Science

### 1. Introduction

Recently students' epistemological beliefs have received more attention from educators. A growing body of evidence is now demonstrating the positive effects of more sophisticated epistemological beliefs on students' motivation, use of appropriate learning strategies, and academic achievement (Hofer, 1994; Hofer and Pintrich, 1997; Schommer, 1990, Schommer et al., 1992; Schutz et al., 1993). The same construct has been studied under different names including epistemological beliefs, personal epistemology and epistemic beliefs. As a result of the experiences and interactions individuals undergo, they reach some permanent conceptions and beliefs about knowledge and its acquisition. These conceptions and beliefs make up an individual's epistemological beliefs. Schommer (1990) argued that epistemological beliefs have a scope going beyond the beliefs related to knowledge because they also cover the beliefs concerning learning and learning aptitude related to the processes of acquisition and use of knowledge and all of these should be regarded as a belief system. Epistemological beliefs are defined by Schommer (1990) as the beliefs pertaining to what is the knowledge and how the knowing and learning occurs.

Epistemological beliefs about learning (or learning beliefs) are defined as socially shared intuitions about the nature of knowledge and the nature of learning and involve knowledge about the limits of knowing, the certainty of knowing, and the criterion of knowing (Jehng et al., 1993).

Motivation defines the reasons behind people's behaviour and determines why they behave in a particular way. In educational perspective, motivation has a multi-dimensional structure which is correlated with learning and academic motivation (Amrai et al., 2011). It is the driving force behind human actions. Motivation is the process that initiates, guides, and maintains goal-oriented behaviours (Cherry, 2022). In the Academic context too, a sound motivational programme implies greater academic competence, to the extent that properly motivated students can profit from their learning experiences to a greater extent than indifferent or overanxious pupils. Academic motivation is the casual factor for behaviour that is highly related with activities and success of students and it includes amount of efforts, efficient management of academic activities and attempts to attain their educational goals and level of persistent of students (Usher and Morris, 2012). Academic Motivation is the driving force behind student's motivation to learn to excel in academic work. The research study attempted to find out the epistemological beliefs and academic motivation of arts and science college students and the relationship between them.

## **2. Need for the Study**

Beliefs are strong determiners of thinking and behaviour of individuals. Educational researchers strive to identify various kinds of beliefs that influence learning and teaching such as self-efficacy belief, belief toward intelligence and belief toward learning etc. Hofer (2002) opined that the beliefs associated to knowledge and knowing had a strong impact on learning and understanding the learning process which in turn would enhance the effectiveness of the instruction. Epistemological beliefs have also been linked with academic achievement (Shoaib et.al.,2021), self-regulated learning strategies (Jiang et.al., 2021), critical thinking skills (Ulu-Kalin & Baydar, 2020) and academic self-efficacy(Canpolat, 2019). Every student needs motivation on academics or academic motivation as it helps students in achieving their goal. Motivation has been of great interest to educators. The major concern of home and school is how to motivate the child to learn, how to arouse his motivation towards school and learning. Past research has linked academic motivation with a number of desirable outcomes such as academic achievement (Zheng, 2020; Kumar & Sangeetha, 2019; Sharma & Sharma, 2018), academic engagement, self-directed learning (Adib et.al., 2019), academic stress (Zothanzami, 2019) and academic self-efficacy (Waqar, Shafiq & Hasan, 2016). Thus both these variables are essential aspect to enhance learning outcomes. Hence the study is undertaken to find out the epistemological beliefs and academic motivation of arts and science college students.

## **3. Objectives of the Study**

1. To find out if there exists any significant difference in the epistemological beliefs of students based on the background variables.
2. To find out if there exists any significant difference in the academic motivation of students based on the background variables.

3. To find out if there exists any significant relationship between epistemological beliefs and academic motivation of arts and science college students.

**4. Null Hypothesis**

1. There is no significant difference in the epistemological beliefs of students based on gender, locality of college and stream.
2. There is no significant difference in the academic motivation of students based on gender, locality of college and stream.
3. There is no significant relationship between epistemological beliefs and academic motivation of arts and science college students.

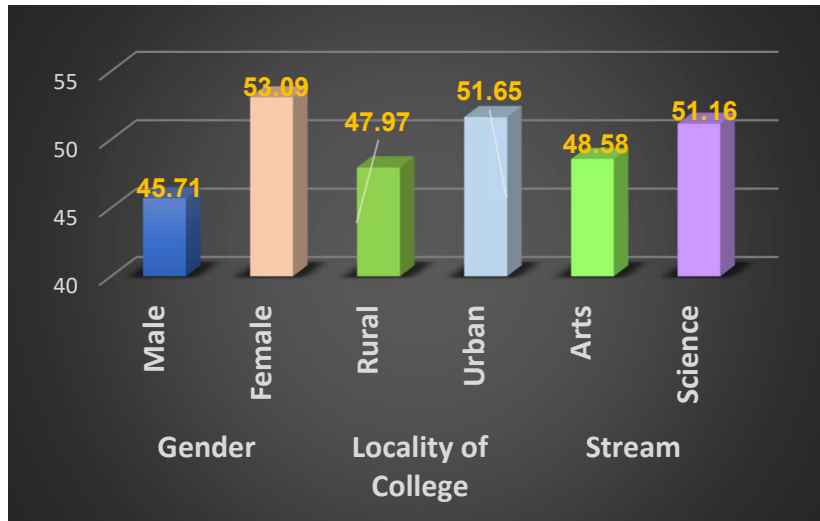
**5. Methodology**

The investigator used descriptive survey to study the chosen variables. Epistemological Beliefs Scale was developed and validated by the investigators. Since the Deo – Mohan Achievement Motivation (n-Ach) scale developed by Pratibha Deo and Asha Mohan (1985) seemed to be relevant and apt for the study hence the investigators re-validated the tool and used the same to assess the academic motivation of arts and science college students. A sample of 1000 arts and science college students were chosen using stratified random sampling technique. The collected data were scored and normalized. Data analysis was performed using statistics such as t-test, ANOVA, Chi square, Correlation and Percentage Analysis using SPSS software.

**6. Results**

**TABLE NO. 6.1**  
**Epistemological Beliefs of Arts and Science College Students based on the Background Variables**

Variable		N	Mean	S.D	Calculated t Value	P Value	Remarks
Gender	Male	419	45.71	9.52	12.34	0.000	S
	Female	581	53.09	9.17			
Locality of College	Rural	450	47.97	10.05	5.85	0.000	S
	Urban	550	51.65	9.65			
Stream	Arts	450	48.58	10.05	4.08	0.000	S
	Science	550	51.16	9.81			



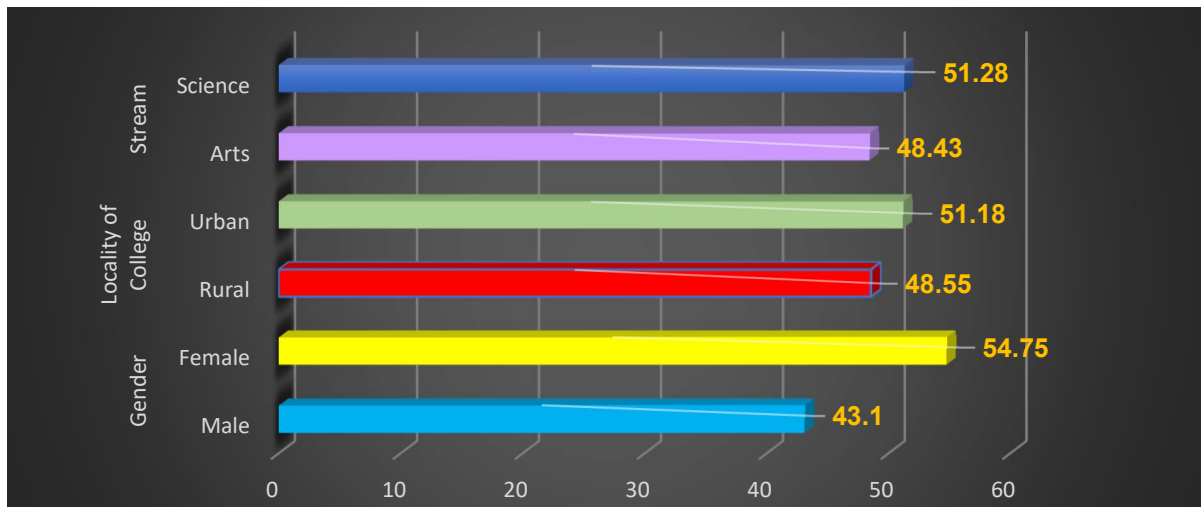
**FIGURE NO. 6.1**

**Comparison of Epistemological Beliefs of Arts and Science College Students based on the Background Variables**

**TABLE NO. 6.2**

**Academic Motivation of Arts and Science College Students based on the Background Variables**

Variable		N	Mean	S.D	Calculated t Value	P Value	Remarks
Gender	Male	419	43.1	6.59	21.33	0.000	S
	Female	581	54.75	9.32			
Locality of College	Rural	450	48.55	9.97	4.15	0.000	S
	Urban	550	51.18	9.87			
Stream	Arts	450	48.43	9.98	4.52	0.000	S
	Science	550	51.28	9.83			



**FIGURE NO. 6.2**

**Comparison of Epistemological Beliefs of Arts and Science College Students based on the Background Variables**

**TABLE NO. 6.3**

**Relationship between Epistemological Beliefs and Academic Motivation of Arts and Science College Students**

Variable	'r' Value	P Value	Remarks
Epistemological Beliefs & Academic Motivation	0.329	0.000	S

**7. Interpretation and Findings**

From table no. 6.1 it is inferred that there is significant difference between male and female students in their epistemological beliefs. The mean scores reveal that the female students have scored more sophisticated epistemological beliefs than the male students. The table also indicates that the urban students have better epistemological beliefs than the rural students. It is also observed that there is significant difference between arts and science stream students in their epistemological beliefs. The mean scores reveal that the science students have greater scores in the epistemological beliefs than the arts students.

From table no. 6.2 it is inferred that there is significant difference in the academic motivation of students based on their gender, locality of college and stream of students. By comparing the mean scores of these variables it is found that the female students are more academically motivated than the male students, urban students are more academically motivated than the rural students and science students are more academically motivated than the arts students.

Table no.6.3 indicates that there is significant moderate positive correlation between epistemological beliefs and academic motivation of college students.

## 8. Discussion

The sophisticated epistemological beliefs of female students in the study may be due to self-motivation that is a predominant factor behind their learning. Female students, being self-motivated take ownership of their learning and refer to multiple sources to confirm and strengthen their learning. This may have led them to develop strong epistemological beliefs. The male students depend on peer motivation than any other thing for learning and this makes them develop simple epistemological beliefs. This finding is in line with the findings of Tuzun & Topcu (2013) and Marzooghi et al., (2008) but it contradicts the findings of Ahmed & Hasan (2021) and Eren (2007) who found no significant difference in the epistemological beliefs of students based on gender.

The present study found that the students in urban colleges have more sophisticated epistemological beliefs than the students in rural colleges. This may be due to the better opportunities and resources for learning available in the urban areas. The greater access to learning resources and opportunities to enrich learning through after college enrichment activities may have led them to develop stronger epistemological beliefs. The rural students do not get the exposure to enhance and refine their learning and this may be the reason for their comparatively naïve epistemological beliefs. However, this finding contradicts the finding of Ahmed & Hasan (2021) who found that there exists no significant difference in the epistemological beliefs based on locality.

The study found that science major students have more sophisticated epistemological beliefs. The Science students are trained in inquiry based learning and they are able to question, re-question, confirm and reconfirm the knowledge they have gained. The nature of the discipline makes them develop an empirical approach to learning and this may be the reason for their sophisticated epistemological beliefs. The Arts students are engaged in creative work that are more connected to their affect. This may have made them develop naïve epistemological beliefs. This finding is confirmed by the findings of (Hui & Phang, 2015).

Female students' put greater effort such as attending classes attentively, doing homework and assignments regularly etc., to get good grades right from the school days when compared to male students. They place more personal value on getting better academic grades than the male students. This may be the reason for the better academic motivation among female students than the male counterparts. This finding is supported by the works of Kuśnierz et al., (2020), Puspitaningrum et al., (2021) and Khan et al., (2022).

Parents in urban areas give more importance to the education of their children and find ways to improve their interest and motivation towards academics than the parents in rural areas. In addition, the educational institutions in urban areas give more importance to academics thereby conduct various programmes and activities to enhance the motivation of students towards learning. These may be the reason for the greater academic motivation among the urban students than the rural counterparts. This finding is supported by the findings of Arun (2018) and Singh et al. (2011) but contradicted by the finding of Mallick et al., (2017).

The science major students have better academic motivation than the arts major students. Arts students are more relaxed and have more time to enjoy and have fun than the science major students who are more preoccupied with practical works and other academic commitments which in might have improved their academic motivation. This finding is contradictory to the findings of Kandavel & Vasudevan (2022).

A significant moderate positive correlation is found between the epistemological beliefs of arts and science college students and their academic motivation. Those students who believe that learning depends on effort and such other sophisticated epistemological ideas tend to put more effort on learning which may have contributed for the greater academic motivation among the students than those who have naive epistemological beliefs. This finding is supported by the findings of Chai et al., (2021), Guo, Hu, Marsh & Pekrun (2021), Guo et al., 2022, Karataş & Erden, 2017 who also confirmed the relationship between epistemological beliefs and academic motivation.

### **9. Recommendations and Conclusion**

As the epistemological beliefs positively influences the academic motivation of college students, the study recommends to develop programmes to enhance the epistemological beliefs among the college students with special concern towards the male students, rural college students and arts stream students. Appropriate training of mainstream teachers can improve teacher confidence, enrich knowledge and enhance skills in educating learners to develop sophisticated epistemological beliefs. Teachers must be well equipped to address differences in the classroom, restructuring system, and changing the role of teachers as per the needs of the students to promote joyful learning. College teachers and professors must be trained to develop sophisticated epistemological beliefs among the students which in turn supports the development of academic motivation among them. The study also recommends the need to create curricular and teaching learning practices to develop the epistemological beliefs of students. However, more research should be done on the topic of epistemological beliefs in order to improve strong epistemological beliefs among the students. Hence it is concluded that the development of sophisticated epistemological beliefs is one of the necessary factor to develop the academic motivation of college students.

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