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Review Article

Autism Spectrum Disorder Research: Time for Positive Psychology

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ABSTRACT

Many individuals with ASD, as well as their families, face significant stressors and challenges, but they can also experience strength and resilience. The investigation of positive experiences could be used to support and encourage families as they confront adversities and can increase these families' life satisfaction. ASD research, to date, has been largely focused on the identification and remediation of deficits. The purpose of this paper is to describe the existing gap related to the absence of positive psychology within ASD research and suggest actions and directions to be taken by the research community to address this gap. This can be achieved by integrating positive psychology into ASD research with the goal of creating a balanced view of people and their experiences. For example, research into the role of positive emotions in resources-building and resilience-promotion is needed. Additionally, on-going investigation into the experience of life satisfaction by individuals with ASD and their families will help to inform professional intervention and support of these families. An argument for a shift in theoretical framework will be made and implications for future research will be discussed.

Keywords: Autism; Positive psychology; Family strengths

INTRODUCTION

Autism Spectrum Disorder Research: Time for Positive Psychology Positive psychology is described as the systematic study of positive experience and individual characteristics, and the associations that promote their development [1]. Pre-World War II, psychology was largely a restorative discipline, based on psychopathology and the medical model [2-4]. Positive psychology developed out of the post-World War II culture of healing, repairing damage, and pathology [5]. The previous preoccupation with psychopathology neglected healthy societies and the thriving individual's subjective experiences of well-being, contentment, and satisfaction (in the past) hope and optimism (for the future) and flow and happiness [5]. The theoretical foundations of positive psychology focus on building individual strengths, rather than identifying and correcting weaknesses [1]. Individual strengths may include concepts such as love, happiness, courage, perseverance, satisfaction, forgiveness, wisdom, and resilience [5].

Seligman and Csikszentmihalyi highlighted the importance of positive psychology in prevention [5]. Prevention has become one of the primary goals of psychology and psychological research. It focuses on ways in which professionals can help individuals avoid mental health problems. The traditional disease model does not formally provide insight into prevention, but the systematic and deliberate focus on building up the strengths of an individual has been found to be the most effective method for preventing mental illness. For example, Seligman and Csikszentmihalyi urged psychologists who work with families to create a therapeutic culture that seeks out, nurtures, and amplifies these strengths, which likely will have a positive effect on the family's long-term functioning, emotional wellbeing, mental health, cohesiveness, and resilience [5].

Positive psychology researchers seek to create a more balanced body of literature. A disproportionate focus on negative aspects of life has led to an unbalanced research field, which undervalues the positive aspects [6]. Although the consideration of atypical and typical developmental experiences of those with various mental disorders has been discussed, it has yet to be expanded to individuals with ASD and their families [7,8]. Although it may be difficult to identify topics as either positive or negative, positive psychology focuses on the characteristics that allow individuals to thrive, be successful, and manage difficult life events [6]. Living a positive life is not merely the absence of negative emotions, thoughts, and experiences, but rather involves a completely separate psychological process [1]. As a result, discovery and empirical research into these psychological processes is in its early stages; measures are still being developed and evaluated, longitudinal studies have yet to be completed, and therapeutic interventions have yet to be empirically supported [1]. The use and acceptance of positive psychology in the broader research community has steadily increased over the past two decades [5]. To date, however, the use of positive psychology frameworks to investigate the lives of individuals with

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Received: December 04, 2018; **Accepted**: January 09, 2019; **Published**: January 16, 2019

Citation: Dykshoorn KL, Cormier DC (2019) Autism Spectrum Disorder Research: Time for Positive Psychology. Autism-Open Access 9: 235.

Autism Spectrum Disorder (ASD) and their families is limited to the role of pre-established protective factors in managing stressful situations. Consequently, there is a need to expand this perspective to include those with ASD and their families. As will be seen below, individuals with ASD have many atypical developmental experiences and their families deal with them in various ways, but there is also tremendous capacity for these individuals and their families to have typical experiences of love, hope, happiness, optimism, resilience, satisfaction, and other positive life events.

AUTISM SPECTRUM DISORDER

Leo Kanner, a child psychologist, identified Autism as a childhood medical disorder in 1943 [9]. In the inaugural article, Kanner (1943) described 11 case studies based on his work with eight boys and three girls. He used the 11 case studies to demonstrate the individual differences found in children with "autistic disturbances" but identified the fundamental similarity as "the children's inability to relate themselves in the ordinary way to people and situations from the beginning of life". According to Coleman, Kanner felt that the term autistic best described the "extreme aloneness from the beginning of life and an anxious, obsessive desire for the preservation of sameness" that the children had in common [9,10]

Kanner noted that all eleven children lacked typical physical reciprocity (i.e., eye gaze and shoulder shrugging when an adult caregiver lifts the child up) [9]. Additionally, he highlighted the common communication deficits; indicating that three of the children never acquired language and the other eight learned to speak at the typical age or after some delay, but did not possess mature, spontaneous conveyance of meaning. Finally, Kanner highly emphasized the children's general disinterest in other people. The final paragraph of Kanner's article began a trend of parent blaming [9]. The term Refrigerator Mother was coined as a description of the types of mother's that cause children with autism [11]. Fortunately, science has since refuted this caregiver-blaming trend [10]. Despite Kanner's emphasis on the specific deficits these eleven children were facing and his overall negative impression, he made a point of noting the cognitive potentialities, intelligent physiognomies, serious-mindedness and anxious tenseness observed in these children. It is important to note, however, that these characteristics can only conclusively describe the eleven case studies Kanner presented. Autism presents in a number of different ways and, as Stephen Shore, an adult with Autism, explained, "If you've met one person with autism, you've met one person with autism" [9].

According to the Centre for Disease Control and Prevention, Autism Spectrum Disorder occurs in about 1 in 59 children, a prevalence rate of 1.68%, which has increased from 1 in 150 in 2000. Additionally, ASD is roughly four times more likely to be diagnosed in boys than girls [12]. According to the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5; American Psychiatric Association [APA] 2013), ASD has been categorized as a "Neurodevelopmental Disorder" [13]. Under this umbrella term, there are several disorders that have onset during the same critical developmental period. In general, children with ASD, display deficits in social interaction, communication, and behavioural patterns. More specifically, Children with ASD display: (a) persistent deficits in communication and social interaction across several contexts; (b) restricted, repetitive patterns of behaviour, interests, or activities; (c) symptoms must be present in the early developmental period; and, (d) symptoms cause clinically significant impairment in social, occupational, or other important areas of current functioning [13].

The afore mentioned symptoms can manifest in a variety of ways depending on autistic condition, developmental level, and chronological age, which is why the disorder is considered a spectrum [13]. This spectrum of symptoms does not occur in isolation rather, they often occur within the context of a family unit. Difficulties related to sleep, eating, aggressive behaviours, communication, difficulty changing routine, and repetitive behaviours (to name a few) can disrupt each member of the family [14].

FAMILY SYSTEMS AND ASD

The Family Systems approach to psychological research values each family member's subjective understanding of their reality [15].

Family systems theorists suggest that all parts of the family unit are equally important in the development and socialization of family [16]. Further, the development and socialization of the family is influenced by the social context and system in which the family lives [15]. Finally, the importance of caregivers in the life, development, and wellbeing of children is consistent with family systems models of counselling and psychological research [17]. Despite the relative inward focus of children with ASD, it can be assumed that the systemic context in which the child is being raised will have an impact on the child's overall development [18].

Because of the unique characteristics and qualities of children with ASD, existing family systems research needs to be considered with caution and new ASD-specific family systems research needs to be developed.

Family systems theory was identified and described as a result of the emergence of family therapy, which gained popularity after World War II [19]. At the time, psychologists and psychiatrists became increasingly interested in the many influences on human behaviour and wondered what would happen if the whole family engaged in treatment together. Beginning as an experiment, psychologists would invite the whole family into therapy to observe and gain a better understanding of the interactions and family dynamics. Naturally, psychologists began developing their own theories of family therapy and independent schools began to emerge (eg: psychodynamic family therapy, Bowen systems therapy, Satir family therapy [19]. Despite the various forms of family therapy available, the family systems influence on research has remained largely united under the assumption that an individual's system (family or social) significantly influences his or her personal development. Consequently, research projects that adhere to the family systems approach focus on the interconnectedness of the family unit and seek to understand the influence of one or more family member(s) on the other(s). It can, therefore, be inferred that the experiences, coping ability, mental health and social support of caregivers influence the functioning of the entire family unit and thus the psychological health of an individual is directly connected to the psychological health of the family as a whole.

CAREGIVERS

Raising a child is challenging and trying for all caregivers and when a child has a developmental disorder the difficulties and challenges

are increased. Caregivers are the responsibility holders of the family unit and, arguably, hold the most significance over the success of the family. Caregivers are expected to face a poorly understood behavioural, cognitive, and relational childhood disorder that could include any of the previously outlined symptoms and deficits. The roles caregivers play is pivotal to the success of not only the child, but of the whole family unit.

Although the term parenting is widely accepted and understood both among scholars and lay-people alike, no one has yet developed a comprehensive and accepted definition of parenting [20]. Typically, parenting includes elements of promoting language and learning, fostering of a stimulating home environment, warmth, positive encouragement, and promotion of beliefs and/or attitudes. Bornstein offers this description: Parenting beliefs include perceptions, expectations, attributions, attitudes, knowledge, ideas, goals, and values about all aspects of child-rearing and child development [21]. These beliefs do not provide a definition of parenting but they do provide insight into the thoughts that shape basic parenting behaviour. Although the exact nature and behaviours associated with the above characteristics may manifest differently in different families, caregivers can relate to and understand parenting behaviours categorized in this way. Several factors influence the way caregivers come to parent their children. For example, socialization of the caregiver, warmth and affection, parental control, characteristics of the child, child temperament, reciprocal interaction, familial relationships and caregiver mental well-being all influence the parenting behaviour of a caregiver [22-25]. The complex nature of parenting (eg: parental personality, child characteristics, parental developmental history, marital satisfaction, social network support, economic status, and educational status) makes it nearly impossible to evaluate all aspects of the influence caregivers have in the family atmosphere [20]. This is why researchers must break down the factors of parenting and evaluate them separately.

The role caregivers play in the development of their children's social and personal identity has been widely researched. Caregivers are the first and most influential relationships children encounter and thus caregivers have the ability to shape and promote children's wellbeing. For example, factors associated with family function (i.e., family relationship and an emphasis on personal growth) can promote social competence and reduce negative behaviours in children [26]. That being said, caregivers can only be effective at parenting when their own emotional well-being is cared for, which is equally true for caregivers of children with ASD.

Caregivers of children with ASD seem to have more difficult marital and/or intra-familial relationships [27]. Doron and Sharabany found that the severity of a child's ASD symptoms did not correlate with marital satisfaction or emotional wellbeing [28]. Nevertheless, it was found that when couples received satisfying support from family and friends, the marital relationship was perceived as closer and the emotional wellbeing of both members of the couple was healthier. When marital satisfaction is higher, caregivers are more equipped to parent as a unified team, and thus more effective at parenting in a way that supports and promotes healthy development in their children [28].

Caregivers play an integral role in the coping ability of a family unit. Without caregiver's ability to model, facilitate, and support the positive functioning of the family, the family is less likely to thrive. Without a thriving family unit, the challenges associated with having a family member with ASD are more difficult to manage and may have more significant consequences.

ASD AND FAMILY

In 1994, Norton and Drew highlighted the lack of research discussing the influence of ASD on family relationships (eg: marital, sibling, and parent-child) [29]. However, because approximately 85% of adults with ASD possess cognitive and/or adaptive deficits that prevent independent daily living, family members (eg: siblings or caregivers) are necessary for long-term care/assistance [30]. Additionally, the changing conceptualization of ASD, unclear etiology, and constantly adapted treatment recommendations leaves family members guessing about the best course of action for their family [31]. As a result, families may be less optimistic, hopeful, and certain about their own futures, which may, in turn, affect their personal well-being and mental health [32].

Research has largely drawn attention to the negative consequences and outcomes of living with a child with ASD. Pottie and Ingram highlighted that living with a child with ASD negatively influences families despite symptom severity or time of diagnosis [33]. Each member of the family can be influenced in different ways. Families with ASD, for example, are more susceptible to family conflict which may result in the children re-enacting the conflict in the sibling relationships [34,35]. Siblings may also experience lower self-esteem and higher rates of depression which may be related to differential parental treatment, communication difficulties, social interaction and reciprocity deficits, as well as unusual behaviours [32,34,36,37]. Sibling relationships, even when reported to be positive at a young age, tend to deteriorate over time which may be a result of feelings of anger, jealousy, embarrassment, neglect or guilt about having negative feelings towards their sibling [34,38].

In addition to psychological and internal consequences, families with a child with ASD manage practical stressors related to waitlists, money, support systems and services, education, access to care, activism, disruption of daily routines, and the large amount of appointments and professionals necessary for supporting their child [39-42]. These influences are even more serious when one considers Gabriels, Hill, Pierce, Rogers, and Wehner's finding that stressors typically found in families with ASD may be exacerbated in families with a low socio-economic status [43]. Hobbies and leisure activities are a common way for adults to manage the negative outcomes of stressful life circumstances, but caregivers and older siblings of children with ASD have significantly less time to devote to enjoyable activities, which increases the negative influence of stressors [44]. All of these factors influence the family quality of life, which has been found to be significantly lower in families with children with ASD [45].

Finally, conflict has shown to be more predictive of ASD symptomatology than positive peer and family relationships, suggesting that children with ASD, although having lower levels of social awareness, are negatively influenced by conflict in the home [18].

Negative consequences of family conflict, such as divorce are higher in families with a child with ASD presumably because of the increased stress and unexpected demands placed on caregivers

[46]. Caregivers who remain married, on the other hand, report decreased marital satisfaction compared to caregivers of typically developing children, which also reportedly effects the sibling relationship between children with ASD and typically developing children [34,47,48]. Given the common deficits children with ASD experience and the subsequent difficulties the families and caregivers of these children need to face, understanding the protective factors that help families to thrive during this difficult transition is essential.

The foundational work presented in the preceding paragraphs outlining the challenges and negative factors present in families with a child with ASD is valuable and is necessary for professionals to adequately support families with a child with ASD. Nevertheless, as those from a positive psychology perspective would argue, having a balance between the negative, deficit- oriented research and the positive, strengths-oriented research is needed. Particularly an investigation into the positive emotions, resilience, and ultimately life satisfaction of those with ASD.

POSITIVE EMOTIONS, LIFE SATISFACTION, AND RESILIENCE

First, it is necessary to define the terms presented in this section, so as to maintain a consistency and clarity in construct application. The subjective nature of both positive emotions and life satisfaction makes them challenging to define in a concise and comprehensive way.

Each construct can contain multiple different factors and domains depending on the subjective experience of the individual. Taking a more global approach to these two constructs may be necessary for the purpose of this discussion. Someone asked, "Is this experience positive or negative" and "Are you satisfied with your life" should be able to provide a response to the question. Therefore for the purpose of this paper, positive emotions, as outlined by Fredrickson, are emotions such as happiness, curiosity, pleasure, and love and are central to enriching the quality of people's lives [49-51]. And life satisfaction, as described by Cummins, included the evaluation of seven domains (material well-being, health, productivity, intimacy, safety, community, and emotional well-being) and, more globally, includes the belief that life is close to ideal, conditions of life are excellent, feeling satisfied with life and getting the important things in life [52,53]. Although there are several definitions available, most include two specific and necessary components for resilience: (1) the exposure to a significant stressor or stressors; and (2) positive adaptation and response to the stressor [54-56].

In 2009, Cohn, Fredrickson, Brown, Mikels and Conway connected positive emotions, specifically happiness, with resilience using the broaden-and-build theory [57]. They found that those who experience frequent positive emotions built internal resources and resilience, which allowed them to handle the multitude of challenges they faced. Further, Cohn found that with increased resilience there was increased life satisfaction [57]. If this is true for neuro-typical individuals, can the same be said for individuals with ASD? Can it be applied to families of individuals with ASD?

Both positive emotions and resilience are well-established in the literature as serving an adaptive function in the presence of stress [58-61]. Positive emotions and psychological resilience protect the individual from stress reactivity and promote stress recovery [62]. Further, both positive emotions and resilience have been demonstrated to contribute to life satisfaction and success [57,63,64]. Positive emotions are often thought of as the consequence of successes, which certainly is true, however, happiness contributes significantly and precedes the experience of success in one's life [64].

Ultimately, it is the moment-by-moment experiences of positive emotions that facilitate the development of growth, new resources, and resilience. When resilience is experienced, it is more predictive of life satisfaction than the acquisition of material wealth and success [57]. As such, it can be argued that individuals, such as those with ASD-who have practical barriers to material wealth and success can still experience a high degree of life satisfaction through the generation of positive emotions which, in turn promote resilience to thrive in adverse circumstances.

As presented above, families with children with ASD experience a wide range of stressors and negative emotions. One might assume that the presence of negative emotions may overwhelm the impact of positive emotions. In fact, the opposite appears to be true: Positive emotions predict resilience promotion and life satisfaction even in the presence of negative emotions [57]. Individuals with mental health concerns (i.e., depression) or extremely strong negative emotions may need to work to relieve them, but evidence shows that the deliberate activation of positive emotions can still be of benefit [65]. The implication of this research is invaluable. If the above findings can be proven to be true for individuals with ASD and their families, then the focus of professional intervention can shift to include not only diminishing and mitigating negative experiences and stressors but also the promotion of experiences that generate positive emotions as a way of building and growing resources and resilience.

ASD RESILIENCE

The identification and utility of protective factors and resilience in the presence of ASD has been widely research and is a well-known important factor when working with families with ASD. To date, majority of resilience research related to ASD has focused on protective factors already present and experienced by caregivers and family members that are used to promote resilience during adverse experiences [66]. Because of the unique experiences that families with members with ASD face, their risk factors and protective factors are unique to them [67]. Specifically, quality social support from family, friends, professionals, and the community has been discussed in the literature to improve caregiver's resilience [47,68-71]. Another protective factor that has been identified as increasing resilience is a caregiver's locus of control. Siman-Tov and Kaniel found that when family members had an internal locus of control-a greater sense of control over their own lives-they were better equipped to manage the stress associated with raising a child with ASD [72]. Similarly, caregivers who were able to engage in cognitive reappraisal of stressful situations were identified as being more resilient [66,73]. Cognitive reappraisal coping strategies could include reinterpretation, meaning making, using positive cognitions, and humor and allowed caregivers to modify the way the understood and thought about stressful events and circumstances [74]. Finally, hope and optimism – key components of resilience – were found to be fostered through religious beliefs and/or spirituality [75,76].

Specific investigations into the experience of resilience in individuals with ASD are limited [77]. In 2014, McCrimmon and Montgomery provided a list of commonly identified ASD risk factors and suggest ways in which these factors could be also viewed from a resilience-lens (i.e., Risk factor: Inflexibility; Strength: Great with structure and routine; Risk factor: Uneven cognitive skills; Strength: Areas of marked strength) [78]. At the time, there was very little research being done in the area of protective factors or resilience in this population. They felt that by changing the theoretical framework through which we view individuals with ASD and their weaknesses or strengths, the professional community may be better able to promote more balance between deficit-management and strength-enhancement.

Some of the previous literature evaluating other neurodevelopmental disorders has identified symptom severity, duration/course, degree of impairment, functional abilities, and comorbidity as having a significant impact on outcome indicators, which may provide indications for the importance of resilience in developmental trajectories [77,79,80]. Preliminary investigations into the application of this knowledge to resilience in individuals with ASD has identified the importance of both interpersonal and intrapersonal emotions recognition or emotional intelligence in enhancing resilience through feelings of mastery and a sense of relatedness and that deficiencies in emotional intelligence do not emerge until adolescence [77,81]. As such the using emotion-based educational strategies early in the development of individuals with ASD can enhance their resilience and make them better equipped to handle stressful situations later in life [82]. By enhancing children's emotional intelligence early in life, they will likely be better able to intentionally identify, recall, and utilize positive emotions effectively.

POSITIVE EMOTIONS AND ASD

The majority of emotion-focused ASD research identified focuses on the expression and recognition of emotions and on the experience of negative emotions (i.e., fear, anxiety, depression) in individuals with ASD, rather than the experience of positive emotions and the resulting positive consequences [83-88]. Nevertheless, there is a small body of literature that has attempted to take a balanced look at both the recognition of and expression of both positive and negative emotions. Shalom concluded that individuals with ASD have the same physiological responses to positive emotions as neurotypical individuals, which implies that difficulty in naming positive emotions may be a result of perception rather than physiological response [89].

Further, Rieffe addressed the generally accepted belief that individuals with ASD have significant alexithymia [87]. Their findings did not refute this conclusion, but rather clarified that individuals with ASD are able to differentiate between opposite emotions (the experiences of positive and negative emotions elicited as a result of a single scenario) better than they are able to differentiate between two emotions found on the same end of the spectrum (two negative emotions) and that their inability to differentiate did not impair their awareness of the intensity of the emotion. From the results of Rieffe study, one can conclude that individuals with ASD can identify positive emotions and they have the ability to intentionally recall, focus on, and use positive emotions when asked to do so [87].

In relation to emotional expression and experience within the family, Williams and Happé found that all children, including those with ASD, were better able to identify non- social emotions (eg: happiness) than social emotions (e.g., embarrassment) in others and better able to recall their own personal experiences with non-social emotions than social emotions [90].

These findings can inform the kinds of positive emotions that ought to be focused on in individuals with ASD and their families. Social positive emotions, such as humour, are more difficult to recognize and benefit from for individuals with ASD [91]. Therefore, by focusing on non-social positive emotions, individuals with ASD will be better equipped to identify and focus on their positive emotion experiences in order to build their own internal resources. By continuing to explore the experience, promotion, and utility of positive emotions in individuals with ASD and their families, professionals will have another tool available for building resources in these families.

ASD LIFE SATISFACTION

Now that the importance of resilience and positive emotions in individuals with ASD and their families has been argued, further discussion of the implications for life satisfaction is warranted. The use of protective factors to increase resilience has been demonstrated to improve experiences of self-efficacy, acceptance, coherence, optimism, positive family functioning, and enrichment [67]. Additionally, resilience results in improved parental mental health, better marital quality, better psychological well-being and, ultimately, increased quality of life in family members of individuals with ASD [68-72,92,93].

Resilience promotes these positive outcomes consistently in caregivers and family members and is arguably components of life satisfaction for these families. One of the most well-established contributors to life satisfaction in caregivers is the role of quality social support [69]. At times, however, this protective factor may be outside of the control of the individual or may be difficult to influence depending on circumstance. Identifying intrapersonal protective factors, such as spirituality, internal locus of control, positive cognitions and positive emotions, as well as interpersonal protective factors allows caregivers and family members of individuals with ASD to have more control over their own resource building, resilience, and life satisfaction [57,72,73,76].

Life satisfaction research for individuals with intellectual disabilities has focused on interpersonal success (i.e., social support and interpersonal skills; Miller & Chan) rather than qualitative experience of life satisfaction [94]. Although this may be due to difficulties in measuring subjective experiences with this population, it should not be assumed that material and interpersonal success are the only avenues through which life satisfaction is experienced. Intrapersonal quality of life factors may include feelings of autonomy, connectedness, and hope [95]. These factors are clearly and directly related to resilience. When an individual with ASD has a sense of control over choice, feels connected to a support network, and has hope for the future, he or she is better equipped to handle stressful and adverse situations.

CONCLUSION

Individuals with ASD and their families face untold stressors and challenges that challenge their resilience and ability to

thrive. Although identification and remediation of stressors is important, some challenges cannot be avoided. In those cases, these families draw on personal strengths, resources, and resilience to cope. By shifting the ASD program of research towards the examination of personal strengths, the role personal strengths play in promoting resilience, and the impact of those experiences on the full life fulfilment of individuals with ASD and their families, a more balanced understanding of ASD can be procured. Ongoing research investigating the promotion of resilience through internal strengths and resources is sorely needed. This invaluable research can then inform a strength-based, positive and balanced understanding of this population. Individuals with ASD possess strengths of character, unique skills, and untapped resources that should not be undervalued or unappreciated. The professional discussion of these qualities communicates a belief that individuals with ASD and their families can do more than simply survive, they can thrive. They can live enriched and fulfilling lives and they can be valued for what they can offer to society.

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