



## Knowledge and Awareness about Right Brain Thinkers Among Undergraduate Students A Survey

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### ABSTRACT

Many dental and medical students are aware that educating our patients with accurate information is essential. They must be more innovative to provide them with the experience of a positive outcome. This new era is all about design. They have to grow with the times. Exercising the right brain, developing innovative ideas within our practices, and the ability to make great leaps of thought are the common denominators. The survey aims to study knowledge and awareness among undergraduate students about right-brain thinkers. A self-structured questionnaire comprising about 15 questions was prepared and circulated through online-based, i.e., Google forms. The results were obtained and statistically analysed through SPSS software. Majority of them were aware that right-brain thinkers are creative and innovative. Even most of them knew that right-brain thinker could not focus on a particular thing for an extended period. The Creative age of the 21st century will highlight Creative thinkers, those who can deliver the competence of leading-edge dentistry along with the experience of patients. The too much-left brain will lead one never to leave the ground with endless execution and no magic. The awareness about right-brain thinkers and their abilities must be known and to know about their unique traits and develop knowledge.



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### INTRODUCTION

Left brain thinkers are the practical, logical thinkers, methodical, analytical problem solvers who pay attention to details. These list-making and number-

crunching types have traditionally been the gold standard for starting and running a business for obvious reasons. However, right-brain thinkers, even after their missed meetings, typos and randomness have been gaining value for a while in the modern business landscape as they are more creative, have good communication and visualisation skills (Silva, 2018). Many people have been identified as left-brained. But science has proven that anyone can exercise their creative and artistic side. We must keep using both the brains or not it will become weak like a muscle (Samuel and Devi, 2015). Overall, creativity is a whole-brain process. The brain is an electrochemical organ that works based on neural activity that occurs in the cortex; "Thinking" takes place exclusively within the cortex. There are four main structures in the brain with "thinking like" cortex. Two of them are the left hemisphere

and the right hemisphere. The other two are the left half of the Limbic system and the right half of the limbic system (Baheerati and Devi, 2018). Obesity also causes various brain and health problems, such as thyroid dysfunction (Fathima and Preetha, 2016). Awareness regarding the ill effects of these modern-day lifestyle factors would help everyone to minimise the adverse impact (Ilankizhai and Devi, 2009). Therefore physical fitness also plays an essential role in right-brain activities (David, 2019). Even a few conditions such as fatty liver, myocardial infarction causes dysfunction of both the hemispheres (Choudhari and Jothipriya, 2016; Renuka and Sethu, 2015).

In previous researches, they have concluded that dentistry, too, can benefit from adopting the right brain function of holistic and emphatic vision. Also, right-brain training can make hygienists better equipped by being more emphatic. The theory that you use only one side of your brain at a time is very untrue. When you are performing a Creative or logical task, information is received from both the hemispheres of the brain.

Compared to other studies, this survey does not cover a large population of 90% of the people are right-handed, which is due to genetics. The dominance of one side of the brain determines individual personality (Shmerling, 2017). In previous researches, It was proved that women tend towards a balanced use of both hemispheres. More than 50% manage to bridge the gap between left and right, which means they simultaneously tap into both emotion and reason when making decisions (The Berlin School of Creative Leadership, 2014), (Harsha, 2015; Dave and Preetha, 2016). Using the right dominant brain also has disadvantages. A right-brain dominant person may have difficulties staying on task and keeping things in order (Mas-san, 2016; Abigail et al., 2019; Shruthi and Preetha, 2018). Right-brained people develop their creativity in warm climates. Mood swings are usually controlled (Iyer et al., 2019). Majority of the right brain thinkers are graphic designers, architects, psychologist, animators (Rozier, 2020; Devi and Sethu, 2018). But the pop psychology notion of a left brain and a right brain doesn't capture their intimate working relationship (Swathy and Sethu, 2015; Bailey, 2019; Timothy et al., 2019). The survey is done to study the knowledge and awareness of right-brain thinkers among undergraduate students.

## MATERIALS AND METHODS

### Study design, Area and study population

A survey was conducted among various undergrad-

uate dental college students to assess the knowledge and awareness of right-brain thinkers. The sample size of this survey was 100 undergraduate students. Participants who were more than 17 years of age and below 26 years of age were included in the study. Participation in the survey was voluntary, and no incentives were provided to the participants. The study was conducted during April 2020.

### A survey in the instrument

The study instrument, which was a questionnaire, was prepared after an extensive review of the existing literature. 15 questions were prepared, which was circulated among the 100 dental students via online-Google forms. The survey instrument was a structured questionnaire with both open and closed-ended questions. It consists of a brief introduction regarding the purpose of the study, questions on demographic data and questions regarding the research objective-knowledge, awareness etc.

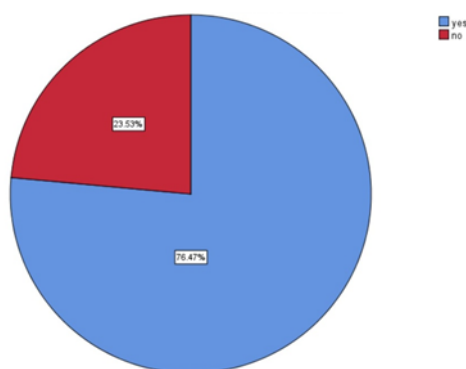
### Data analysis

Only wholly filled online forms were included in the study. The filled responses were verified and entered. The entered data was analysed using SPSS version 22, Descriptive statistics.

## RESULTS AND DISCUSSION

Among the population, 76.47% are aware that right-handed people are left-brain thinkers and right brain thinkers are left-handed people (Figure 1). 76.4% of them said yes, and 23.6% of them said no. 58.82% of the people think that they use their left brain more than their right brain. (Figure 2) 58.8% of them said they use their left brain more and 41.2% of them use their right brain more. Among the population, 65.4% of them accept that they have noticed that right-brain thinkers are more Creative than left-brain thinkers (Figure 3). 65.69% of them said yes, and 34.3% said no. 60.78% of the dental students are aware that right-brain thinkers are more emotional (Figure 4). 60.76% of them said yes, and 39.2% said no. 54.90% are aware that left-handed clinicians are associated with good spatial awareness (Figure 5). 54.9% of them said yes, and 45% said no. 34.5% of the participants think that right-brained people are more imaginative/subjective, 30% believe that they are logical etc (Figure 6). 42.1% of the participants are aware that dentistry helps to learn right-brain thinking without our knowledge (Figure 7). 42.1% said yes, 22.5% said no and 35.39% said I think so. 71.57% agree that becoming whole minded is the answer for succeeding in the Creative age (Figure 8). 71.57% of them said true, and others said false. 42.1% of

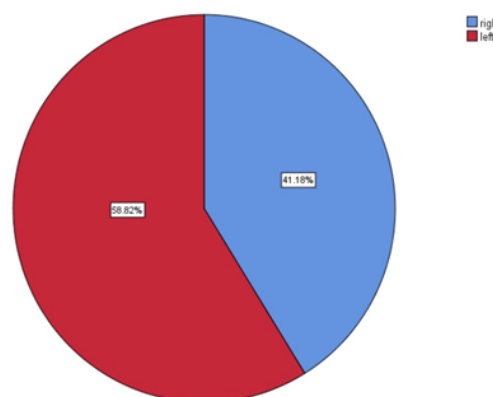
the participants have experienced the difference in thinking with any of their left-handed friends (Figure 9). 33.33% of the participants believe that right-brained people are very intellectual (Figure 10). 37.25% believe that right-brain thinkers are good at face recognition (Figure 11). 48% of them think that people with right-brain weakness are more likely studious (Figure 12). 55.88% think that designing careers is the most chooser careers by right-brained people (Figure 13). 61.7% are aware that right brain thinkers have difficulty in focusing for a Long time (Figure 14). 73.53% of the participants think that right-brain thinkers are smarter than others (Figure 15). 55% of the males are aware that mostly left-handed people are right brain. Only 23% of females are familiar—the chi-square analysis between gender and those who are aware that left-hand people are right-brain people. The P-value is 0.001, and it is statistically significant (Figure 16). 23% of the males thought right brain people were logistic, and 16% of females thought they were subjective. The Chi-square analysis between gender and what people believe right-brain thinkers will give more importance to. The p-value is 0.3, and it is not statistically significant (Figure 17). Both male and female accept that becoming whole minded is the answer for succeeding in the creative life. The Chi-square analysis between gender and population who agree and disagree that becoming whole minded is the answer for succeeding in the creative age. The p-value is 0.38 and is not statistically significant (Figure 18) correlation between gender and the personality of people having a weak right brain. The p-value is 0.012 and statistically significant (Figure 19) correlation between gender and what the population think that right brain thinkers will choose as their careers mostly. The p-value is 0.42 and not statistically significant (Figure 20).



**Figure 1: The pie chart shows the population who are aware that right-brained people are left-handers- Yes or No.**

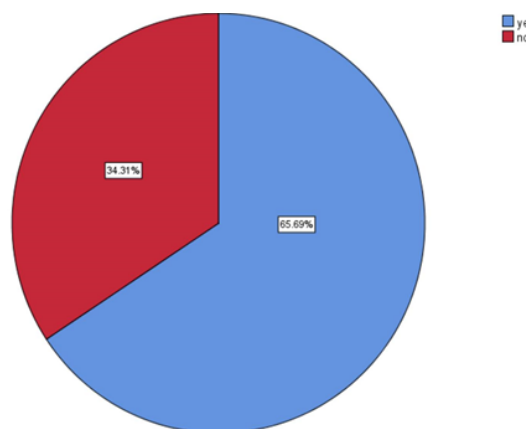
Figure 1 shows Blue represents yes, and red represents no.

sents no.



**Figure 2: Pie chart shows People who use their right brain more than their left brain and those who use their left brain more than their right brain-right or left.**

Figure 2 shows Blue represents right, and red means left.



**Figure 3: The pie chart shows the Undergraduate students who are aware that right-brained people are more creative-yes or no.**

Figure 3 shows Blue represents yes, and red represents no.

Figure 4 shows Blue represents yes, and red represents no.

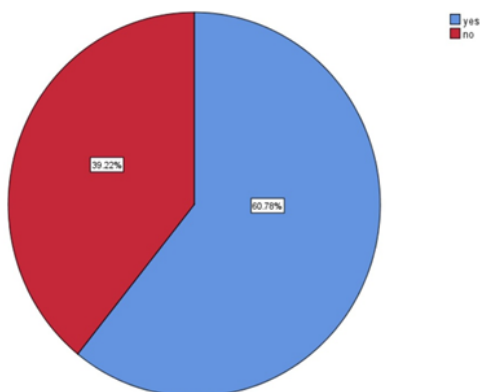
Figure 5 shows Blue represents yes, and red represents no.

Figure 6 shows 30.3% of them said logical, 34.3% said personal or emotional.

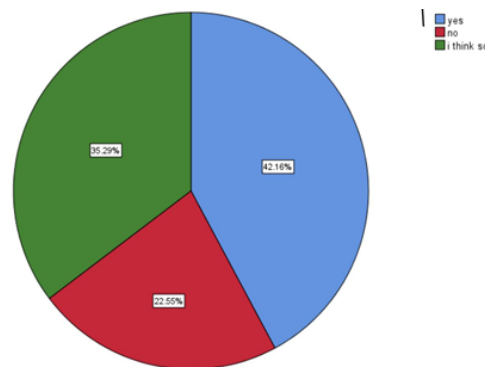
Figure 7 shows Blue represents yes, red represents no and green represents I think so.

Figure 8 shows Blue represents true, and red represents false.

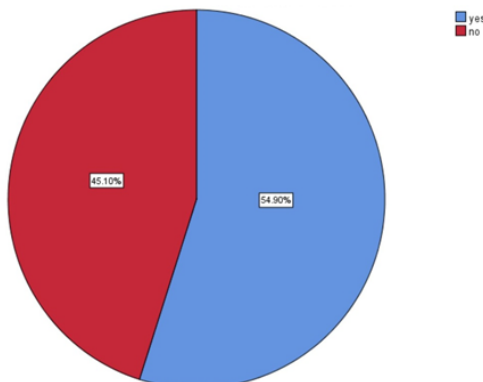
Figure 9 shows 42.16% of them said yes, and 32.35% of them said no, and the rest of them said



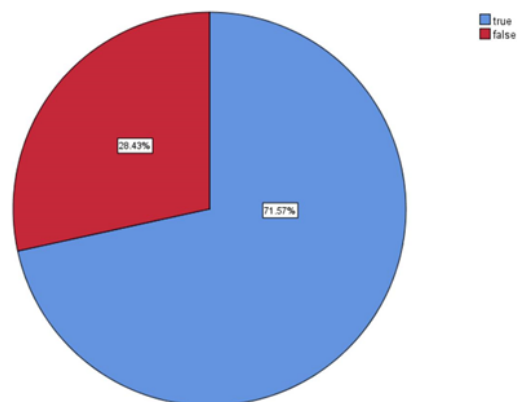
**Figure 4:** The pie chart showing the Undergraduate students who are aware that right-brained people are more emotional-yes or no.



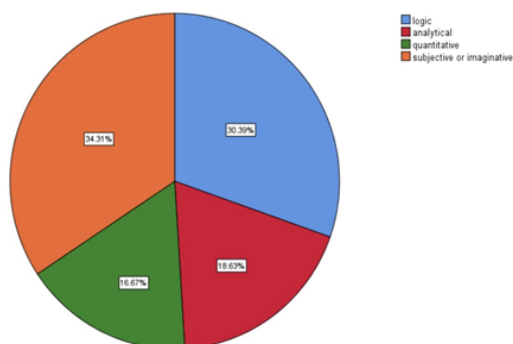
**Figure 7:** The pie chart showing the population who are aware that dentistry helps in improving right-brain skills - yes, no and I think so.



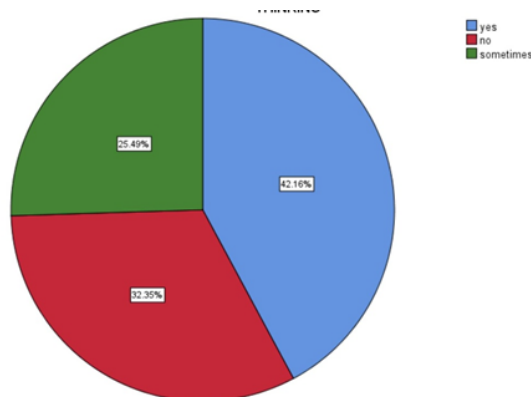
**Figure 5:** The pie chart showing the Undergraduate students who are aware that right-brained people are associated with good spatial awareness-yes, or no.



**Figure 8:** People who are accepting that right-brained people are whole minded, and that leads to a successful life-true, and false.

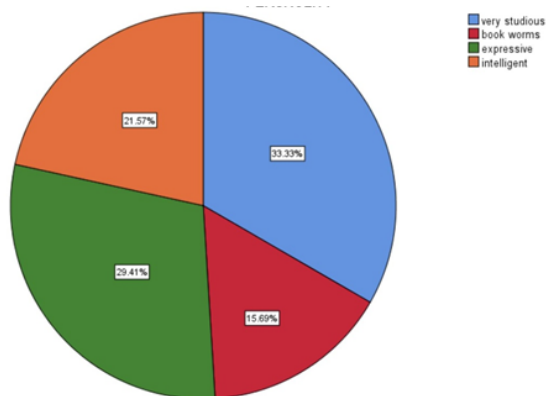


**Figure 6:** The pie chart shows the population who are aware of what right-brained people give more importance-to-logic, analytical, quantitative and subjective or imaginative.



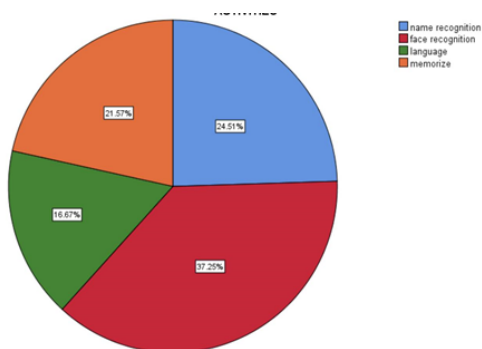
**Figure 9:** The pie chart showing People who experienced differences in thinking with any of the left-handed friends - yes, no and sometimes.

sometimes. Blue represents yes, and red represents no.



**Figure 10: The pie chart shows what People think right brain people are like-very studious, bookworms, expressive, and intelligent.**

Figure 10 shows 33.33% of them said they are very studious, 29.9% of them said they are expressive.



**Figure 11: The pie chart shows the population thinks the right brain activities are-name recognition, face recognition, language and memorization.**

Figure 11 shows 24.51% said name recognition, 37.25% said face recognition 16.67% said language and 21.57 said memorise.

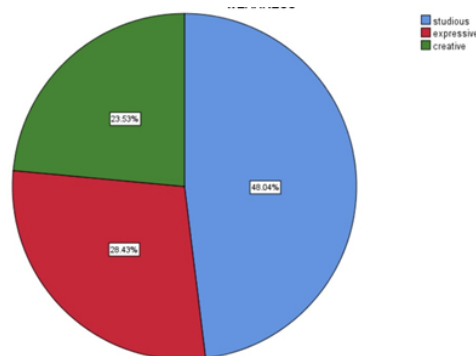
Figure 12 shows 48.04% of them said studious, 28.43% said expressive and 23.53% said creative. Blue represents studious, represents expressive, and the green represents creative.

Figure 13 shows 29.4% of them said computer-based jobs, designers or arts as 55.88%. what right-brained people mostly chose as their career-computer based careers, designers and doctors.

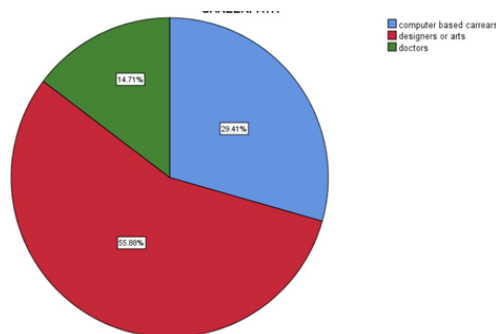
Figure 14 shows Blue represents yes, and red represents no. 61.76% - yes, and 38% - no.

Figure 15 shows Blue represents yes, and red represents no. 73.53% - yes, and 26.47% - no.

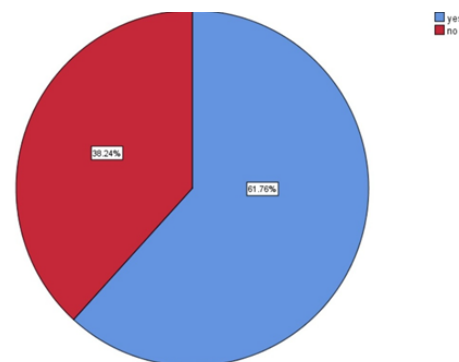
Figure 16 shows Therefore, males are more aware that left-handed people are right-brain thinkers.



**Figure 12: The pie chart shows the percentage of the population aware of the weakness of right-brained people.**



**Figure 13: The pie chart shows the knowledge of dental students about right-brained people.**



**Figure 14: Awareness of dental students about the right-brained people that they cannot focus on onething for a long time-yes or no.**

Chi-square test was done, and the association was found to be statistically significant.

Figure 17 shows Majority of the Males said logical (23%), and the majority of the females said imaginative or subjective (16%).

Figure 18 shows Out of 73% who agreed, 47% are males, and 26% are females. Chi-square test was done, and the association was found not to be statistically significant.

Figure 19 shows 36% of the males said studious, and

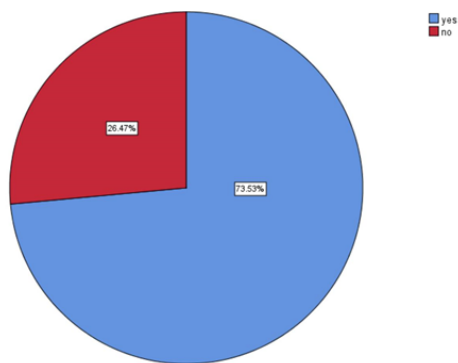


Figure 15: People who think that right-brained people are smarter-yes or no.

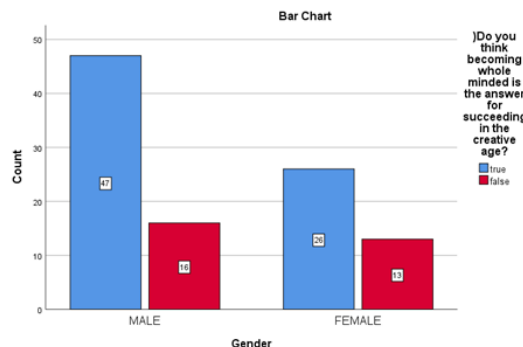


Figure 18: Bar graph representing an association between gender and those who agree and disagree that becoming whole minded will lead to success in the creative age.

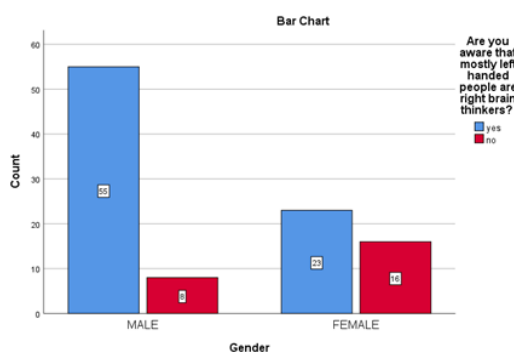


Figure 16: Bar graph representing the association between gender and those who are aware that most left-handed people are right-brain thinkers.

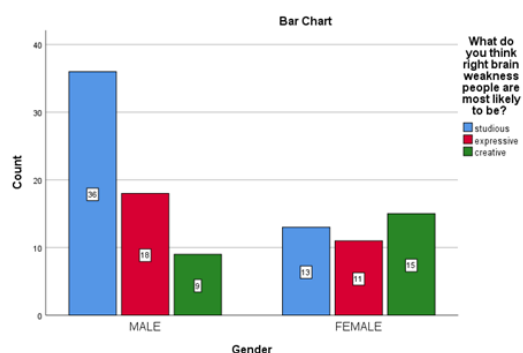


Figure 19: Bar graph representing the association between gender and the thought of the population about right-brain weak people.

15% of the females said creative. Chi-square test was done, and the association was found to be statistically significant.

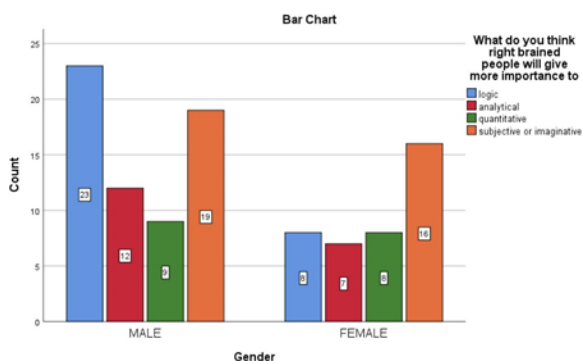


Figure 17: Bar graph representing the association between gender and the population who think what right-brain thinkers give more importance.

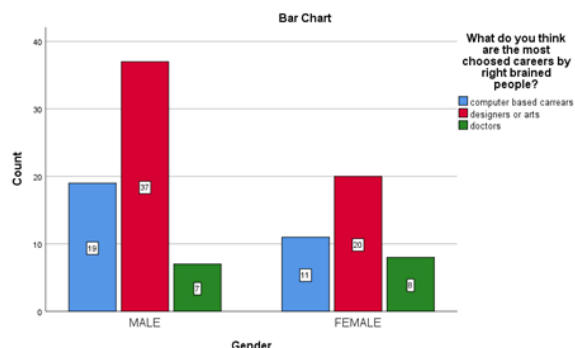


Figure 20: Bar chart representing the association between gender and what careers are chosen by right-brain people mostly.

Figure 20 shows Therefore the majority of the males are more aware that right brain thinkers choose to design as careers. Chi-square test was done, and the association was found not to be statistically significant.

People use both hemispheres of their brain, but only one side of the brain is dominant. Majority of the population is left-brained whereas right-brained people are very minimum among the community. The learning styles of both left and right-brained people are different. Each hemisphere is responsible for particular traits. Right brain thinkers are more creative, expressive, emotional etc. Those who fall on one side of their right brain often look down on those on the other side. Awareness about the other brain will allow us to understand others properly.

In previous researches, they concluded that 10% of the overall population was identified as kinesthetic learners, whereas visual learners make up around 60% and auditory learners, about 30% (Cherry, 2009). But in the present study, 60% are visual and auditory learners, and 40% are kinesthetic learners who are similar to the previous study. Overall students are more right-brained as they are young whereas in this survey conducted majority of them were a left-brain dental student who is a contrast to the previous study. Smith concluded that findings indicated that left-brain thinkers are more benefited than right brain thinkers (Website, no date). Whereas in the present study, 70% of the population agree that right-brain thinkers are more beneficial than left-brain thinkers. Therefore, the result is a contrast to the previous research. This might be due to the population. One of the earlier studies concluded that right-brained people are generally creative, intuitive, which is similar to the present study (Springer and Deutsch (2017).

This study was done on a tiny scale. The sample size is minimum so that the results may vary. These researches create awareness on how to treat right-brain thinkers and know about right-brain thinkers. Even to develop or increase the right brain thinking ability. Future experiments must be done on using both the brains equally.

## CONCLUSION

Having both sides of the brain equally will drastically help us to achieve the kind of success that one imagines. Too much of the right brain will lead to one to float away and get lost in the clouds. Too much left brain will lead one never to leave the ground with endless execution and no magic. The awareness about right-brain thinkers and their abilities must be known. To know about their unique traits and develop knowledge.

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## Conflict of Interest

The author declares that there is no conflict of interest in the present study.

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