

Autism: Student Perspectives

An Honors Thesis (HONR 499)

by

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STUDENT PERSPECTIVES

Abstract

The purpose of this study was to examine how accurately students in Ball State's Special Education Department could identify the characteristics and causes of Autism Spectrum Disorder (ASD) compared to students in other departments at Ball State University. This study consisted of a convenience sample of Ball State University students who were at least 18 years of age. There were ten students who completed the survey for this study. Thirty percent of participants were pursuing a major, minor, graduate degree, or certificate in the Special Education Department. Seventy percent of participants were pursuing degrees or certificates in other departments. Out of twenty-one items on the survey, participants in the Special Education Department showed a higher percentage of accurate responses for nine items and a lower percentage of accurate responses for ten items compared to participants in other departments. Percentage of accurate responses for both groups were equal for two items. Although these findings are concerning, more research needs to be done to address the limitations of the present study.

Acknowledgement

I would like to thank Dr. Lisa Drumb for advising me through this project. I am grateful for all her support and patience during this difficult task. This accomplishment would not have been possible without her.

I would also like to thank Dr. Anjolie Diaz and Dr. Amy Livingstone for their help in preparing for this project.

Process Analysis Statement

This thesis has been something I have been concerned about since I first learned it was a requirement over four years ago. I doubted myself and my ability to write an honors thesis. And although I tried to get all the information I could about this project two or three years ago, the task seemed so daunting that it was difficult to make sense of everything. Even finding a topic that I wanted to focus on was difficult because there were so many ideas floating around in my head. Eventually, one of my instructors mentioned Andrew Wakefield and his role in the MMR vaccine scare during class. This made me think of all the misinformation that has been spread about Autism and because I plan to work with children who have Autism, I thought that might be a good topic to work with. The problem was, I had no idea where to start. I met with one of my professors, Dr. Diaz, and she pointed out some research for me to look into along with some suggestions about where to find an advisor. After doing some more research, I was able to speak with Dr. Drumb about my ideas and she was able to calm my fears significantly. She gave me some suggestions as to where I could go with my project and agreed to advise me.

I began working on my thesis proposal for the honors college and met with Dr. Livingstone. She helped me understand a lot more about the project and at that point, I realized that I didn't have to have everything figured out and that I could ask for help. Dr. Diaz, Dr. Drumb, and Dr. Livingstone didn't expect me to have everything figured out and they all showed me that they were willing to help me. I've always struggled with asking for help but this project is changing how I see needing assistance. I always felt like people would think that I was stupid if I didn't understand something or couldn't figure it out on my own but I'm realizing that the process of learning requires the assistance of others and asking for help isn't a sign of weakness or stupidity. Instead, it shows a willingness and a desire to learn.

Once I began working on my IRB application and, after that was approved, the rest of the project, the task felt overwhelming once again. I had to create a survey to assess the knowledge base of students, which was no easy task. It required spending a lot of time researching the topic and reading through the Autism Spectrum Disorder section of the DSM-5. I had completed a similar project on a different the previous semester but I had three other students working with me on the project, sharing the workload. This time, I was the only student working on it. My advisor could help me, she could answer my questions, and she could guide me in the right direction but this project was my responsibility. And I felt wholly inadequate. This feeling only intensified when I found out so few students completed my survey. I wanted my thesis to matter because it took so much time and effort to complete.

Now, I realize that even with a small sample size, my thesis still matters. Although the small sample size limits the validity of this study, I hope it encourages further research on the topic. But that isn't the only reason my thesis matters. It matters because of what I, personally, learned by completing the project, both academically and the things I learned about myself. I need to become more comfortable with asking for help because, although I felt a lot of anxiety thinking about asking for help, I always felt better after I had finally asked for the help that I needed. The world didn't end and no one made me feel like I was stupid for not knowing something. It was about learning, not about knowing everything. I don't have to have all of the answers. I don't have to figure everything out on my own. I can and should ask questions because that is how you learn. Life isn't about knowing everything or having everything figured out. It's about what we learn and how we grow along the way. No one comes into this world a genius. There are no newborns who can tell me about the laws of physics or teach me about neuroscience. It's about growth and you grow through experience and by asking questions. So,

I'm going to start asking more questions because I want to learn and grow. I don't want to be stuck knowing all that I'll ever know simply because I'm too afraid to ask questions. Someone I look up to once told me "you'll fear your fears forever if you never do things you're afraid of" and I'm starting to think he was right.

Autism: Student Perspectives

Educating students with Autism Spectrum Disorder (ASD) in a public school setting is challenging (Robertson, Chamberlain, & Kasari, 2003). As such, teachers of students with ASD are recommended to be knowledgeable about the disorder (Jordan, 2005). Earlier studies found that teachers had inaccurate beliefs about ASD (Stone & Rosenbaum, 1988). However, more recent studies show that educators are significantly lacking in knowledge about ASD, rather than having inaccurate information (Segall, 2008). These studies focused on teachers currently teaching in the classroom, but there is a lack of research on the knowledge base of future educators. The aim of the current study was to examine the knowledge base of students in the Special Education Department compared to other departments on the same University campus. This study examined how accurately students at Ball State University were able to identify the characteristics and causes of ASD.

ASD is characterized by deficits in both social communication and interaction across multiple contexts (American Psychiatric Association, 2013). This may manifest as reduced sharing of emotions or interests, failure to initiate social interactions, abnormalities in eye contact, difficulties in making friends, etc. (American Psychiatric Association, 2013). Repetitive patterns of behavior, activities, or interests are also displayed in individuals with ASD (American Psychiatric Association, 2013). This may manifest as difficulties with transitions, strong attachment to unusual objects, rigid thinking patterns, apparent indifference to pain or temperature, extreme distress at small changes in routine, lining up toys, etc. (American Psychiatric Association, 2013). For a diagnosis to be given, symptoms must be present early in development, often before the child enters grade school (American Psychiatric Association, 2013). Symptoms are often recognized before the age of 3 (American Psychiatric Association,

2013). However, symptoms may not fully manifest until later when social demands increase or may be hidden by strategies learned later in life (American Psychiatric Association, 2013).

In young students, deficits in social and communication abilities may hinder learning (American Psychiatric Association, 2013). Additionally, academic achievement can suffer due to difficulties in organization, planning, and coping with change (American Psychiatric Association, 2013). Students with ASD may struggle with many executive functions such as focusing attention, quickly retrieving relevant information, self-monitoring, and sequencing an action plan (Bjorklund, 2012). As the ability to attend to tasks is vital for success in school, this can make it difficult the student with ASD (Holifield et al., 2010). The teacher may also have a difficult time teaching with certain behaviors that students with ASD may engage in. Some children with ASD are at risk for engaging in behavior problems such as aggression and self-injurious behavior, which is a threat to both learning and student safety (Munson et al., 2008; Sullivan & Bradshaw, 2012).

When taking a deeper look at ASD in the classroom, educator experience is positively correlated with a more accurate understanding of ASD, more positive attitudes regarding ASD, and reported use of more effective strategies (Segall & Campbell, 2012). One could infer pre-service educators could have a less accurate understanding of ASD. Additionally, pre-service teachers not pursuing special education as a licensure area may have even less of an accurate understanding of ASD. To the author's knowledge, this research has yet to be done with those who are still in school. However, there was a study examining students' attitudes towards ASD at Ball State University that suggested contact improves college students' attitudes towards those with ASD (Edyvean, 2009). Contact seems to be most effective in improving attitudes towards mental illness when symptoms are explained or some information is provided with the contact

(Corrigan & Watson, 2007). The previous study with Ball State students, however, only investigated student attitudes towards ASD and the amount of contact these students ~~have~~ had with individuals who have ASD (Edyvean, 2009). This study did not evaluate student knowledge regarding ASD, nor did it compare students from different departments.

Although past studies have focused on ASD related knowledge of those who already had careers in education or the attitudes college students have towards ASD, there is a lack of research on the ASD related knowledge base of future educators. The aim of the current study was to assess the knowledge base of students in the Special Education Department compared to other departments. This study examined the accuracy with which students at Ball State University could identify the characteristics and causes of ASD.

Methods

Participants

This study consisted of a convenience sample of Ball State University students. To participate in the study, participants were required to be Ball State University students. To participate, the student could be graduate or undergraduate, part time or full time; and at least 18 years of age. There were twelve total participants. However, two of these were dropped for not completing the entire survey so the final sample size was ten.

The ten participants included three male and seven female participants, per self-reports on the demographic section of the survey. Fifty percent of participants reported that they were between the ages of 18-24. Twenty percent were between the ages of 25-30 and thirty percent were 50 years old or older. No participants were pursuing a major in the Special Education Department, 10% were pursuing a minor in the Special Education Department, and 20% were

pursuing a graduate degree or certificate in the Special Education Department. Seventy percent of participants were pursuing degrees or certificates in other departments.

Procedure

Participants opened an email delivered through Ball State's Communication Center and followed a link to an anonymous Qualtrics survey. The survey began with information about the study followed by demographic questions such as gender, age, and major. Participants were then asked to read several statements regarding the characteristics of Autism Spectrum Disorder and respond with their opinion using a five-point-Likert scale. Examples of questions included "Individuals with Autism Spectrum Disorder often tend to struggle reading the body language of others" and "Individuals with Autism Spectrum Disorder are able to form friendships." Please see Appendix for a full list of the questions included in the survey.

In the final section of the survey, participants were asked to read several statements regarding the characteristics and causes of Autism Spectrum Disorder and respond with their opinion on whether each statement was true, false, or if they were unsure. Examples of statements such as "Autism Spectrum Disorder is caused by vaccines," "Autism Spectrum Disorder is more prevalent in females than in males," and "Epilepsy is a common diagnosis of individuals with Autism." The DSM 5 was used as the basis for all questions regarding Autism Spectrum Disorder. However, not all statements given to participants were accurate per the DSM 5. The average length of time participants took to complete the survey was approximately five minutes.

Participation in the study was voluntary. Participant responses to the survey were anonymous. Results were available solely to the researcher through Qualtrics.

Measures

The survey used is composed of 27 total questions; six of those were demographic questions. Twenty-one questions required participants to report their thoughts and opinions regarding Autism Spectrum Disorder. Eleven of these questions were scored on a five-point-Likert scale ranging from strongly agree to strongly disagree, with neutral in the middle. Ten questions had the following options as answers: true; unsure; or false.

Results

Responses for questions included within the survey consisted of three different categories. The first category included responses of “agree,” “strongly agree,” and “true.” The second category included responses of “disagree,” “strongly disagree,” and “false.” The final category included responses of “neutral” and “unsure.” Once grouped, relative frequency distributions were calculated for each group. These groups were then categorized as either “accurate” or “inaccurate” responses for each question. A response of “agree” or “strongly agree” was categorized as accurate for statements that are supported by the DSM 5. A response of “disagree” or “strongly disagree” was categorized as accurate for statements that are not supported by the DSM 5. For items where truth of the statement is not known, a response of “neutral” or “unsure” was categorized as accurate. Please see Appendix for a full list of the questions included in the survey and the accuracy rates for each question.

When students in the Special Education Department were asked their opinion, 100% indicated that they either agreed or strongly agreed with the following statement: Individuals with Autism Spectrum Disorder often tend to struggle reading the body language of others. When participants in other departments were asked their opinion on the same statement, 85.7% indicated that they either agreed or strongly agreed and 14.3% indicated a neutral opinion. One

hundred percent of participants in the Special Education Department responded accurately, while 85.7% of participants in other departments responded accurately.

When given the statement “Individuals with Autism Spectrum Disorder experience deficits in both social communication and social interaction across multiple situations,” 100% of participants in the Special Education Department either agreed or strongly agreed. When participants in other departments were given the same statement, 71.4% either agreed or strongly agreed, 14.3% either disagreed or strongly disagreed, and 14.3% were neutral. One hundred percent of participants in the Special Education Department responded accurately and 71.4% of participants in other departments responded accurately.

When given the statement “Individuals with Autism Spectrum Disorder are able to form friendships,” 66.7% of participants in the Special Education Department either agreed or strongly agreed and 33.3% were neutral. When participants in other departments were given the same statement, 100% either agreed or strongly agreed. For this item of the survey, 66.7% of participants in the Special Education Department responded accurately and 100% of participants in other departments responded accurately.

When given the statement “If an individual avoids making eye contact, they have Autism Spectrum Disorder,” 100% of participants in the Special Education Department either disagreed or strongly disagreed. When participants in other departments were given the same statement, 100% either disagreed or strongly disagreed. One hundred percent of participants in the Special Education Department and other departments responded accurately.

When given the statement “If an individual engages in hand flapping or finger flicking, they have Autism Spectrum Disorder,” 100% of participants in the Special Education Department either disagreed or strongly disagreed. When participants in other departments were

given the same statement, 14.3% either agreed or strongly agreed, 28.6% either disagreed or strongly disagreed, and 57.1% were neutral. One hundred percent of participants in the Special Education Department responded accurately and 28.6% of participants in other departments responded accurately.

When given the statement “Individuals with Autism like last minute changes in their routine,” 100% of participants in the Special Education Department either disagreed or strongly disagreed. When participants in other departments were given the same statement, 14.3% either agreed or strongly agreed and 85.7% either disagreed or strongly disagreed. One hundred percent of participants in the Special Education Department responded accurately and 85.7% of participants in other departments responded accurately.

When participants in the Special Education Department were given the statement “Individuals with Autism Spectrum Disorder may appear indifferent to pain or temperature,” 33.3% either agreed or strongly agreed and 66.7% either disagreed or strongly disagreed. When participants in other departments were given the same statement, 14.3% either agreed or strongly agreed, 71.4% either disagreed or strongly disagreed, and 14.3% were neutral. For this item of the survey, 33.3% of participants in the Special Education Department responded accurately and 14.3% of participants in other departments responded accurately.

When given the statement “People with Autism Spectrum Disorder are prone to anxiety and depression,” 100% of participants in the Special Education Department either agreed or strongly agreed. When participants in other departments were given the same statement, 85.7% either agreed or strongly agreed and 14.3% either disagreed or strongly disagreed. One hundred percent of participants in the Special Education Department responded accurately and 85.7% of participants in other departments responded accurately.

When participants in the Special Education Department were given the statement “People with Autism Spectrum Disorder may mask their difficulties in public by using coping skills i.e. strategies to reduce stress levels,” 66.7% either agreed or strongly agreed and 33.3% were neutral. When participants in other departments were given the same statement, 100% either agreed or strongly agreed. For this item of the survey, 66.7% of participants in the Special Education Department responded accurately and 100% of participants in other departments responded accurately.

When participants in the Special Education Department were given the statement “People with Autism Spectrum Disorder often tend to fidget and have trouble sitting still,” 66.7% were neutral and 33.3% either agreed or strongly agreed. When participants in other departments were given the same statement, 42.9% either agreed or strongly agreed, 14.3% either disagreed or strongly disagreed, and 42.9% were neutral. For this item of the survey, 33.3% of participants in the Special Education Department responded accurately and 42.9% of participants in other departments responded accurately.

When participants in the Special Education Department were given the statement “Individuals with Autism do not engage in repetitive behaviors, i.e. over and over again,” 66.7% either agreed or strongly agreed and 33.3% either disagreed or strongly disagreed. When participants in other departments were given the same statement, 85.7% either disagreed or strongly disagreed and 14.3% were neutral. For this item of the survey, 33.3% of participants in the Special Education Department responded accurately and 85.7% of participants in other departments responded accurately.

When participants in the Special Education Department were given the statement “Autism Spectrum Disorder is more prevalent in females than in males,” 66.7% indicated the

statement was false and 33.3% indicated the statement was true. When participants in other departments were given the same statement, 57.1% indicated the statement was false and 42.9% were unsure. For this item of the survey, 66.7% of participants in the Special Education Department responded accurately and 57.1% of participants in other departments responded accurately.

When participants in the Special Education Department were given the statement “Higher rates of Autism Spectrum Disorder reflect a true increase in the frequency of Autism Spectrum Disorder,” 33.3% indicated the statement was false and 66.7% were unsure. When participants in other departments were given the same statement, 57.1% indicated the statement was false and 42.9% were unsure. For this item of the survey, 66.7% of participants in the Special Education Department responded accurately and 42.9% of participants in other departments responded accurately.

When participants in the Special Education Department were given the statement “Autism Spectrum Disorder is caused by vaccines,” 66.7% indicated the statement was false and 33.3% were unsure. When participants in other departments were given the same statement, 100% indicated the statement was false. For this item of the survey, 66.7% of participants in the Special Education Department responded accurately and 100% of participants in other departments responded accurately.

When participants in the Special Education Department were given the statement “Bad parenting can cause Autism Spectrum Disorder,” 66.7% indicated the statement was false and 33.3% were unsure. When participants in other departments were given the same statement, 100% indicated the statement was false. For this item of the survey, 66.7% of participants in the

Special Education Department responded accurately and 100% of participants in other departments responded accurately.

When participants in the Special Education Department were given the statement “Autism Spectrum Disorder is a degenerative disorder,” 33.3% indicated the statement was true, 33.3% indicated the statement was false, and the remaining were unsure. When participants in other departments were given the same statement, 85.7% indicated the statement was false and 14.3% were unsure. For this item of the survey, 33.3% of participants in the Special Education Department responded accurately and 85.7% of participants in other departments responded accurately.

When participants in the Special Education Department were given the statement “Symptoms in individuals with Autism Spectrum Disorder may not be present in early childhood i.e. ages 3-8,” 66.7% indicated the statement was true and 33.3% indicated the statement was false. When participants in other departments were given the same statement, 42.9% indicated the statement was true, 42.9% indicated the statement was false, and the remaining were unsure. For this item of the survey, 33.3% of participants in the Special Education Department responded accurately and 42.9% of participants in other departments responded accurately.

When participants in the Special Education Department were given the statement “Abnormalities of attention and hyperactivity are common in people with Autism Spectrum Disorder,” 66.7% indicated the statement was true and 33.3% indicated the statement was false. When participants in other departments were given the same statement, 85.7% indicated the statement was true and 14.3% were unsure. For this item of the survey, 66.7% of participants in the Special Education Department responded accurately and 85.7% of participants in other departments responded accurately.

When given the statement “People with Autism Spectrum Disorder may begin experiencing symptoms as early as their second birthday,” 100% of participants in the Special Education Department indicated the statement was true. When participants in other departments were given the same statement, 100% indicated the statement was true. One hundred percent of participants in the Special Education Department and other departments responded accurately.

When participants in the Special Education Department were given the statement “It is common for people with Autism Spectrum Disorder to have an intellectual disability,” 66.7% indicated the statement was false and 33.3% were unsure. When participants in other departments were given the same statement, 28.6% indicated the statement was true, 28.6% indicated the statement was false, and the remaining 42.8% were unsure. Zero percent of participants in the Special Education Department responded accurately and 28.6% of participants in other departments responded accurately.

When participants in the Special Education Department were given the statement “Epilepsy is a common diagnosis of individuals with Autism,” 66.7% indicated the statement was false and 33.3% indicated the statement was true. When participants in other departments were given the same statement, 42.9% indicated the statement was false and 57.1% were unsure. For this item of the survey, 33.3% of participants in the Special Education Department responded accurately and 0% of participants in other departments responded accurately.

Discussion

Surprisingly, there were ten items in which participants in other departments showed a higher percentage of accurate responses than participants in the Special Education Department. Participants in the Special Education Department showed a higher percentage of accurate

responses compared to participants in other departments for nine items. There were two items in which participants in the Special Education Department and participants in other departments showed equal percentages of accurate responses.

Although some inaccurate responses were expected from students in the Special Education Department due to previous research finding that experience is positively correlated with a more accurate understanding of ASD (Segall & Campbell, 2012), there were several points of concern in the inability of participants in the Special Education Department to respond accurately for certain statements. Only 33.3% of participants in the Special Education Department were able to identify that individuals with ASD may engage in repetitive behaviors as opposed to 85.7% of participants in other departments being able to do so. Only 66.7% of participants in the Special Education Department did not indicate that bad parenting can cause ASD. Meanwhile, 100% of participants in other departments indicated that bad parenting does not cause ASD. Although there were several items that 100% of participants in the Special Education Department responded to accurately, inaccurate responding to certain other items are concerning. Interestingly, the percentage of “neutral” or “unsure” responses on some questions was higher than expected. However, this finding is consistent with previous research that found educators were lacking in knowledge of ASD (Segall, 2008).

Unfortunately, due to small sample size, external validity for this study is poor. Additionally, there was not an equal distribution between participant groups. Both factors negatively impact the ability of results obtained from this study to a wider population of future educators. Also, due to a limitation on the availability of resources, this study could not feasibly include enough questions to give a complete assessment of the ASD related knowledge base of Ball State students. There were also a few errors made in the demographics section of the survey

that was sent out to students. When asked for their age, participants were given the option of selecting 18-24, 25-30, 30-40, and 50+. This leaves overlap for any participants who may have been 30 years of age and excludes participants who may have been between the ages of 41 and 49.

Also, participants were not asked about the amount of contact they have had with those who have ASD. Nor were participants asked if they themselves had been diagnosed with ASD. Neglecting these two items has resulted in extraneous variables that were not controlled for and could have affected results of the study.

Although the results of this study are not generalizable, they are interesting and more research should be done in this area. In the future, a stronger assessment of knowledge regarding ASD should be used. Additionally, a larger sample size with a more equal distribution between participant groups should be obtained.

Although the small sample size limits the validity of this study, it is concerning that students in the Special Education Department do not seem to have a more accurate knowledge of ASD compared to students in other departments. However, due to the limitations of this study, more research should be done to assess and compare the knowledge base of students in the Special Education Department versus other departments.

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Appendix

Table 1

Participant accuracy in understanding Autism Spectrum Disorder

Statement	Participant Accuracy Rate	
	SPCE Department	Other Departments
1. Individuals with Autism Spectrum Disorder often tend to struggle reading the body language of others.	100%	85.7%
2. Individuals with Autism Spectrum Disorder experience deficits in both social communication and social interaction across multiple situations.	100%	71.4%
3. Individuals with Autism Spectrum Disorder are able to form friendships.	66.7%	100%
4. If an individual avoids making eye contact, they have Autism Spectrum Disorder.	100%	100%
5. If an individual engages in hand flapping or finger flicking, they have Autism Spectrum Disorder.	100%	28.6%
6. Individuals with Autism like last minute changes in their routine.	100%	85.7%

7. Individuals with Autism Spectrum Disorder may appear indifferent to pain or temperature.	33.3%	14.3%
8. People with Autism Spectrum Disorder are prone to anxiety and depression.	100%	85.7%
9. People with Autism Spectrum Disorder may mask their difficulties in public by using coping skills i.e. strategies to reduce stress levels.	66.7%	100%
10. People with Autism Spectrum Disorder often tend to fidget and have trouble sitting still.	33.3%	42.9%
11. Individuals with Autism do not engage in repetitive behaviors, i.e. over and over again.	33.3%	85.7%
12. Autism Spectrum Disorder is more prevalent in females than in males.	66.7%	57.1%
13. Higher rates of Autism Spectrum Disorder reflect a true increase in the frequency of Autism Spectrum Disorder.	66.7%	42.9%

14. Autism Spectrum Disorder is caused by vaccines.	66.7%	100%
15. Bad parenting can cause Autism Spectrum Disorder.	66.7%	100%
16. Autism Spectrum Disorder is a degenerative disorder.	33.3%	85.7%
17. Symptoms in individuals with Autism Spectrum Disorder may not be present in early childhood, i.e. ages 3-8.	33.3%	42.9%
18. Abnormalities of attention and hyperactivity are common in people with Autism Spectrum Disorder.	66.7%	85.7%
19. People with Autism Spectrum Disorder may begin experiencing symptoms as early as their second birthday.	100%	100%
20. It is common for people with Autism Spectrum Disorder to have an intellectual disability.	0%	28.6%
21. Epilepsy is a common diagnosis of individuals with Autism.	33.3%	0%

Note. Students in the Special Education Department (SPCE Department) and students in departments other than the Special Education Department (Other Departments) at Ball State

University were asked their opinion on several statements regarding Autism Spectrum Disorder (ASD). Not all statements given to participants were accurate. Participant responses that were supported by the Diagnostic and Statistical Manual of Mental Disorders (DSM 5) were considered accurate responses.

Office of Research Integrity
 Institutional Review Board (IRB)
 2000 University Avenue
 Muncie, IN 47306-0155
 Phone: 765-285-5070
<http://cms.bsu.edu/about/administrativeoffices/researchintegrity>



IRB HUMAN SUBJECTS RESEARCH APPLICATION AND PROTOCOL FORM

PRINCIPAL INVESTIGATOR INFORMATION

The Principal Investigator (PI) MUST be a Ball State University Faculty, Staff, Graduate Student or Undergraduate Student research.

Principal Investigator Name:

Current Degree: Department:

Email: Phone Number:

Affiliation: Type of Student Research:

Principal Investigator Research Experience:

1. Have you ever been a Principal Investigator? Yes No
2. How many years have you been conducting research in any capacity? Years
3. Have any of your prior studies been suspended or terminated by BSU or a third party? Yes No
4. Have you or any member of your research staff ever been sanctioned for unethical behavior in research activities? Yes No

PRINCIPAL INVESTIGATOR AGREEMENT:

- I have read and understand the Ball State University's "Policy for the Protection of Human Subjects in Research," as stated in the Faculty and Professional Personnel Handbook, and I agree:
- a. to accept responsibility for the scientific and ethical conduct of this research study,
 - b. to obtain IRB approval prior to revising and altering the research protocol, informed consent, or study documents, and
 - c. to immediately report any serious adverse events and/or unanticipated problems as a result of this study to the IRB within 24 hours.

FACULTY ADVISOR INFORMATION

If the Principal Investigator (PI) is a STUDENT with Ball State University, a BSU Faculty Member advising or supervising the student must be listed below:

Faculty Advisor Name:

Current Degree: Department:

Email: Phone Number:

FACULTY ADVISOR ASSURANCE STATEMENT

As the Faculty Advisor for this study, I certify that I have reviewed and support this protocol and approve the merit of this research project and the competency of the investigator(s) to conduct the project. My involvement in this study is as follow (Check Box):

- I will be involved in this project. My name is listed and my responsibilities (described in the Key Personnel section) include supervision and oversight of this project.

KEY PERSONNEL

List all Key Personnel (including Faculty Advisor), other than the PI, who will have a role in the research project (Thesis and Dissertation Committee Members are not required unless they will work with you on your research project):

Add More Personnel

Personnel Name	Department/ Organization	Role on the Study	Responsibilities
Lisa Drumb, BCBA	Special Education	Faculty Advisor	Supervision, oversight

HUMAN SUBJECTS RESEARCH TRAINING

COLLABORATIVE INSTITUTIONAL TRAINING INITIATIVE (CITI)

As of January 1, 2010, Ball State University policy requires that all Principal Investigators, Faculty Advisors, and all Key Personnel complete the CITI Training. To comply with the educational requirement, you and all key personnel (including faculty advisor) must have completed the online training modules on the protection of human subjects. For more information and link to CITI's website, please go to the [Office of Research Integrity website](#).

Have you and all key personnel completed the required online training modules? Yes No

NOTE: If this is your first BSU IRB submission, please include a PDF copy of your CITI Training Certificate, along with your Key Personnel.

Responsible Conduct of Research Training Modules (RCR)- If your project is federally funded by the National Science Foundation, you and all key personnel (including faculty advisor), must complete the Responsible Conduct of Research Training Modules on CITI, along with the Basic/Refresher Course or Biomedical Course.

OTHER TRAINING

Are there any specialized training(s) required for your project (i.e., certification for medical procedure, training in crisis response, etc.)? Yes No

RESEARCH PROJECT INFORMATION

Subject: Student Perspectives

*The Project Title must

match all documents and

IRB Net. **SUBJECT**

100

INFORMATION

Total Number of Participants (Estimate or Range):

Gender: Both Male and

Persons undergoing and/or receiving Health, Medical, Rehabilitative, Treatment/Services, etc. *

Persons undergoing Social/Psychological Counseling*

Other (Explain):

SUBJECT RECRUITMENT

1. Will the research project be advertised on any electronic/paper media (*Email, Social Media, etc*)? Yes No

If **Yes**, what media will be used (Check all that apply):

- | | |
|---|--|
| <input checked="" type="checkbox"/> BSU Communication Center | <input type="checkbox"/> BSU Departmental Pool |
| <input type="checkbox"/> Flyer/Print Advertisement | <input type="checkbox"/> Outside Email/Letter |
| <input type="checkbox"/> Radio | <input type="checkbox"/> Television |
| <input type="checkbox"/> Social Media (Facebook, Twitter, etc.) | <input type="checkbox"/> Other (Explain): |

RECRUITMENT PROCEDURES

1. Describe in detail how you will recruit your participants for your study:

A mass email with a script will be sent to all Ball State students. The email will include a link to a Qualtrics survey.

2. If any screening (questionnaire) will be done for recruitment, will the questionnaire data be used for the study if the participant is not qualified for the study?

Yes No Not Applicable to this Study

SUBJECT INCLUSION/EXCLUSION CRITERIA

Inclusion Criteria: A set of conditions that must be met in order for subject(s) to participate in the study
(*including age of the participants*)

Participants must be part time or full time Ball State undergraduate or graduate students at least 18 years of age.

Exclusion Criteria: A set of conditions that the subject(s) may not be allowed to participate in the study.

Participants younger than 18 at the time of the study or those who are not Ball State students may not participate in the study.

POTENTIAL RISKS/DISCOMFORTS TO THE SUBJECT(S)

Will there be any anticipated or potential risks or discomforts to the subject(s) during the study?
(*The federal regulations (45 CFR 46) define minimal risk, "...the probability and magnitude of harm or discomfort anticipated in the research are not greater in and of themselves than those ordinarily encountered in daily life or during the performance of routine physical or psychological examinations or tests."*)

Yes No

DECEPTION/COERCION OF SUBJECT(S)

Deception- Withholding information for the purpose of the study.

Coercion- Intimidating, threatening, or force to participate.

Will this project involve either Deception or Coercion? Yes

No

SUBJECT AND STUDY BENEFITS

Will there be any benefits to the subject and/or to the study? Yes No

PROJECT SITE LOCATION

Provide the following information where you will conduct your study (location of data collection, interviews, etc.)

Check all that apply:

- Ball State University Campus (including Burriss Laboratory School)
- Off-Site Locations or Schools
- Internet (Be sure to read any policy regarding data ownership and protection)
- Online Survey Sites (Check all that apply)
- Qualtrics Survey Monkey
- MTurk (Amazon) Other

If you are using Qualtrics, do you plan to use Geo-tracking (function on Qualtrics to track participants IP addresses)?

- Yes, I plan to use Geo-Tracking.
- No, I will not use Geo-Tracking and will click on the **Anonymize Response** button in the *Survey Options* buttons (top area)

- IU Ball Memorial Hospital (Contact Alfreda Bright- abright@iuhealth.org. BMH's IRB)
- International Countries
- U.S. Based Field Study
- Other

LETTER OF SUPPORT: Any research that is conducted at a **non-BSU institutions or organizations** is required to obtain a Letter of Support. The Letter of Support must be on the institution or organization's letterhead and signed by a person of authority to grant access to the site for the study (i.e., Director, Manager, Principal, Superintendent, etc.). The Letter of Support must be uploaded on IRBNet as part of your package submission. An email message is **NOT** sufficient to meet this requirement.

In cases where sites, agencies, etc., have not been identified yet (original submission), please indicate this in the Application and make sure to upload the letter on your IRBNet project number once the letter is obtained. This is handled as a Modification process once the project has been approved.

COLLABORATIVE/MULTI-SITE RESEARCH PROJECTS

Will the proposed research project be conducted as a collaborative research (i.e., research that involves two or more institutions/ organizations that hold **Federalwide Assurances*** and have duly authorized IRB's)?

***Federalwide Assurance-** An institution committing to the Department of Health Human Services that will comply with the requirements in the HHS Protection of Human Subjects regulations at [45 CFR part 46](#).

- Yes No

FUNDING

Have you applied for funding or have receive funding for your project? Yes No

DATA- COLLECTION, STORAGE, AND SECURITY

1. Will any information regarding the participant's identity (e.g., name, DOB, SSN, ID Number, address, phone, etc.) be collected on Informed Consent(s) or Study Documents?

Yes No

1. Are you planning on using the participant's identifiable information on presentations or publications?

Yes No

2. Will you be using Audio or Video Recording for your project?

Yes No

3. Where will the data (electronic/paper) be stored during and after the study is complete? (Check all that apply):

- Locked Cabinet/Office
 Password Protected Computer/Flash Drive/DVD/CD or other Storage Media
 Home
 Online Data Storage

Explain what online storage site you will use and security measures to protect the data. Also state who will have access to the data on the site. Make sure you read the Terms of Use and Policies for 3rd party sites.

Box.com, Ball State University's secure site, will be used for online data storage. Only the principal investigator and the faculty advisor will have access to the data.

Other

4. How long will you keep the data (raw and final)?

Indefinitely

If your data (raw) is retained indefinitely, please provide an explanation for why and make sure that you have an explanation on the informed consent:

Electronic data sets will contain non-identifiable data and will be stored indefinitely for academic and scholarly publications and presentations.

5. Who will have access to the raw and final data besides yourself? (Check all that apply):

- Faculty Advisor
 Research Team (Co-PI, Research Assistant, Graduate Assistant, etc.)
 Off Campus Collaborator or Consultant
 Sponsor
 Federal Agency (NIH, FDA, NSF, etc.)
 Other

DATA CONFIDENTIALITY/ANONYMITY

Anonymous Data: Defined by where the researcher(s) may not identify of the subject with his/her data at any time during the study. (Online or Paper Surveys/Questionnaires, archival de-identified data, etc.)

Confidential Data: Defined by when coding the identity of the subject and his or her data by using personal identifiers, there exists a means for identifying the subject. (Interviews, audio or video recordings, using identifiable information, etc.)

Indicate whether your data is Anonymous or Confidential and explain what provisions will be taken to maintain privacy and security:

Data is anonymous. Qualtrics will not record any personal information.

SPECIAL TYPES OF DATA**1. Family Educational Rights and Privacy Act (FERPA)**

A. Will educational records or information found in educational records, as defined by FERPA be used? Yes No

2. Health Insurance Portability and Accountability Act (HIPAA)

A. Will health, medical, or psychological records or information found in medical/health records, as defined under HIPAA be used? Yes No



COMPENSATION

- | | | |
|--|--|---|
| 1. Are subjects being paid or receiving incentives for participating in the study? | <input type="radio"/> Yes | N |
| 2. Are subjects being reimbursed for expenses (travel, gas, food, hotel, etc.)? | <input type="radio"/> Yes | N |
| 3. Will students receive extra credit for a course if they participate in the study? | <input type="radio"/> Yes <input checked="" type="radio"/> No | N |
| 4. Will students receive class or departmental research credit for their participation? | <input type="radio"/> Yes <input checked="" type="radio"/> No | N |
| 5. Is there a completion bonus? | <input type="radio"/> Yes <input checked="" type="radio"/> No | N |
| 6. Will there be compensation for research-related injury? | <input type="radio"/> Yes <input checked="" type="radio"/> No | N |
| 7. If the participants withdraw from the study (during or after), will they receive their incentive/compensation or research credit? | <input checked="" type="radio"/> Yes No <input type="radio"/> Partial/Pro-Rated | |

If No, please explain:

8. Other (Please Explain):

If you are using BSU funds, you will need to contact the [BSU Office of University Controller](#) (765-285-8444) or visit their website for procedures and policies regarding tax information to be collected from participants.

SUBJECT FINANCIAL EXPENSES

Will subjects have any financial expenses to participate in the study (i.e., travel, gas, food, hotel, etc.)? Yes No

NOTE: If a subject has to travel to the location site to participate in the study via car, plane, train, bus, etc., they will incur financial expenses.

STUDY PROTOCOL**STUDY PURPOSE**

State the objectives of the research and, when appropriate, any hypotheses you have developed for the research.

The purpose of this study is to obtain the current knowledge base of students in Ball State's Special Education Department and to show how well they can identify the characteristics and causes of Autism Spectrum Disorder in comparison to students in other departments. It is hypothesized that students in the Special Education Department will have a more accurate understanding of the characteristics and causes of Autism Spectrum Disorder in comparison to students in non-related departments.

RATIONALE

Explain the need for the research. Describe the data that the project is expected to provide and how the data will contribute to existing information in the field. Provide a concise description of the previous work in the field.

NOTE: If you are planning on using students in your class as research participants, please explain why you want to use them in your study.

Having an awareness of the characteristics of Autism is important for many community stakeholders, e.g. special education teachers, behavior analysts, parents. Ball State University students will graduate and move into roles where a knowledge of Autism could be

beneficial. Therefore, obtaining the knowledge base of students currently enrolled in the Special Education department could be beneficial. The ability to accurately identify the characteristics of Autism Spectrum Disorder can allow parents, educators, and behavior analysts to obtain services for the child earlier.

Additionally, there have been individuals in the field who have exploited individuals with Autism Spectrum Disorder and spread misinformation about Autism Spectrum Disorder. Andrew Wakefield conducted a study investigating a possible link between Autism Spectrum Disorder and the MMR vaccine (Deer, 2011a). He falsified data, had several conflicts of interest, and conducted unnecessary and invasive medical procedures (Deer, 2001b). Wakefield then exaggerated the results of this study at a press conference and contributed to the panic of those claiming that vaccines caused Autism Spectrum Disorder (Deer, 2011b). It is important to be aware of the misinformation that has been spread to the general public in order to combat the problem and prepare students in the Special Education Department.

RESEARCH REFERENCES/CITATIONS

List any references/citations that you researched based on your study purpose and rationale for your project. If there are no references or citations used for your project, please explain why.

Deer, B. (2011a). How the case against the MMR vaccine was fixed. *British Medical Journal*, 342(7788), 77-82. doi: 10.1136/bmj.c5347

Deer, B. (2011b). How the vaccine crisis was meant to make money. *British Medical Journal*, 342(7789), 136-142. doi:10.1136/bmj.c5258

METHODS AND PROCEDURES

Describe the study and design in detail and all procedures in which the subject will be asked to participate. If surveys and questionnaires are used for the study, how will they be returned to the researcher? If the research involves more than one visit to the research location, specify the procedures to take place at each session, the amount of time for each session, the amount of time between sessions, and the total duration

A mass email with a script and Qualtrics survey link will be sent to Ball State students through the Ball State Communication Center. Survey instructions will inform participants that they are not required to submit an answer to any of the questions. Participation involves completing a survey with questions regarding characteristics and beliefs about Autism Spectrum Disorder and should take approximately 20 minutes to complete. Surveys will be anonymous and automatically submitted. Approximately 100 participants are expected.

of the sessions. If multiple researchers will be involved in the project, identify who will conduct which

INFORMED CONSENT

procedure(s).

Please indicate what type(s) of Informed Consent (IC) will be used for this study? (Check all that apply)

- Adult (18 years or older)
 Parental Permission (Minors: 0-17 years old)
 Child Assent (Minors: 0-17 years old- This must be written in age appropriate language)

Informed Consent Process/Signature Waiver

Are you applying for an alteration of the Informed Consent process or a waiver of the Informed Consent signature requirement? Yes No

PLEASE NOTE: If English is NOT the primary language of the participants, then the Informed Consent must be also be translated in the participant's native language. Include the translated Informed Consent with your package and a statement as to how (or by whom) the Informed Consent was translated.

PROJECT DOCUMENTS

Check the box(es) of ALL the documents you submitted for your project on IRBNet:

- Application and Protocol Form

- Adult Informed Consent(s)
- Parental Permission Consent (for Minors)
- Child Assent (for Minors)
- Recruitment Letter(s)
- Survey/Questionnaire/Interview Questions
- Data Collection Forms
- HIPAA/FERA Documents
- Media Permission Form(s)
- Letters of Support
- Debriefing Letter(s)
- CITI Training Certificates
- Other (Explain):

IRBNET ELECTRONIC SIGNATURE:

The new package created for submission for your project must be electronically signed in IRBNet by you, the Principal Investigator (and Faculty Advisor, if you are a student). Your signature indicates your certification that the information provided in this document is accurate and current.