The Circle of Friends for Children with Tourette Syndrome

Kylee Salvior
Student Researcher, Department of Humanities, Randolph High School, Randolph, USA
*Corresponding author: Kylee Salvior, Student Researcher, Department of Humanities, Randolph High School. Randolph, USA; Tel: 973-328-8941; E-mail: tapout13.23@gmail.com

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Abstract

This paper focuses on the need of an inclusive form of social aid for children with Tourette Syndrome because the current forms of social skills aid only include children with TS and not those without TS. The most common form of social aid available to children with TS presently include summer camps that teach the campers proper social conduct and social skills; however, the campers all have Tourette Syndrome, which is not beneficial for mainstream inclusion. Since the current forms only incorporate those with Tourette Syndrome, they are less effective since it is not replicable of a mainstream school situation. Due to this discovery, I decided to look at the relationship between TS and Autism Spectrum Disorder (ASD) to determine if established methods of social aid for children with ASD, known as the Circle of Friends process (CoF), will effectively work for those with TS. In addition to accessing the similarities between TS and ASD, this paper evaluates the effectiveness of the Circle of Friends process to determine if it is a purposeful social skills aid for children in general.

Keywords: Tourette syndrome (TS); Circle of friends’ process; Autism spectrum disorder (ASD); Social skills aid

Introduction

Background

One cannot deny that people typically cannot prevent themselves from judging others, especially if one’s behavior does not conform with the perceived normality [1]. In the 1960s, any peculiar behavior was perceived as a form of hysteria and the people would be punished for their conditions. Dr. George Gilles de la Tourette began changing this perception by observing nine patients who had been originally diagnosed with psychological hysteria and eventually diagnosed them with ‘maladie des tics’ [2]. ‘Maladie des tics’ is the main symptom of Tourette Syndrome and is commonly referred to as tics, which are “nonvoluntary body movement(s) or vocal sound(s) that [are] made repeatedly, rapidly, and suddenly” (Anonymous, 2015, para. 1). Before his definitive diagnosis, people with Tourette Syndrome (TS) were held responsible for their compulsive and atypical behavioral symptoms. Despite the changing diagnosis of people with TS, the perceptions of others did not change and people still view them as atypical and socially inappropriate. Although TS does not hinder one’s ability to “lead (a) typical and productive (life),” people with TS “are commonly impaired socially because of their socially unacceptable symptoms called tics” [2]. Even though it is common for children and adults to face social difficulties because of the perceptions of others, there is currently no form of social skills aid to help both the person with TS and their peers.

However, other disorders with similar symptoms of social impairments, such as Autism Spectrum Disorder (ASD), have options of social skills aid to cope for these impairments. One of the common methods for a child with ASD is The Circle of Friends (CoF) technique, which helps decrease the social alienation of a child through “developing a support network of friendship around an individual who is isolated” [3]. Because of the available programs to help children with ASD, this paper will evaluate if the same programs are capable of generating the same effect on children with Tourette Syndrome.

Formulation of question

Ever since my brother attended the New Jersey Center for Tourette Syndrome (NJCTS) Tim Howard Leadership Academy, my family and I have been learning more about Tourette Syndrome (TS). Growing up, I observed all the strange glares he would get in public because of his tics. At school, I would notice how difficult it was for him to make friends and I never understood why. Before he attended the academy, I did not know that social impairments were a symptom of TS; however, even before this information I wanted to find a way to prevent other children from experiencing similar social alienation. Once I learned the commonality of these difficulties, my focused changed from social isolation in general to social alienation of children with TS. This discovery allowed me to derive my original research question from the passion of preventing children with TS from suffering isolation (Figure 1).

Figure 1: Neurodiversity venn diagram, genius within, DANDA.

My original question developed before I conducted any research into the similarities of TS and other disorders. Since I was unaware if TS correlated with any other neurological disorders, my initial focus...
was to determine if TS relates to other disorders. During my preliminary research, I found multiple diagrams, such as Colley’s [4] abbreviated diagram, which compare the symptoms of TS to other neurological disorders. These diagrams narrowed my focus from all neurological disorders to ASD specifically. After identifying the relationship between ASD and TS, due to both disorders generating social difficulties, I conducted research and found that children with ASD have access to an established form of social aid, called the Circle of Friends.

After extensive research and multiple variations of my topic, the final question this paper will focus on answering is: to what extent does the relationship between Autism and Tourette Syndrome prove the possibility of the Circle of Friends technique working for children with TS?

Hypothesis

Since Tourette Syndrome and Autism Spectrum Disorders experience similar difficulties in social situations and the Circle of Friends technique works efficiently in reducing the severity of these impairments for children with ASD, it is logical to conclude that the Circle of Friends (CoF) method should help children with TS act socially appropriate and decrease social alienation.

Literature Review

Autism spectrum disorder

In the articles, “Overview of Autism” by Stephen M. Edelson and the Center for Disease Control (CDC) entry “Autism Spectrum Disorder (ASD): Data and statistics,” the authors discuss Autism Spectrum Disorder. These articles evaluate the common symptoms that result from Autism Spectrum Disorder (ASD).

The article “Overview of Autism” evaluates when Doctor Leo Kanner first applied the term autism “to a group of children who were self-absorbed and who had severe social, communication, and behavioral problems” [5]. Kanner applied the term because the children exhibited the most typical signs of Autism Spectrum Disorder—commonly abbreviated to ASD—which consists of dysfunctional behaviors, persistent routines, and underdeveloped communication and social skills [5]. This relates to the CDC entry, “Autism Spectrum Disorder (ASD): Data and Statistics,” because it states that the method doctors use to diagnose children with ASD is based on “differences in social, communication, and fine motor skills” [6], from other children their age. Both articles acknowledge that the presence of underdeveloped social and communication skills at a young age is one of the prevailing ways to accurately diagnose a child with ASD.

Another concept spread throughout the sources, is the idea that a cognitive problem for children with Autism is narrow-mindedness. In Edelson’s article, he states that “(m)any autistic individuals also have a narrow or focused attention span; this has been termed ‘stimulus overselectivity’” [5], which means they only focus on one irrelevant aspect of something. Leslie E. Packer [7] confirms this claim in her article, “Overview of Asperger’s Disorder.” Packer states that children with autism may have difficulties with peer communication “because their stereotypic behaviors or intense focus on their narrow interests may lead to isolation and/or peer rejection”. Being able to look at things from the perspectives of one’s peers is an important social skill; however, due to the narrow focus of autistic children, they do not possess this important skill which results in difficulties with peer relations.

Overall, these sources agree that children with ASD experience difficulties forming peer relations due to underdeveloped social and communication skills.

Circle of friends

In the articles 'The use of 'Circle of Friends' strategy to improve social interactions and social acceptance: a case study of a child with Asperger's Syndrome and other associated needs’ by Eileen O’Connor and “Improving communication between children with autism and their peers through the 'Circle of Friends': a small-scale intervention study” by Efrosini Kalyva and Elias Avramidis, the authors evaluate the process of the Circle of Friends (CoF) technique as well as the effect it has on the development of proper social skills.

In O’Connor’s [3] article, she describes the Circle of Friends techniques as a process that is "aimed at promoting the inclusion of students with disabilities into mainstream schools" through the creation of a social network. Kalyva and Avramidis [8] provide a more in-depth definition by describing the Circle of Friends process as "an educational approach that facilitates the inclusion of children with disabilities into the school community by engaging their peer group in supporting the individual proactively". Both articles conclude that the Circle of Friends process is about developing a network that facilitates the inclusion of a disabled child, particularly with Autism, into a mainstream school environment.

In addition, both of the articles provide results from their application of the Circle of Friends technique. O’Connor [3] states that the focus child reported feeling “more accepted and liked and this seems to have affected his (behavior) radically,” and experienced “an increase in global self-esteem and social acceptance.” Through her case study, she determines that the CoF technique results in a greater acceptance of the focus child by his or her peers and an increase in self-esteem for the focus child. Similarly, Kalyva and Avramidis [8] conclude that the CoF process “improve(s) the social skills of children with (A)utism and their ability to communicate, and ultimately facilitate their ‘inclusion’ in mainstream settings,” after applying the process to a group of pre-schoolers with one autistic child and five typical children. Even with a different age group, they were able to establish that the CoF process helps improve the communication between autistic and non-autistic children by aiding in the development of the focus child’s social capabilities.

These sources both agree on the purpose of the Circle of Friends process being to develop an inclusive social network around an autistic child. In addition, they both generate similar results of increased acceptance of the focus child as well as further development of his or her social skills.

Tourette Syndrome

The articles “TS is more than tics: understanding behavioral challenges & related symptoms” by Kathleen Giordano and Margaret Edelman, “Comorbidities, social impact, and quality of life in Tourette Syndrome” by Valsamma Eapen, Andrea E. Cavanna, and Mary M. Robertson and the CDC entry “Tourette Syndrome (TS)” discuss the typical symptoms of Tourette Syndrome.

Giordano and Edelman [9] state that “(t)ourette syndrome is commonly misunderstood to be a behavioral or emotional condition,
rather than a neurological condition" (para. 3). This misperception causes people to blame children with TS for their behaviors, even though they cannot control them. In the CDC entry [10] a common impairment that rises due to TS is being “at (a) higher risk for learning, behavioral, and social problems”. This relates to Giordano and Edelman’s article [9] because they view the behaviors of a child with TS as socially unacceptable, even though they cannot control it. The behavior of children with TS is frequently viewed as inappropriate, even though it is “a greater challenge for students with TS due to their impulsivity and inconsistent ability to apply their mental brakes” [2]. Both articles conclude that because of the misconceptions about Tourette Syndrome being a behavioral disorder instead of a neurological disorder, children encounter impairments in social situations.

Eapen et al. [11] expands on the effects of people viewing the behavior of children with TS as socially inappropriate. According to the article, children with TS often become anxious about having tics in front of others so they will distance themselves in order to prevent public embarrassment [11]. This relates to the aforementioned articles because it reiterates that social problems arise due to their behavior being seen as socially inappropriate. To further prove the social issues of those with TS, Eapen et al.’s article presents statistical evidence of “a clinical cohort of 16- to 54-year-old TS patients” [11]. The findings include “problems with family relationships were reported in 29%, difficulties in making friends in 27%, social life in 20%, and being self-conscious in 15%” [11]. Due to societal misconception of Tourette Syndrome, children with TS commonly experience difficulties in creating successful relations with other as well as low self-esteem.

Throughout the articles, it is evident that there are misunderstandings about what Tourette Syndrome is and that these confusions often result in more extensive social impairments for a child with TS. Based on these sources proving these misconceptions, it further illustrates evidence of social difficulties that lead to the development of the gap this paper will focus on.

**Social skill camps for children with Tourette syndrome**

The articles “Changes in socio-emotional and behavioral functioning after attending a camp for children with Tourette Syndrome: A preliminary investigation” by Cyd Eaton, Julia LaMotte, Ana Gutierrez-Colina, Patricia Kardon, and Ronald Blout, and “Exploring the social impacts of a summer camp for youth with Tourette Syndrome” by Michael Griswold, Boyd C Hegarty, Chris Harrist, Nate Trauntvien, and David Griswold, illustrates previous attempts to relieve the social impairments resulting from having Tourette Syndrome.

The Eaton et al. [12] article describes a summer camp program for children with TS that is supposed to create a safe and judgment free environment that teaches them how to act appropriately in social situations. Similarly, in Griswold et al.’s article, he and his fellow authors evaluate the effectiveness of a camp for children with TS. Griswold states that the purpose of the camp is to increase “relatedness (not alone and self-assurance), social development (friendships, optimism, educational experience, and bullying),” by employing, “programmatic outcomes (unique program opportunities and cabin bonding)” [13]. Both of these camps intend to provide social skills aid to children with TS.

However, all the participants in the camp have Tourette Syndrome, meaning that there is no direct aid for creating peer relations with children who do not have TS. The results of the camp presented by Eaton et al. are that “53% (of campers) felt ‘very different’ or ‘a little different’ from peers without TS,” and, “58% (of campers) felt ‘not at all different’ or ‘not too different’ from other campers” [12]. Since the camp does not have participants with and without TS, it is harder for the children with TS to learn proper social conduct for when they interact with peers who do not have TS. Griswold et al. [13], results seem more effective than Eaton et al.’s [12] because his results display that the camp aided in the “developing (of) friendship skills, improved positive identity, increased self-esteem, and communication skills” [13]. Although initially his results seem better, Griswold et al., conducts further research that proves “that youth with TS are commonly misjudged, bullied and teased, and (that they) are likely to experience depression and anxiety as a result of their disorder” even after attending the camp [13].

Even though, it takes more research for Griswold et al. [13], to reach the same conclusion as Eaton et al. [12], both articles agree that despite existing camps for children with TS providing some social skills development aid, there is no method that benefits children with TS when interacting with dissimilar peers.

**Methods**

In order to accurately and effectively answer the question of this paper, I explored many different research methods. During the initial research process of collecting background data and finding the gap in published research, I was persistent on conducting a case study that applied the Circle of Friends technique to a child with Tourette Syndrome. However, due to time constraints and the difficulty in finding a focus child, I began to look into other methods that would achieve the same goal as a case study. To be able to draw the conclusion that the Circle of Friends technique is effective for a child with TS, I determined it is important to establish the relationship between Autism and Tourette Syndrome prior to conducting further research. The most articulate way to depict this relationship is through a Content Analysis of sources that describe that impairments of children with Autism or Tourette Syndrome. In addition to Content Analysis, I conducted a Systematic Review of sources presenting their results of the Circle of Friends process, to prove the effectiveness of the method overall. I implemented a combination of Content Analysis and Systematic Review because it is the best process of precisely and efficiently answering the question of this paper.

**Content analysis**

Content Analysis is a research technique that interprets documents through the coding of textual materials by counting the amount of times certain phrases or words occur in different sources [14]. In order to synthesize the data and draw conclusions from two or more sources through the methodology of Content Analysis, specific words or phrases must be present in these source to display the occurrence of similar themes throughout.

For this paper, the Content Analysis consisted of evaluating sixteen sources in total. Seven of these sources describes the characteristics and impairments often faced by a child with Autism Spectrum Disorder (ASD) and the remaining nine sources are those faced by a child with Tourette Syndrome. To accurately compare ASD and TS, each source is evaluated for specific expressions to prove the commonality of these words throughout the sources. The phrases counted in this research process include "social," "behavioral," and...
Content Analysis is the best methodology to depict the commonalities between Autism Spectrum Disorder and Tourette Syndrome. This method is the most efficient procedure of displaying the likelihood of children with either disorder to encounter similar impairments and symptoms, through the statistical presence of these issues in a multitude of sources.

However, since Content Analysis does not answer whether the Circle of Friends process will effectively work for a child with TS, it is important to combine this method with another methodology of Systematic Review.

Systematic review

Systematic Review is a type of literature review that collects multiple research studies, dealing with a healthcare or medical topic, and critically analyzes them to answer a specific question [15]. One of the important aspects of a Systematic Review is to ensure that the sources are of good quality and provide credible data.

In this paper, the Systematic Review is conducted on multiple sources that present their findings on the impacts of the Circle of Friends method on children with Autism Spectrum Disorder. To determine if the sources are of good quality each source will be evaluated by the specificity of the results as well as the reliability of the author. After determining which sources should be included the results of implementing the Circle of Friends process with be synthesized. The synthesis of the data produces the conclusion whether the Circle of Friends process is an effective method of social aid for children with Autism along with depicting the impairments the CoF method helps with.

The reason I employed the Systematic Review methodology is because it will dictate the effectiveness of the Circle of Friends process for a child with ASD and illuminate which areas of impairment the Circle of Friends method decreases.

The conclusions of the Systematic Review paired with the results of the Content Analysis is the most effective procedure for answering the question whether the Circle of Friends process is applicable and effective for children with Tourette Syndrome. This is because combining the evaluation of the Circle of Friends process as effective for children with ASD and the evidence of the relationship between Autism Spectrum Disorder and Tourette Syndrome proves whether the Circle of Friends process is appropriate and proficient for children with Tourette Syndrome.

Replicable

The methodologies presented in this paper is a replicable process that should generate the same results. Due to the specificity of the phrases evaluated in the Content Analysis, a person utilizing similar, if not the same, sources will encounter the relationship between Tourette Syndrome and Autism Spectrum Disorder. In addition, sources that present cases of the Circle of Friends process, in the Systematic Review, generate comparable results on the effectiveness of the procedure in general as well as illuminate which areas of impairment this technique provides relief for. Therefore, the analysis of articles that present the CoF process will cause another person to form the same conclusions about the technique. Nonetheless, because of the preciseness of the methodologies presented in this paper, it is possible for another person to achieve the same results.

Data Analysis

Content analysis

As mentioned in the method section, a content analysis is conducted on sources describing the characteristics of Autism Spectrum Disorder and Tourette Syndrome. In order to accurately determine if the Circle of Friends process is applicable to Tourette Syndrome, a comparison between the impairments and symptoms of the two disorders is necessary. The graph below, derived from the chart in Table 1, supplies quantitative data to prove the comparison between the disorders due to the commonality of issues in areas of social, behavioral, and development as well as the presence of obsessions/compulsions (Figure 2).

![Figure 2: Autism vs Tourette syndrome.](image-url)

In the sources analyzed, the data displays that the word “social” is present 168 times for ASD and 140 times for TS. This illustrates that it is common for children with either disorder to encounter difficulties interacting with peers, which is one of the intended purposes of the Circle of Friends process for children with ASD.

Another aspect of the Circle of Friends process is to teach an autistic child how to behave appropriately. Since the sources of TS employ the word “behavioral” 2 more times than the sources about Autism Spectrum Disorder, it displays the effectiveness that the Circle of Friends process could have on a child with TS, since it positively affects the behavior of children with ASD. In addition, due to a slightly greater presence of behavioral issues, the Circle of Friends process makes the potential to be more effective for a child with Tourette Syndrome than one with Autism Spectrum Disorder.

A notable difference occurs in the existence of the word development, with a 25.1% discrepancy. However, the reason that development is more common in the sources describing ASD is because according to the National Autism Association “Autism Fact Sheet” [16], “(a)bout 40% of children with (A)utism do not speak (and) about 25%-30% of children with (A)utism have some words at 12 to 18 months of age and then lose them”. Nonetheless, due to this knowledge, this difference in the presence of the word “development” is less noticeable because the CoF process occurs when an autistic child is in a school with non-disabled peers, which can only happen if a child with ASD is verbal and attending a mainstream school.
In addition to exploring the impairments each disorder faces, it is important to consider the symptoms of both disorders, precisely the presence of obsessions/compulsions. The manifestation of obsessions/compulsions can cause children to adhere to patterns, and if something disrupts it, the child will react inappropriately. However, since an aspect of the CoF method is to teach an autistic child how to act appropriately, it is important the child with TS also present symptoms that cause them to act improperly.

Therefore, because of the existence of obsessions/compulsions in both disorders along with the occurrence of social, behavioral, and developmental impairments, it proves that ASD and TS are comparable, even though children with ASD encountering more developmental delays.

**Systematic review**

In order to determine if the Circle of Friends process is an effective method of social aid for children with Autism Spectrum Disorder, it is important to compare the results from multiple cases of the Circle of Friends technique.

The first source analyzed, “What is Circle of Friends?” is the results of the Complex Needs Organization’s program that employs the CoF approach to include students with “(s)ocial,(e)motional and (b)ehavioural (d)ifficulties.” Since the organization solely focuses on helping children with these difficulties, the quality of the results from multiple cases is credible and well proven. The institution’s results conclude that the process is beneficial in helping autistic children “(develop) their own pro-social skills, empathy, ability to analyse others’ behaviour and increased their awareness of the value and importance of including others in positive and meaningful relationships”. Therefore, this organization determines that the CoF method is an effective process dealing with social skills, inclusion and the forming of peer relations.

Another source is by Efrosini Kalyva and Elias Avramidis, who conducted case studies with five autistic children over the course of two months. Due to Kalyva being a professor at the University of Sheffield and Avramidis being a professor at the University of Thessaly, both focusing on inclusion of children with Autism, the data presented in their research is of impeccable quality. The collaborative results of the experiment present that the CoF process “improve(s) the social skills of children with Autism and their ability to communicate, and ultimately facilitate their ‘inclusion’ in mainstream settings” [8]. Hence, the results of their five case studies all generate the conclusion that it improves the social and communication skills of autistic children, while aiding their ability to flourish socially in mainstream schools.

In addition, Eileen O’Connor [3] conducted her own case study for 3 months with 12 sessions that lasted 30 to 40 minutes. In her research, she utilizes a modified version of the Psychological Sense of School Membership Scale (PSSM), called the Belonging Scale, which focuses on the self-worth and acceptance level felt by the children. Since her revisions consisted of simplifying the language for younger children, the essence of a recognized scale provides credibility and establishes the suitable quality of her results. The quantitative results of her research include a “70% increase in children willing to make social initiations and relationships with the focus child (and that) 80% (are) more likely to accept the different types of behaviour displayed by children with special needs rather than,” alienate them. Overall, the data from her case study concludes that acceptance rates and the social skills of the focus child increase after participating in the Circle of Friends process.

The last source this paper analyzes is the “Circle of Friends-The Path to Inclusion,” which is a project under the Autism Speaks Organization. This organization employs the Circle of Friends process in different schools around the United States, through their School Duplication Program, in order to aid in the inclusion of children with ASD. The results from the first group of schools participating in their School Duplication Program are presented in the graph below.

The graph presents the areas of improvement that this program focused on: self-confidence, inclusion, and independence. After the CoF process, the focus child of each group is asked if they are more self-confident, independent and if they feel more included by their peers. The majority of the children in each of the subareas felt “very much” more confident, included, and “somewhat” more independent. Therefore, although the process might be more effective on one child than another, it is overall effective in increasing areas of common impairments (Figure 3).

![Figure 3: Results of the path to inclusion project outcomes.](Image)

Nonetheless, throughout multiple accounts of different people and/or organizations employing the Circle of Friends process, all to derive the conclusion that it is a successful method that increases the acceptance of the focus child along with his/her self-esteem and social/communication skills.

**Conclusion**

Due to the evidence provided by the Content Analysis, it immediately supports the similarities between ASD and TS in areas of social and behavioral impairment, as well as the presence of obsessions/compulsions as a symptom of both disorders. Although it is less evident in the comparison for ASD and TS for development impairments, the criteria of the CoF process requires the focus child to be in a mainstream school, which can only occur if the child is verbal; therefore, the discrepancy in development is from the amount of non-verbal children with ASD. Nevertheless, the data presents the conclusion that ASD and TS are comparable disorders.

Additionally, through the evidence of the Systematic Review, it proves that the Circle of Friends process is an effective method that improves the communication and social skills, the ability to form peer relations, and self-esteem for the focus child.
Table 1: Data presenting the conclusion ASD and TS are comparable disorders.

| Source                                                                 | Social | Behavioral | Compulsion/Obsession | Development |
|------------------------------------------------------------------------|--------|------------|----------------------|-------------|
| "Overview of Autism"                                                   | 9      | 27         | 3                    | 11          |
| "Autism Spectrum Disorder (ASD): Data and Statistics"                 | 1      | 4          | 1                    | 16          |
| "National Center for Health Statistics"                                | 6      | 8          | 1                    | 22          |
| "Autism Spectrum Disorder"                                             | 1      | 6          | 2                    | 16          |
| "The Relationship between Stress and Social Functioning in Adults with Autism Spectrum Disorder and without Intellectual Disability" | 129    | 21         | 2                    | 27          |
| "Obsessions, repetitive behavior and routines"                         | 12     | 36         | 20                   | 7           |
| "Autism Spectrum Disorder Fact Sheet"                                  | 10     | 16         | 7                    | 25          |
| **Total for Autism**                                                   | **168** | **118** | **35**               | **117**     |
| "TS is more than tics: Understanding behavioral challenges & related symptoms" | 9      | 38         | 2                    | 8           |
| "Tourette Syndrome Fact Sheet"                                         | 3      | 7          | 10                   | 5           |
| "Comorbidities, social impact, and quality of life in Tourette Syndrome" |        |            |                      |             |
| "Social Concerns Related to Tourette Syndrome"                         | 28     | 6          | 1                    | 2           |
| "Social Functioning in Tourette Syndrome"                              | 36     | 3          | 1                    | 6           |
| "The Tourette Syndrome Clinic"                                         | 6      | 10         | 3                    | 6           |
| "Tourette Syndrome - Kid Sense Child Development"                      | 11     | 7          | 2                    | 19          |
| "Tourette Syndrome - Symptom and Causes"                                | 1      | 2          | 2                    | 5           |
| "Tourette Syndrome (TS)"                                               | 6      | 24         | 1                    | 6           |
| **Total for Tourette Syndrome**                                        | **140** | **120** | **42**               | **70**      |

Therefore, through the synthesis of the data from both research methods, it is logical to conclude that if the Circle of Friends method is effective for ASD and Autism Spectrum Disorder is comparable to Tourette Syndrome, then the CoF process will be equally effective, if not more impactful, for a child with TS, ultimately proving my hypothesis. The effectiveness of the Circle of Friends technique is further proven since for children with ASD experience improvement in areas that children with TS also struggle with.

**Limitation**

One limitation that I encountered in this research process is the inability to execute the original research plan. The original process included conducting a case study on a focus child to physically experience if the Circle of Friends process is effective for a child with TS. However, due to the lack of time and the inability to find a focus child to conduct the case study on, I was unable to explore if the Circle of Friends process would work through an actual experiment. Therefore, I had to adjust my approach and use a combination methodology of Content Analysis and Systematic Review in order to prove that the Circle of Friends process would work, quantitatively and qualitatively, if applied to a child with TS.

**Further Research**

The further research able to be conducted because of my research process stems from the limitations I faced. Because I was unable to conduct the physical case study, the research explicated in this paper sets the foundation for further research into the effect of the Circle of Friends process. Even though I was unable to complete the original intent, all the data allows another person to potentially execute my original research process, since this paper proves that it is possible through quantitative and qualitative data. In addition, this paper provides a new understanding that the CoF technique is applicable to disorders besides ASD; therefore, it also sets the framework for research in applying the method to other disorders besides ASD and TS, that experience social impairments.

**Implication**

Due to the results proving that the Circle of Friends process is applicable for children with Tourette Syndrome, this method of social aid should be applied to children with TS. Since children with TS commonly face underdeveloped social skills and social alienation from peers without TS, the implications of applying the CoF process to children with TS, is that it will aid in the proper development of social skills and facilitate inclusion for children with TS.
References
1. When your main social problem is that you don't fit in (2018) Succeed socially.
2. The history of Tourette Syndrome (2017) OCD-UK.
3. O'Connor E (2016) The use of 'Circle of Friends' strategy to improve social interactions and social acceptance: A case study of a child with Asperger's Syndrome and other associated needs. Support for Learning.
4. Colley M (2013) Neuro diversity venn diagram. Genius within, DANDA.
5. Edelson SM (2006) Research: Overview of autism.
6. Centers for disease control and prevention (2016) Autism spectrum disorder (ASD): Data and statistics.
7. Packer L (1998) Overview of asperger's disorder. Tourette Syndrome "Plus".
8. Kalyva E, Avramidis E (2005) Improving communication between children with Autism and their peers through the 'Circle of Friends': A small-scale intervention study. J Appl Res Intellect Disabil 18: 253-261.
9. Giordano K, Edelman M (2017) TS is more than tics: Understanding behavioral challenges & related symptoms. Tourette Association of America.
10. The history of Tourette Syndrome (2017) OCD-UK.
11. Eapen V, Cavanna AE, Robertson MM (2016) Comorbidities, social impact, and quality of life in Tourette syndrome. Front Psychiatry 7: 97.
12. Eaton C, LaMotte J, Gutierrez-Colina A, Kardon P, Blount R, et al. (2016) Changes in socio-emotional and behavioral functioning after attending a camp for children with Tourette Syndrome: A preliminary investigation. J Abnorm Child Psychol 44: 1197-1203.
13. Griswold M, Hegarty CB, Harrist C, Trauntvein N, Griswold D (2014) Exploring the social impacts of a summer camp for youth with Tourette Syndrome. Research in Outdoor Education 12: 15-35.
14. What is content analysis? (2012) University of Georgia: Terry College of Business.
15. Khan KS, Kunz R, Kleijnen J, Antes G (2003) Five steps to conducting a systematic review. J R Soc Med 96: 113-121.
16. Autism spectrum disorder fact sheet (2017) National Autism Association.