

Autism Spectrum Disorder and Resiliency: A Common Link Within Literature

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Abstract

The Resiliency in individuals with autism spectrum disorder is clearly lacking. Through the understanding of stressors on individuals with ASD, there is evidence to address the negative effects of these stressors and the need for a solution. The lack of research on resiliency in individuals with autism spectrum disorder is evident today. The Center of Disease Control and Prevention [5] stated that the prevalence of ASD, in 2016, increased and continues to increase at an alarming rate. The increase of adverse childhood events in individuals with ASD is seen to help reduce the use of resilience. Not only are ACEs harmful to these individuals but children also show decreased emotional intelligence. The use of resiliency among the average individual helps with coping with stressful situations, but individuals with ASD find it hard to use resiliency. This led to a more harmful impact on their lives. Increasing resilience among individuals with ASD would have a positive effect on the number of harmful risks they have in their lives.

1. Introduction

In 2016, the prevalence of children identified with ASD was near 1 in 54 children [5]. Autism spectrum disorder (also known as autism and ASD) has been referred to as disability in areas of communication, cognitive functioning, social interactions, and behavioral aspects [1], [2], [3]. Each area of disability can either be on its own or combined together depending on severity of ASD symptoms [1], [2], [3]. McCrimmon et al. [12] stated that ASD is a “neurodevelopmental disorder” in which there are deficits in areas of communication and repetitiveness. Every person with ASD differ in their levels of symptoms and resiliency [1]. These could be since several students with autism also have a comorbidity with another disorder [2], [3]. Comorbidity can have a negative effect on mental health of ASD.

The buffering effect, stated by Bitsika et al. [3], expressed how the use of resilience could positively affect mental health. This is a crucial aspect of keeping resiliency within the stressful events that surround life and the decisions made. Buffering effect is defined as a psychological resource used to help reduce negative stress on life and increase general

well-being [3]. As each stressful situation increases, so does the risk values to those with ASD.

Autism spectrum disorder is one of those disabilities that increase the risk of getting other disabilities while under very stressful situations. Comorbidity, on the other hand, means that other disorders can and will interact with that of the original disorder [2], [4]. When comorbidity exists within students that receive ASD, the more stress and harm comes towards them [2], [4]. Overall, the entirety of well-being is crucial to life along with using emotional intelligence.

McCrimmon et al. [12] stated that emotional intelligence (EI) is understood by the ability in which one can “perceive, understand and reason with emotional information” and can also be known as empathy. Emotional intelligence helps to understand the output emotions from their peers. Emotional intelligence is expressed as a broad construct of being able to understand the emotions of oneself and others [13]. Then they should use that information for guiding normal behavior [13]. The study of emotional intelligence can help to explain the deficits within the areas of social-communication deficits [13]. Within ASD, students who have social-communication deficits also struggle with EI and increases the deficiency among other social areas [13]. Emotional intelligence is not the only aspect that can affect how resiliency is expressed in individuals with ASD.

According to Ricles [15], adverse childhood events (ACEs) are defined as any family dysfunctions, psychological, physical, or sexual abuse that occurs during younger years. These adverse childhood events have negative impacts mental and physical health of students. Ricles [15] also suggested that the experiences of ACEs by those under the ASD category could be from an inability to cope. The inability to cope in turn shows the lack of resilience within those with ASD. Ricles [15] stated that children with autism have lower resiliency than the average child. Adverse childhood experiences, unlike emotional intelligence, have a negative impact on how resilience is expressed. All of these instances put together create an incomplete picture of what resiliency among those with ASD look like. This literature review was created to show the gaps of resiliency research among those with ASD in order to work on completing the picture. It is important for

future research to be prepared to work with those with ASD to try and increase their resiliency on stressful life situations; this includes the existence of the high number of ACEs in their life. Since there were a high number of ACEs within the life of those with ASD has such a negative effect on their health, it is crucial to lessen the burden on their lives.

Every individual with ASD struggle through their own stress [1], [2], [3]. It is important for researchers to be prepared to continue researching in a way that would help improve both their strengths and weaknesses. More should be done to understand how resilience can help these individuals in reducing the stress. To reduce stress levels is to also reduce the number of other mental and physical health issues that may arise [15]. It is also important in being able to understand the relationship between stress levels and academic success that could later be translated to work success.

2. Resilience

Szatmari [17] stated that the term resilience originally came from the subfield of psychology known as positive psychology. Positive psychology is the subfield that focuses on the ability of an individual to work through negative situations and find the positive spin to it [17]. Resilience, on the other hand, is referred to as someone having an outcome that is more positive than expected after experiencing some life stress [17]. The life stress is also seen as trauma, abuse, and neglect [17]. Resiliency in the parents of children with ASD have had their share of research [3], [6], [11], [14], [17] while only a few have researched the resiliency of individuals with ASD [1], [5], [6], [7], [8], [12], [13], [15], [16], [17]. Not only do the parents of children with ASD show the positives of using resiliency but it pushes research forward to look forward to improving resiliency among those with ASD. Bitsika and Sharpley [2] define resilience as one's ability to cope with the harmful stressors of life.

Resilience is seen as a coping mechanism that helps to reduce the negative effects of stressful situations within life. Harmful effects of stress include deterioration of mental and physical health [15]. Resilience is the result of being able to handle a stressful situation thrust into life unexpectedly and in turn allows for more positive outcomes on life [17]. Research in resiliency is a crucial aspect to understanding how individuals cope with stress, especially individuals with ASD.

2.1. Resilience in ASD

According to Bitsika and Sharpley [2], who searched PubMed and Google Scholar, there was a great deal of difficulty finding articles that had a combination of resilience, ASD, and anxiety. As it is

seen through literature, resilience is found to only be studied when there is a comorbidity between ASD and another disorder (anxiety and depression are the most common) [2], [3], [4], [11], deficiency in a specific area (like emotional intelligence) [12], [13], trauma [13], profiling [9], [17] and most importantly from parental perspectives [3], [7], [8]. There are many ways to look at resiliency among the topic of ASD. Those different perspectives range from family resiliency to specific factors that would help increase resiliency among those with ASD. Each new perspective contributes to the bigger picture of understanding how increasing resiliency among those with ASD is either helpful or not.

Research focused on resiliency was seen in parental stress and their ability to cope with the stressful situations that come from parenting children with ASD [3]. Resiliency is crucial in fully understanding how individuals with ASD get through their stressful situations in life. Finding articles to understand resilience within individuals with ASD was difficult for the current study but created new path for research.

3. Current Review

Research on individuals with a ASD is still young, just like the field of psychology. The Center for Disease Control and Prevention [5] also stated that ASD is more prominent in boys than girls. The primary aim of this literature review is to understand resilience within those with an autism spectrum disorder and to further explore areas in which future research is needed. This would allow research to continue to grow as the need increases.

The secondary aim of this literature review is to establish a call for future research in specific areas regarding resilience and ASD. Resilience is a positive coping mechanism to the harmful stressors in life [17]. Resiliency helps individuals work through those stressors and learn to cope with life. According to Fung et al. [7], the stress individuals with ASD encounter are harmful. Research has been done on the stress in which individuals with ASD have gone through [7], [10], [18] but not on the potential resilience.

Individuals with ASD experience stress levels that are harmful to their mental and physical health. Understanding their use of resiliency during those stressful times would be beneficial to see the coping strategies involved. The aims of this literature were to combine the research in order to further research in areas of coping, but specifically resiliency, among individuals with ASD.

4. Methodology

The three electronic databases used for finding articles for this literature review (University of

Findlay Academic Search Complete, JSTOR, and Electronic Journal Center) were searched up until 28 January 2021. Titles, abstracts, and keywords used for searching articles contained autism (autism spectrum disorder, ASD and Asperger's syndrome), resilience, children and adolescents. Children and adolescents were added so that the search would eliminate parental and sibling resilience. To better understand resiliency, though, it was crucial to include buffering effect for parental resilience. This was included for the literature review in order to have a better understanding of resiliency.

Articles that were included in the literature review must be available in English and be primary research articles looking at resilience among students labeled under the autism spectrum disorder. Articles that were excluded focused on the resilience of family members (parents and siblings). The only inclusion of this kind was the specific interactions and family life of the children and how that affected their resilience. This was to include areas that were similar to resiliency and individuals with ASD and allowed for a broader look at how to increase the resiliency which helped in reducing the stress levels.

5. Autism and comorbidity

According to Soke et al. [16], who analyzed data from 2010, found that 95% of the about 2,000 four- and eight-year-olds who had ASD also experienced symptoms of another disorder. These are alarming statistics that affect the lives of those with ASD and have negative life outcomes that coincides with their negative health. As Bitsika and Sharpley [2] stated, resilience is an important aspect in understanding how to decrease the effects of the anxiety also within these individuals. Bitsika and Sharpley [2] provided crucial evidence for the need of resilience skills among those with ASD.

Not only can resiliency help decrease the effects of anxiety, but resiliency would be able to help decrease the affects of many other comorbid mental health issues [4]. Bitsika et al. [4] then stated that not only resilience could help with reducing anxiety but wanted to see how resilience could affect depression symptoms. Introducing the idea of a buffering effect in which resilience is used for the parents of individuals with ASD.

5.1. Buffering Effect

The use of the buffering effect has not been well researched. Bitsika et al. [3] focused their understanding on the buffering effect on the resilience of parents with ASD. This was used knowing that parenting a child with ASD can be extremely stressful and to try to identify areas in which parents can reduce the stress of that parenting. The buffering effect

helped to increase their ability to use resiliency and other coping mechanisms.

As Bitsika et al. [3] found, parental stress was high among parents of children with ASD and the interaction between buffering effect of resilience on this stress are effective in reducing anxiety and depression. While Bitsika et al. [3] focused on parental stress, Fung et al. [8] found that stress in individuals with ASD is also an important identifying aspect of research. That research showed that those with ASD also show stressors in need of reduction [7], hence the need for the buffering effect.

The buffering effect has been beneficial in helping to reduce the stress among caregivers and parents to decrease the mental health issues [11]. This would allow for parents to be better situated in providing care for their child and decrease the appearance of other mental health disorders. When caregivers of children with ASD have an uncontrollable amount of stress in their lives, they are more likely to transfer their anger and upset mindset to their children increasing their risk of getting a comorbidity [11]. Increasing the resilience in the caregivers and parents of children with ASD will allow the children to have better relationships with their family, friends and themselves in the long run.

As it stood, the buffering effect of resilience alone was not helpful into understanding stress. Since stress was high for individuals with ASD, the capability of using resiliency is crucial for understanding [7]. Even though Bitsika et al. [3] focused on the parents of ASD children, there is still a considerable amount of information to be gathered in terms of the buffering effect and the effects it has on stress. The buffering effect was used to increase the use of resiliency among parents of children with ASD.

As found, the buffering effect of resiliency helped parents who felt they were at their limit [3]. This helped to decrease the likelihood of children experiences adverse childhood events. In turn helped to decrease the negative effects on the mental and physical health of the child. This leads to a call for future research to include the individuals with ASD to see how the buffering effect relates to both positive and negative outcomes.

5.2. Vulnerability

Autism spectrum disorder symptoms contribute to the vulnerability of those with the disorder in many ways. Individuals with ASD have a higher vulnerability to other mental illnesses along with less ability to use resiliency [9]. Like seen in McCrimmon et al. [12], those with ASD have a harder time being able to manage their stress levels accordingly. Since managing stress is a crucial aspect of resiliency, those with ASD have a harder time managing their stress and in turn do not use resiliency to help cope [9], [12]. Not only are individuals with ASD have a harder time

coping with stress but there are other areas that contribute to the lack of resiliency use among these individuals.

Landa et al. [9] found results that focused on the characteristics of individuals with ASD. As Landa et al. [9] found that those with resiliency tend to be characterized using a “multidimensional (language, social, play) cohering of development aligned with normative expectations and a low level of atypical (restricted and repetitive behaviors) behavior” to help reduce stress. Understanding the vulnerability of stress, adverse childhood events, and increased mental health issues in individuals with ASD could help to learn how to decrease the number of affects. Landa et al. [9] found that mental profiles clarified the strengths and weaknesses of those with ASD. This is important for not only the academic but also the professional development of these individuals.

Mental profiles represented in resiliency are known as expressive language, social, play, and restricted/repetitive behaviors [9]. Landa et al. [9] found that individuals with ASD and with resiliency were able to obtain better advancement in the profile areas of language ($M = 0.8$), social ($M = 0.14$), and play ($M = 0.15$). There was also evidence of lower restrictive/repetitive behaviors as shown by the $M = 0.01$ [9]. These profiles help to increase research knowledge on the mental functioning of these individuals.

The mental functioning helped to identify the strengths and weaknesses of everyone with ASD. Everyone with ASD has a unique set of strengths and weaknesses that when seen as something that can work together could help to increase their ability to improve upon both their weaknesses and strengths. The evidence for specific characteristic profiles is essential in understanding the basis of how individuals with ASD handle stressful situations. The characteristic profiles have the possibility of helping to understand areas in which these individuals need to increase, their weaknesses, and their strengths. Through early identification, it would be possible to find resilience training in which could help increase the ability to use resiliency during life stressors.

5.2. Emotional Intelligence

The idea of emotional intelligence (EI) may seem to be an odd addition to resiliency, but research by McCrimmon et al. [12] found there is an important connection between EI and resiliency. Emotional intelligence, as stated by McCrimmon et al. [12], was an important factor in understanding how ASD and the developmental impairments that are resulted from the disability work to increase the adversity these individuals experience. It is important for those with ASD to become aware of their strengths and weaknesses. This would include learning how to use EI to increase resiliency and decrease stress levels.

Emotional intelligence is a crucial aspect of understanding the social deficiency among those with ASD. McCrimmon et al. [12] decided to take a different approach to understand how emotional intelligence could possibly help reduce the effects of negative life stressors. McCrimmon et al. [12] found that EI was related to the mastery of resilience showing a p-value of less than 0.001. Stress management was seen to have a negative relationship with the reactivity of resilience.

Even more from McCrimmon et al. [12] and McCrimmon et al. [13] was that when compared with the typically developing child, those with ASD had better EI in total but not with stress management. This is an important aspect of using resiliency used with reducing stress levels. By specifically increasing areas of stress management in these individuals would lead to the ability of increased resiliency in order to reduce their stress levels. McCrimmon et al. [13] took a look more broadly at the use of EI and resiliency. Not only were individuals with ASD observed but also those with attention-deficit hyper-activity disorder (ADHD) to compare EIs. When emotional intelligence is compared with ADHD, those with ASD had higher scores and had largest ability to use EI to their advantage when it comes to using resiliency.

McCrimmon et al. [12] found the lack of difference as a positive as the deficits may develop later in development allowing these individuals time to gain both resilience and EI. McCrimmon et al. [13] later expressed the differences by individuals with ASD and Attention Deficit Hyperactivity Disorder. This difference affects how peers view these individuals and the harmful effects those views on their lives.

The results showed that ASD individuals find EI to have a positive relationship with mastery and relatedness [13], which strengthens the results of McCrimmons et al. [12]. Emotional intelligence is seen to have a positive effect on the use of resilience, since there is a deficiency in EI for individuals with ASD it may be beneficial to find ways that would help to increase their EI [13]. Not only is understanding the level of EI among these individuals crucial in understanding their ability to use resiliency but it in turn indirectly helps effect their mental health [13]. Emotional intelligence, being able to understand the emotions of others, is also helpful in understanding areas of improvement needed among individuals with ASD. With increasing the ability to make friends with other peers, this will in turn help to understand some of the crucial deficits that are within ASD.

As McCrimmons et al. [12] stated, the areas in which EI are connected to resiliency could help with understanding the deficits in which individuals with ASD experience. Individuals with ASD have a social deficit that could be understood through EI levels. Emotional intelligence is an important aspect of learning how to be more in tune with one's own and

others' emotions. Becoming more aware of one's own emotions could allow for a better understanding of the stressors in one's life, and in turn being able to help increase the capability of resiliency.

6. Parental Stress Factors

Parental stress from parenting individuals with ASD has been a frequently researched area. According to Estes et al. [6], parental support and relationships are crucial in helping to fully understand the effects within families. Not only does parental support help to establish relationships with peers, but it helps to reduce the mental health issues that come from the inability to make peer friends [6]. Children with ASD have a lack of ability in being able to make friends and these increases when these children have older siblings [6]. It is important for parents to realize that their support in preschool for their children with ASD has the ability to help create friendships and decrease mental health issues.

Mendez et al. [14] focused on the effect of raising a child with ASD has on the relationship between the co-parents. This relationship is crucial in order to not put unwarranted stress on their children. As Mendez et al. [14] found, the need for reducing the parental stress is crucial in being able to then focus on being able to raise their child with ASD. By being able to transfer their focus into parenting again, the less likely the children will experience ACEs and decrease some stress among them. It is important for parents to be aware of how they act around their children since there is a clear connection between parental stress levels and the stress levels of their children [14].

Marmostein [10] also showed the relationship between the parental psychopathology and how it affected their children. It is important for parents to see how their stress affects their children negatively. Resilience for parents is important to decrease the likelihood that the children will form other mental health disorders. Without their ability to use resilience, the number of ACEs then increase and so does the chance of increasing comorbidities with other disorders.

7. Risk factors

Risk factors of stress are crucial in the understanding of resiliency. The ability to know the types of stress and the effects of this stress to the working of resiliency in individuals with ASD could in turn help in increasing resiliency. Stress factors, as seen in Ricles [15], are seen to have an increasing negative effect on the physical and mental health of individuals. These negative risk factors are harmful to not only the individual experiencing them but also those who are close to them.

Adverse childhood events are one of those risk factors that are harmful to those with ASD. Ricles

[15] stated that with the more experiences with ACEs, the less likely those individuals would be able to use successful coping mechanism that would reduce the stress. This was shown through a diagram that outlined the negative effects of ACEs on not only the ability to use resiliency but also on having good physical and mental health [15]. Since ACEs are so harmful for individuals with ASD it is important for researchers to be aware of the affects they made on the individual.

Specifically, adverse childhood events are extremely harmful to individual with ASD [15]. Adverse childhood events have a consistent negative effect on individuals within their life continuing the idea of continual effects on health. Since individuals with ASD are seen to experience more ACEs that have greater impacts on their lives. The relationship between ASD and adverse childhood experiences are crucial to increasing the effects of resiliency.

7.1. Adverse Childhood Events (ACEs)

As noted above, Ricles [15] stated the ACEs include any harmful event that is experienced, including family dysfunctions. Ricles [15] suggested that the higher stress that parents of children with ASD have, there was an increased risk of experiencing ACEs. Ricles (2017) presented a figure that showed how ACEs had a negative impact on a person's health and how resiliency helped to reduce the negative impact. This put further emphasis on the affects of resiliency on every individual but most importantly on individuals with ASD. Without the ability to use resiliency, the ACEs within the individual's life would catch up to them and create negative physical and mental health effects. This is further explored with evidence that the positive relationship that resiliency has on health was seen to decrease the effects of ACEs by -0.10 [15]. Through evidence, resiliency had a negative association ($r = -0.98$) with health issues [15]. As stated by Ricles [15], children with ASD were more likely to experience the ACEs than of average students. The ability of ASD children to use resiliency to cope with the ACEs in their life was low showing the $r = -0.50$ [15]. The negative effects of not being able to use resilience among this group of individuals continues to bring negative outcomes into their lives.

Alarmingly, as the experiences of ACEs increase, the ability to use resiliency decrease, which lead to an increase in mental health problems [15]. The existence of mental health issues among individuals with ASD continues to increase the likelihood of the existence of comorbidities with each individual. Adverse childhood experiences, as seen by Ricles [15], have a negative impact on individuals with ASD. This negative impact increases the risk for these individuals to have other mental health issues [15]. It

is crucial to understand the connection and potential outcomes among stressors, ACEs, and resiliency.

8. Conclusion

Resiliency is an important aspect of coping with stressful life situations. Without the ability to use resiliency, the number of ACEs people with autism spectrum disorder have will increase along with the negative affects of them. The lack of stress management among those with ASD could contribute to the inability to use resiliency in a successful way. The inability to properly use stress management not only contributes to the lack of resiliency but also the increased ACEs among these individuals and the negative affect it has on their mental and physical health.

Understanding the stress in which individuals with ASD endure is important, as is understanding the need for resiliency skills. Resiliency skills among those with ASD, as found by Fung et al. [7] and Rigles [15], are lacking. With deficits in the ability to use resilience affecting everyday life among these individuals, it is crucial for research to continue to grow to learn all we can about how resilience can counter the negative effects of ACEs. This is especially true when there is an extreme number of experiences of ACEs [15]. Those higher numbers of ACEs lead to higher levels of stress and even higher levels of negative mental and physical health.

Research should be prepared to look for the areas in which those with ASD will be able to succeed in managing their stress levels. Managing their stress levels and learning to use resiliency effectively, those with ASD would have a better chance of reducing the high risks that come with the ACEs that they experience. It would also be beneficial for those with ASD to work on being able to identify their stress levels and successfully learn to implement coping mechanisms to reduce those stress levels. If the stress levels could be identified with coping strategies on hand to be able to successfully reduce their stress.

Individuals with ASD will need become more aware of the stress levels they have in order to successfully use resilience. Resiliency training, specifically having a stress management training would help to reduce the stress levels of those with ASD. Without proper training, it will be difficult for these individuals to work through their stress higher levels of stress. Though there are many limitations to what we are able to research.

8.1. Limitations

Limitations of this literature review can be seen through the methodology. The first of which is the lack of research found in individuals with ASD and resiliency. Along with limited research, the

inclusion/exclusion criteria were vague about ASD and resiliency. Despite these limitations, future research is crucial in understanding how resiliency could affect individuals with ASD (including both positive and negative outcomes).

This article shows the call for more research on the effects of resilience on the stress that individuals with ASD experience. There is limited research on resilience training and its effects on individuals with ASD. As it stands, Mendez et al. [14], looked at how resilience helps the parents of children with autism. This is also shown in research done by Bitsika et al. [3] and Bitsika et al. [4]. Even with these limitations, the importance of increasing resilience among children with ASD is crucial in being able to address the increasing needs of the students.

9. Future Research

Research on ASD is an ongoing process that is crucial in gaining knowledge on alarming aspects of the experiences of those with ASD. It is important to include areas that would be beneficial for those with ASD to continue to work on improving both their strengths and weaknesses. As research continues to move forward it is important for research to continue in a path that would be helpful for those with ASD.

Future research in this area desperately needs to focus on being able to harness resilience in individuals with ASD. After growing in the effect of resilience and the harmful aspects of stress on their lives [9], [15], learning more about how to increase resilience is of the utmost importance. It will allow these individuals to live their lives to the fullest. These are important next steps to better understand how individuals with ASD can harness resilience in their everyday lives.

Future research could also be done after identifying early profiles into creating resilience training for those with a deficit in resiliency. As individuals with ASD have a negative association with high stress and use of resiliency [15], the necessity to find ways to decrease that negative association is crucial. With the increased risk of mental health problems from a lack in ability to use resilience, future research on the effect of increasing resiliency in these individuals could be effective in decreasing this risk.

Increasing resiliency among these individuals is very important in making sure that their education and career becomes a success. As advocates for these students it is a crucial task for educators to work closely with these students to be able to help decrease their stress levels and increase their successes in life. Those with ASD struggle with their stress levels. It is important for these individuals to find ways that will help reduce those stress levels and working towards being able to be using coping mechanisms to help reduce that stress. Without being able to use

resiliency, these individuals would not be able to effectively reduce their stress.

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