Prosocial Skills and Adolescents' Response to Trauma: The Role of Social Support and Parental Behavior from a Psychoanalytic Perspective

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Abstract

Natural disasters have a great impact on children and often lead to post-traumatic stress disorder. The purpose of this study was to investigate the psychological impact of a large forest fire on adolescent students. Based on Winnicott's notion of concern, Bion's three basic assumptions, and Hopper's theory of incohesion in groups and group-like social systems, a conceptual framework for responding to trauma was explored. Specifically, this present study examined the role of parental behaviour and social support in adolescents' response to a traumatic event, such as a wildfire and the corresponding level of prosocial behaviour reported by adolescents. Data were used from a study designed by the Department of Child Psychiatry of the National and Kapodistrian University of Athens and implemented by the Hellenic Association for Analytical Group & Family Psychotherapy. The sample consisted of 393 students (61% girls) from primary and secondary schools (mean age 14.3 years) in East Attica, Greece, where the forest fire occurred. Data were collected using the Greek version of the Parental Behavior Inventory (Parker et al., 1979), the Oslo 3-item Social Support Scale (Dalgard et al., 2006), the Child Revised Impact of Events Scale-8 (Perrin et al., 2005) and the Prosocial Dimension from the Greek version of the Strengths and Difficulties Questionnaire (Giannakopoulos et al., 2009; Goodman, 1997). Goodness-of-fit indices showed that the model was verified. Differences were also found between genders but not between educational levels. The results are discussed in terms of their implementation in group psychotherapy, educational practise and further research, especially with regard to adolescents' reactions after a traumatic event.

Keywords: *prosocial skills; prosocial skills; social support; social support; post-traumatic growth; post-traumatic growth; parenting; incohesion in groups.*

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Introduction

Natural and man-made disasters, apart from the direct social, environmental and economic negative impacts, can cause numerous psycho-emotional reactions in the affected population, which in many cases take the form of collective trauma (Lee et al., 2020). Such collective trauma can encompass a wide range of emotional, behavioral, and cognitive negative reactions and can take a toll on the mental health of the general population (Pietrzak et al., 2012). There is a large body of scientific literature highlighting the detrimental effects of crises on both adults and children (e.g. Rubens et al., 2017, Lee et al., 2020). Children who have been exposed to a natural disaster often suffer from symptoms of despair, emotional problems and disorders such as post-traumatic stress disorder (Vezzali et al., 2016). However, few studies have focused on the positive outcomes after experiencing a traumatic event such as a natural disaster, for example a fire, hurricane or earthquake (Cryder et al., 2006). Research suggests that experiencing adversity can contribute to positive post-traumatic growth in individuals (Cadell et al., 2003; Tedeschi & Calhoun, 2004; Self-Brown & al., 2017), which can lead to long-term strengthening of empathic capacity and prosocial behavior, responses that appear to be compensatory for the initial unpleasant feelings immediately following the traumatic reaction to crisis (Greenberg et al., 2018).

Crises

Crisis situations are generally referred to by many different terms, such as disaster, emergency, misfortune, accident, extraordinary/unusual event, major incident or traumatic events. Each of these terms has a different conceptual nuance, which sometimes leads to misinterpretation (Rose et al., 2020). Slaikeu (1990) describes a crisis as a temporary state of disruption and disorganization, characterized primarily by an individual's inability to cope with the specific situation using standard coping mechanisms, and potentially leading to various positive or negative outcomes. The concept of disaster has also been defined as an event that causes a sudden and unexpected disruption to the social context (Gill & Malamud, 2017). The event itself, such as an earthquake or hurricane, can be sudden and the scale, scope and impact are often unpredictable.

The way crisis situations are classified also varies. A distinction is made between developmental crises, i.e. events related to the psychological process of transition to a new stage of development, and situational crises, which are associated with specific events, such as (a) serious illness or injury, (b) death, (c) threat to life or physical integrity, (d) war-like events, (e) natural disasters, (f) occupational accidents or accidents due to human error (Hatzichristou et al., 2012).

It is important to emphasize that the nature of the resulting disasters and consequently the corresponding behaviors must be distinguished. Depending on the scale and duration of the phenomenon, the degree of uncertainty surrounding the event, the number of victims, the number of intervening agencies, the publicity and the challenges to be overcome, but also the type, cause or even repeatability, quite different mental, emotional and behavioral reactions may be expressed (Lagadec, 1987). In a crisis situation individuals tend to resort to mental regressions and display similar behaviors, since the internal and external adaptation of an individual,

group or system is disrupted, and the mechanisms that were effective until then are no longer sufficient to maintain stability or equilibrium, (Neuilly, 2008; Velissaropoulos, 2019).

As early as the end of the 19th century, Le Bon argued that the behavior of the masses during a crisis could take the form of unpredictable regressions. Freud identified three underlying principles in this behavior: (a) the coherence principle, which is inherently libidinous; (b) attachment to the leader, which is not only libidinous but also based on the identification of group members with the personality of the leader; and (c) the power of diffusion of ideas and feelings among group members, which leads to irrational behaviors (Freud, 1961). Given the helplessness in finding meaning and the failure in regulating overstimulation, it appears that every individual in crisis seeks what Solnit (2009) calls "another hand" to strengthen, reinforce or expand his or her individual anti-arousal system through regressive functioning. In this sense, regression could be defined as a temporary retreat to an earlier stage in which the individual chooses to re-cathect former developmental positions because of the reduced conflict load. This defensive, unconscious "backtracking" movement allows previously derived pleasure to be found again, along with earlier patterns of thought development, object relations and behavioral structure (Schutzenberger, 1971).

Based on previous thinking on the regression tendency of groups, one might assume that a disaster would trigger mass panic reactions, self-preservation and other extreme behaviors to escape the danger (Crocq & Doutheau, 1988). Surprisingly, it has been shown that in disaster situations there is no loss of social bonding, but rather prosocial behavior and mutual aid, and that collective flight and mass panic rarely occur (Neuilly, 2008). Indeed, the victims of the collapse of the Twin Towers in New York exhibited unprecedented altruistic behavior that enabled them to evacuate in an orderly fashion - without which the death toll would have been higher – rather than any type of individualistic behavior that would ensure self-preservation (Solnit, 2009).

Prosocial Behavior and its Development

The concept of prosocial behavior (as opposed to antisocial behavior) is a term coined by social scientists to describe a wide range of essentially voluntary actions aimed at benefitting another individual (Eisenberg et al., 2017). These actions include behaviors such as helping others, relieving others, sharing and cooperating (Batson & Powell, 2003). However, behaviors that are primarily motivated to benefit another person should be distinguished from behaviors that are intrinsically linked to some degree of reciprocity, such as cooperation (Rose et al., 2020). In general, prosocial behavior is associated with social competence and moral development and has been positively associated with adjustment in childhood (Eisenberg et al., 2015).

Empathic responses are linked to prosocial behavior, that is, voluntary behavior directed towards another (Eisenberg & Miller, 1987; Eisenberg et al., 2010). Accordingly, Paulus et al. (2015) argue that empathy is a necessary component of prosocial behavior. Eisenberg et al. (2006) state that empathy is defined as an emotional response that results from perceiving or understanding the emotional state of another. There is even evidence that the origin of empathy is ontogenetic/innate, meaning that the young child comes to

the aid of those who show mental distress or signs of danger (Dondi et al., 1999).

Developmentally there is a controversy over the onset of prosocial behavior. Although some researchers date the onset of prosocial behavior to around 25 months (Brownell et al., 2009; Liew et al., 2011), others claim that infants are able to identify with others by mimicking facial expressions as early as the first weeks of life (Repacholi & Gopnik, 1997). Hamlin et al. (2010) even argue that three-month-old infants prefer those who exhibit prosocial behavior over those who exhibit antisocial or neutral behavior based on visual stimuli.

Irrespectively, research has highlighted the importance of maternal practices in reducing young children's negative emotions and in developing active coping strategies for stressful situations, which were associated with significantly greater prosocial behavior towards unfamiliar adults (Eisenberg et al., 2017). Further research shows that supportive, responsive parenting and positive parent-child relationships are positively associated with prosocial behavior and empathy in children (Davidov & Grusec, 2006). These findings need to be considered bidirectionally, as there is a possibility that a supportive parenting style may have a positive effect on the emergence of prosocial behavior in children, while also being triggered and reinforced by children's prosocial behavior (Newton et al., 2014).

Natural Disasters and Adolescents

Natural disasters such as hurricanes, floods, tsunamis, earthquakes and forest fires disrupt the lives of social groups or communities due to the multi-layered and complex impact on the social ecosystem of individuals (Self-Brown et al, 2017). For children and adolescents in particular, such traumatic events can have a detrimental impact on their developmental trajectories, as they occur at key developmental phases, both biologically and psychosocially, and have long-term effects and impact on the life course (Greenberg et al, 2018). It is important to emphasize that children's lifestyles are significantly affected on physical, psychological, mental, and social levels, as not only they themselves, but also the lives of the community that supports them and on which they depend, are severely disrupted (Bernstein & Pfefferbaum, 2018).

When a child or adolescent is exposed to a traumatic event such as a natural disaster, this can result in a diverse range of responses, ranging from a minor disruption of daily life to the triggering of quite severe clinical symptoms and reactions (Revet et al, 2020). Therefore, most empirical research focuses on the study of clinical manifestations in children due to such events, most commonly PTSD symptoms, as the probability of their occurrence is particularly high and the psychological imprint that they leave on a person's life is quite significant (Lee et al., 2020). Much of the research also looks at the occurrence of related disorders in the respective population, such as the occurrence of depressive symptoms, mental distress and generalized anxiety (Hiller et al., 2018; Lee et al., 2020), panic attacks, addictive disorders or attention deficit (Revet et al, 2020). Some other research studies the occurrence of externalizing problems, i.e., maladaptive behaviors directed against the individual's environment, such as conduct disorder, aggression, defiance and psychosomatic symptoms (Lee et al., 2020; Self-Brown et al., 2017).

Surprisingly, however, relatively recent findings (e.g., Cryder et al., 2006; Meyerson

et al., 2011; Tedeschi & Calhoun, 2004; Vezzali et al., 2016) show the potential for positive outcomes in children's lives after experiencing a natural disaster, in addition to the negative effects that can result from experiencing a traumatic event. According to the theoretical model and early findings of Tedeschi and Calhoun (1995; 2004), post-traumatic growth (PTG) is seen as the possibility of positive development in the individual that results from the struggle to cope with and process unpleasant emotions that arise as a result of the traumatic event rather than the trauma itself. This struggle, as well as the unfolding anxiety, serves as a springboard for a process of rumination of facts and feelings that is initially intrusive, uncomfortable and automatic, but then transforms into a conscious and productive process of reflection and meaning-making as psychological discomfort is reduced and other supportive resources become available (Tedeschi & Calhoun, 2004). It is also important to emphasize that related concepts such as willingness to help others (physically and emotionally), altruism and empathy, i.e. dimensions of prosocial behavior, are positively correlated with PTG (El-Gabalawy et al., 2019; Greenberg et al., 2018).

Therefore, a supportive environment is considered important. It appears that social support is a predictive factor for the manifestation of PTG, not only because it plays an important role as it precedes the trauma, but because its presence even influences the neurophysiology of the brain by regulating pathological responses to stress via the hypothalamic-pituitary-adrenocortical (HPA) system, the noradrenergic system and the central oxytocin pathways (Ozbay et al., 2007).

More specifically, the presence of social support appears to have a decisive effect on the developmental course of children after experiencing trauma, as natural disasters are a form of collective trauma that massively affects the most common sources of social support and reference for the child, such as parents, family friends, peers, teachers and other community members (Bernstein & Pfefferbaum, 2018). Adults are objects of support for children, enabling them to understand the nature of events and responses to them, since adult interaction encourages children's emotional expression, provides non-critical validation of thoughts and feelings related to the disaster, and can also provide practical support (Cryder et al., 2006). However, the findings of research on children/adolescents following a natural disaster regarding the relationship between social support and post-traumatic development seem to be contradictory, as they seem to vary depending on the social and cultural background of each research sample, suggesting a different relationship between the role of social support in a collectivist society (such as China) versus a more individualistic society (e.g. USA) for the manifestation of PTG (Bernstein & Pfefferbaum, 2018).

The findings of research on the role of parents and family, who are the main source of support for children in dealing with trauma, are similarly contradictory. According to Hiller et al. (2018), parents' negative appraisal of the event, as well as their encouragement of avoidance behavior, appears to influence the nature of the appraisal and how children process the event. However, parenting style does not seem to be directly associated with better adjustment to the post-traumatic state. Corresponding results appear in the research by Kilmer and Gil-Rivas (2010), who studied children's perception of emotional factors such as warmth and acceptance, as well as

practical factors such as counseling in coping with the crisis. The research results paradoxically showed that theoretically protective factors such as warmth and family cohesion appeared to inhibit or reduce the occurrence of PTG in children, as their presence seems to help quickly alleviate psychological pain and reduce the degree of trauma processing and thus development. Only counselling appeared to be positively associated with children's post-traumatic growth, but not over time. On the contrary, Zhou et al.'s (2019) study of a total of 620 teenagers after an earthquake in the Sichuan region of China showed that a sense of safety and hope among teenagers was an important factor in promoting PTG and reducing PTSD symptoms.

Other research examining the relationship between posttraumatic stress disorder and growth found the unexpected result of a positive correlation between stress and post-traumatic growth, suggesting that psychological distress and growth often go hand in hand (Tedeschi & Calhoun, 2004). A study examining a fire-affected population (adolescents and parents) in California concluded that adolescents who experienced greater stress related to the disaster also had higher levels of PTG one year after the fire (Felix & al., 2015). Another study conducted after the deadly earthquake in China in 2013 found that children with more severe PTSD symptoms tended to have higher PTG (Jieling & Xinchun, 2017), suggesting the likelihood that some level of personal distress is necessary for positive change (El-Gabalawy & al, 2019).

Although manifestations of prosocial behavior, such as the tendency to help, empathy, compassion and altruism, seem to be positive responses to a traumatic event and could be considered part of an overall post-traumatic development that transforms the individual's unpleasant experience, to our knowledge few studies have focused on examining prosocial behavior in children and adolescents following a natural disaster. Greenberg and colleagues (2018) studied the emergence of post-traumatic growth and prosocial behavior (empathy and compassion) in an adult population who had experienced a traumatic event in childhood. According to the research findings, adults who had experienced a traumatic event in childhood showed higher levels of empathy, while the severity of the trauma was positively correlated with several parameters of empathic capacity. The specific results highlight that experiencing a traumatic event in childhood can increase long-term empathy, compassion and general ability to approach and understand another's point of view both mentally and emotionally. Furthermore, Vezzali et al. (2016) studied survivors of a natural disaster who engaged in socially supportive behaviors, thereby strengthening community cohesion and reducing existing rifts/conflicts. The stress caused by feeling insecure during a natural disaster seems to activate support networks and actions that compensate and cope with the negative dimensions of stress. The pain and mental discomfort are experienced by the members together and thus a stronger sense of community, a greater closeness, is created as the differences between the members (social class, national origin, etc.) temporarily disappear as they experience the pain equally together. This shared experience leads to changes in self or identity: one becomes closer, either through an identity fusion with other people (i.e. others become part of the self) or through sharing a common social identity with others (social identification) (Gaertner & Dovidio, 2000).This means that when experiencing a traumatic event, there is a high degree of overlap between the self and

others, leading to a greater desire to help and a stronger need to "co-exist" with others in such crisis situations (Vezzali et al., 2016).

The Theoretical Framework of the Research

While in recent years there has been increasing interest in studying the model of PTG in children after experiencing a natural disaster, there are few studies that focus exclusively on the relationship with the "Other" and emphasize the emergence of elements of prosocial behavior during and after a natural disaster through the relationship with immediate and wider groups, family and community. At a first level, it is hypothesized that prosocial behavior is rooted in the capacity of "concern", as defined by D. Winnicott and is closely linked to empathy and altruism (Rose et al., 2020). According to Winnicott (1984a), the concept of "concern" is a characteristic feature of social life. Psychoanalysts see its beginning in the emotional development of the individual. It is indeed important to know its etiology. We are also interested in why it cannot be installed or is installed and then lost. Winnicott goes on to explain that concern is the concept with the positive sign that follows the concept with the negative sign, namely "guilt". These two concepts correspond to M. Klein's concepts of "guilt" and "reparation", which concern the infant's feelings during the "depressive phase" of its life (Klein, 1998). The depressive phase was defined by M. Klein as the developmental phase in which the infant discovers and relates to a total object. In the depressive phase, anxieties arise from ambivalence, and the child's main fear is that his own destructive impulses have destroyed or will destroy the object he loves. Hence, Klein argues, come the feelings of guilt and reparation.

Extending this idea, Winnicott argues that guilt is an anxiety related to ambivalence and presupposes a certain degree of integration of the Ego that eliminates the urge to destroy the good object. Apprehension presupposes a greater capacity for object consistency and maturity on the part of the subject to turn towards the objects hitherto endowed with the instinctive impulses.

Therefore, preoccupation implies that the person attends to the other in the presence of a sense of responsibility. According to Winnicott (1984b), concern is the basis for the functioning of the family, in which all members actively participate beyond their pleasure. Concern, in the positive sense, emerges in the infant's early emotional age, at a time before the classic Oedipus syndrome, which defines the relationship between three or more individuals experienced as total objects (Winnicott, 1984c). Finally, it appears in the infant's life as a highly developed experience of mental encounter between the infant and the mother.

Following Klein's theoretical model, Bion (1961) introduced the concept of "basic conditions" (or basic assumptions) in his theory of group functioning, which he defined as the group's defense functions against further regression. Basic conditions are distinguished into three forms: dependence, fight/flight and pairing. Earl Hopper (2003), extending Bion's formulation, added another basic condition, "incohesion" with two distinct poles, aggregation and massification, defined by the final form that groups take.

According to Hopper, an "aggregate" is a simple form of social system. Its members are closely linked to each other. They are often silent for long periods of time and usually

avoid eye contact. He gives aggregation the metaphorical image of a collection of pebbles, a flock of flamingos or a group of penguins whose primary goal is survival. Another image could be that of a flock of birds flying together and constantly changing shape.

A "mass" stands for a social system that is not yet a group. But while the "aggregate" is characterized by great individuality, the "mass" is characterized by very little. Regarding "aggregation", Hopper gives the example of people in the underground station, while about "massification" he conveys the image of a political gathering. In the first example, individuals very rarely come into physical contact, whereas in the second example there is physical contact and even close contact. Where the silence of an aggregate is marked by reticence, non-recognition and non-communication, the silence of a mass testifies to the shared terror and sense of danger and the conviction that they do not need words to communicate.

Furthermore, incohesion is caused by trauma or a traumatogenic process. Group trauma causes social regression and the breakdown of boundaries between individuals and collectivity. A crisis can cause deep feelings of neediness in connection with a fear of annihilation. This fear involves psychic paralysis and the death of psychic vitality, characterized by intersection and fragmentation, followed by fusion and confusion of subject and object roles. Fusion and confusion are defense mechanisms against fragmentation. In a second phase, traumatized individuals use the defense mechanisms of projection and projective identification with repetition compulsion as a means of discharging horrific mental images by displaying frequent acting out without any signs of symbolism. Finally, detachment and isolation appear as the last defensive measures against annihilation.

The basic assumptions of traumatized social groups are passed down through generations and are based on projective identifications and other forms of communication between parents and children. Hopper emphasizes the fact that the formation of spontaneous communities that emerge after a natural disaster such as a flood, earthquake or fire includes members with strong altruistic feelings under certain conditions. At this point, one wonders whether the emergence of incohesion is put in the service of survival or even as a starting point for PTG.

Accordingly, Jacobson (1964, p. 41) states that "individuals or groups under the influence of any kind of terror (disasters, authoritarian regimes) can easily revert to magical experiences of fusion" hypothesizing that a traumatic stimulus can induce a regression to fixations in which caring, prosocial behavior, altruism and a tendency to merge have their starting point. This function of merging and mutual support could be understood as an atavistic function, similar to that of many species of birds or fish that approach each other when a predator appears and form a flock or school for defense purposes.

The Case of the East Attica Wildfire

In this context, we focus our interest on the investigation of a natural disaster that occurred in a semi-urban setting in Greece. On 23 July 2018, a widespread forest fire that started from the eastern side of Mount Penteli and reached Neos Voutsas and Mati caused enormous destruction in the forests and settlements of southeastern Attica (60,000 acres were burnt). Hundreds of residents were

forced to leave their homes and properties and relocate or be housed in temporary camps/reception centers. The speed and force of the fire due to the strong winds claimed many lives and burned hundreds of houses and vehicles. According to the official reports of the Hellenic Fire Brigade, there were 101 fatalities and 164 injured, including young children and adolescents.

Aim of the Study - Research Questions and Hypotheses

The study is part of a broader project designed by the Department of Child Psychiatry of the School of Medicine of the University of Athens, in collaboration with the Hellenic Society for Analytic Group and Family Psychotherapy (HSAGFP), with the aim of assessing the psychosocial state of children, their parents and teachers after direct or indirect exposure to the forest fire of July 2018. In this context, it was felt that the present study would provide valuable information on the mental health of this vulnerable population. The aim of the present study was to investigate the response of students attending local schools to the traumatic event in combination with the emergence of prosocial behavior. In general, it was hypothesized that students who reported a stronger response to the traumatic event would also exhibit higher levels of prosocial behavior and that this relationship would be reinforced by environmental factors, such as parenting and social support.

Due to the ambiguity of the research literature, a research question was posed: What is the influence of demographic data such as gender and age on the response to a traumatic event and prosocial behavior (RQ1)? The following research hypotheses were also explored: (H1) a positive correlation is expected between the response to the traumatic event and the manifestation of prosocial behavior; (H2) a positive correlation is expected between the "quality" of parental practices and the manifestation of prosocial behavior; (H3) no direct correlation is expected between parental practices and the response to the traumatic event, while on the contrary, a negative correlation is expected between social support as perceived by students and the response to the traumatic event (H4).

Method

Research design

The study followed a quantitative approach collected data through questionnaires. The sample survey was conducted in situ; a group of researchers –HSAGFP trainers and interns – visited the schools and distributed the questionnaires in the classes. Students were also asked to give some questionnaires to their parents to fill out, which were then returned to the school and collected by the researchers. Finally, information was also obtained from the teachers of the selected students. In this presentation, reference is made to the teenagers' data.

It was considered appropriate to collect the data by administering an anonymous, self-completed questionnaire to school classes, as the literature shows that many international studies on this phenomenon use this method of data collection. It has the advantage that the researcher does not influence the answers and the students surveyed can express themselves freely without their parents being present. Consequently, it is easy for students

to complete the questionnaires and more questionnaires can be completed in less time than other sampling methods.

In line with the university research ethics process, information about the aims and procedures of the study was provided on the first page of the questionnaire and reference was made to the voluntary nature of participation and the right to withdraw at any time. The Institute of Educational Policy (IEP) granted special permission to access the schools in the sample and administer the questionnaires to the students. For the adolescent sample, parental and student's consent was also obtained.

Participants

Three hundred and ninety-three pre-adolescents (Grade 6 primary school) and adolescents (junior high school, senior high school) participated in the study. The sample consisted of 40 primary school students, 251 middle school students and 102 high school students from schools in the East Attica region where the fire had spread. The mean age ranged from 12 to 18 years (M.O. 14.3 SD 1.71). Of these, 240 were girls (61%), while 326 lived with their parents (83%). Sixty-three percent of mothers (n = 242) and fifty-four percent of fathers (n = 208) had a university degree. Three hundred and thirty-seven students (86%) reported having siblings (sibling mean 1.45).

Measures

Child-Revised Impact of Events Scale-8 (CRIES-8).

The CRIES-8 is a widely used screening tool designed for use with children at risk of developing PTSD (Perrin et al., 2005). It is administered to children over the age of 10 and has been translated into many languages, including Greek. Responses are given on a four-point scale, where 1 = not at all and 4 = frequently (e.g., Are you trying to forget it? Do thoughts related to the traumatic event come to your mind without your wanting to?). Cronbach's *alpha* was calculated as .81.

Strengths and Difficulties Questionnaire (SDQ).

This is a brief and widely used self-administered questionnaire to assess behavioral problems in adolescents aged 11-16 years (Goodman, 1997). It consists of 25 closed-ended questions divided into five sub-domains examining emotional difficulties, conduct problems, hyperactivity/distraction, peer relationship problems and prosocial behavior in adolescents. The SDQ has been translated into over 60 languages, including Greek (Giannakopoulos et al., 2009), and has been tested for its psychometric properties in international studies with satisfactory results. In the present study, only the five items assessing the dimension of prosocial behavior (e.g., I often offer my help to others) were used. Cronbach's *alpha* was calculated as .64.

Parental Bonding Instrument (PBI)

To measure the relationship between the parent and the child, the Greek translation of the Parental Bond Measurement Scale (Avagianou & Zafiropoulou, 2008; Parker et al., 1979) was used. Two scales labelled "care" and " control " assess the basic parenting styles as perceived by the child. The survey is completed by adolescents who recall their parents' behavior towards them in the first 16 years. It is completed separately for mothers and fathers and consists of 25 sentences, 12 of which concern "care" and 13 "control". The PBI has been found to have good reliability

and validity. The internal consistency index was calculated as a = .68 for the mother and a = .73 for the father.

Social Support (The Oslo 3-Items Social Support Scale, OSLO-3)

The OSSS-3 consists of three items that assess the level of social support and is recommended for epidemiological and population studies (Dalgard et al., 2006). The total score ranges from 3 to 14, with high values representing strong levels of social support and low values representing low levels of social support. This continuous score is used to identify different groups by age and gender (Kocalevent et al., 2018).

Data collection

First, an application was submitted and approval was obtained from the Education Policy Institute of the Ministry of Education. Then, research team members made initial telephone contact with schools' principal to inform them of the purpose and content of the study. Then the research team members visited the schools for the first time to inform the principal and teachers and entered the classrooms to inform the students and hand out the consent forms for the parents.

During the second visit, the team collected the consent forms and distributed the questionnaires to those who had parental permission. The duration of the sampling was one hour; students with difficulties were given more time, mainly during recess. The team members remained in the classroom providing clarification to those students who had expressed questions.

Results

Data analysis

Assumptions of univariate normality in the data distribution were examined using the Kolmogorov-Smirnov test (Massey, 1951). Multivariate normality was estimated by Mardia's multivariate kurtosis skewness and test (Mardia, 1970). The null hypothesis was rejected for all tests (with all p-values<0.0001), suggesting a violation of univariate and multivariate normality of the PBI, CRIES-8, SDQ Prosocial and the Oslo-3 scores. Differences in demographic data with more than three categories were tested with non-parametric tests (Kruskal-Wallis H, one-way ANOVA on ranks) and Dwass-Steel-Critchlow-Fligner pairwise comparisons were carried out. For two-independent sample comparisons the robustness of the student's t-tests to deviations from normality were preferred to Wilcoxon-Mann-Whitney (WMW) tests which are most pronounced for small sample studies (Fagerland, 2012). Levels of correlation strength were interpreted as mild when in the .1 to .3 range, moderate when in the .3 to .5 range and large when over .5. All inferential analyses were conducted using Jamovi (v.2.3) at a specified critical p-value of <.05.

Gender comparisons

Table 1 presents the results of the independent-samples t-test for the items of the survey's variables by adolescents' gender. Statistically significant gender differences were identified in maternal care, reaction to trauma and prosocial behavior, where girls reported higher scores. Boys scored higher in reports for maternal protection.

Table 1. Results of t-Test and Descriptive Statistics for PBI dimensions, CRIES-8, Oslo-3 and SDQ Prosocial by Adolescents' Gender

Variables	Boys (N = 152)		Girls (N = 240)		t (df = 390)	d
	M	SD	M	SD		
PBI_Maternal Care	28.72	4.69	29.90	4.75	-2.40**	-.25
PBI_Maternal Protection	15.68	5.50	14.48	5.48	2.12*	.22
PBI_Paternal Care	27.56	5.34	27.09	5.83	.79	.08
PBI_Paternal Protection	13.61	6.04	13.66	5.74	-.08	.01
CRIES-8	14.31	8.92	18.73	9.42	-4.62***	.48
Oslo-3	11.60	1.81	11.63	1.87	-.14	-.01
SDQ Prosocial	7.49	1.99	8.03	1.89	-2.69**	-.28

*p< .05; ** p< .01; *** p< .001.

Educational level comparisons

Non-parametric tests were performed for PBI dimensions, CRIES-8, Oslo-3 and SDQ Prosocial items across adolescents' education level (elementary, junior high, senior high) (Table 2). Statistically significant differences were identified in maternal care, maternal protection, paternal care and social support. Post hoc comparisons indicated significant differences between 6th elementary and junior high adolescents in maternal care, $W = 3.55$ $p = .03$, and between junior high and senior high adolescents in maternal protection, $W = -3.31$ $p = .05$, in paternal care, $W = -5.93$ $p < .01$, and in social support, $W = -3.63$ $p = .03$. Junior high adolescents (aged 12 to 14 years) reported higher levels in all comparisons. No statistically significant differences were identified in paternal protection, reaction to trauma and prosocial behavior.

Table 2. Results of non-parametric ANOVA Tests (Kruskal-Wallis H) and Descriptive Statistics for PBI dimensions, CRIES-8, Oslo-3 and SDQ Prosocial by Adolescents' Educational Level

Variables	6th elementary (N = 40)	Junior High (N = 251)	Senior High (N = 102)	χ^2 (df = 2)	ε^2
	median	median	median		
PBI_Maternal Care	29.4[a]	30.0[a]	29.4	9.22*	.023
PBI_Maternal Protection	15.0	15.0[a]	14.0[a]	6.37*	.016
PBI_Paternal Care	27.3	27.3[a]	27.0[a]	20.90***	.053
PBI_Paternal Protection	13.6	13.6	13.6	2.31	.005
CRIES-8	16.0	17.0	17.0	.24	>.001
Oslo-3	11.6	12.0[a]	11.6[a]	7.40*	.019
SDQ Prosocial	8.0	8.0	8.0	.09	>.001

[a] Dwass-Steel-Critchlow-Fligner pairwise comparisons
*p< .05; ** p< .01; *** p< .001.

Gender vs educational level comparisons

Further analyses concerning gender vs educational level interaction were conducted using ANCOVA. Comparisons produced non-significant findings for reaction to trauma, $F(2.\ 371) = .18$ $p = .83$, and prosocial behavior, $F(2.\ 376) = 2.23$ $p = .11$. Therefore, gender differences on prosocial behavior and reaction to trauma stood regardless of educational level of the students.

Correlations

Table 3 presents the correlation matrix between all variables. The Spearman rho correlations between parenting dimensions, prosocial behavior and reaction to traumatic events were significant but low, ranging from .02 to .18. Only maternal care was found to correlate positively with prosocial behavior, *rho* = .18 $p < .001$, and reaction to trauma, *rho* = .10 $p < .05$, and paternal care with prosocial behavior, *rho* = .12 $p < .05$. Maternal and paternal protection produced no correlations with prosocial behavior and reaction to trauma. Moderate correlations were identified between social support and three parenting dimensions, i.e., maternal care, *rho* = .37 $p <$

.001, paternal care, *rho* = .31 *p* < .001, and paternal protection, *rho* = -.16 *p* < .01. The correlation between social support and prosocial behavior was also moderate, *rho* = .19 *p* < .001. Finally, reaction to trauma and prosocial behavior correlated positively at a moderate level, *rho* = .31 *p* < .001.

Table 3. Correlation matrix between parenting dimensions, prosocial behavior, reaction to trauma and social support

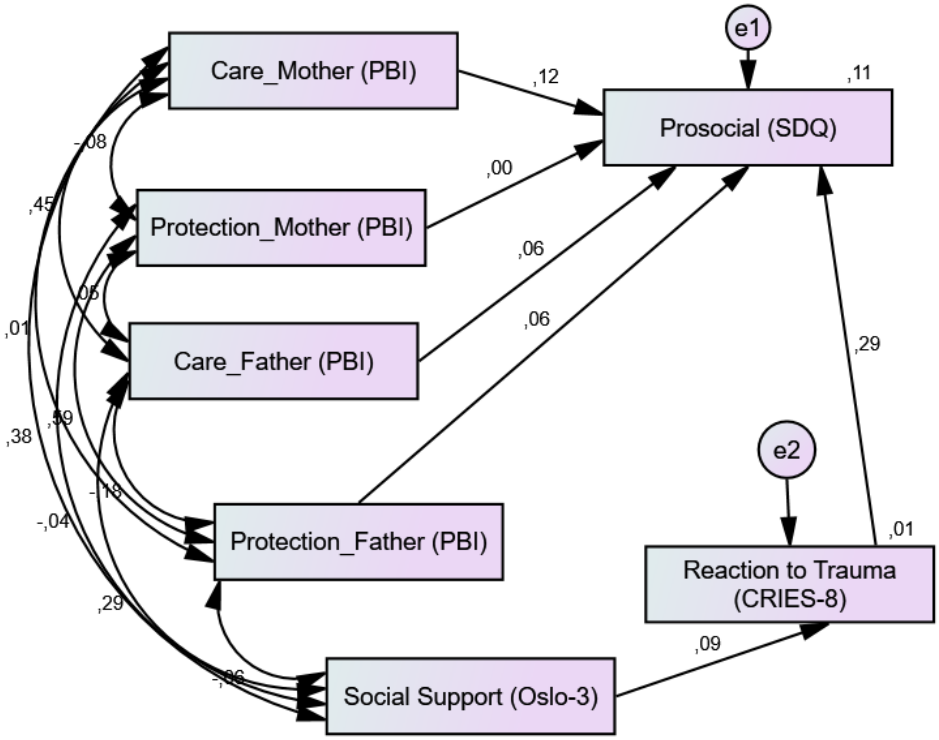
	Maternal Care (PBI)	Maternal Protection (PBI)	Paternal Care (PBI)	Paternal Protection (PBI)	Prosocial Behavior (SDQ)	Reaction to Trauma (CRIES-8)
Maternal Care (PBI)	—					
Maternal Protection (PBI)	-.09	—				
Paternal Care (PBI)	.45***	-.01	—			
Paternal Protection (PBI)	-.07	.44***	-.25***	—		
Prosocial Behavior (SDQ)	.18***	.03	.12*	.06	—	
Reaction to Trauma (CRIES-8)	.10*	.06	.02	.02	.31***	—
Social Support (Oslo-3)	.37***	-.09	.31***	-.16**	.19***	.09

*p< .05; ** p< .01; *** p< .001.

Model goodness-of-fit

The statistical model was tested for goodness-of-fit with the method of structural equations and maximum likelihood estimation. The regression is described using standardized regression weights. The proposed model (Fig. 1) presented a satisfactory fit, $\chi 2$ = 6.82 *df* = 5, *p* = 0.24, $\chi 2/df$ = 1.36, *TLI* = 0.98 *NFI* = 0.98 *CFI* = 0.99 *RMSEA* = 0.03. In particular, the effect of maternal care on the occurrence of prosocial behavior was estimated at statistically significant levels, β = 0.12 *p* < 0.05, as was the effect of reaction to the traumatic event on the occurrence of prosocial behavior, β = 0.29 *p* < 0.001. The effect of social support on reaction to the traumatic event ranged at marginal non-statistically significant levels, β = 0.09 *p* = 0.07. The coefficient of determination R^2 ranged at 0.11.

Figure 1. Statistical model of the prediction of adolescents' prosocial behavior by parenting, reaction to trauma, and social support



Discussion

The purpose of this study was to investigate the mental health effects caused by the July 2018 forest fire in East Attica on children and adolescents. It aimed to examine the response of students attending local schools to the traumatic event in combination with the emergence of prosocial behavior. Environmental factors that have been found to have a significant effect on the above relationship, such as parenting practices and social support, were also examined.

The research question of whether demographic variables, such as girls and age, are related to response to trauma and levels of prosocial behavior was answered by finding that girls exhibited higher levels of response to trauma than boys. This finding corroborates studies suggesting that females tend to encode and process emotional information in a more reflective manner, which facilitates later retrieval. Departing from Vygotsky's social constructivist model of cognition, Davis (1999) postulated that different sociocultural interactions, such as different early parent-child communication styles regarding the past and emotions, would elicit different memories in children. Namely, it was suggested that parents were observed to be more elaborative in their communication with their daughters and more pragmatic with their sons. Additionally, Bloise & Johnson (2007) point not only to socio-cultural parameters, but also women's greater sensitivity to emotions. Furthermore, research identifies female gender as one of the predictors of depression after community trauma, with female students reporting more severe trauma exposure, PTSS and less hope than male students (Lee et al., 2020; Zhou et al., 2019). On the other hand, most child stud-

ies that have failed to identify gender differences in PTG (Hafstad et al., 2017; Kilmer & Gil-Rivas, 2010).

Furthermore, girls also exhibited higher levels of prosocial behavior than boys. This finding is partly consistent with the evidence presented by Van der Graaff and colleagues (2017) that girls report increased prosocial behavior level up to the age of 16, while boys exhibit stable levels of prosocial behavior up to the age of 14. However, the finding that prosocial levels change in older adolescents (an increase in boys and a slight decrease in girls up to the age of 17) was not evident in the present study. This finding is also consistent with Croson and Gneezy (2009) that females are more sensitive and receptive to social cues such as altruism. The findings support the idea that prosocial behavior is associated with empathy-related traits such as empathic concern, which is particularly pronounced in girls.

The first research hypothesis was that a positive correlation between the response to the traumatic event and the manifestation of prosocial behavior was to be expected. Indeed, the reaction to the trauma was positively associated with prosocial behavior. This finding is in line with the study by Vezzali et al. (2016), who investigated the relationship between psychological distress and prosocial behavior in 517 primary school children who had experienced two earthquakes in the Modena region in 2012 and found that the severity of stress symptoms perceived as normal by children was indirectly related to the intensity of their intention to help and reach out to others.

The second research hypothesis was that a positive correlation was expected between high parenting quality and the manifestation of prosocial behavior. Indeed, high quality of parental care correlated positively with prosocial behavior. Specifically, maternal care seemed to associate with prosocial behavior and response to trauma, while paternal care was linked with prosocial behavior. The findings corroborate relevant research that supportive, responsive, emotion-focused parenting and a positive parent-child relationship are generally positively associated with children's prosocial behavior and demonstration of empathy (Eisenberg et al., 1996; Davidov & Grusec, 2006). Furthermore, authoritative parenting has been positively associated with general, public, emotional, anonymous, dire, compliant, and other specific types of prosocial behavior (e.g. sharing) (Wong et al., 2020). “Good enough” mothering is related to concern through an unconscious connection with a whole object that is invested with positive feelings of caring and love (Winnicott, 1984b).

Next, parenting was hypothesized to be insignificantly correlated with response to the traumatic event. The findings supported this assumption, in line with Hiller et al. (2018) who reported that parenting style does not directly relate to better adjustment to the post-traumatic condition. Parents’ negative appraisal of the event, as well as their encouragement of avoidance behaviors, appears to influence children’s appraisal and coping style with the event. It is therefore to be expected that other latent variables (e.g. age, gender, socio-cultural factors, etc.) attenuate or mediate the correlation.

The results could not confirm the last hypothesis that social support correlates negatively with the response to the traumatic event. This finding is at odds with research by Robinaugh et al. (2011), who found that greater social support and positive social in-

teraction, and lower negative social interaction, were each associated with a reduction in PTSD symptom severity 16 weeks after the traumatic event. This unexpected finding could be interpreted in such a way that adolescent students may have felt that the support they received from their social environment allowed them to express their feelings about the catastrophic event more freely.

Concerning the interactions between the variables in the study, the pathway linking response to trauma to prosocial behavior was found to be reinforced by social support on the one hand and maternal care on the other. This finding is sufficient evidence that Hopper's incohesion and Winnicott's concern highlight the mechanism of emergence of prosocial behavior through traumatic reactivity. In the first instance, the traumatic event triggers a regressive defensive response in the group through a reordering fixation, which in turn leads to the establishment of a new form of social bonding, including prosocial behavior. Thus, it seems necessary to expand the base of available mental resources in order to process the event. It can be assumed that if the trauma causes a rupture of the aversive system, due to the violent and excessive intrusion of stimuli, then the enlargement of the aversive system is sought through fusion with the other. This process requires "positive" regression so that the person can generally mentalize the traumatic event (Velissaropoulos, 2019). The "positive" regression in turn has its basis in a good relationship with the significant Other, i.e. the mother, the parents. The importance of a good relationship with the parents is thus emphasized.

Freud was the first to overcome the antinomy between the Ego-subject and the Ego-object that plagued philosophy. In his book *Group Psychology and the Analysis of the Ego* (1955), he argues that it is the Other who plays the role of the object, and that individual psychology is in a sense a social psychology. The generalized resistance to narcissistic trauma, but also the pragmatic Freudian terminology, presents the object to consciousness in a nebulous way and it is only in the terminology that the Ego is replaced by the Not-Me, that is, the object. Freud's anthropological theory is criticized for ignoring the Self, but on the other hand it is reality-based and does not digress into the Platonic heavens. The Ego is not defined a priori as a transcendental form but draws its existence from the interaction between the organism and the Ego of Others. The Ego acquires existence and value through identification with the Other and exists not as an isolated individual but as an equal among equals. Although the father of psychoanalysis never studied social structures as functional entities, Freud, as Norbert Elias eloquently points out, conceived a model of the individual that is extremely social and a model of society that is extremely individualistic (Elias, 1991). But to endorse Freudian discovery is ultimately to accept the conflictual nature of the relationship between the individual and society. We cite Freud's phrase: "In the individual's mental life someone else is invariantly involved as a model, as an object, as a helper as an opponent; and so from the very first individual psychology […] is at the same time social psychology as well." (Freud, 1955, p. 69).

Following Freud, many psychoanalysts such as Foulkes, Bion and Hopper have tried to bridge the gap between psychoanalysis and society. These efforts often go in different directions, but generally they attempt to combine psychoanalytic concepts with those of social theory. Indeed, the psychoanalysts who followed this path sought to find parallels and

correspondences between psychoanalytic and sociological concepts. They also showed the importance of intersubjective relationships and cultural factors in the context of the dynamics of the creation of the individual (Elias, 1991).

In traumatic events, if there are no structural deficiencies in the relationship and in the developmental path, regression will be positive in the sense that merging with the other and the environment (group, etc.) will not be experienced as merging with a rejecting, absent or inadequate parent. On the contrary, the environment that includes the individual himself through his fusion can be experienced as a sufficiently good, supportive and present parent, and the individual himself correspondingly able to support his environment. According to the Winnicottian notion of concern, this type of regression can be an opportunity for further development, transformation and maturation, i.e., post-traumatic growth. In this sense, trauma provides opportunity for evolution, growth and transformation, as positive psychological changes and personal improvements are observed because a new experience has been had to acquire new skills to cope with the trauma (Greenberg et al., 2018). When this trauma is experienced in childhood and has a good outcome, increased empathic capacity and even dispositional empathy (the basis for prosocial behavior) is observed in adulthood.

Implications

Processing a traumatic event is about the grieving process, both individually and collectively, something that can only be understood in a continuous and dynamic "discourse". The discomfort, pain and despair that a natural disaster causes in members of a community are integral emotions that result from the experience of collective trauma. However, whether these feelings lead to the establishment of PTSD or to positive results such as the manifestation of PTD and prosocial behaviour seems to be influenced by factors related to group dynamics at both community and family levels, factors that affect both individuals and groups.

Muldoon et al. (2019) report that traumatic events are associated with high rates of PTSD, while also being associated with increases in "community identity" and "collective efficacy." When belonging to a group is internalized in a person's self-concept, their sense of self and values are redefined, and distinctive features of intragroup relations, such as mutual cohesiveness, cooperativeness and uniformity emerge (Turner, 2010). On the contrary, René Kaës (1989) maintains that a mental catastrophe owes its disruptive and detrimental effect to the fact that the individual fails to place within his own unconscious and within the unconscious of any other person the burden and representation of trauma, because both the internal/intrasubjective and the external/intersubjective containers that facilitate the thinking process are destroyed.

With these considerations in mind, we believe that the findings could be further considered for therapeutic and educational practice. First, the present study could serve as a springboard for the development of a clinical tool for the evaluation of young children and adolescents. In terms of the ability to think and reflect on trauma, such a tool could assess the internal and external position that the Other occupies in children's lives, as well as the degree of intra- and inter-subjective openness to such a traumatic exposure. Such an assessment could help in early intervention in the community, both at preventive and psychotherapeutic levels.

In addition, establishing a therapeutic protocol based on group analytical principles could help young people and their families to be supported in the grieving process. Group therapy could provide a "container space" in which members can, on the one hand, “deposit” the mental burden of trauma in a safe place and, on the other hand, act as the Other in the manifesting basic prosocial behaviors such as empathy, interest and love. The conductor could promote group cohesion by taking the focus off the “real” event – especially after the necessary retelling on the part of the affected member(s) – and adhering mostly to the “symbolic state” that the event evokes inside the group, i.e., the feelings and fantasies of togetherness or dissolution of the group itself.

Finally, at the school level, groups of students and teachers could be organized to facilitate emotional exchange with the goal of sublimating the trauma both individually and collectively. Such activities should be implemented the very next day after schools reopen so that the traumatic event does not create for incohesion gaps in the students’ and teachers’ internal representations of the school, thus affecting their academic and psychological adjustment. Activities that include providing for those in serious need, helping to repair damage and strengthening safety and prevention measures could work profitably towards that end.

Limitations and Future Research

Several limitations of the present study need to be addressed by future research. First, the quantitative nature of the research methodology may have produced biased answers to close-ended questions and thus more qualitative data might be useful to further explore the actual feelings, thoughts and experiences of the adolescents. Therefore, a mixed methods approach should be implemented, including interviews, focus groups and open-questions surveys. Secondly, the participants were randomly sampled and proximity to the event was neglected. A study controlling for how close the students were to the traumatic situation could produce important findings concerning this risk factor. Third, the model only examined psychological variables, not demographic variables, suggesting that further studies are needed to explain the relationships with variables such as gender and age. Fourth, the relationship between post-traumatic growth and prosocial behavior was only examined theoretically, as the present study investigated responses to traumatic events. Future research could better empirically verify the connection between parenting - social support - prosocial behavior - PTG by explicitly distinguishing also between post-traumatic growth and depression.

Conclusion

We believe that maternal care is an important protective factor for children and adolescents against the adverse experience of a crisis. There also seems to be a mitigating relationship between the support that the social environment provides to the child and the way the child reacts after experiencing a traumatic event. This response could take the form of post-traumatic growth, which includes elements of care, support and offering to help others. Therefore, children and adolescents who feel cared for by their mothers and supported by their environment are expected to actively respond to traumatic events by exhibiting higher levels of prosocial behaviors. In

this way, they are likely to sublimate the destructive experience “into acts of higher social valuation” (Freud, 1961, p. 79). Viewed from a group analytic perspective, these two factors (i.e. relation with parents, support from the Other) are processed in the therapeutic setting, thereby enabling the individual to live a reparative parenting experience in the form of a relationship with the conductor and group members. In the educational setting, the relationship between school members could be strengthened after a traumatic event by sharing the burden of the intense feelings and resorting to supportive collaboration.

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