

Running Head: Responding to Children after 9/11

**Responding to the psychological needs of children after 9/11:
A review of the literature**

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Abstract

Having a body of literature on psychological sequelae of victims, assessments, and interventions following a trauma can help mental health workers to better understand the prior treatment responses and to plan for the future. In this article, we review the current status of published mental health research on children following September 11, including articles from fields of psychiatry, psychology, art therapy, drama therapy, and others. First, we present children's possible reactions to 9/11, followed by advice for caregivers, compiled from various articles and organized into common themes. Next, we discuss actual reactions and interventions from case studies, as well as the quantitative studies that have been published and their results. Recommendations and future directions for research and practice are presented.

On September 11, 2001, the authors were working at an alternative high school in lower Manhattan, less than a mile and a half from the World Trade Center site. During the afternoon of 9/11, we made our way to Ground Zero as mental health volunteers, offering our services both at a triage staging area and later at a downtown hospital. In the days and weeks following 9/11, we continued to respond to the needs created by the trauma within the school by providing interventions, counseling for students, and consultation to parents, teachers, staff, and school administration. Our close proximity and subsequent personal and professional involvement in post-attack responding has spurred our interest in the psychological effects of the attack and the responses of our colleagues.

Introduction

September 11, 2001 affected our entire nation. However, for parents, schools, and many mental health professionals, a particular focus of concern was the children. Children felt the effects of the events of 9/11 in myriad ways. Many had parents or family members working in the World Trade Center, the Pentagon, and surrounding areas, some of whom were injured or killed. A reported eight children died on board the four airplanes involved as they crashed into the World Trade Center, the Pentagon, and a Pennsylvania field. Some children were evacuated from schools near the World Trade Center following the attacks. A considerable number of children also witnessed the events first hand. In addition to the thousands of children who were directly affected, all children were exposed to the events in indirect ways, whether through the media, conversations, or the pervasive mood of the adults around them.

Thousands of children experienced significant changes in their lives. Some children's schools were displaced because of their location, and the newly beginning academic year was thrown into turmoil as students had to be relocated to other schools. Other New York City children in already crowded schools had to share their space and limited supplies with these displaced students. Children had to adjust to changes as parents lost jobs and as parents were displaced from their homes due to debris and unsafe conditions. And children across the nation noticed the disruption in regular television programming, as nearly all channels were broadcasting news about 9/11 for an extended period of time. While our nations' leaders encouraged a return to normalcy, multiple disruptions to children's lives made this extremely difficult. As the multitude of factors was realized, concern grew in schools, communities, and parents about the effects on children and what to do. Knowledgeable mental health professionals and experts in trauma responded with hypotheses about reactions, with advice, and by providing interventions, and conducting research.

Having a body of literature on psychological sequelae of victims, assessments, and interventions can help mental health professionals to better understand the prior treatment responses and to plan for the future. In this article, we review the current status of research on children as related to September 11, including all journal articles pertaining to child mental health published from the time of the event (9/11/01) to present. The search for articles was done via PsychINFO and ERIC databases, using the following keywords and phrases: September 11, 2001, children, child psychology, adolescents, schools, education, therapy, interventions, terrorism, and crisis. Books, book chapters, and dissertations were not included in this review. Unfortunately, there is not a

significant amount of quantitative and qualitative studies on this topic published as of yet. Thus, the review is based on all relevant literature, including a comparatively larger number of articles that are not based on empirical research, but rather are in the realm of providing insight to parents, educators, and psychologists about the expected reactions of children, and offering advice and strategies for helping them to cope with the events.

First, we will present children's possible reactions to 9/11, followed by advice for caregivers, compiled from various articles and organized into common themes. Next, we will discuss actual reactions and actions from case studies, as well as the quantitative studies that have been published and their results. We end the review with a discussion of important future directions and considerations for practice and research and on this topic.

Children's Predicted Reactions

After September 11, many parents and educators had questions about what to expect, what to look for, and how children might respond to the events. A number of articles were written to answer these questions, including hypotheses and predictions about reactions. While they are not based on research, they are important pieces of literature to include because they document the field's expectations, which can later be confirmed or denied by quantitative and qualitative studies. The seven articles reviewed here presented these possible reactions, and also included practical advice to parents, teachers, and schools (Atwood & Donnelly, 2002; Lavoie, 2001; National Association of School Psychologists [NASP], 2001; Schonfeld, 2002; Squires, 2002; U.S. Dept of Ed, 2002; Waters, 2002;). While all focused on the responses of children, some looked more

specifically at special populations, such as children who are learning disabled or emotionally disturbed.

Of particular note in synthesizing the reactions predicted by various articles is that there was little common ground between them. Perhaps that reflects the fact that in the wake of the unique trauma of 9/11, we may not have known what to expect from children. It also speaks to the individual reactions of children. Schonfeld (2002) recognized that children's responses to the terrorist attacks would vary depending on several factors, including their cognitive, social, and emotional development, prior experience, any pre-existing psychological problems, and the level of support from family, community, and other resources. NASP (2001) similarly noted that children with disabilities will also react to the event in individual ways, primarily based on their past experiences and their current awareness of the situation. Because of this variability, the predicted responses were best grouped by population, rather than themes of responses.

Infants and young children (ages 0-6)

For the youngest children, reactions were primarily based on those of their parents, as their exposure is through their caregivers. Atwood and Donnelly (2002) posited that infants would sense changes in their parents' anxiety levels, and see tension and sadness in their parents' faces, and would react accordingly. Common responses in young children might be confusion, as they could not comprehend the events that had taken place. Additionally, if they were exposed to repeated media coverage, they may not have understood that it was the same event being depicted over and over again (Waters, 2002). Atwood and Donnelly also predicted regressive behaviors, such as thumb sucking,

or wanting a bottle or pacifier, urinary or bowel accidents, wanting to sleep in parents' bed, and being more clingy.

School-age children

Confusion may also have been a common reaction for school-aged children. They may have felt they did something wrong causing their parents to be upset (Atwood & Donnelly, 2002). They may have also experienced fear, including fear of going to school, death, and danger. This could have manifested itself in regression and clinging to caregivers, as in younger children, or school-aged children may have created games of protection using toys and toy guns (Atwood & Donnelly, 2002). Children may also have experienced stress and anxiety, displayed in behavior such as sleeplessness, nightmares, and misbehavior (U.S. Dept. of Ed, 2002).

Adolescents

Adolescents were expected to have a greater understanding of the events, and thus have greater reactions. While their reactions may have been more emotional, they may have also been more cognitive and rational, including curiosity about war, actions by the government, and imagining possible future scenarios and attacks (Atwood & Donnelly, 2002). They may have experienced fear, but unlike the fear of younger children, they may have feared going into the army during a war (Waters, 2002). Adolescents may have wanted to take personal action in a more tangible way, such as helping the recovery effort, donating food and supplies, or donating blood (Waters, 2002). On the other hand, in some cases they were expected to display increased reckless behavior and poor judgment (U.S. Dept of Ed, 2002). Another common response may have been avoidance and acting as though everything is normal (Waters, 2002).

Special needs populations

In general, children with special needs, including a learning disability or emotional disturbance, were predicted to have different responses to the events of 9/11 because of difficulty with expressive language, comprehension, limited cognitive abilities, and difficulty with emotions. Children with a learning disability may have reacted inappropriately for his or her age, had difficulty expressing emotions, act out, and may not have asked questions (Lavoie, 2001). Children with emotional disturbances were predicted to exhibit more extreme behaviors, with increased oppositional behaviors (NASP, 2001). They were also expected to act immaturely or inappropriately, use inappropriate language (i.e., cursing), and show an increase in destructive and aggressive behaviors (Squires, 2002). Of particular concern were children with histories of depression and suicidal ideation, as they were especially prone to an increase in these feelings (NASP, 2001). However, some of the predicted responses for special needs populations seemed to coincide with predictions for the “normal” child, including irritability, fear, avoidance, anxiety, sleeplessness, and nightmares (NASP, 2001; Lavoie, 2001; Squires, 2002).

Summary of reactions

In summary, mental health professionals predicted a variety of possible reactions by children to the events of September 11. These predictions gave adults behaviors to look for. However, lacking from these articles was any clarification of when these behaviors are normal responses, and when they become a point of concern that should be brought to the attention of a psychologist. Additionally, the articles seemed to focus on looking for problems in children rather than highlighting resiliency. Underwood and

Kalafat (2002) and Black (2002) alternatively emphasize the resiliency of children. While they may display some of these behaviors in response to 9/11, with attention to their needs and help with coping, they were expected to be fine.

Advice for Caregivers

In the articles offering discussion of potential reactions, plus an additional three articles (Coufal, 2002; Luna, 2002; Underwood & Kalafat, 2002), advice was provided for caregivers (including parents, educators, and mental health providers) for helping children to cope. Despite lack of empirical evidence on the efficacy and effectiveness for their suggested interventions, this practical advice from knowledgeable professionals in the field and from experts is useful. Their advice clusters around themes, with the majority of focus on communication with children and on maintaining normal routine.

Communication

The majority of authors emphasized the importance of parents talking to children. Adults were seen as having an important role in helping the child to understand the events (Coufal, 2002). A first step might have been to determine the child's understanding (NASP, 2001). Then parents were advised to talk at the appropriate developmental level (Underwood & Kalafat, 2002). Waters (2002) suggested beginning a dialogue by asking the child what he or she had heard. Parents were advised to listen (Waters, 2002), but also to provide background information and context to aid the child's understanding (Coufal, 2002).

Provide factual information

Within the dialogue with the child, parents were also advised to provide concrete, factual information (Atwood & Donnelly, 2002; Lavoie, 2002; NASP, 2001; U.S. Dept of Ed, 2002). Regardless of a child's age, children should receive facts, rather than a fantasized account of the events or lies, especially in response questions. NASP (2001) stated that all children benefit from factual information presented at their level of understanding. They also advised parents to be honest, but reassuring, taking time to discuss the child's thoughts, feelings, and reactions to information. Additionally, Atwood and Donnelly (2002) suggested showing maps of locations and distances to help children to understand.

Assurance and support

Through the dialogue, authors also advised providing assurance and support. More specifically, they focused on assuring children that adults are trying to keep them safe (Lavoie, 2002; Squires, 2002; US Dept of Ed, 2002).

Discuss emotions

Another theme of the articles' advice was the discussion and validation of feelings (Atwood & Donnelly, 2002; Lavoie, 2002; Schonfeld, 2002). Parents, teachers, and mental health workers should have acknowledged and recognized sadness, fear, anger, and other emotional responses. Where children were having difficulty expressing emotions or expressing them appropriately, adults should have helped them to identify and express their emotions.

Avoid stereotypes

An important consideration during communication with children recognized in the literature was to avoid using stereotypes. Lavoie (2002) and the U.S. Department of Education (2002) emphasized the importance of not stereotyping the perpetrators of the attacks. Adults should have helped children to understand that there are people from other countries living in America who were not involved in activities such as the attacks. Adults should be particularly careful about their prejudices when communicating with children.

Normal routine

In addition to the importance of dialogue, the second most common advice related to maintaining a normal routine (Atwood & Donnelly, 2002; Lavoie, 2002; NASP, 2001; Schonfeld, 2002; US Dept of Ed, 2002; Waters, 2002). While many children experienced disruptions to their lives, parents were advised to keep their routines as normal as possible. This was important in order to reestablish a sense of stability, avoid additional confusion, and aid feelings of anxiety and fear. One deviation was by the U.S. Department of Education (2002), who suggested that it was okay to allow children to alter routines, for example allowing them to sleep with parents, but to be clear that changes would be temporary.

Television watching

Schonfeld (2002) and the U.S. Department of Education (2002) advised that television viewing should be limited. In particular, television documentaries related to September 11 should have been limited due to their graphic content. Additionally, children's exposure to the radio and internet news should have been closely monitored as

well, in order to avoid excessive exposure (US Dept of Ed, 2002). Both articles advised that when children were exposed to media coverage, parents should have watched with them and again created a dialogue to discuss what they were seeing, hearing, and how they were feeling.

Activities

It was also suggested that children be provided with opportunities for activities to express their feelings in a productive manner. For example, NASP (2001) suggested that making drawings, writing letters, and sending money to relief charities might be important to some children. Similarly, Schonfeld (2002) and Atwood and Donnelly (2002) recommended giving children opportunities to create artwork, paint, use puppets, use clay and write. Other suggested activities included donating blood or helping community organizations (US Dept of Ed, 2002) or helping to plan memorial events (Schonfeld, 2002).

Be alert to changes

As several articles focused on children's potential reactions to the events, they alerted adults to be aware of these possible changes in behavior. Squires (2002) and the U.S. Department of Education (2002) warned parents to look especially for misbehavior, sleeplessness, nightmares, recklessness, and anxiety as signs that the child may require additional help in coping. Squires recommended consulting with a counselor or mental health care provider if necessary.

Advice for schools

Much of the advice for parents or for adults in general can be applied to teachers and other professionals within the schools. Educators should also heed advice about

appropriate communication with children, including providing factual information, avoiding speculation and rumors, avoiding stereotypes, being supportive and assuring, as well as maintaining a normal routine, paying attention to changes in behavior, and providing opportunities for involvement in activities related to 9/11. As children were looking for reassurance and help from adults, educators should have been available as another trusted adult in their lives.

Several authors also offered specific advice for what actions schools could take to help children cope (Luna, 2002; NASP, 2001; Schonfeld, 2002; Squires, 2002; US Dept of Ed, 2002; Waters, 2002). One such suggestion was that schools incorporate training programs in social skills, self-management, and coping strategies in the curriculum. Waters (2002) viewed training in coping strategies as an important preventative measure for both students and teachers. NASP (2001) said schools should teach self-control and self-management skills that can be used under stressful conditions like school crises and terrorism, especially for the special needs population who may not have these behaviors in their repertoire and may be more apt to react inappropriately. Similarly, Squires (2002) advised teaching social skills with an emphasis on appropriate reactions to stress, crisis, and sadness, as well as modeling appropriate emotions for situations.

September 11 was also seen as a teaching opportunity for schools. Squires (2002) recommended taking time to teach children the meaning of the words they were frequently hearing related to the event, such as “terrorism,” and “horrific.” Teachers might also talk about the value of independence, democracy, and engage in patriotic activities (US Dept of Ed, 2002). When implementing these activities, as well as simply having discussions about the events, classroom teachers should have been provided with

guidance about how to approach the topic (Schonfeld, 2002). This might have been the role of the principal (US Dept of Ed, 2002) or the school psychologist. Additionally, schools and education were seen as a primary vehicle for fostering understanding, respect, accepting differences, and fighting racism (Abu El-Haj, 2002). Classrooms were a very appropriate place to talk about the dangers of stereotypes, and schools should have had a zero tolerance policy with regards to acts of discrimination.

The psychosocial needs of the students as a group and individually should have been attended to. Whether in a school directly affected by the attacks or across the country, students' psychological reactions and needs should have been recognized. Luna (2002) suggested using large-group approaches to assessment and intervention in the schools following the terrorist attack. Examples of large-scale actions that could be used as both assessments and interventions were art, music, writing projects, and community meetings. Luna stated that these group actions could help restore a feeling of community, support, safety, and well-being.

Finally, communication with parents was viewed as a very important consideration for schools. Schonfeld (2002) recommended that schools inform parents about the discussions in the classrooms and provide them with advice on how they could continue these discussions at home. NASP (2001) and Luna (2002) also stressed the importance of parents and teachers working together. In addition to sharing information about what the students are hearing, they could also inform each other of any observed changes in behavior at home or at school.

Other specific advice

Additional advice for special needs children was also provided in the literature. For example, NASP (2001) offered specific advice for parents and teachers of children with autism, learning disabilities, emotional disturbance, and visual, hearing, and physical limitations. While there were some special considerations for these populations, for example helping a visually impaired child who could not see representations of the attack to understand what occurred, often the advice could be applied to all children. For example, in Lavoie's (2002) article aimed at adults working with children with learning disabilities, recommendations were to talk to the child, provide accurate information, assure the child that he is safe, acknowledge and validate emotions, maintain normal routines, be honest and accurate in information, and avoid using stereotypes. Obviously this information was applicable to all.

Case Studies and Observations

After presenting the field's predicted reactions and advice to caregivers, the next focus of this review is to examine actual responses and interventions. In the history of crisis and disaster situations, there is little empirical study on effective interventions related to helping children cope (Katz, Pellegrino, Pandya, Ng, & DeLisi, 2002; Pine & Cohen, 2002; LaGreca, Silverman, Vernberg, & Roberts, 2002), largely because of practical, ethical, and moral constraints. Factors contributing to the difficulty of conducting research on interventions in the wake of trauma including the impossibility of predicting when a situation might occur and its type in order to be prepared with an intervention to implement, as well as the difficulty for researchers to act quickly because

of the need for IRB review. Ethical and moral dilemmas also play a role, as the focus should be on helping the children recently exposed to a crisis rather than implementing an empirical study, and additionally treatment should not be withheld from any group. These factors may have influenced the study of children following September 11 as well, as there is limited data available from quantitative studies on psychological reactions, and no published empirical studies on interventions. However, there are several articles presenting case studies, vignettes, and observations of children, from which we can begin to learn about their actual responses and the interventions used.

Ten journal articles incorporated examples or observations of children's responses in some manner, whether or not it was the specified focus of the article. These examples of actual reactions were related to children's play (Beresin, 2002), art therapy and art activities (Buck, 2002; Coufal & Coufal, 2002; Henry, 2002; Howie et al., 2002; Linesch, 2002), drama therapy (Landy, 2002), children's statements about what to do with the World Trade Center site (Low, 2002), a clinical case example of Post-Traumatic Stress Disorder (PTSD) (Duggal et al, 2002), and a narrative by a mother with a kindergarten boy (Mills, 2002).

The majority of responses discussed in the literature related to children creating art, whether through art therapy or an art activity. Nondirective art activities revealed children's thinking and understanding of the events. In one reported activity, Linesch (2002) observed that when given the opportunity to draw, many children drew towers and airplanes, while the school and parents had reported that the children were unaware of what had happened and had not been told. Coufal and Coufal (2002) also reported drawings focused on similar themes. When a third grade classroom was asked to draw the

gift they would like to give the American people, drawings and their accompanying written responses focused on giving love, peace, happiness, flags, and freedom. One child wrote, "I want to give the USA love because of September 11" and drew two towers surrounded by hearts. In Henry's (2002) observations of children's writings and drawings at the Union Square, New York memorial, similar drawings of towers were noted. Through children's art, a sense of resiliency, hope, and positive images were present.

Children also expressed themselves through play, whether spontaneous or through therapy interventions. Beresin (2002) discussed observations of children's play following September 11. Children's play included singing rhymes about 9/11, play-fighting, a game of "Americans and Terrorists" (rather than "cops and robbers"), and one boy pretending to bomb buildings by crashing a wooden block into a building created with blocks. In a more therapeutic setting, Landy (2002) described an eight-year-old boy burying firemen figures in the sand and then uncovering them one by one. Like their use of art, play seemed to help children express their feelings, and reflected their resiliency.

The theme of resilient responses, or children's ability to function well despite adverse circumstances, continued in Mills's (2002) narrative of her experience. Mills's son was beginning kindergarten at P.S. 234, three blocks from the World Trade Center, at the time of the attack. She noted that children seemed especially resilient, while parents may have been more anxious. In contrast to the many resilient children, Duggal, Berezkin, and Veneeth (2002) reported a case of a seventh-grade boy with PTSD. While perhaps the exception, they present an interesting case of the boy meeting criteria for a diagnosis of PTSD, with symptoms including fear, avoidance of discussions, nightmares about planes and mangled bodies, anger, significant startle response, sadness, difficulty

sleeping, loss of interest in play, fatigue, and poor appetite weeks after he had watched television images of the planes crashing into the World Trade Center. Yet overall, the literature illustrating children's responses is incongruent with the predicted responses. Whether children were in fact resilient or rather authors chose to focus on these positive examples will be discussed further with results from quantitative studies.

Several articles provided examples of interventions for children following September 11 (Black, 2002; Buck, 2002; Howie et al, 2002; Landy, 2002; Linesch, 2002; Underwood & Kalafat, 2002; Waters, 2002) While none of these involved empirical studies to support the interventions, they are useful for documenting what types of interventions were used in the field. One type of intervention was art therapy, which was used to provide children with an opportunity to express their feelings about the events (Buck, 2002; Linesch, 2002; Howie et al, 2002). Howie et al (2002) discussed an art therapy intervention with children directly affected by the attack on the Pentagon, ranging from infants to teenagers. Using an open-ended art therapy intervention without introducing themes, children used drawing, clay, and other modalities to express themselves. The authors stated that the "major goals of the art therapy interventions were to assist, witness, and encourage the development of personal, coherent stories about the trauma and to encourage spontaneous narratives to emerge. Thus, children would be able to begin to process what had happened to them and their families" (p. 102). Buck (2002) used an activity involving decorating envelopes and filling them with pieces of paper on which the children had drawn or written what they do to make themselves feel better. Following this activity, children were able to talk more openly about their feelings at

home, experienced lower anxiety levels, and improved sleep, as reported by parents in a phone interview with the author.

With a significant amount of advice aimed at schools and educators, schools' actual responses seemed to vary. Waters (2002) reported that some schools lead discussions of terrorism, while others chose to have no discussions at all. At Stuyvesant High School in New York City, students created a mural after September 11, and also helped with food and supply delivery to emergency workers (Luna, 2002). In some cases, school psychologists, counselors, social workers, and trauma experts were involved in interventions, as either the provider or as a consultant, while at other schools these resources were not utilized. Underwood and Kalafat (2002) wrote a case study of a workshop for teachers and mental health workers, which focused on teaching them about children, trauma, and how to help. However, they did not provide results about whether or not the knowledge and strategies from the workshop were implemented in schools.

The interventions likely varied by the needs of the children, the setting, and the role of the mental health care provider. Black (2002) discussed the many roles of child and adolescent psychiatrists at the Pentagon. Interventions used included debriefing, educational sessions, consulting with others about how to respond to children and families, direct crisis interventions, supervising other providers, helping children cope with loss, aiding return to normalcy, and taking care of themselves.

Quantitative Studies

At present, there are only four published articles providing data about children's responses to the events of September 11 (Chen et al, 2002; Schlenger et al 2002; Schuster

et al., 2001; and Stuber et al, 2002). These studies were all in the form of surveys or questionnaires of parents' impressions of their children's responses. Schlenger, Caddell, Ebert, and Jordan (2002) conducted the National Study of Americans' Reactions to September 11. In their survey of adults, they asked whether any child in the house was "upset" by the events of 9/11. 60.7% of parents in the New York City metropolitan area reported a child being upset. In comparison, rates of children being upset in other geographic locations were 57.3% in other metropolitan areas, 54.9% in Washington, D.C., and 48.0% in the rest of the United States. These differences were not significantly different statistically from each other. Schlenger and colleagues also reported that the mean age of the children perceived as most upset was eleven years of age, and there were no sex differences in the upset children. They provided some data on children's actual reactions, as they found that of the "most upset" children, 19.8% were having difficulty sleeping, 29.9% were irritable, grouchy, or easily upset, and 26.5% fear separation from parents.

Chen, Chung, Chen, Fang, and Chen (2003) reported results of their survey of 555 residents in the New York City Chinatown community. Their survey focused on retrospective perceptions (2 weeks after 9/11) of emotional distress immediately after the events and five months later. While the majority of their sample were adults, ages ranged from eight to eighty-six. Overall, 59% of their sample reported having four or more symptoms immediately following 9/11, and the percentage dropped to 17% five months later. Children (under age 20) reported on average between three and four symptoms of emotional distress initially, dropping to between one and two symptoms five months later. This data is significant in its suggestion of children experiencing multiple

psychological responses immediately after 9/11, with a reduction of symptoms over time. Chen and colleagues also reported that overall people in their forties and fifties seemed to have had higher emotional distress than both younger and older groups. This suggests that those adults, who were of the age of parents and caregivers to children, were experiencing higher levels of stress than children.

Schuster, Stein, Jaycox, Collins, Marshall, Elliott, Zhou, Kanouse, Morrison, and Berry (2001) also collected survey data from parents, with a focus on children's stress, television viewing, and conversations between parents and children. Their sample included information on 170 children. With regards to psychological responses, 35% of children had one or more stress symptom (including difficulty concentrating, difficulty falling asleep, losing temper/irritability, and nightmares), and 47% were worried about their own safety or the safety of loved ones. However, this is likely an underreporting of children's stress symptoms, as it is based on parents' perceptions rather than the child's report. Prior research shows that parents may underestimate children's stress levels and persistence of symptoms following trauma (Burke, Borus, Burns, Millstein, & Beasley, 1982; Yule & Williams, 1990; Lyons, 1987). Schuster and colleagues found a significant correlation between parental and perceived child's stress, such that parents with higher reported levels of stress were more likely than others to report that their children had stress symptoms. This correlation raises the question of whether it is due to the parents' perceptions, which may or may not be accurate, or if children were picking up on cues from their parents, causing increased anxiety and fear.

Schuster et al also reported data relating to television viewing and dialogue between parents and children. With regard to communication, 84% of parents reported

that they had talked to their children about the attacks for an hour or more. This indicates that parents did talk to children about the events, as the literature had recommended. Only 1% of parents reported that they did not speak with their children about the attacks, while 15% discussed it for less than one hour, 48% for 1 to 3 hours, 22% for 4 to 8 hours, and 14% for 9 hours or more. They found a general trend that parents spent more time talking about the events with older children. With regard to television viewing, mental health professionals had recommended that parents restrict viewing, and the study found that parents did do this, particularly for younger children. Overall, children watched television coverage for a mean of 3.0 hours on September 11; 8% did not watch any coverage; 33% watched for an hour or less; 36% watched for 2 to 4 hours; 25% watched 5 hours or more. In general, older children watched more hours of television. 34% of parents reported limiting television viewing, more for younger children than for older children. Parents who tried to restrict television exposure reported their children watched an average of 2.3 hours, compared to the average 3.4 hours for children whose parents did not restrict viewing.

While there is no available empirical research on interventions related to 9/11, one survey by Stuber, Fairbrother, Galea, Pfefferbaum, Wilson-Genderson, and Vlahov (2002) reported rates of counseling for children in Manhattan post 9/11 and related factors. They interviewed 112 parents of children ages 4 to 18 living in Manhattan about the child's level of exposure, extent of loss, reactions, and whether or not they received some form of counseling. Within their sample, 32% of children had parents who witnessed the disaster in person, 10% of parents reported that a friend or relative had been killed, and 17% of children knew a teacher who lost someone. Results showed that

22% of children received some form of counseling related to their experiences after 9/11. Of those receiving counseling, 58% was received in schools either by teachers (33%) or school psychologists (25%), 21% was provided by psychologists or psychiatrists, and 21% by social workers. Their finding that nearly a quarter of children received counseling related to 9/11 is striking, as well as the finding that most of the counseling was provided in the school setting. Stuber and colleagues found that significant predictors for receiving counseling were being male, having a parent with PTSD related to the attacks, and having at least one other sibling in the household. Similar to the findings of Schuster et al, Stuber and colleagues found that 26% of children had watched four or more hours a day of 9/11-related television coverage.

In another survey of mental health usage after 9/11, Galea, Resnick, and Vlahov (2002) reported no substantial increase in mental health services usage in the first month after 9/11. While their sample was not specifically children, it is relevant, as Stuber's results indicate that whether or not children receive counseling outside of school is related to their parents' psychological distress, particularly as parents are the decision makers regarding psychological services. In their survey of Manhattan residents, 16.9% reported seeing a mental health professional in the thirty days prior to 9/11, and 19.4% reported mental health usage during the 30 days after, which was not a statistically significant difference. This suggests that existing therapeutic relationships or informal sources of support, such as family, friends, and places of worship, were the primary resources for support and comfort in the first few months after 9/11.

Recommendations for Practice

The present body of literature provides insight on mental health services for children related to September 11 and to trauma in general. Overall, the research highlights the need for greater recognition of the mental health needs of children affected by trauma and crises. In response to September 11, children were affected in myriad ways, and the research shows that their reactions included stress symptoms, worry, and other emotional distress. Thus, in the event of future trauma, mental health professionals should have an awareness of typical responses and be prepared to provide interventions for children in need.

This review offers practical experience from a variety of mental health professionals, from which we can learn in order to create better interventions. In planning interventions in response to crises, we should be aware of interventions used in the past and found to be clinically useful. We do not need to re-invent the wheel each time, so to speak. In addition, it may be useful to have advice, handouts, and psychoeducational materials developed in response to past traumas to offer teachers and parents.

A final significant note is that research suggested that the majority of mental health services provided to children in response to 9/11 occurred in schools (Stuber et al, 2002). As parents may decide not to seek out mental health services for children following a trauma, or may be unaware of the psychological sequelae, schools emerge as an important setting for assessment of need and opportunity for intervention. Thus, an important role for the field of mental health may be more involvement in consultation with schools and teachers, and availability through which schools can make referrals. In addition, the roles of school psychologists, counselors, and social workers within the

school may have increased significance following trauma as the initial providers of information, advice, assessment, and intervention for parents, teachers, and children. Thus, appropriate training and knowledge in trauma and crisis intervention would be valuable for these clinicians.

Future Directions for Research

As the majority of the articles on child mental health related to September 11 are not based on empirical evidence, there is a great need for more research on psychological sequelae and interventions for children following crises. In their review of the literature on psychiatric outcomes and interventions following disasters, Katz, Pellegrino, Pandya, Ng, and DeLisi (2002) suggested that research on the topic of child mental health, in particular, is lacking. Pine and Cohen (2002) also offer an excellent review of the literature on trauma, predictors of psychopathology, and treatment, but little information specifically about children. We have limited data from past crises, such as the bombing of the Oklahoma City federal building (Pfefferbaum et al, 2000; Pfefferbaum et al 2001; Pfefferbaum, 2001) and the 1993 bombing of the World Trade Center (Koplewicz et al, 2002), to which we can compare the data on 9/11. Hopefully more studies were conducted and will be published in the near future. At this point, retrospective studies would likely not be accurate, so we are relying on data that was collected in proximity to the events of 9/11. Important areas of research include more information on children's psychological and behavioral responses to traumatic events, interventions and services provided by mental health professionals, and the effectiveness of interventions.

This review has revealed the need to be prepared in the case of future crises. We need to be prepared not only to help children, but also to gather data. We are not advocating that the first priority should be using victims for research. The focus after a crisis should be interventions and care for the children affected. We also recognize that the opportunity to collect data during interventions may not be feasible, as it takes time for IRB and human subjects approval. However, using opportunities for data collection is important, in order to provide colleagues with valuable information about how to best help children in the wake of potential future crises. If our priority is to help children, we need to learn from the past. Only by analyzing the reactions of children and the effectiveness of intervention models used in the past can we as mental healthcare providers hope to improve our responses, advice, and treatment techniques in the future when faced with large-scale crises.

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