BAYESIAN INDEPENDENT SAMPLES T-TEST FOR ANALYSIS FACTOR ENTREPRENEURIAL OF VOCATIONAL SCHOOL

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ABSTRACT

Entrepreneurship debriefing is one way that schools can do today to be able to equip students from an early age with motivation, knowledge about entrepreneurship. There are several factors that can be used as desire, motivation, character, and readiness. By doing survey respondents and data analysis because it uses conditional probability as the basis. In this Bayesian analysis, it is used as a determinant of factors that can influence a student to be open or ready to do entrepreneurship by using T test analysis as a comparative test to assess the difference between the factor value and the sample population value obtained from the factors of a student's interest in entrepreneurship and ready to practice entrepreneurship. Bayesian Independent Samples T-Test For Analysis Factor Entrepreneurial Of Vocational Schools with quantitative methods. Data analysis is carried out starting with organizing the data because the nature of quantitative data is generally very much and varied. The population in this study were all cadets in the ministry of air transportation. In this study, the population was about 585, but the data sample used by the author for the time being is a sample obtained by using a random sample method from the entire population.

Keywords: Vocational School, Entrepreneurship, Bayesian Independent, T-Test, Cadet

INTRODUCTION

Vocational schools that exist today are trying to make their students from job seeker to be job creator, there are many ways that vocational schools can be independent when students graduate or complete their studies. Entrepreneurship debriefing is one way that schools can do today to be able to equip students from an early age with motivation, knowledge about entrepreneurship. There are several factors that can be used as desire, motivation, character, and readiness. These factors can be seen from the student's interest that multiplying the potential in early entrepreneurship can be recognized, and then it can be directed to training and mentoring incubator to find suitable and appropriate entrepreneurs for each student.

OVERVIEW THEORY

In this study, Bayesian analysis is used, namely to analyze uncertainty or can usually be reduced from the information data collected, so that it can perform a better analysis. By doing survey respondents and data analysis because it uses conditional probability as the basis. In this Bayesian analysis, it is used as a determinant of factors that can influence a student to be open or ready to do entrepreneurship by using T test analysis as a comparative test to assess the difference between the factor value and the sample population value obtained from the factors of

a student's interest in entrepreneurship and ready to practice entrepreneurship.

Data Collection

In the process of finding answers to the problem formulation and research objectives, it is necessary to collect relevant data. The data collection was carried out in various ways, including library research, filling out questionnaires with several instruments from the variables of Interest, Efficacy, Knowledge, Motivation, Character, and Readiness.

Data Analysis

In this research, Bayesian Independent Samples T-Test For Analysis Factor Entrepreneurial Of Vocational Schools with quantitative methods. Data analysis is carried out starting with organizing the data because the nature of quantitative data is generally very much and varied. Organizing the data so that the data obtained is neat, structured, systematic, and complete. In the process of organizing the right data, researchers can obtain good quality data, document the analysis carried out, store the data and analyze it for the completion of the research carried out. Data analysis that is carried out is to use . The research location is an air transportation school with Bayesian Independent Samples T-Test For Analysis Factor Entrepreneurial Of Vocational School with a population of cadets, lecturers and the general public.

RESEARCH METHODOLOGY

Population and Sample

The population in this study were all cadets in the ministry of air transportation. In this study, the population was about 585, but the data sample used by the author for the time being is a sample obtained by using a random sample method from the entire population.

Intrument Questionnaire

The sample population in this study was obtained from the air transportation school ministry of transportation.

Table 1 STATISTICAL DESCRIPTION SAMPLE FOR SEX		
Descriptive Statistics	**Sex**	
	Female	**Male**
Valid	198	387
Missing	0	0
Mean	7.727	7.850
Std. Deviation	2.534	2.560
Minimum	3.000	1.000
Maximum	10.000	10.000

With a sample value of 585 respondents, among them are 198 women and 387 men, resulting in the following calculation

Table 2 STATISTICAL DESCRIPTION SAMPLE FOR STATUS			
Descriptive Statistics			
	Status		
	Cadets	**General**	**Lecturer**
Valid	537	34	14
Missing	0	0	0
Mean	7.784	8.206	7.786
Std. Deviation	2.564	2.508	2.155
Minimum	1.000	1.000	4.000
Maximum	10.000	10.000	10.000

Respondents with cadet status as many as 537 respondents from the public as many as 34 respondents and from lecturers as many as 14 respondents

Table 3 DESCRIPTIVE STATISTICS VARIABLE											
EFF1		**INT1**		**MOT1**		**KNW1**		**CHA1**		**RED1**	
	Female	**Male**	**Female**	**Male**	**Female**	**Male**	**Female**	**Male**	**Female**	**Male**	**Female**	**Male**
Valid	198	387	198	387	198	387	198	387	198	387	198	387
Missing	0	0	0	0	0	0	0	0	0	0	0	0
Mean	7.152	7.367	7.727	7.850	7.530	7.509	6.753	6.933	7.939	7.742	7.843	7.630
Std. Deviation	2.386	2.482	2.534	2.560	2.474	2.583	2.481	2.507	2.420	2.583	2.378	2.534
Skewness	-0.573	-0.774	-0.780	-0.969	-0.775	-0.823	-0.364	-0.554	-0.910	-0.873	-0.857	-0.826
Std. Error of Skewness	0.173	0.124	0.173	0.124	0.173	0.124	0.173	0.124	0.173	0.124	0.173	0.124
Kurtosis	-0.960	-0.740	-0.989	-0.575	-0.788	-0.742	-1.114	-0.949	-0.677	-0.743	-0.700	-0.748
Std. Error of Kurtosis	0.344	0.247	0.344	0.247	0.344	0.247	0.344	0.247	0.344	0.247	0.344	0.247
Minimum	2.000	1.000	3.000	1.000	1.000	1.000	1.000	1.000	3.000	1.000	3.000	1.000
Maximum	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000
25th percentile	5.000	5.000	5.000	6.000	5.250	5.000	4.000	4.000	6.000	5.000	6.000	5.000
50th percentile	8.000	8.000	9.000	9.000	8.000	9.000	7.000	8.000	9.000	9.000	9.000	9.000
75th percentile	9.000	9.000	10.000	10.000	10.000	10.000	9.000	9.000	10.000	10.000	10.000	10.000
25th percentile	5.000	5.000	5.000	6.000	5.250	5.000	4.000	4.000	6.000	5.000	6.000	5.000
50th percentile	8.000	8.000	9.000	9.000	8.000	9.000	7.000	8.000	9.000	9.000	9.000	9.000
75th percentile	9.000	9.000	10.000	10.000	10.000	10.000	9.000	9.000	10.000	10.000	10.000	10.000

Data Retrieval

In the process of finding answers to the formulation of the problem and the purpose of this research, it is very necessary to collect relevant data. These data were collected in various ways, including literature studies, filling out questionnaires with several instruments every variable.

Data analysis

This type of research is descriptive with quantitative methods. Data analysis was carried out starting with the organization of the data because the nature of quantitative data was generally very numerous and varied. Organizing the data so that the data obtained is neat, structured, systematic, and complete. In the process of organizing the right data, researchers can obtain goodquality data, document the analysis carried out, store the data and analyze it for the completion of the research carried out. Data analysis that is carried out is by using Bayesian Independent Samples T-Test. The research location is an air transportation school with a population of lecturer cadets and the general public

RESULT AND DISCUSSION

Cluster is a collection of objects or data that have similarities with one another in the samecluster and are not similar to objects in different clusters (Jain, 2010).
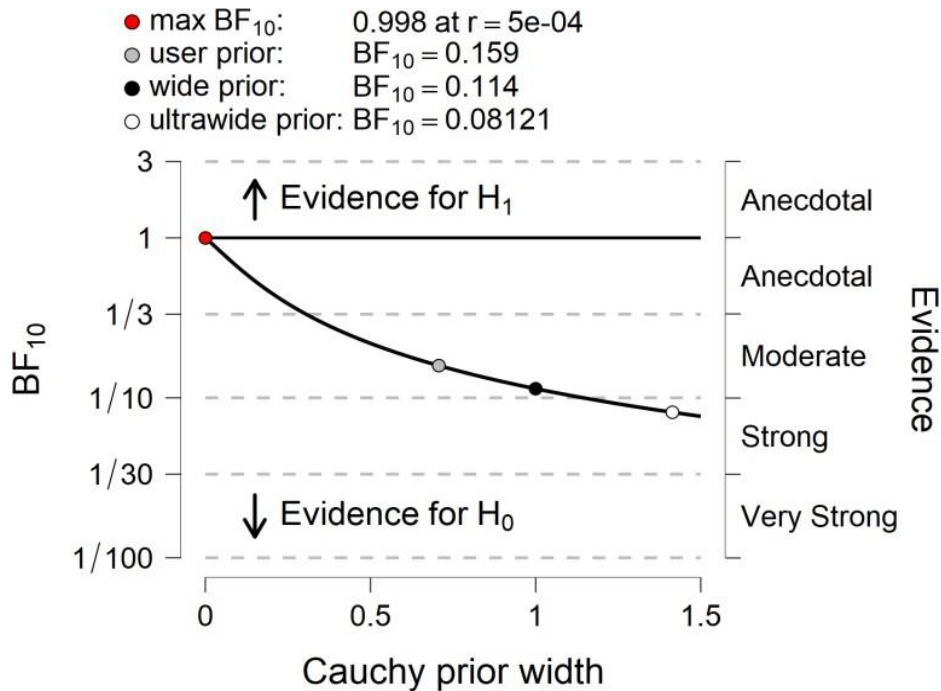
Table 4 BAYESIAN INDEPENDENT SAMPLES T-TEST		
	BF_{10}	error %
EFF1	0.159	2.285e -4
INT1	0.113	3.296e -4
MOT1	0.098	3.840e -4
KNW1	0.135	2.710e -4
CHA1	0.143	2.549e -4
RED1	0.155	2.344e -4

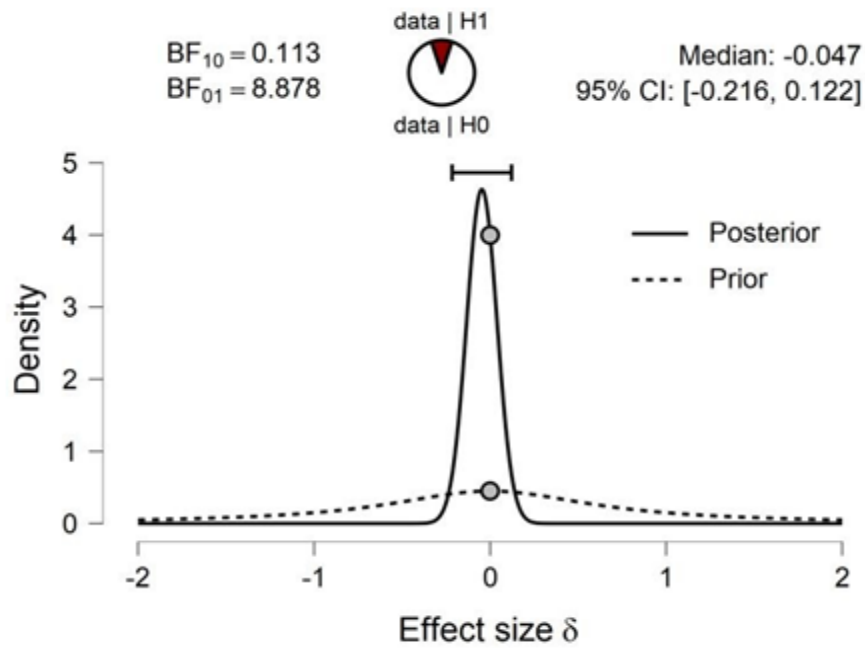By analyzing data from each variable BF_{10} and error %, the results are as in the table

Prior and Posterior

FIGURE 1
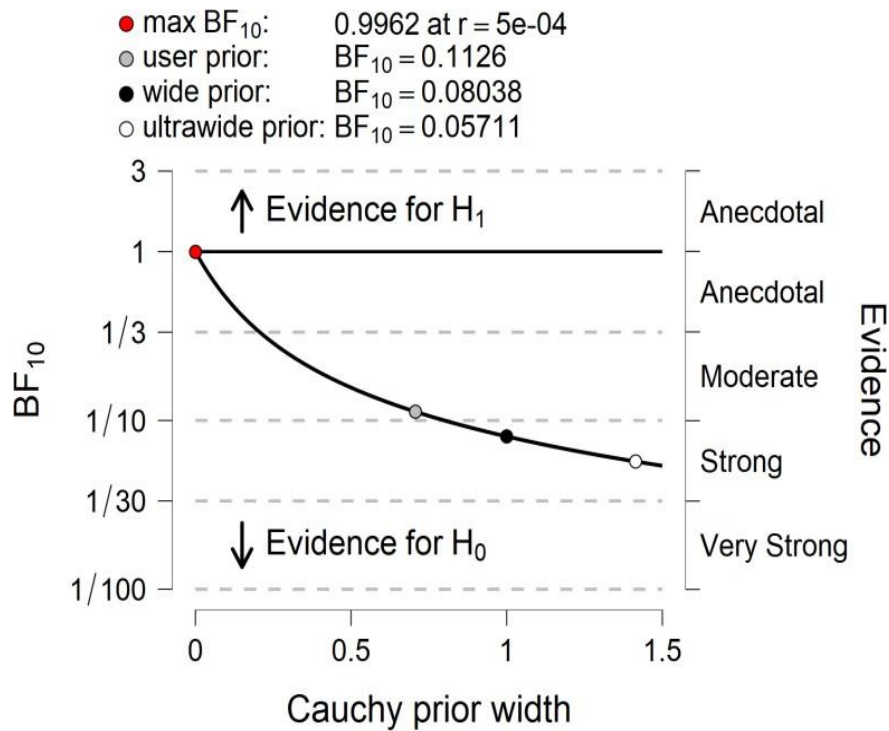**INFERENTIAL PLOTS FOR PRIOR AND POSTERIOR EFF1**

FIGURE 2
BAYES FACTOR ROBUSTNESS CHECK EFF1
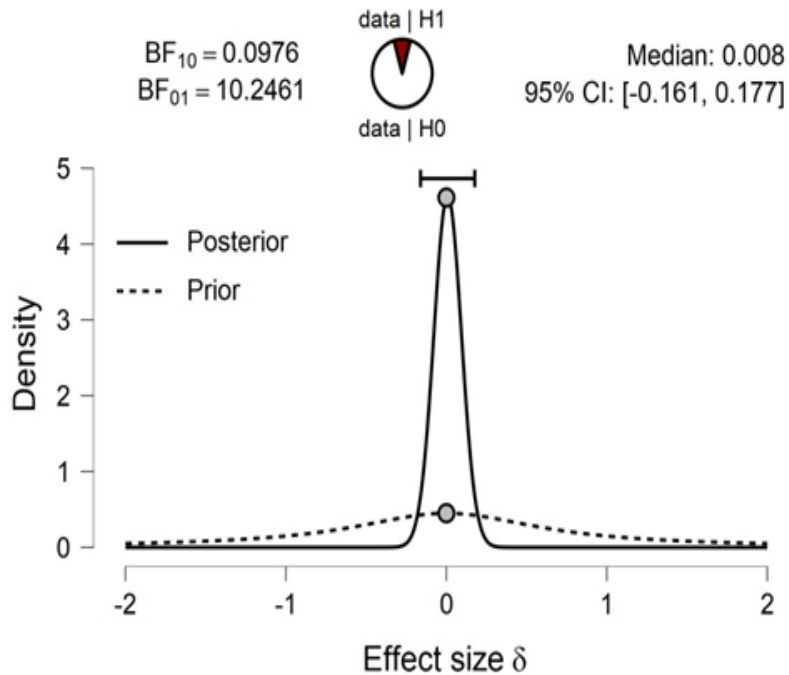
: 5   1528-2686-28-S4-08

FIGURE 3
INFERENTIAL PLOTS FOR PRIOR AND POSTERIOR INT1

Bayes Factor Robustness Check

FIGURE 4
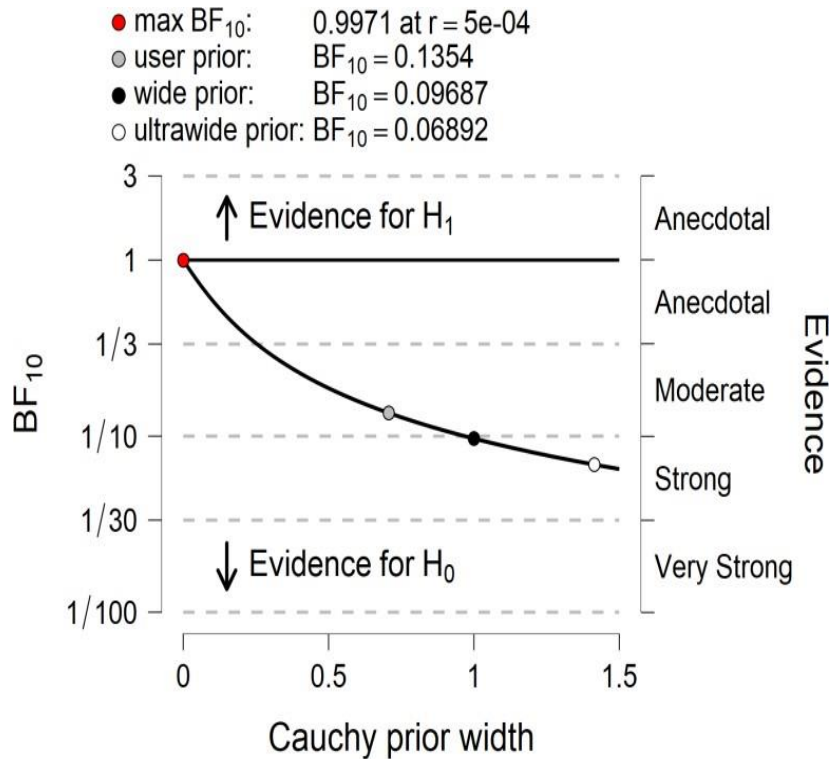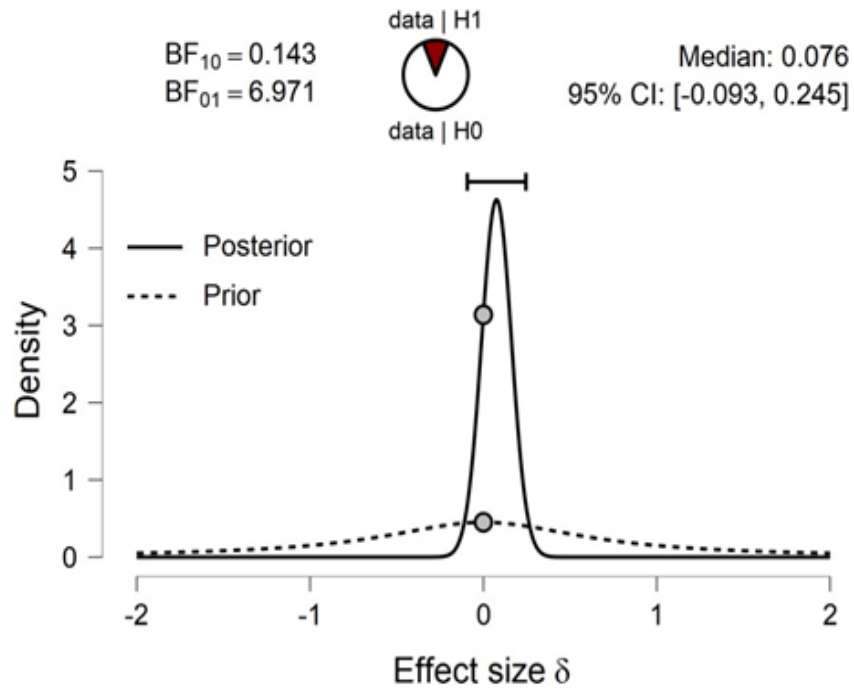**BAYES FACTOR ROBUSTNESS CHECK INT1**

$BF_{10} = 0.0976$
$BF_{01} = 10.2461$

data | H1

data | H0

Median: 0.008
95% CI: [-0.161, 0.177]

FIGURE 5
INFERENTIAL PLOTS FOR PRIOR AND POSTERIOR MOT1

- max BF_{10}: 0.9955 at $r = 5e{-}04$
- user prior: $BF_{10} = 0.0976$
- wide prior: $BF_{10} = 0.06951$
- ultrawide prior: $BF_{10} = 0.04933$

FIGURE 6
BAYES FACTOR ROBUSTNESS CHECK MOT1

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$BF_{10} = 0.135$
$BF_{01} = 7.386$

data | H1

data | H0

Median: -0.070
95% CI: [-0.239, 0.099]

FIGURE 7
INFERENTIAL PLOTS FOR PRIOR AND POSTERIOR KNW1

● max BF_{10}:   0.9971 at $r = 5e\text{-}04$
◉ user prior: $BF_{10} = 0.1354$
● wide prior: $BF_{10} = 0.09687$
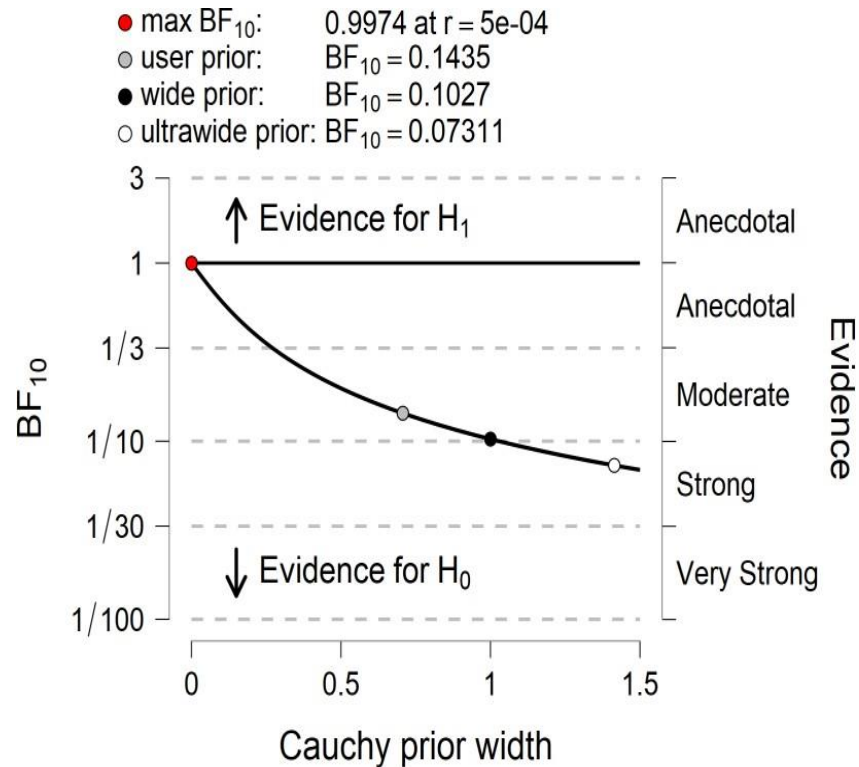○ ultrawide prior: $BF_{10} = 0.06892$

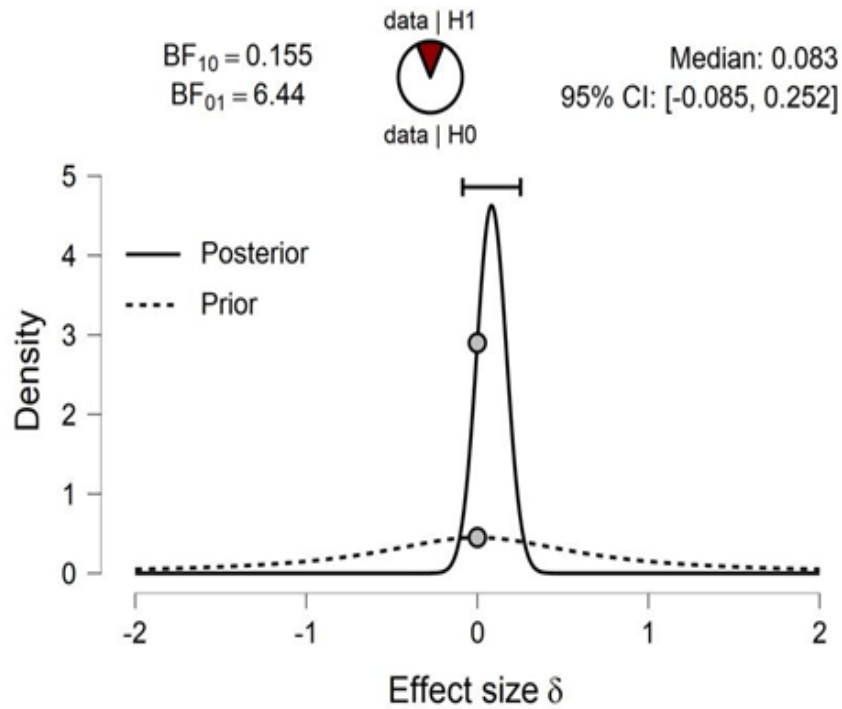**FIGURE 8**
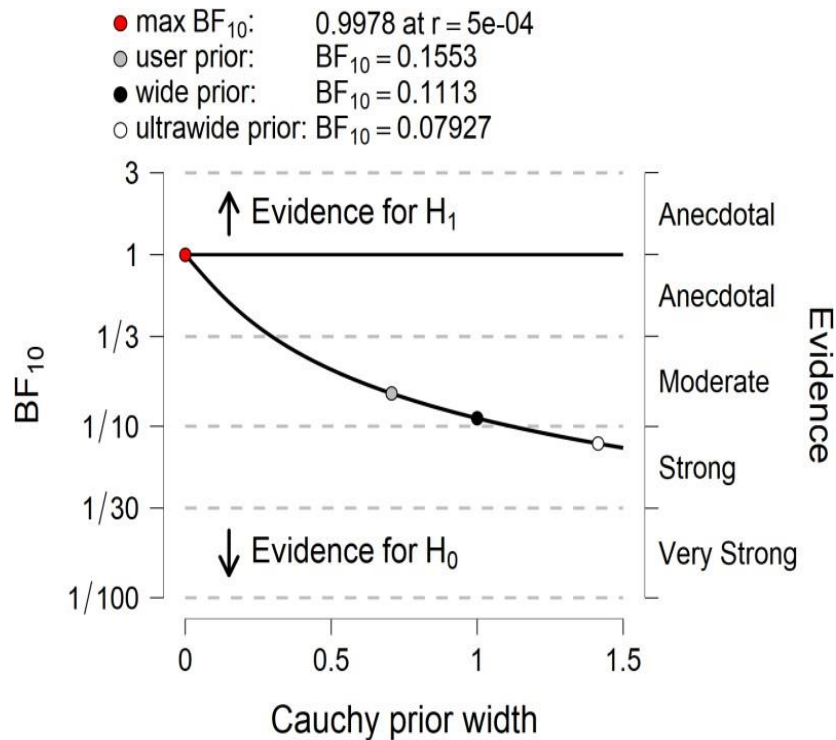**BAYES FACTOR ROBUSTNESS CHECK KNW1**

FIGURE 9
INFERENTIAL PLOTS FOR PRIOR AND POSTERIOR CHA1

FIGURE 10
BAYES FACTOR ROBUSTNESS CHECK CHA1

FIGURE 11
INFERENTIAL PLOTS FOR PRIOR AND POSTERIOR RED1

FIGURE 12
BAYES FACTOR ROBUSTNESS CHECK RED1

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Table 5 RESULT WITH BAYESIAN INDEPENDENT SAMPLES T-TEST							
95% Credible Interval							
	Group	N	Mean	SD	SE	Lower	Upper
EFF1	Female	198	7.152	2.386	0.170	6.817	7.486
	Male	387	7.367	2.482	0.126	7.119	7.615
INT1	Female	198	7.727	2.534	0.180	7.372	8.082
	Male	387	7.850	2.560	0.130	7.594	8.106
MOT1	Female	198	7.530	2.474	0.176	7.184	7.877
	Male	387	7.509	2.583	0.131	7.251	7.767
KNW1	Female	198	6.753	2.481	0.176	6.405	7.100
	Male	387	6.933	2.507	0.127	6.682	7.183
CHA1	Female	198	7.939	2.420	0.172	7.600	8.278
	Male	387	7.742	2.583	0.131	7.483	8.000
RED1	Female	198	7.843	2.378	0.169	7.510	8.177
	Male	387	7.630	2.534	0.129	7.377	7.884

CONCLUSION

This research was conducted to see if there is Bayes method can only be used for classification problems with supervised learning and categorical data from the entrepreneurial interests of each cadet. The success rate of the test using the Bayes method is very dependent on the factors where students get learning about entrepreneurship that is given so that it affects the interest and readiness of the cadets to be able to start opening a business.

Suggestion

Based on research data, then suggested for future researchers to develop research on the approach contextual through different methods or comparing several methods.

CONFLICTS OF INTEREST STATEMENT

The authors whose names are listed immediately below certify that they have NO affiliations with or involvement in any organization or entity with financial interest (such as honoraria; educational grants; participation in speakers' bureaus; membership, employment, consultancies, stock ownership, or other equity interest; and expert testimony or patent-licensing arrangements), or non-financial interest (such as personal or professional relationships, affiliations, knowledge or beliefs) in the subject matter or materials discussed in this manuscript.

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