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Exploring post-traumatic stress symptoms in bullied adolescents

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Abstract

The dissertation explores post-traumatic stress (PTS) symptoms in bullied adolescents. The initial part of the literature review discusses prevalence, gender differences and developmental aspects of bullying. The risk factors of being bullied are explored as well as the subsequent sequelae. The second part of the review discusses the adolescent trauma literature, particularly focusing on the developmental issues and sequelae. Because only a small proportion of individuals experience PTS symptoms, the moderating and mediating factors of developing PTS symptoms are discussed. The final section of the review brings the two bodies of literature together and argues that some bullied adolescents may actually be experiencing PTS reactions.

The empirical study tests the argument proposed in the literature review that bullied adolescents experience symptoms associated with PTS symptoms, exploring the moderating role of social support and mediating role of dissociation. The participants were members of a secondary school (n=689) who filled in four questionnaires exploring bullying experiences, levels of dissociation and support, and PTS symptoms. The results indicated that those who reported being bullied experienced significantly more PTS and dissociation symptoms that those who reported not being bullied. Over half of those bullied more than once or twice had scores for the Impact of Events Scale which fell in the clinically significant range for PTS symptoms. Dissociation was found to be a mediator between bullying and PTS symptoms but social support was not identified as a moderator. The implications for clinical practice and future research are discussed.

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Bullying and post-traumatic stress symptoms in adolescents: Are there links between the two?

Abstract

This review explores the literature regarding bullying and trauma in adolescents. The study argues that the experience of bullying in adolescence is not part of normal development and there are a number of moderating factors that have been identified to increase the risk of experiencing bullying. The psychological difficulties following bullying are discussed in detail. The second part of the paper explores the literature regarding adolescents' experiences of trauma, including developmental aspects. Again it is identified that only a few individuals experience the full range of PTS symptoms and therefore a number of moderating factors have been identified which increase an individual's risk of developing these symptoms. The type of trauma has been divided into single event and chronic trauma, the latter more associated with abuse. Chronic trauma has been identified as leading to more complex and severe reactions and, in particular, higher levels of dissociation. Dissociation has been found to be a mediator of a number of psychological disorders including PTS. The final section pulls the two bodies of literature together and argues that the symptoms identified in bullied adolescents may actually be associated with a PTS reaction. The overlap in moderating factors strengthens this argument. Implications for future research and clinical practice are discussed.

Introduction:

Bullying in schools has been an international problem into which a vast amount of research and resources have been placed (e.g. Duncan, 1999; Pellegrini, Bartini and Brooks, 1999; Svensson, 1999; Menesini et al., 1997). Many studies have focused on prevalence of bullying (e.g. Whitney and Smith, 1993, Borg, 1999) with a current shift in interest towards the process of bullying (e.g. Baldry & Farrington, 1998; Kumpulainen et al., 1998). The majority of studies, however, appear to focus on applying the existing knowledge base of the bully process to developing school intervention and prevention programmes (e.g. Byrne, 1997; Olweus, 1997; Smith, 1997; Sutton & Smith, 1999). While many of these studies demonstrate successful reduction of bullying within school systems (e.g. Smith, 1997; Olweus, 1997) there is a continued need to understand the potential effects of bullying on the individual in order for a comprehensive range of interventions to be implemented.

It has been well established that victims of bullying risk experiencing low self-esteem, depression, anxiety, and interrelationship difficulties which can be far-reaching into their future (e.g. Gilmartin, 1987; Olweus, 1993a; Kumpulainen et al., 1998). However, despite the fact that a number of studies refer to bullying as a traumatic and abusive experience (e.g. Beane, 1998; Dawkins, 1995; Kumplulainen, R s nen & Henttonen, 1999; Olweus, 1997) very few papers have considered the possibility that adolescents may experience symptoms associated with post-traumatic stress (PTS) following this experience. This is particularly surprising considering the adult literature indicates that post-traumatic stress disorder (PTSD) has been found to exist in adults bullied within the workplace (Leymann, 1996).

This paper will focus on the experiences of adolescents (aged 11-16 years) who are victims of bullying (although relevant studies which only used younger

children will also be discussed). Factors associated with prevalence, moderators and subsequent sequelae of bullying will be explored in detail. Owing to limitations in space, this paper will not include those who bully, although it is recognized that they also have psychological difficulties (e.g. Kumpulainen et al., 1998). When possible, victims of bullying will be divided into those who are both bullies and victims (bully-victims) and those who are just victims. This is because important differences in terms of family, personality and psychological factors have been found between these groups (e.g. Baldry & Farrington, 1998; Kumpulainen et al., 1998). The second part of this paper will in parallel explore PTS reactions in adolescents. The final part of the paper will bring the two bodies of literature together arguing that there is a need to explore PTS symptoms in bullied adolescents empirically. Subsequent clinical implications will also be briefly discussed.

Definition of bullying:

Olweus (1997) defined bullying as when a student is "exposed repeatedly and over time, to negative actions on the part of one or more other students" when there is "an imbalance in strength (an asymmetric power relationship)" (p.496). As Baldry and Farrington (1998) point out, the bullying can be manifest in psychological, verbal and physical interactions. Consequently the imbalance in strength does not necessarily have to be physical but also involves personality, motivational, age, gender, emotional and authority factors (e.g. Farrington, 1993). The intention behind the action is deliberately to cause harm, often without provocation (Colvin, Tobin, Beard, Hagan & Sprague, 1998). The experience of being bullied can persist for many years (e.g. Olweus, 1993a; Kumpulainen, R s nen & Henttonen, 1999).

Defining chronicity and severity of bullying can be difficult. Most researchers tend to discuss these in terms of frequency or duration of bullying episodes (e.g.

Bernstein & Watson, 1997; Kumpulainen et al., 1998; Olweus, 1997). However, little is discussed about the subjective experience of bullying. Olweus (1997) distinguishes between repeated teasing and bullying by defining teasing as playful and relatively friendly. However it becomes bullying when it is of a "degrading and offensive nature and is continued in spite of clear signs of distress or opposition on the part of the target" (p.496). Consequently, whether a behaviour is defined as bullying or teasing seems to depend upon how it is perceived by the targeted individual. Distinguishing between types of bullying in terms of severity and consequences also appears to have had very little exploration, and virtually no bullying literature discusses sexual bullying.

Anecdotally, it appears to be common belief that bullying is part of normal development during childhood and adolescence, a process through which individuals learn to manage conflict and aggression. The next section will explore how normative an experience this is through looking at prevalence of bullying.

Prevalence of bullying:

In a UK survey (n = 7,000) of 17 junior/ middle schools and 7 secondary schools, Whitney and Smith (1993) found that 7% of junior school children were bullied (10% at least once a week). 6% of secondary school children admitted being bullied sometimes and 1% being bullied more than once a week. These figures are very similar to a national Norwegian study of 130,000 students (Olweus, 1997). The numbers indicate bullying to be a highly widespread international problem. However they also show that, despite common myth, bullying is not part of normal development. The figures according to Whitney and Smith (1993) indicate that approximately 94% of secondary school children do not experience bullying at all,

although it is possible that many individuals underreported their bullying experiences.

Gender differences:

In a wide-spread study, (n=5,813) exploring bullying in school children aged approximately 8 years (Kumpulainen et al., 1998), it was found that twice as many boys were found to be victims than girls. Boys involved in bullying were found to be more likely to be aggressive and exhibit externalizing behaviour than girls who tended to use more subtle harassment methods such as ostracising others. No significant mental health differences were found in boys and girls who were victims of bullying, both groups experiencing high levels of internalizing symptoms such as depression. This study appears to be methodologically sound and its main findings supported by other studies (e.g. Boulton & Smith, 1994; Slee, 1995; Whitney & Smith, 1993).

Age differences and developmental issues:

Several studies have indicated that physical aggression tends to decrease with age as verbal aggression increases (e.g. Craig, 1998; Rivers & Smith, 1994). Others state that bullying in general decreases between the ages of eight and sixteen in countries all over the world for both genders (e.g. Olweus, 1993a; Rigby, 1997). However, the survey by Whitney and Smith (1993) found there to be a brief general increase in bullying around the age of 11 years. Similarly LaFontaine (1991) found that there was a sharp increase in calls to Childline Bullying Line between the ages of 11 and 13 years. Smith, Madsen and Moody (1999) describe this as a similar trend for girls and boys. As this age group (11-13 years) coincides with the age in which

adolescents move from junior to secondary schools, these results indicate that the brief increase in bullying may be as a consequence of this transition.

Smith et al. (1999) found, in a study exploring age differences in bullying, that as children move to secondary school their place in the organization hierarchy changes from being at the top of the structure, to the bottom. Consequently, there is a large power differential between these students and their older counterparts. As they enter the next year they are no longer at the bottom of the structure and consequently the experiences of bullying from older students decrease as they become less vulnerable and have increased power. It seems, however, that Smith et al. (1999) did not consider that the age at which the transition of schools takes place coincides with the developmental stage of group formation and competitiveness (particularly amongst boys) (Jaffe, 1998). Consequently bullying may increase at this time as groups are separated through the change in school and need to be reformed, this leading to a need to reform a dominance hierarchy, leading to rejection of some often through bullying (e.g. Vernberg, 1993).

Smith et al. (1999) also identified that bullying tended to decrease after the age of 12-13 years as victims of bullying become older and develop more social skills to manage the bullying effectively. This tallies with the social information-processing model (Crick & Dodge, 1994) in which it is proposed that as adolescents mature, they develop an increased expertise in recognizing and interpreting threat; have a wider range of possible reactions to decide from and are more effective in the implementation of these actions. Consequently the victims of bullying are found to be much more expert in coping appropriately with the bullying as they become older. However the evidence found by Smith et al. (1999) is weakened by the small sample

used to test this hypothesis. Furthermore, their overall survey of bullying shows that the main decrease in bullying results from a decrease in bullying by older students. Otherwise, the rate in bullying by same age students decreases only slightly through age, indicating that the development of social skills by victims may have minimal effect.

There are some methodological problems with the Smith et al. (1999) study. Some of the participants were selected by teachers, which was likely to bias the sample. Furthermore, much of the analysis was based upon self-report in open-ended interviews, rather than the use of objective measures, and consequently may not reflect the situation accurately. Finally, the relationship between physical and verbal bullying was not explored. More research needs to be conducted to further test Smith et al.'s (1999) findings. Despite these flaws, the findings that younger students are more at risk because there are more older and consequently more powerful students to target them, seem to explain why there is an increase in bullying when boys start secondary school, and then a subsequent decrease (e.g. Whitney & Smith, 1993). The hypothesis that victims become more socially skilled at managing bullying owing to developed operational thinking is interesting, as this would suggest that feelings of hopelessness, helplessness and subsequent experiences of depression should decrease with age. However, this is belied by the findings that adults who were bullied as children continue to experience depression and low self esteem (e.g. Olweus, 1993a). This suggests that there may be factors other than developmental issues that affect the experience of victimization. These factors can be described as moderators as they may strengthen or weaken the risk of being bullied. The next section will explore potential moderators of being a victim.

Moderators of bullying:

Bullying surveys indicate that only a small proportion of individuals are frequently bullied (e.g. Whitney & Smith, 1993). This section will explore whether there are common features (moderators) which strengthen the risk of their being bullied.

With the exception of one (Schwartz, Dodge, Pettit & Bates, 1997) all of the studies reported in this section are cross-sectional and consequently, although factors have been identified as common features in victims of bullying and suggestive of acting as moderators, the causal relationships can only be inferred. There are a number of factors that appear to strengthen the risk of bullying. These include wider systemic issues such as how the school manages bullying and how other children reinforce the bullying behaviour (e.g. Hodges & Perry, 1996; Roland & Munthe, 1997; Sutton, Smith & Swettenham, 1999). However, as this paper is interested in psychological sequelae in individuals, it will focus more upon the moderating variables which increases risk for the individual. This section will again distinguish between those who are bully-victims and those who are just victims.

Moderators to adolescents becoming bully-victims:

A number of studies have identified this group to be at risk for experiencing behavioural and psychological problems (e.g. Bowers, Smith & Binney, 1992; Kumpulainen et al., 1998; Rigby, 1994). There are clear personality, social, behavioural and familial factors which have been found to act as moderators to individuals becoming bully-victims.

Personality, social and behavioural characteristics:

Individuals in this group have been found to be highly reactive, hyperactive, impulsive and emotionally dysregulated (e.g. Schwartz et al., 1997). It has been reported that often peers will respond to these students' erratic behaviour through rejection, being abusive and deliberately provoking them (e.g. Hubbard & Coie, 1994). A cycle is precipitated in which others stir the volatile adolescent (often using bullying tactics) who will in turn react using aggression and violence, reinforcing the others behaviour. As Schwartz et al. (1997) point out, both aggression and being victimized lead to peer rejection. Consequently the two combined are likely to lead to even higher levels of rejection. It could therefore be hypothesized that the adolescent learns that the only way in which he or she is likely to receive attention is by being bullied, reinforcing subsequent provocative behaviour on their part (e.g. Boulton & Smith, 1994). This suggests that personality and social factors strongly increase the adolescent's risk of being bullied. This is reflected in Baldry and Farrington s (1998) study in which it was found this group to be low in pro-social behaviour.

This group have been found to have more behavioural problems in school than those who are bullies or passive victims (e.g. Kumpulainen et al., 1998). It can be seen that personality characteristics of emotional dysregulation increase the risk of being rejected and bullied.

Familial characteristics:

Schwartz et al. (1997) conducted a unique prospective study exploring the relationship between early family life and subsequent experiences of bullying and victimization. They found that students who were both aggressive and victimized

experienced more abusive parenting than their peers. Namely, they were found to have been frequently subject to high levels of parental conflict and hostility, disorganized and often overtly punitive management, and physical abuse. The limitations of this study such as the use of open ended interviews and subsequent reliance upon the interviewer s judgement (not always with high interrater agreement), are compensated for by support from a number of other studies (e.g. Bowers, Smith & Binney, 1994; Rigby, 1993). Indeed the longitudinal nature of the study serves to strengthen the other studies. However, as Schwartz et al. (1997) point out, although it can be seen that early family experiences precede school socialization, the correlational nature of the study still prevents conclusions regarding the causal relationship to be made.

Parenting of this group has commonly been found to be inconsistent, fluctuating between over-protectiveness and neglect (e.g. Smith & Myron-Wilson, 1998). Baldry and Farrington (1998) supported Schwartz et al. (1997) findings that adolescents who were both bullies and victims experienced higher levels of punitive and authoritarian parenting. These studies suggest that the parents of this group model aggression to their children while at the same time not allowing them to make decisions and consequently inhibiting the development of self confidence, fostering the victim response to bullying. These parents have also been found to show little interest in their children's education and consequently perhaps allow the bullying and victimization to continue longer than other parents would (Baldry & Farrington, 1998). Nugent, Labram and McLoughlin (1999) also found that adolescents who had been sexually abused were at high risk of both conducting bullying and being victimized although, as the study was qualitative, it is not possible to identify whether this is significantly different from other groups.

This disorganized/ abusive type of parenting is likely to have implications regarding the attachment pattern. Troy and Sroufe (1987) suggest that children who bully tend to experience anxious-avoidant attachment patterns in which they are primarily rejected, leading to them learning roles of both aggressor and victim. I would suggest that this attachment pattern better fits with children who experience both bullying and victimization. When Troy and Sroufe (1987) observed children with this type of attachment, they were seen to be aggressive with those children who had anxious resistant attachment and victimized by children who also seemed to have anxious avoidant attachment with their carers. Smith and Myron-Wilson (1998) suggest that, considering the abusive history identified by Schwartz et al. (1997), it may be that these children fit the disorganized attachment category (Crittenden, 1985). To date, most of the research has been purely exploratory and conducted only with children. There is a clear need to explore this further.

Moderators to adolescents becoming victims of bullying:

Several factors have been found that appear to strengthen the risk of a child or adolescent being bullied. These can be divided into physical, personality, behavioural and familial factors.

Physical factors:

Factors such as sight, speech and hearing problems, physical weakness, odd mannerisms and physical disabilities have been found to increase the risk of being bullied (e.g. Besag, 1989; Hugh-Jones & Smith, 1999; Lowenstein, 1978; Olweus, 1978). However, in a much larger study than these others, it appears that physical features play less of a part in whether an individual is bullied than would be expected (Olweus, 1997).

Personality, intelligence and social factors:

Victims of bullying tend to be insecure, submissive, immature and anxious with a low self-esteem. Behaviourally, they are commonly withdrawn and socially isolated, preferring submission in all situations (e.g. Baldry & Farrington, 1998; Bernstein & Watson, 1997; Olweus, 1993b; Schwartz, Dodge & Coie, 1993). These factors can give others a sense of power (e.g. Olweus, 1993a). It has been found that bullied adolescents perceive themselves as failures, stupid, unattractive and experience high levels of shame (Olweus, 1997). Salmivalli, Lagerspetz, Bjorkqvist, Osterman, and Kaukiainen (1996) found that approximately one third of victims of bullying did not themselves report to being bullied. This suggests that they either do not perceive themselves as victims and/ or would find admitting the experience too humiliating and damaging to their perception of self to do so, again possibly indicating feelings of shame associated with the bullying experience. Often these individuals are lonely and rejected by their peers which will further reinforce the feelings of anxiety and low self-esteem (Hawker & Boulton, 2000; Olweus, 1993b).

Victimized adolescents have also been found to perform less well academically than other students, a factor which has been interpreted as indicating them to be less intelligent (Roland, 1989). However, as with all of these factors, it is not clear whether poor academic performance is a moderator or actually sequelae of bullying. It is known that victims of bullying experience high levels of stress, a factor that has been found to impair learning (Olweus, 1993c; Yule, 1992). Consequently without longitudinal research, it is impossible to state whether academic ability acts as a moderator to the experience of victimization or a consequence.

Peer support has also been found to act as an important moderator to risk of bullying (e.g. Pepler & Craig, 1995). Boulton, Trueman, Chau, Whitehand and Amatya (1999) found that adolescents who did not have a best friend experienced significantly higher victimization than their peers who did have one.

It is difficult to identify whether these characteristics were present prior to the bullying experience and therefore acted as a moderator, or actually developed as a consequence. Most likely there were features of the above already present but reinforced following the bullying experience.

Familial characteristics:

Several studies have shown there to be key common features in families of victims who are bullied (e.g.Baldry & Farrington, 1998; Berdondini & Smith, 1997; Olweus, 1997) particularly the relationship between victimization and poor family functioning (Rigby, 1993). This suggests that victims are not randomly targeted but possess qualities that predispose them to being bullied. The following section will discuss these variables in more detail.

In a widespread study, Olweus (1993a) found that mothers of children and adolescents who were bullied tended to be highly involved in their children's lives, being over-protective, controlling and restrictive. These findings were supported by other studies (e.g. Baldry & Farrington, 1998; Berdondini & Smith, 1997) in which it has been found that victims of bullying come from highly enmeshed, authoritarian families in which the individuals are not allowed to develop their own independence. It is suggested that as a consequence of parental over-involvement, the victimized individuals are not able to develop their own problem solving strategies and

consequently do not learn how to manage bullying effectively (Baldry & Farrington, 1998).

Troy and Sroufe (1987) found that histories of insecure parent/child attachment patterns were highly prevalent for victims of bullying, especially relating to Ainsworth's anxious-resistant or avoidant attachment (Ainsworth, Blehar, Waters & Wall, 1978). This suggests that these children have experienced inconsistent parenting, fluctuating between responsiveness and rejection. As a consequence, it is hypothesized that the child learns to accept rejection and behave submissively whenever they perceive hostility or confrontation. Similarly, later research indicates that victims score significantly higher on avoidance than other groups (see Smith & Myron-Wilson, 1998). Although this research is conducted with children aged 7-10 years, it is likely that adolescents who are victimized have also experienced similar attachment patterns. It is suggested that as a consequence of being victimized at home, these individuals incorporate *victim traits* into their personality signalling to others that they are vulnerable (see Baldry & Farrington, 1998). The subsequent victimization at school reinforces the belief that the situation is hopeless and consequently the victim develops a learned helplessness reaction (Seligman, 1974). It is also hypothesized that as a consequence of their attachment, some children who are victimized place themselves into vulnerable situations in order to obtain some response in the only way they know how (e.g. Boulton & Smith, 1994; Olweus, 1978).

Most of the studies are based on cross-sectional research and therefore one cannot draw causal conclusions, however the studies indicate that familial factors are strong moderators as to whether an individual is at risk of victimization. It may be

that one reason why bullying decreases through adolescence is that family attachments become less influential as attachments with peers increase in importance (see Jaffe, 1998). The attachment difficulties may also help to explain the intergenerational nature of victimization (e.g. Farrington, 1993; Field, 2000) as these individuals replicate these attachment patterns with their own children. It could perhaps be hypothesized that relationships with peers mirror the attachment patterns, as attachment theory would state (see van Ijzendoorn, Juffer and Duyvesteyn, 1995), and become compounded by the bullying response.

It may be that the sequelae of being victimized are actually consequences of the moderating factors (such as family background) also. The next section discusses the sequelae in more depth.

Sequelae of victimization from bullying:

A number of studies have shown there to be very clear psychiatric symptoms in both the bully-victim and victim groups (e.g. Kumpulainen et al., 1998; Olweus, 1997). Unfortunately, again the lack of longitudinal research conducted in this area means that it is impossible to discuss to what extent the bullying is responsible for the associated symptoms, particularly as there are often a number of familial factors which may also precipitate the development of psychological disturbance (Lau & Kwok, 2000). However, the experience of being repeatedly "tortured" (Olweus, 1997 p.495), be it verbally, psychologically or physically is very likely to have some effect. This section will again differentiate between adolescents who are bully-victims and those who are solely victims, although, as not all studies distinguish between the two, there will be some overlap.

Bully-victims:

Kumpulainen et al. (1998) found that bully-victims experienced the highest levels of psychiatric symptoms compared with their school peers. They were identified as the most frequently referred group to psychiatric services and demonstrated high levels of interrelationship difficulties as well as externalising and hyperactive behaviours such as aggression and impulsivity as well as depression. Kumpulainen et al. (1998) also found that this group demonstrated the highest levels of absenteeism from school, the implications of which will be discussed in the next section. This study used only participants aged approximately 8 years and therefore it is not known whether these psychological difficulties also occur in adolescence, although without intervention, it is possible that they do.

Clearly there are high levels of psychological problems in individuals who both bully and are victimized. It is probable that some of these problems would be present in victimized individuals prior to being bullied, particularly as a consequence of their early family experiences as previously discussed. However, these difficulties are likely to be significantly worsened as a consequence of the bullying experience.

Victims of bullying:

In a UK Bullying website, Field (2000) identified that approximately 12 children/ year commit suicide following experience of chronic bullying. These findings indicate the severity of mental health difficulties in victims of bullying.

The experiences of shame, fear and embarrassment which have been found to occur following bullying (e.g. Field, 2000; Olweus, 1997), often prevent the adolescent from reporting the abuse. Possibly as a consequence of the bullying not

being reported, it is hypothesized that the process continues and the adolescent subsequently becomes entrenched in feelings of helplessness and hopelessness, finally manifesting as depression.

Kumpulainen et al. (1998) found in their large study, that victims of bullying had high levels of internalizing symptoms including psychosomatic symptoms. Within the same sample, alongside the psychosomatic symptoms were also high levels of absenteeism from school in this group (Puura et al., 1997). A likely explanation for this finding is that victims of bullying seek to avoid the traumatic experience by avoiding school to reduce the high levels of anxiety they have been found to experience (e.g. Craig, 1998). The anxiety is also likely to precipitate feelings of nausea, leading to gastro-intestinal complaints. Indeed Bernstein et al. (1997) identified that stomach problems were the commonest presentation of anxiety in children who school refused. The avoidance perhaps reinforces the victim's belief that it is the only way to escape the bullying. A vicious circle is perhaps embarked upon in which the increased symptoms of depression, low self-esteem and avoidance, reinforce the victim "qualities", increasing the air of vulnerability and thus increasing the power differential between the victim and the bully (e.g. Craig, 1998, Hugh-Jones & Smith, 1999).

Other sequelae found in adolescents following bullying are sleeplessness, physical illness and difficulties in concentrating on schoolwork (Sharp, 1995).

Long term consequences:

Several studies have indicated there to be long-term difficulties for people who experienced bullying at school, particularly for those who were unable to report the bullying experience and consequently received no help. Olweus (1993b, 1993c)

found that people who were bullied between years 6 and 9 were at risk of experiencing high levels of depression and a negative view of themselves when aged 23. It is likely that following prolonged experience of feeling helplessness and fear; the individual will internalize the abusive experience and feel unable to manage future difficulties and relationships. This is supported by findings which show that adults who were bullied as children commonly experience interpersonal difficulties, particularly regarding intimacy and trust (Gilmartin, 1987). Experiences of victimization have also been identified as intergenerational, in that men who were bullied at school were significantly more likely to have children who were also victimized than those who had not experienced bullying (Farrington, 1993). These findings indicate the far-reaching effects of being bullied.

Again it is important to emphasize that the causal relation between these symptoms and the bullying experience still remains very unclear, particularly as there are other factors such as family experience which are also important variables in development of depression (Lau & Kwok, 2000). Consequently more longitudinal research is necessary to explore these factors more carefully.

Summary:

Studies show that approximately 6% of secondary school students are bullied and 1% at least once a week (e.g. Whitney & Smith, 1993), showing that those who are regularly bullied are in a minority and it is consequently not a normal part of development. Studies show that bullying tends to decrease as adolescents grow older, although Whitney and Smith (1993) and LaFontaine (1991) show that there is a brief increase, particularly for boys, around the ages 11-13 years. As this coincides with the changing of schools, Smith et al. (1999) have found evidence to support that the

brief increase is partly due to being bottom of the hierarchy. They also attributed the decline in bullying to an increased sophistication on the part of the victims in managing the bullying situation, although this needs to be further explored. There are clear gender differences in terms of types of bullying, boys are more likely to use physical aggression, girls verbal aggression (Kumpulainen et al., 1998), although the victims of bullying tended to share similar sequelae of internalizing symptoms. A number of moderating factors have been identified for both bully-victims and victims. These moderators include factors associated with personality, social interaction and family. The presence of these moderating factors and the lack of longitudinal research in this area mean that it is unclear whether the sequelae, which have been identified as manifesting following bullying, may actually be consequences of these factors. Nevertheless, both bully-victims and victims have been identified as experiencing high levels of psychological disturbance (e.g. Kumpulainen et al., 1998), much of which as discussed later, may fit the criteria of a PTS reaction. It is surprising that the presence of PTS symptoms has not been explored in victims of bullying. This is possibly a result of the two sets of literature (bullying and trauma) never having been considered together. Consequently, this paper will explore the trauma literature for adolescents in the following sections.

Introduction to trauma literature:

There is currently significant interest in understanding and addressing the sequelae following trauma, particularly in adolescents, for whom a number of researchers suggest there has been an increase in traumatic stress (e.g. Finkelhor & Dziuba-Leathman, 1994; Jessor, 1993). There is a clear need for further exploration into understanding the psychological sequelae of trauma and the development of effective interventions, particularly in the field of abuse, an area that is highly

complex and still not understood. This is firstly to try to reduce the levels of trauma experienced, and secondly, to arrest the intergenerational cycles of victimization and retraumatization that have been found to occur (e.g. Baldry and Farrington, 1998; Munson, 1995). The following sections will review the literature exploring the issues regarding the trauma sequelae such as post-traumatic stress disorder in adolescents and look at why some individuals become traumatized when others do not.

Definitions and diagnostic criteria of post-traumatic stress disorder (PTSD):

Horowitz, Wilner, Kaltreider and Alvarez (1980) described how after stressful life events "some persons develop stress response syndromes characterised by phases of intrusive ideas and feelings and phases of ideational denial and emotional numbing" (p.22). In response to the growing number of studies reporting extreme psychological and behavioural distress following trauma mainly in adults but also in children and adolescents (e.g. Block, Silber & Perry, 1953; Figley, 1978; Freud & Burlingham,1943; Kardiner, 1941, Terr, 1979) a formal diagnostic criteria was devised to recognize PTSD. The current description can be found in the *Diagnostic Statistical Manual-4th Ed.* (DSM-IV, American Psychiatric Association, APA 1994). In summary, an individual can only meet the criteria if they have experienced or been exposed to a traumatic event which involved either actual or threatened death, injury or a threat to physical integrity which led to their feeling intense fear, helplessness or horror. The types of stressor will be discussed more fully further in the paper. Following this event, the individual must have experienced the following categorical symptoms for at least one month:

1) Intrusive reexperiencing of event in the form of flashbacks, dreams, intrusive thoughts and memories which may be triggered or spontaneously occur.

2) Avoidance of stimuli associated with the stressor and numbing of general responses in the form of cognitive avoidance; dissociation; behavioural avoidance of people, places or activities which trigger memories of the trauma; diminished interest in significant activities; restricted range of affect and sense of foreshortened future.

3) Persistent symptoms of increased arousal such as disturbed sleep, irritablility, concentration difficulties, hypervigilance and exaggerated startle response.

The experience of these symptoms must be distressing and significant enough to cause impaired social, occupational or other significant areas of functioning.

The DSM-IV allows for certain developmental differences to occur in children and adolescents. The reexperiencing in children may be demonstrated in repetitive thematic play and reenactment, and dreams may be frightening but non-specific. Children and adolescents may also avoid stimuli associated with the trauma through regression and become verbally inhibited (Amaya-Jackson and March, 1993).

Controversies about these diagnostic criteria surround definitions regarding the stressor and also the type of sequelae following the trauma. Van der Kolk et al. (1996) found that the majority of participants with PTSD also experienced symptoms such as dissociation, affect dysregulation and somatization. Although there is no evidence to show that the dissociation and somatization symptoms occurred as a response to the trauma, the fact that such a large number of people reported these symptoms following a trauma indicates this may be the precipitating factor. Van der Kolk et al. (1996) found that even after being treated for PTSD, individuals still had residual symptoms, suggesting that treatment does not target all the symptoms. Consequently, van der Kolk et al. (1996) argue that rather than splintering the

diagnoses, all these sequelae should be seen as a conglomerate cognitive, somatic, affective and behavioural response to trauma. To make a specific diagnosis of PTSD can lead to a number of important symptoms being overlooked.

Other controversies surround applying the PTSD criteria (developed mainly using adult studies) to children and adolescents even with the additional points made specifically about children in the DSM-IV (APA, 1994). A number of studies have found that, despite being subject to extreme trauma and clearly severely affected, commonly children and adolescents do not fit the criteria (see McNally, 1998). Furthermore, making a reliable assessment can be difficult (see Putnam, 1996a). Consequently Putnam (1996a) suggests that it is more appropriate to refer to the symptoms as associated with PTS rather than using the diagnostic term of PTSD when referring to children and adolescents.

Clearly there are a number of developmental factors in the development of symptoms associated with PTS, which will be discussed further on. The next section will explore how the developmental factors may be fitted within a model of PTS.

Models and theories of PTS:

There are a number of models and theories developed regarding PTS, many of which are overlapping. These models have been developed from psychoanalytical (e.g. Freud, 1959); social learning (e.g. Mowrer, 1947, 1960); cognitive (Ehlers & Clark, 2000) and neurobiological (see Bremner, Southwick & Charney, 1991; Perry, 1997; van der Kolk, 1994; Yule, 1992) theories. All of these are highly complex, each requiring at least one paper per model; consequently this paper will not discuss these further. Because this study is focusing on adolescents, the only model that will be discussed in detail is the one that incorporates developmental aspects developed by Pynoos, Steinberg and Piacentini (1999).

Developmental Psychopathology Model of Childhood Traumatic Stress (Pynoos et al., 1999):

This model embeds the experience and reaction to trauma within the context of the child's or adolescent's social network and developmental stage. The paper discusses the different considerations for each developmental stage from infancy to adolescence. This review will discuss only the aspects relevant to adolescence. Pynoos et al. (1999) describe traumatic stress as involving a complex web of sensory, physiological, emotional and cognitive experiences which cause the individual to feel terror, shame and/or extreme helplessness. Witnessing the responses of adult caretakers and peers may exacerbate these feelings. Pynoos et al. (1999) suggest that the key to how the stress impacts on the individual is how they appraise the danger. They suggest that three mental operations occur in this appraisal:

1) Estimation of the extent of the internal and external danger;
2) The emotional and physiological responses, and perception of control over these responses;
3) How effective they perceive the protective intervention to be.

The emotional and physiological responses can act as both a warning of danger and also exacerbate feelings of being out of control. The secondary appraisals following the event very much depend upon how the threat is reconstructed with peers, parents and school as well as new information and other experiences. This assistance from others may be critical in helping the individual to continue their developmental pathway and integrate the experience into veridical memory representations.

Pynoos et al. (1999) suggest that the way the threat is appraised is very much influenced by the number of cues which trigger memories regarding the trauma. These cues may be internal or external, and can generalize as cues of the cues

associated with the trauma develop. These cues may be reinforced by associated physiological and psychological reactions that lead to avoidance behaviours strengthening the perceived threat of danger. Threat appraisal may also be influenced by the number of secondary stresses which occur as a consequence of the initial traumatic experience. These may interfere with attempts to adjust and return to normality.

Distress has been suggested as the sensory and emotional response to how the trauma has been appraised. The distress is mediated by the acknowledgement of personal consequences; the causal attributions and failure of developmental expectancies owing to being rendered helpless - challenging beliefs about the self in the world (Pynoos et al., 1999).

The model proposes that the pathways to recovery or psychopathology depend on the individual's levels of resistance and resilience, with the former inhibiting and latter encouraging recovery. They suggest that these levels may be mediated by attachment relationships with adults, learning capacity, problem solving ability, intelligence, coping styles and sense of competency as well as parent, family and school reactions. They propose that adjustment is reliant upon the maturation of principal neurobiological mechanisms for information processing and motor behaviour. Poor adjustment may lead to the development of psychopathology in the form of PTS symptoms, attachment disorders, anxiety and depression. Adjustment is also likely to have a strong relationship with meeting the developmental stages appropriate to that age and successfully achieving interpersonal/ familial transitions. The development of neurobiological pathways may be particularly affected, although studies on these are in their infancy (see Pynoos et al., 1999). The attention-bias towards the trauma can have effects on learning and sleep; and the experience of

intense negative emotions can interfere with the fragile emotional regulation mechanisms. In adolescence, these emotions and self-attributions can have significant effect on how social interactions are managed, often leading to avoidance or dysregulation in aggression. The need to become autonomous may be inhibited by trauma related anxieties, leading to missed developmental opportunities, or trauma-related pursuit of mastery, involving risk taking behaviours and engaging in activities too advanced for the individual's developmental stage.

To date, there is not enough prospective data showing the long-term developmental outcomes in children and adolescents who have experienced trauma. For instance, it is not known whether the neurophysiological changes or the interference with developmental stages are permanent. It is known that these early experiences of trauma can have a major impact on the way in which threat is perceived in the future. Future life events and secondary stresses may also retrigger the stress reaction.

This model is useful in fitting trauma within a social, physical and developmental context. However, it does not explore the actual mechanisms of PTS symptoms such as the experiencing of flashbacks or account for how persistent experiences of abuse may affect the individual and his/her developmental stages. Although the model is embedded in empirical theory, much more research needs to be conducted to explore the relationships between the different factors with perhaps greater emphasis on past familial and support experiences.

Developmental features of traumatic stress reactions:

This section will discuss in more detail the developmental aspects of PTS symptoms. Gender and age differences in terms of onset of PTS symptoms will initially be discussed and then the developmental differences in sequelae will be

explored, briefly discussing younger children and then focusing in more detail on adolescents.

Gender differences:

Several studies have found that girls are more at risk of experiencing PTS symptoms than boys in many different situations from exposure to violence to natural disaster (e.g. Green, Korol, and Grace, 1991;Horowitz and Weine, 1994). Studies have found that girls tend to experience internalizing problems such as depression and boys are more likely to display externalizing difficulties such as behaviour problems (Shannon, Lonigan & Finch, 1994).

Age differences:

Green et al. (1994) and Winje and Ulvik (1998) found that age was unrelated to whether an individual experienced PTS symptoms following a single trauma event. However, van der Kolk et al. (1996) found that there was a relationship between age when the trauma occurred, the nature of the traumatic experience and complexity of clinical outcome. They found that individuals under 14 years were significantly more likely to have dissociation problems (discussed in more detail later in the paper) and affect regulation difficulties than older victims following interpersonal abuse. This is perhaps because younger children are less likely to have developed alternative effective coping strategies and therefore rely more upon dissociation. The differences in these results may be explained by the differences in stressors between a single trauma event (Green et al.,1994; Winje and Ulvik,1998) and chronic trauma (van der Kolk et al., 1996), which will also be discussed in more detail later.

Epidemiology

The figures regarding epidemiology vary enormously, showing that 10-100% of children and adolescents exposed to trauma experienced at least one PTS symptom (e.g. McNally, 1993, Stallard, Velleman and Baldwin, 1999). The variance in figures is largely attributable to criteria by which the symptoms are defined and measured (Yule, 1994). Symptoms have been found to peak within the first year and then significantly decrease (Clark, Pynoos & Goebel, 1994;Winje & Ulvik, 1998). Some, however, may continue to experience PTS symptoms for many years (Curle & Williams, 1996; Vogel & Vernberg, 1993). The reasons for these differences in individuals will be discussed in more detail in the Moderating/ Mediating section.

Developmental sequelae:

Younger children have been found to be three times more likely to experience symptoms associated with PTS than adolescents and adults (e.g. Davidson, & Smith, 1990). As has already been discussed, young children tend to have fewer flashbacks (e.g. Terr, 1991) but experience intrusive recollections in the form of penetrating thoughts. Nightmares tend to be unspecific while the play is often highly specific (e.g. Pelcovitz and Kaplan, 1996). Younger children in particular have been found to act out the trauma possibly in an attempt to "master" the situation and achieve some kind of reconciliation of the process (Pynoos and Nader, 1993). Alternatively the play may solely reflect a fixation upon the trauma (e.g. Terr, 1981). Both explanations remain unsubstantiated by evidence. The repetitive nature of the traumatic play can interfere with the more normative functions of play and impede subsequent development (Garbarino, Kostelny & Dubrow, 1991).

Fewer studies have been conducted exploring the effects of trauma on adolescents. A number of studies have shown adolescents to be more vulnerable to symptoms associated with PTS than adults (e.g. Burgess, 1985; van der Kolk, 1985). Solomon (1989) suggests this is because adolescents have had less time to develop effective coping strategies in managing stress.

Adolescents following trauma will often become more active in an attempt to avoid the distressing images and symptoms, frequently being misdiagnosed as experiencing Attention Deficit Hyperactive Disorder (ADHD) (Pynoos, 1993). Commonly adolescents will embark upon reenactment in the form of counterphobic risk taking and impulsive behaviour (Amaya-Jackson and March, 1993, Horowitz, 1985). Pynoos (1993) suggests that this behaviour may be an attempt to ward off feelings of vulnerability and demonstrate control when at the time of the trauma the individual experienced helplessness. The risk-taking behaviour can lead to revictimization and propagate the traumatic cycle. Allen (1995) suggests that through each event, the individual becomes increasingly less able to cope with the stress and therefore resorts to further reenactment, risk-taking behaviour again possibly in the attempt to achieve some form of corrective experience and so the cycle continues (e.g.van der Kolk, 1989). Pfefferbaum and Allen (1998) emphasize that the reenactment behaviour may be precipitated by feelings of rage in response to the devastation that the victim has experienced. The high levels of alcohol and substance abuse which have been found to occur in adolescents following trauma may also make them more vulnerable to retraumatization (e.g. Allen and Glodich, 1996; Loizell et al., 1993). More research is needed to explore the process of retraumatization.

Other sequelae found in adolescents following trauma are separation difficulties, general anxiety problems, mood swings, sleep problems, enuresis and academic difficulties in terms of deteriorating standards and concentration (e.g. see Pelcovitz & Kaplan, 1996). Vogel and Vernberg (1993) also identified psychosomatic complaints to be a common presentation following trauma. Cheever and Hardin (1999) found that adolescents were 1.75 times more likely to rate their health as "poor" if they experienced at least one violent life event in the past year. However, the study used measures that had little psychometric data and did not explore the actual stress reactions.

Berenson (1998) looks at how the stages of adolescent development may interact with the impact of the trauma. During the ages 12-14, individuals embark upon physical changes of puberty in which they are particularly vulnerable to low self-esteem and social adjustment, shame being the most prominent affect during this time. The strong links between shame and PTS symptoms (Andrews, Brewin, Rose & Kirk, In Press) suggest that this age group may be particularly vulnerable to developing psychological problems following trauma. From ages 15-16 years, there is a move to independence and redefining of relationships, leading to intense experiences of emotions and a time in which substance and alcohol abuse is common, and girls especially are vulnerable to depression (Booth, 1997). During these stages, the individuals experiencing trauma may be especially vulnerable to developing distressing sequelae as their ability to cope during this time may be already weakened. The defining of relationships can have a major impact on these individuals as they will need high levels of support. This may affect the processes of separation and identity formation, perhaps explaining why separation difficulties have been found to occur during this time (e.g. Pelcovitz & Kaplan, 1996, Pynoos,

1993). Pelcovitz and Kaplan (1996) suggest that the increased vulnerability is partly a consequence of adolescents experiencing trauma at a developmental stage in which they should be experiencing a moratorium from adult responsibility and consequently find the stressor overwhelming.

The differences in stressors, such as that of a single acute event and chronic trauma such as abuse, will be discussed in more detail later. However, Becker-Lausen, Sanders and Chinksy (1995) found that child maltreatment was significantly related to depression, dissociation and negative life outcomes in later life, with dissociation and depression acting as a partial mediator of negative life outcomes, especially regarding interpersonal relationship problems. They hypothesize that children and adolescents who are repeatedly exposed to trauma and rejection develop a chronic sense of hopelessness. Furthermore, Becker-Lausen et al. (1995) found that dissociation acted as a significant mediator between general child maltreatment and later revictimization. One reason for this may be that, through dissociating, the children and later adults are unable to recognize danger cues and consequently do not develop other more appropriate strategies to manage threat, leaving them vulnerable to further victimization. Unfortunately the sample was unrepresentative in that it came from a population of undergraduates, and comprised of small numbers. Furthermore, there seems to be an overemphasis of the result effects in both the correlations and mediating effects of depression and dissociation. The study also relied on retrospective accounts which did not include school experiences.

Clearly there is considerable variation in the development of PTS symptoms in adolescents. Some of this disparity can be explained by developmental factors but it is likely that different types of stressor will also have an impact. The next section explores this more closely.

Traumatic event/ stressor:

There are a wide range of stressors which have been found to lead to symptoms associated with PTS such as disaster, accidents, abuse and illness (e.g. Winje & Ulvik, 1998, Stuber, Nader, Yasuda, Pynoos, & Cohen, 1991, Finkelhor, 1988, Shannon, Lonigan and Finch, 1994). The type of stressor defining the "trauma" within the diagnostic criteria is likely to lead to different sequelae. A single event trauma is likely to evoke different responses from chronic trauma (such as interpersonal abuse) in which the individual has to develop strategies which are effective on a repeated basis (Herman, 1992). As a consequence it is important to explore the impact of these different stressors to identify the most appropriate interventions.

Terr (1991) distinguishes between these types, defining Type 1 stressors as "the mental result of one sudden, external blow or series of blows, rendering the adolescent temporarily helpless and breaking past ordinary coping and defensive operations" (p.10). Type II stressors, Terr (1991) defines as ones which do not necessarily contain intense surprise but which are rather "marked by prolonged and sickening anticipation" (p.10) characteristic of abuse. Types of abuse which have been found to precede development of PTS can be sexual or physical (e.g. Finkelhor & Browne, 1985; Glodich, 1998). Type II trauma can also include neglect and community violence (Pfefferbaum & Allen, 1998). Chronic abuse has been found to be more associated with denial, dissociation, self-anaesthesia, identification with the aggressor, leading to a pervasive numbness, rage and/or unremitting sadness (Terr, 1991), manifesting behaviourally in children as ADHD, conduct disorder, depression, withdrawal or seemingly being absent. Adolescent victims of a Type I trauma have been identified as more likely to experience a more treatable PTS

reaction (Garbarino et al., 1992; Schwartz & Kowalski, 1991; Terr, 1991). This study will focus mainly on Type II traumas associated with physical and psychological abuse, as they are more relevant to the experiencing of bullying.

There is considerable controversy, as outlined by Perrin, Smith and Yule (2000), as to whether the defining trauma preceding the development of PTS symptoms should be based upon objective or subjective accounts (e.g. Yehuda & McFarlane, 1995; Joseph, Williams & Yule, 1997). Pynoos, Steinberg and Goenjian (1996) found that perceived threat is indeed predictive of PTS symptoms. If a person perceives threat even when objectively there was no threat, they are likely experience the same feelings of intense terror and horror that they would if the threat was real (e.g. Amaya-Jackson & March, 1993). Feelings of guilt or wishes to have acted differently are also predictive of distress (Pynoos et al. 1996; Yule & Williams, 1990). Stallard et al. (1999) suggest that many children's PTS reactions remain unrecognized owing to adults not being able to see any objective stressor. Shannon et al. (1994) found that the magnitude of the event was positively correlated with the development of PTS symptoms but this does not preclude the subjective nature of threat to be equally damaging. Clearly this is an area which needs further research.

An important variable into the subsequent reaction following trauma is whether the trauma was a consequence of human behaviour or a natural disaster, the former leading to a more complicated recovery (e.g. Green, 1991). Possibly natural disaster, though devastating, can be explained as an "act of God". If humans are involved then often the situation could have been prevented or managed differently; consequently commonly there is a substantial amount of blame. This is particularly in the case of Type II trauma such as chronic abuse in which the victim will often

blame him/herself as much as the perpetrator for not having stopped the abuse (e.g. see Pelcovitz & Kaplan, 1996).

Most literature discussing violence and assault tend to pertain to sexual assaults (e.g. Kilpatrick & Resick, 1993; Nishith, Mechanic, & Resick, 2000). However, with the growing amount of violence which adolescents are exposed to in urban cities in the USA, researchers are increasingly linking PTS symptoms with exposure to violence (e.g. Burton, Foy, Bwanausi, Johnson, & Moore, 1994; Jenkins & Bell, 1997). Singer, Anglin, Song and Lunghofer (1995) discuss the fact that while it is commonly known that exposure to violence has a psychological impact on adolescents, there is still very little known about what this impact constitutes and whether different types of violence leads to different sequelae. Much of the research exploring the mental health effects of violence tend to look only at children not adolescents (see Mazza and Reynolds, 1999). Those studies which do explore violent exposure in adolescents tend to focus on acute violent events (e.g. Pynoos et al., 1987) not chronic violence such as experienced in bullying, although Fitzpatrick and Boldizar (1993) found that exposure to violence was a strong predictor to PTS symptoms. It would seem that this is an area which needs further exploration to identify how repeated exposure or experience of violence affects adolescents.

As has already been alluded to, chronic abuse can lead to certain more diffuse and prolonged sequelae which are not included in the DSM-IV (e.g. O Donohue, Fanetti, & Elliott,1998). Self blame, somatization, suicidal behaviours, interpersonal difficulties, self harm, identity change, affective changes, revictimization and sexual difficulties, alongside a plethora of other psychiatric symptoms have all been identified following abuse (see Herman, 1992). This indicates that Type II trauma can lead to a greater complexity of difficulties that cannot be sufficiently explained

by the diagnosis of PTSD. Herman (1992) describes how much of the trauma experienced by the victim is associated with feeling coerced by another party. The perpetrator uses a combination of psychological trauma to instil fear "to destroy the victim's sense of self in relation to others, and to foster a pathologic attachment to the perpetrator" (p.88) alongside offering intermittent rewards to reinforce that attachment. This relationship is well documented in terms of adult-child abuse relationships (e.g. Finkelhor; 1988; Maltz, 1988). Herman (1992) suggests that to compensate for the inadequacies of the PTSD criteria a new term should be introduced: Disorders of Extreme Stress Not Otherwise Specified (DESNOS).

The variation in responses to trauma and the fact that, actually experiencing PTS symptoms following trauma appears to be the exception rather than the rule, suggests that there are other factors at play (e.g. Irwin,1996; Yehuda & McFarlane, 1995). These will be discussed in the following section.

Moderators /Mediators of PTS:

This review uses Baron and Kenny's (1986) definitions of moderating and mediating factors. Moderating factors are defined as variables that influence both the strength and direction of a relationship between the independent variable and the dependent variable. Mediating variables are the internal processes that occur following certain events, which lead to a transformation in the organism. This study will explore which factors (moderating factors) strengthen the risk of a person developing PTS symptoms following a trauma and the processes (mediating factors) which people undergo to develop PTS symptoms. It is important to note however, that it is not clear whether these moderating factors would have led to general mental health problems anyway, or whether the trauma incident is a crucial aspect of the development of the subsequent psychological disturbances (Yehuda & McFarlane,

1995). It is likely that the trauma exacerbates difficulties that were already present and may channel the difficulties into a PTS reaction as well as other mental health problems.

Moderating factors:

There are a number of factors that have been found to moderate whether an individual is vulnerable to experiencing a traumatic stress reaction following a trauma. Pynoos et al. (1996) suggest that how we process threat internally depends on our ability to tolerate affective and physiologic reactions and the perception of personal cost. This ability is moderated by a number of contextual factors which fall roughly into three areas: interpersonal issues; personality factors; and the recovery environment (e.g. Amaya-Jackson & March,1993, Irwin, 1996, Rutter, 1994).

Interpersonal Issues:

Type of support that the adolescent receives from friends and, in particular, family has been found to be an important moderator to the development of a PTS reaction (Rutter, 1994). This is supported by Irwin (1996), who identified that emotional support was a partial moderator of the development of PTS symptoms following childhood trauma. However, his study was based upon retrospective accounts from adult participants. The accuracy of these memories regarding levels of support when younger, may have become distorted by subsequent elapse of time and events. Furthermore, Irwin (1996) deliberately used adults who experienced a wide range of trauma, but did not identify whether there were significant differences between specific types of trauma and levels of support.

Burton et al. (1994) also found a significant but mild relationship between family functioning and the development of PTS symptoms in adolescence, following exposure to violence. Once more they did not explore whether the type of violence

used affected this relationship. Furthermore, as Burton et al. (1994) point out, it is not possible to make any temporal suppositions between family influence and development of symptomatology or indeed between family influence and exposure to violence. More longitudinal research is required to look further at these factors.

Attachment has also been associated with the experience of trauma, particularly avoidant and disorganized patterns (e.g. Ogawa, Sroufe, Weinfield, Carlson & Egeland, 1997), the hypothesis being that owing to the attachment pattern, the infant is unable to learn from his/her caretakers to self-sooth. Consequently, in later life when the individual experiences trauma, he or she is unable to cope with the stress appropriately, or effectively regulate affect, leading to experiencing symptoms associated with PTS such as dissociation (e.g. Lewis, 1992; van der Kolk & Fisler, 1994). Again, more research is required to enable generalizations to be made regarding the links between attachment and PTS symptoms.

Not only is family support important, but also the way in which the parent or caretaker responds to the trauma appears to have a moderating effect upon the individual (e.g. Pynoos, 1993; Winje & Ulvik, 1998). This perhaps models to the child/ adolescent how to cope with the event. Consequently, as Irwin (1996) states, the extent "to which their social environment promotes a healthy resolution of the experiences of trauma" (p.701), can have a direct effect on whether an adolescent will develop trauma symptomatology later on.

Personality factors:

Factors such as intelligence and social-economic status have been found to be moderators to experiencing PTS symptoms (e.g. Crittenden, 1985) although Burton et al. (1994) did not find this to be the case. The difference in these results is likely to reflect the difference in participants; the former looking at maltreated infants, and the

latter at incarcerated young offenders. To further explore the moderating effects of intelligence would be difficult considering the fact that PTS symptoms have been found to negatively affect the cognitive ability of adolescents (e.g. Pelcovitz and Kaplan, 1996). Consequently, unless assessment of intelligence were conducted prior to the trauma, it is difficult to assess whether it acts as a moderator.

Recovery environment:

Aside from type and level of support the adolescent receives following the trauma, recovery can also be confounded by a number of other factors in the recovery environment. The number of secondary stressors (such as bereavement) developing as a consequence of the trauma as well as the number of stressors which were already in existence prior to the trauma have a major impact on the recovery process (see Perrin et al., 2000; Pynoos et al., 1999). These factors are less relevant to Type II trauma in which secondary stressors are less likely to occur and other stressors remain a constant. Consequently they will not be discussed in more detail, as this paper is more interested in the effects of Type II stressors.

Other moderating factors which have already been discussed are gender, type of trauma, subjective experience of threat, level of exposure, threat to physical integrity, relationship to victim and proximity/exposure to the threat (e.g. see Jenkins & Bell, 1997; Murphy, Pynoos & James, 1997; Pynoos et al., 1996; Winje & Ulvik, 1998). The culmination of these factors suggests that the experience of trauma may be multi-layered and ongoing (Pynoos et al., 1996).

Mediating factors:

Pynoos (1993) found that incident-specific new fears, guilt and exaggerated startle responses were predictive of more severe PTS symptoms, suggesting that these factors act as mediators to the development of PTS.

A number of studies have linked dissociation with PTS reactions, showing there to be a significant correlation between severity of trauma and dissociative experiences (e.g. Kirby, Chu & Dill, 1993; Putnam, Hornstein & Peterson, 1996; van der Kolk et al., 1996). Dissociation can be defined as "a discernible failure in the integration of information, experience, and perception The essential feature is that information is available but is not always accessible to the individual and is not associated with other relevant information in a way that one would expect" (p.286, Putnam, 1996b). To a certain extent dissociation is a normative experience and is thought to be a coping strategy to manage difficult or painful events (e.g. Lewis, 1996). It is hypothesized that dissociation becomes problematic when the actual experience interferes with daily living as the individual has been unable to develop more effective coping strategies and consequently only learns to tolerate stress through dissociating (see Putnam, 1996a). Dissociation in its extreme is manifest in dissociative identity disorder (e.g. Coons, 1996). Symptoms of dissociation in adolescents include amnesia, apparent day dreaming, derealization, trance-like states, inner voices, somatic symptoms; changes in personality (e.g. Coons, 1996; Putnam et al., 1996; Silberg, 1998).

Putnam et al. (1996) hypothesized that individuals found to have high levels of dissociation were those who experienced early, severe or chronic trauma. This is consistent with other studies showing that age of trauma onset had a negative association with adult levels of dissociation and severity of trauma a positive one (e.g. Bremner et al., 1992; Kirby et al., 1993). Risk factors of more extreme types of dissociation being identified as intra-familial abuse, young age when abuse started, multiple perpetrators and chronicity (e.g. Boon & Draijer, 1993; Irwin, 1994; Murray, 1993). Dissociating at the time of trauma has been identified as the most

significant predictor of developing PTS symptoms (see van der Kolk et al., 1996). Certainly Putnam (1996a) cites a number of studies in which traumatized samples experience significantly higher levels of dissociation than nontraumatized samples. Other studies have also demonstrated the mediating role of dissociation between trauma and subsequent psychopathology (e.g. Becker-Lausen et al., 1995; Griffin, Resick & Mechanic, 1997). These findings suggest that dissociation is likely to be a major mediator of PTS symptoms. However, as yet this mediating role has not been formally explored in adolescents. Furthermore, as van der Kolk et al. (1996) point out, owing to the lack of longitudinal research, there is no evidence showing that dissociation does not precede the traumatic event. If dissociation is a mediator of PTS symptoms then treatment could be aimed to help the individual reduce their dissociation symptoms in an attempt to pre-empt a full-blown PTS reaction from occurring.

Mazza and Reynolds (1999) found that PTS symptoms in adolescents have been found to partially mediate the development of depression and suicide, with exposure to violence acting as the "traumatic event". The authors hypothesize that the reexperiencing of the trauma and lack of control over affect leads the adolescents to feel both hopeless and helpless to change the situation, leading to depression.

Clearly there are a number of moderating and mediating factors to the development of PTS symptoms, although research into these factors is still in its infancy. These factors may help us to understand PTS reactions but may not necessarily help is to identify them. The next section will discuss the difficulties associated with assessing and diagnosing symptoms associated with PTS in adolescents.

Identifying PTS symptoms in adolescents:

PTS symptoms are commonly overlooked in adolescent mental health owing to their multi-faceted manifestations (Berenson, 1998). A number of studies have discussed how adolescents can be misdiagnosed as having ADHD owing to the risk-taking behaviour they exhibit following trauma (e.g. Pelcovitz & Kaplan, 1996; Pynoos, 1993). Less frequently, some adolescents following trauma experience hallucinations which can also be misdiagnosed as the beginnings of a psychosis (Nurcombe, Mitchell & Begtrop, 1996;Volkmar, 1996); this is particularly the case following chronic trauma (see Berenson, 1998).

The diagnosis of PTS symptoms may also be missed in adolescents as there has been found to be a very high incidence of comorbidity in adolescents (e.g. Jensen, Martin & Cantwell, 1997). Identifying normal from abnormal anxiety, depression and oppositionality can be difficult in this age group as most adolescents will experience these factors to some degree (Berenson, 1998). Furthermore, making an accurate diagnosis is difficult owing to developmental factors in which the manifestation of one condition may actually be the early signs of another (e.g. Caron & Rutter, 1991). Owing to the high comorbidity of depression, anxiety and attachment disorders following the experience of trauma, very often PTS reactions are overlooked (see Amaya-Jackson & March, 1993).

Summary:

Adolescents have been identified as more vulnerable to experiencing PTS symptoms than adults. This increased vulnerability is attributed to their stage of development during which separation, identity formation and physiological (including hormonal) changes are occurring leading to an already fragile emotional regulation and underdeveloped neurological pathways (see Pynoos et al., 1999). As

well as the clusters of symptoms described in the DSM-IV, commonly the PTS reaction will be manifest in externalizing behaviours, academic difficulties, depression, anxiety and attachment problems (see Amaya-Jackson & March, 1992). The type of stressor has been divided into single event Type I stressors and chronic trauma, Type II (Terr, 1991). The latter has been identified as causing more complex and long-lasting difficulties (e.g. Herman, 1992). A number of moderators of PTS symptoms in adolescents were identified, namely surrounding support, personality factors and the recovery environment, as well as gender, type of stressor and level of perceived threat (e.g. Pynoos et al., 1996). Mediators included type of reactions following the trauma (e.g. Pynoos, 1993) as well as dissociation (e.g. Putnam, 1996b). Overall, little research has been conducted with adolescents, particularly experiencing Type II stressors, this perhaps partly explains why PTS symptoms are commonly overlooked in adolescents and why bullying has not been explored as a risk factor. The next section will make that link between bullying and PTS symptoms.

Bullying and PTS symptoms:

The introduction of this paper discussed the absence of literature exploring PTS symptoms within the population of bullied adolescents. Drawing from both bodies of literature (bullying and trauma) this section will argue why it would be useful to examine the presence of PTS symptoms in bullied adolescents empirically.

Perhaps the first factor to be explored is whether bullying can be termed as a trauma. Olweus (1997) definition of bullying stated that the action must be repetitive with the intention to cause harm, using an imbalance of strength which can persist for many years. As a consequence of this behaviour, the individual can be left to feel terrified, helpless and out of control following regular intrusion to his or her

psychological and physical integrity. These are feelings which are very much associated with those described in the diagnostic criteria for PTSD (see DSM-IV, APA, 1994) and fit Terr s (1991) description of Type II trauma of chronic abuse. Furthermore, it has been found that repeated abuse, particularly violent abuse (as is often the case in bullying) can precipitate a traumatic stress response (e.g. Fitzpatrick & Boldizar, 1993; Jenkins and Bell;1997; Riggs, O'Rothbaum & Foa,1995). Consequently it could be argued that bullying could be defined as a trauma. Despite the bully-victim relationship being well documented as containing many of the features described by Herman (1992) regarding the adult abuser-child relationship, few researchers have actually likened the two relationships (e.g. Colvin et al.,1998; Farrington, 1993; Olweus, 1997). Just as severity of abuse from adult-child relationships has been found to positively correlate with the development of PTS symptoms (e.g. Hulme & Grove, 1994), it is likely that the severity of bullying will also have this relationship, although this is yet to be explored.

The literature discussing PTS symptoms in adolescents discusses the fact that not everybody develops this reaction following trauma, that a number of moderating factors strengthen the likelihood of this occurring (e.g. Irwin,1996; Yehuda & McFarlane, 1995). These moderating factors, namely support (particularly family support); attachment patterns and personality factors (e.g. Burton et al., 1994; Irwin, 1996; Ogawa et al., 1997; Rutter, 1994) have also been identified as important moderating factors in bullied adolescents (e.g. Baldry & Farrington, 1998; Smith & Myron-Wilson, 1998; Troy & Sroufe, 1987). This indicates that bullied adolescents may be experiencing factors which will increase their risk of developing PTS symptoms, further strengthening the argument that this needs to be more formally explored.

The main body of evidence supporting the argument that PTS symptoms should be investigated in bullied adolescents, derives from exploring the sequelae of bullying. Victims of repeated bullying have been found to experience depression, anxiety and also display externalising behaviours similar to that of ADHD (e.g. Kumpulainen et al., 1998). These are symptoms which have been strongly identified in adolescents experiencing PTS symptoms (see Berenson, 1998). The high levels of psychosomatic difficulties and avoidance of school through school refusal in victims of bullying (Kumpulainen et al., 1998) also resemble symptoms associated with PTS (e.g. APA, 1994; Vogel & Vernberg, 1993). The presence of shame has been identified as a particular predictor of PTS symptoms (Andrews, Brewin, Rose & Kirk, In Press). The research conducted by Olweus (1997) and Salmivalli et al. (1996) have identified shame to be a strong feature in bullied adolescents, again indicating them to be vulnerable to the development of PTS symptoms. Other sequelae following bullying which also overlap with PTS reactions (Pelcovitz & Kaplan, 1996) are of sleeplessness, physical illness and difficulties in concentrating on schoolwork (Sharp, 1995). Furthermore the developmental stages in which the bullying is experienced increase the likelihood of adolescents experiencing PTS symptoms (e.g. Berenson, 1998; Pynoos et al, 1999).

Possibly the repetitious provocation of bullies by some bully-victims (Boulton & Smith, 1994), as discussed earlier, may be an attempt to gain some sense of control over the situation, as has been observed in adolescents with PTS symptoms acting out their traumas (e.g. Allen, 1995; Pynoos, 1993).

The long-term depression identified in adults who were victimized as children and adolescents (Olweus, 1993a) may be explained by Mazza and Reynold s (1999) findings that PTS symptoms, including dissociation, partially

mediate the development of depression and suicide. Becker-Lausen et al. s (1995) study linking abuse to interpersonal relationship problems, and depression may help to explain why adults who were victims of bullying as children experience interrelationship difficulties and depression (e.g. Gilmartin, 1987; Olweus 1993).

Conclusion:

Following the literature reviews of bullying and trauma in adolescents, and the evidence discussed in the previous section, it is surprising that researchers have not considered victims of bullying to be an "at-risk" group for developing PTS symptoms. Furthermore, because victims of chronic bullying may experience victimization for many years (e.g. Olweus, 1993a; Kumpulainen, R s nen & Henttonen, 1999) it is likely that they will develop symptoms associated with Type II chronic trauma (Terr, 1991) such as dissociation. The common experience of revictimization in adulthood following being bullied may be a consequence of dissociation (Becker-Lausen et al., 1995; Field, 2000).

If bullied adolescents were found to be at risk of developing PTS symptoms, this would have major clinical implications for the assessment and treatment of the high proportion of those bullied individuals referred to the mental health services (e.g. Kumpulainen et al., 1998). Not only would health professionals need to be alerted to the possibility that this group was a high-risk population of PTS symptoms (commonly overlooked), but it should also be brought to the attention of schools. Consequently, although much attention is rightly being paid to the development of effective school-bullying interventions (e.g. Eslea & Smith, 1998; Olweus, 1997), which have been found to be highly successful, it is also important that teachers and health workers are alert to the potential problems which may arise for the individual. Future research exploring PTS symptoms and dissociation in bullied adolescents may

lead to more effective intervention strategies being implemented and reduce the experience of being victimized from being intergenerational.

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Empirical paper

Exploring post-traumatic stress symptoms in bullied adolescents: the moderating role of social support and mediating role of dissociation

Submission to Journal of Child Psychology and Psychiatry and Allied Disciplines
(see Appendix 1)

Exploring post-traumatic stress symptoms in bullied adolescents: the moderating role of social support and mediating role of dissociation

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Exploring post-traumatic stress symptoms in bullied adolescents: the moderating role of social support and mediating role of dissociation

Abstract:

This study explores whether being bullied can lead to adolescents experiencing post-traumatic stress (PTS) symptoms. The introduction argues that the many of the psychological disturbances commonly identified in bullied adolescents (e.g. Sharp, 1995) may be part of a PTS reaction. The overlap in moderating factors is also discussed (e.g. Olweus, 1997; Rutter, 1994) as well as the potential mediating role of dissociation. The results showed that bullied adolescents do experience significantly higher levels of PTS and dissociation symptoms than non-bullied adolescents. There was no significant difference in PTS symptoms between verbal and physical bullying. Dissociation was found to be a mediator between bullying and PTS symptoms but social support was not identified as a moderator. Bullying itself only predicted a small amount of variance in PTS symptoms suggesting that there may be other factors. The clinical implications and areas of future research are discussed.

Introduction:

Bullying of adolescents has been identified as a major problem for both schools and mental health services in terms of understanding the process of bullying and identifying solutions (e.g. Kumpulainen et al., 1998; Olweus, 1997). Large-scale surveys have indicated that approximately 6% of secondary school students are bullied sometimes, and 1% are bullied at least once a week (e.g. Olweus, 1997; Whitney & Smith, 1993). The effect on the bullied adolescent can be devastating and even lethal. An extensive retrospective survey conducted by Kidscape identified that 46% of the respondents contemplated suicide and 26% actually attempted suicide owing to the bullying (Shenton & Elliott, 1997). These figures demonstrate the seriousness of bullying and harmful effect upon an individual's mental health.

It has been well recorded that children and adolescents who are bullied experience low self-esteem, depression and anxiety (e.g. Baldry & Farrington, 1998; Craig, 1998; Kumpulainen et al., 1998). However little attention has been paid to exploring whether bullied adolescents may be at risk of developing symptoms associated with post-traumatic stress (PTS) despite some being repeatedly and violently assaulted (e.g. Shenton & Elliott, 1997).

Bullying has been defined by Olweus (1997) as being repeatedly exposed over a period of time "to negative actions on the part of one or more other students" when there is "an imbalance in strength (an asymmetric power relationship)" (p.496). The imbalance of strength may be physical, psychological, emotional or as a consequence of age, gender, motivational or authority factors (Baldry & Farrington, 1998; Farrington, 1993). It is an

abusive process which can lead to intense feelings of terror and helplessness which may linger for many years (e.g. Olweus, 1997, Shenton & Elliott, 1997).

The feelings associated with bullying are fitting with that described in the diagnostic criteria for post-traumatic stress disorder (PTSD) in the *Diagnostic Statistical Manual - Fourth Edition* (DSM-IV, American Psychiatric Association, 1994). These criteria are specific about what can be termed a traumatic event in order for the diagnosis to be made. It states that the event must involve either actual or threatened death, injury or a threat to physical integrity which leads to the individual feeling intense fear, helplessness or horror. Several studies (e.g. Craig, Peplar & Atlas, 2000; Shenton & Elliott, 1997) describe how many bullied adolescents experience high levels of threat and physical violence which lead to feelings of fear and helplessness. These findings suggest that bullying would fit the definition of a traumatic experience. Even individuals who are mainly subject to verbal bullying may be at risk of developing PTS symptoms, considering that the perception of threat has also been identified as a predictor of PTS symptoms (e.g. Yehuda & McFarlane, 1995; Joseph, Williams & Yule, 1997).

To meet the full criteria of PTSD according to the DSM-IV (APA, 1994), after the traumatic event the individual must experience the following sets of symptoms for at least one month:

1) Intrusive reexperiencing of event in the form of flashbacks, dreams, intrusive thoughts and memories which may be triggered or spontaneously occur;
2) Avoidance of stimuli associated with the stressor and numbing of general responses in the form of cognitive avoidance (e.g. using distraction, suppression); dissociation;

behavioural avoidance of people, places or activities which trigger memories of the trauma; diminished interest in significant activities; restricted range of affect and sense of foreshortened future.

3) Persistent symptoms of increased arousal such as disturbed sleep, irritability, concentration difficulties, hypervigilance and exaggerated startle response.

As a consequence of experiencing these symptoms, the individual is unable to function in their daily life (DSM-IV, APA, 1994).

There is much controversy surrounding the application of the diagnostic criteria to children and adolescents despite attempts in the criteria to accommodate developmental issues (e.g. Amaya-Jackson & March, 1993; van der Kolk et al., 1996). Children and adolescents rarely fit the whole criteria and assessing for each of the factors can be difficult (see McNally, 1998; Putnam, 1996a). Consequently this paper will not use the term PTSD but discuss symptoms associated with PTS.

As well as those described in the diagnostic criteria above, other sequelae observed in adolescents include increased activity levels and risk-taking behaviour in an attempt, it is thought, to distract themselves from the unpleasant cognitive intrusions or to master the feelings regarding being out of control (Pynoos, 1993). This commonly leads to a misdiagnosis of attention deficit hyperactivity disorder (ADHD) (see Berenson, 1998). Other sequelae following trauma, which can be observed in adolescents, are of separation anxiety, enuresis, sleep problems, mood swings, depression, generalised anxiety, somatization, learning and concentration problems (e.g. Allen, 1995; Pynoos, 1993; Vogel & Vernberg, 1993).

Many of the symptoms displayed in traumatized adolescents have also been found to be prevalent in bullied adolescents. Symptoms associated with avoidance (a key component of a PTS reaction) have been found to be very common in this group, who have been identified as experiencing significantly higher levels of absenteeism and psychosomatic difficulties than children and adolescents who are not bullied (e.g. Puura et al., 1997; Sharp, 1995). Poor academic performance, concentration difficulties and sleep problems found in this group (e.g. Sharp, 1995) may again indicate that this population is experiencing the increased arousal associated with PTS. Furthermore, the high levels of depression, generalised anxiety and somatic difficulties found in children and adolescents who are bullied, as well as externalising behaviours (e.g. Kumpulainen et al., 1998; Sharp, 1995), also overlap with the common manifestations of PTS in adolescents. These findings suggest that bullied adolescents may be experiencing PTS symptoms.

Interestingly, there seems to be very little literature distinguishing between the effects of physical and verbal bullying. However, in the trauma literature, level of exposure, severity of violence and threat to physical integrity are positively related to development of PTS symptoms (see Jenkins & Bell, 1997). Consequently, one might expect physical bullying to have a more adverse effect than verbal bullying.

Studies have shown that only a small percentage of individuals experience symptoms associated with PTS following a trauma (e.g. Irwin, 1996, Yehuda & McFarlane, 1995). A number of moderators have been identified which increase an individual's risk of developing PTS symptoms. Baron and Kenny (1986) define

moderators as factors that influence both the strength and direction of a relationship between the independent variable and the dependent variable. Two of the most commonly identified and empirically supported moderators for the development of PTS symptoms, level of support and family background (e.g. Burton, Foy, Bwanausi, Johnson, & Moore, 1994; Irwin, 1996; Rutter, 1994), have also been identified as moderators for bullying (Olweus, 1997; Smith & Myron-Wilson, 1998). Families of victims of bullying having been identified as over-protective, controlling and sometimes punitive (Baldry & Farrington, 1998). Avoidant and disorganised attachment patterns have also been identified as risk factors for the development of PTS symptoms and of bullying (e.g. Ogawa, Sroufe, Weinfield, Carlson & Egeland, 1997; Troy & Sroufe, 1987). Although this research has been conducted with children not adolescents, it is likely that similar attachment patterns would arise in this population, much more research is required in this area. It could be argued that the patterns of support which have been found to moderate adolescents' experience of bullying will also moderate the level of risk at which they are likely to experience PTS symptoms. Other moderating factors of PTS symptoms, such as levels of intelligence, perceptions of helplessness and lack of control have also been identified as moderators of bullying (e.g. APA, 1994; Crittenden, 1985; Roland, 1989; Olweus, 1993). However, it is likely that academic achievement will be adversely affected by both the experience of PTS symptoms and bullying (Yule, 1992) consequently it is tenuous to argue that intelligence moderates either.

Terr (1991) divided types of trauma into two groups, Type 1 being a single event and Type II being a chronic stressor in which the element of surprise is absent but

replaced by a persistent sense of anticipation and fear. The experience of bullying would fall into the Type II category of trauma (Terr, 1991). Adolescents experiencing Type II trauma have been found to experience higher levels of dissociation (Terr, 1991). It has been hypothesized that dissociation helps individuals to cope with stress by enabling them to cut themselves off from the intolerable affect (through absorption, depersonalisation, derealisation and amnesia) associated with the traumatic event (Carlson & Putnam, 1993; Putnam, 1996b). As bullying could be defined as a Type II trauma, one might hypothesize that bullied adolescents use dissociation as a means to cope with the bullying. If dissociation was found to be a strategy used by victims of bullying, this may have implications upon whether they are at risk of developing PTS symptoms. This is because dissociation has been found to act as a mediator between trauma and subsequent mental health problems (such as PTS symptoms) in other populations (e.g. Becker-Lausen, Sanders & Chinksy, 1995; Everill & Waller, 1995; Griffin, Resick & Mechanic, 1997). A mediator can be defined as an internal process that occurs following certain events, which leads to a transformation in the organism (Baron & Kenny, 1986). Interestingly, dissociation has been described as both a mediator and a symptom of PTS (e.g. Becker-Lausen et al, 1995; APA, 1994). If dissociation was a mechanism which leads to a PTS reaction as the term mediator suggests, there perhaps needs to be further clarification within the literature between the terms mediator and symptoms. It may be that dissociation is not so much a symptom of PTS as defined in the DSM-IV (APA, 1994) but continues to act as a mediator once the PTS symptoms have developed. Although these are important issues, it was not possible to look at them

further within this study, except to explore whether dissociation does act as a mediator in this population.

It could be argued that the combination of a traumatic event such as bullying and the overlap in symptoms and moderating factors in bullying and PTS symptoms suggest that adolescents who are victimized are experiencing PTS symptoms. Furthermore, they may be using dissociation as a strategy to manage the bullying experience which may place them at risk of developing further psychological difficulties (e.g. Everill & Waller, 1995). This study will explore these factors further in adolescents aged 11 to 16 years.

Aims and hypotheses of current study:

This study is a preliminary study exploring levels of PTS and dissociation symptoms in bullied adolescents and attempting to identify the role of social support. The following hypotheses will be tested:

1) Adolescents who report being victims of bullying will experience significantly more PTS symptoms than those who report not being bullied.
2) Adolescents who report being victims of bullying will experience significantly higher levels of dissociation than those who report not being bullied.
3) Adolescents who report being physically bullied will experience significantly more PTS symptoms than adolescents who report being verbally bullied and those who report not being bullied.

Exploratory analysis:

Because it has not yet been established that adolescents who are bullied do experience symptoms associated with PTS and dissociation, the following hypotheses

can only be explored once the above hypotheses have been tested and therefore the following can only really be considered as part of a pilot study. These hypotheses are:

1) Social support will act as a moderator to the development of PTS symptoms in adolescents.
2) Dissociation will act as a mediator in the development of PTS symptoms following a bullying experience.

Materials and Methods:

Design:

The study conducted was quasi-experimental and cross-sectional in design.

Participants:

The participants (n=1160) were members of a semi-rural secondary school (years 7-11) based in Hampshire, UK (age range 12 to 16 years). Of these, 689 (59.4%) participants took part in all of the study. There were a number of reasons why the remainder were not included in the study. Approximately 60 questionnaires (5.2%) were spoilt, 185 students (15.9%) only managed to complete one set of questionnaires owing to their classes not coinciding with the timetabled sessions or being absent, the remainder (approximately 230 students, 19.8%) refused to participate in the study. Reasons for why individuals chose not to participate were not given, although it is a sufficiently large number to potentially affect the data analysis. Out of the participants were 335 girls (48.6%) and 354 boys (51.4%). From this population, the following groups were identified:

Group 1: Participants who reported not being bullied;

Group 2: Participants who reported being bullied once or twice;

Group 3: Participants who reported being bullied more frequently than once or twice.

These three groups were derived from the responses to the 5-point question on the Revised Olweus Bully/ Victim Questionnaire, looking at the frequency of bullying. Owing to small numbers, the third group was determined by collapsing: *those bullied sometimes*; *those bullied about once a week* and *those bullied several times a week.* Because the study was most interested in the third group (which was also the smallest), the members of the other two groups were randomly selected using SPSS to match this group for age and gender. As not all of the participants completed all of the questionnaires, and because the first two hypotheses required those who had only filled in two questionnaires, in order for the maximum amount of data to be used, three databases were used to test each hypothesis:

A) N=288 (46.9% girls, 53.1% boys; mean age 12.5 Years; Std Deviation = 1.35). This group comprised of those who completed the Olweus Bully/Victim Questionnaire and the Impact of Events Scale (IES). Participants who did not complete the IES were excluded from this database.

B) N=255 (48.2% girls, 51.8% boys; mean age = 12.4 years; Std Deviation = 1.38). This group comprised of those who completed the Olweus Bully/Victim Questionnaire and the Adolescent-Dissociative Experiences Scale (A-DES). Participants who did not complete the A-DES were excluded from this database.

C) N=162 (46.6% girls, 53.4% boys; mean age = 12.47 years; Std Deviation = 1.41). This group comprised of participants who had completed all the questionnaires.

The majority of participants were included in all three databases. Table 1 shows the breakdown of age and gender per group in each database.

Insert Table 1 about here

Measures:

1) The Revised Olweus Bully/Victim Questionnaire, Secondary School and English version (Olweus, 1996). This is a 20-item survey exploring individuals' perceptions of bullying (see Appendix 2). Despite widespread international use (approximately n=130,000) by key researchers in this area (e.g. Baldry & Farrington, 1998; Olweus, 1997) there is no published data regarding the psychometric qualities of the revised version of this questionnaire. However, correspondence with the author indicates there to be good validity, test-retest reliability and internal consistency reliability. These have been tested using a large sample (n=5000) and apparently the actual figures of these tests are shortly to be submitted for publication. Class-aggregated student rating estimates of the number of students in the class who were bullied or bullied others during the reference period have been found to be highly correlated ($r=.70$; $p<.05$) with class-aggregated estimates derived from the students' own reports of being bullied or bullying others using the unrevised Bully/Victim Questionnaire (see Olweus, 1994), this also indicates good validity. Furthermore the questions are straightforward and transparent and so analogous to the information one might obtain using an interview. For the purpose of this study, only the categorical questions

measuring frequency of bullying and type of bullying were used in the analysis to define the groups.

2) Adolescent Dissociative Experiences Scale, (A-DES, Armstrong, Putnam, Carlson, Libero & Smith, 1997). This is a 30 item self-report measure (see Appendix 3). Participants mark the frequency of their dissociative experiences on a scale from 0 ("never") to 10 ("always"). The measure has high split-half and 2-week test-retest reliability (Spearman-Brown r=.94, Pearson r=.77) and good concurrent validity (Smith & Carlson, 1996). The limited normative data means that clinical ranges have not yet been established.

3) The Impact of Events Scale (IES, Horowitz, Wilner & Alvarez, 1979). This is a 15 item scale with two sub-scales, 'Intrusion' and 'Avoidance' (see Appendix 4). It has been shown to have good reliability and content, construct and criterion validity, acting as an adequate self-administered screening tool of PTS symptoms in adolescents (e.g. Dyregrov, Kuterovac & Barath, 1996; Sack, Seeley, Him & Clarke, 1998; Winje & Ulvik, 1998). Scores between 20 and 29 indicate cause for concern and scores of 30 and over are identified as being clinically significant (e.g. Yule, 1992).

4) The Child and Adolescent Social Support Scale - Level 2 (CASSS, Malecki, Demaray, & Elliott, (2000). This is a 40-item scale with four subscales: Parent Support; Teacher Support; Class Support and Friendship Support (Appendix 5). There are two measures of frequency and importance, although the authors state that importance is only of clinical interest and less useful for research. This study will therefore only use frequency scores. The subscales can be collapsed to produce a final score. High

reliability (reliability coefficient =.95) and concurrent validity (r=.78, p>.01) have been found, indicating it to be a useful tool in measuring social support for this age group. Malecki et al. (2000) showed the mean score for this age range to be 175.1 with a standard deviation of 30.9.

Procedure:

Ethical approval was provided by the university (Appendix 6) and because the study was conducted as part of an assessment carried out by an Educational Psychologist the local ethics board stated that the study did not require their approval (Appendix 7). In agreement with the school, parents of participants were sent a letter (Appendix 8) clearly outlining the nature of the project and stating that they were entitled to withdraw their children from the study at any point. The study was carried out over two sessions owing to the length of the questionnaires. A letter of explanation (Appendix 9) was distributed with the measures, explaining the anonymous and voluntary nature of the study and guidelines on what help was available should they feel distressed following the study. These instructions were reiterated by the teachers who were fully briefed prior to the study and given written instructions (Appendix 10) to read out to the participants. During the first session, the participants filled in the Revised Olweus Bully/ Victim Questionnaire and the A-DES which were then put into coded envelopes and sealed. In the second session, the participants were handed coded envelopes (corresponding with the codes of the first session) containing the CASSS and the IES. Once completed and returned in the sealed envelopes, these were matched with the questionnaires from the first set. The list of names and codes were then destroyed.

All participants were handed blank pieces of paper, which they could use to write a letter or draw on should they not wish to participate in the study.

Data analysis:

The first three hypotheses were analysed using Kruskal-Wallis and Mann-Whitney tests. Non-parametric tests were used because the data was not normally distributed. Hypothesis one was tested using database A and Hypothesis two was tested using database B. Hypothesis three was tested using a sample derived from those who completed section one of the Olweus Bully/Victim Questionnaire and the IES scale (n=156). In this sample the following three groups (matched for age and gender) were identified:

Group a: Participants who reported not being bullied;

Group b: Participants who reported being bullied verbally;

Group c: Participants who reported being bullied physically.

The exploratory hypotheses (looking at the moderating role of social support and mediating role of dissociation) were tested using regression analysis on database C. This database was also used to explore how much of the bullying experience accounts for the PTS symptoms.

Results:

The overall frequency of reported experiences of bullying in the whole sample can be seen in Table 2. The rate of bullying is comparable to that found in other studies (e.g. Whitney and Smith, 1993).

Insert Table 2 about here

Table 3 shows the descriptive results for the whole sample (n=689) and the three databases. As can be seen, the large standard deviations, particularly for the IES results, indicate that the means are not very representative of the data.

Insert Table 3 about here

Tests of normality (Kolmogorov-Smirnov test and observations of histograms) indicated that the only data that were normally distributed was for the CASSS. All the other variables showed significant positive skew to the extent that it was not possible to transform the data to become normally distributed. Consequently it seemed advisable to use nonparametric methods.

Hypothesis one: Adolescents who reported being bullied will experience significantly more PTS symptoms than those who reported no bullying.

This hypothesis was initially tested using the Kruskal-Wallis one-way analysis of variance on database A (which gives a value H to be tested over the χ^2 distributions) looking at differences between Group 1 (not bullied), Group 2 (bullied once or twice) and Group 3 (bullied more frequently than once or twice). The results are reported in Table 4.

Insert Table 4 about here

As can be seen, there is a significant difference ($p < .001$) found in the direction the hypothesis predicted. Mann-Whitney tests were used to identify where the differences exist using the Bonferroni correction to control for Type 1 error. Consequently, as three tests will be carried out, the criterion for significance will be $p < .01$. Table 5 shows the results of these analyses. As can be seen Group 3 have been found to experience significantly more PTS symptoms than those in Group 2 and Group 1. Group 2 experiences significantly more PTS symptoms than Group 1. All of them meet the adjusted significance level of $p<.01$.

Insert Table 5 about here

To explore the clinical levels of the IES, a chi-square cross-tabulation was conducted this time with the IES results divided into three categories according to clinical significance (Yule, 1992):

Group I: Scores 0-19 (Normal range);

Group II: Scores 20-29 (cause for concern);

Group III: Scores 30+ (clinically significant).

Table 6 shows the cross-tabulation of frequency of bullying and IES clinical ranges. The $\chi^2 = 32.9$ ($df = 4$; $p<.001$) indicating that the relationships shown below are not random. As can be seen, over half (53.1%) of the adolescents who are bullied more frequently than once or twice fall in the clinically significant range of the IES. Conversely, 65.6% of adolescents who have no experience of bullying fall in the normal range, although 20.8% of this group also fall in the clinically significant group. Approximately a third (32.3%) of adolescents who report being bullied once or twice also fall in the clinically significant group.

Insert Table 6 about here

Hypothesis two: Young people who are victims of bullying will experience significantly higher levels of dissociation than those who are not bullied.

This hypothesis was again initially tested using the Kruskal-Wallis one-way analysis of variance on database B looking at the differences between Group 1 (not bullied), Group 2 (bullied once or twice) and Group 3 (bullied more frequently than once or twice). The results are reported in Table 7. Again it can be seen that a significant difference ($p<.001$) exists between the three in the direction which the hypothesis predicts.

Insert Table 7 about here

Again Mann-Whitney tests were conducted to establish where the differences lay with the significance adjusted to $p<.01$ using the Bonferroni correction. Table 8 shows the results. As can be seen, participants in Group 2 rated significantly higher ($p<.001$) on the dissociation scale than participants in Group 1. Interestingly participants in Group 3 did not rate significantly higher ($p<.279$) on the dissociation scale than Group 2.

Insert Table 8 about here

As to date there is insufficient data to establish a clinical range for the A-DES further analysis was not conducted to explore clinical levels of dissociation in bullied adolescents.

Hypothesis three: Young people who are physically bullied will experience more PTS symptoms than young people who are verbally bullied and those not bullied.

This hypothesis was tested using a matched sample (n=156) for age and gender for groups:

Group a: *Not bullied*;

Group b: V*erbally bullied;*

Group c: *Physically bullied.*

Again the Kruskal-Wallis test was initially used. Table 9 shows the results indicating there to be a significant difference in the hypothesized direction. Mann-Whitney tests were conducted to explore where the differences lie, see Table 10 for these results.

Insert Table 9 about here

Insert Table 10 about here

As can be seen in Table 10, individuals who are verbally bullied (Group b) and individuals who are physically bullied (Group c) both experience significantly higher IES scores ($p < .01$) than those who are not bullied. However, those who are physically bullied do not experience higher IES scores than those who are verbally bullied ($p < .369$).

Exploratory analysis:

Regression analysis (Baron & Kenny, 1986) was used to explore how much the bullying experience accounted for the scores on the IES as well as the moderating effect of social support and mediating effect of dissociation. Initially intercorrelations using Spearman's rho were conducted between the measures to explore the relationships. Table 11 shows these results.

Insert Table 11 about here

As can be seen in Table 11, the relationships between the scales A-DES, Bully Frequency and IES showed mild but highly significant relationships. Interestingly, the CASSS showed no significant relationship with any of the other scales. In further exploration the scale was broken down into its subscales (Parent Support; Teacher Support; Classmate Support and Close Friend Support) but these showed no significant relationship to any of the other scales. Consequently social support was excluded from the regression analysis.

To explore the predictive nature of frequency of bullying on the IES and the mediating role of dissociation, a three-step statistical approach outlined by Baron and Kenny (1986) was used.

Step one: regression of the mediator, in this case dissociation, on the predictor variable, frequency of bullying.

Step two: regression of the outcome variable, in this case PTS symptoms on the predictor variable, frequency of bullying.

Step three: regression of the outcome variable (PTS symptoms) on both the predictor variable, frequency of bullying, and the mediator, dissociation.

Dissociation will be a mediator if the regression coefficient is significant for the first two steps and dissociation is found to be significantly related with PTS symptoms in the third step. The relationship between frequency of bullying and PTS symptoms must be less in the third step than that found in the second step in order for the mediating role of dissociation to be supported. Table 12 summarises the three regression equations.

Insert Table 12 about here

As can be seen in Table 12, the regression coefficient is significant for the first two analyses ($p<.001$); dissociation is significantly related to PTS symptoms in the third analysis ($p<.001$) and the relationship between frequency of bullying and PTS symptoms is less in the third equation ($\beta = .19$, $p<.014$) than the second ($\beta = .27$, $p<.001$). Following Baron and Kenny (1986), these results indicate that dissociation has a mediating role between being bullied and experiencing PTS symptoms. However, all the regression coefficients are fairly small (maximum one being between dissociation and PTS symptoms $\beta = .35$, $p<.001$) indicating that only a small proportion of the variance in symptoms is predicted by these variables.

The main biases found in the regression analysis was the presence of slight heteroscedasticity for each step (the variance of the residuals does not remain constant at each level of the predictor) and a slight deviation in residuals from normality showing a positive skew, particularly in step 1 analysis. The other assumptions (variable types, no perfect multicollinearity, non-zero variance, independence and linearity) were all met.

The final part of my analysis applied the Baron and Kenny (1986) regression model to the whole sample (n=689) to explore whether the mediating role of dissociation was still apparent. As can be seen in Table 13, the regression coefficients in the first two steps were significant ($p<.001$), dissociation was significantly related to PTS symptoms in the third step ($\beta = .37$, $p<.001$) and the relationship between frequency of bullying

and PTS symptoms (β = .06, p<.04) was smaller in the third step than the relationship in the second (β = .17, p<.001). These figures indicate that dissociation does act as a mediator between bullying and PTS symptoms in the whole sample.

Insert Table 13 about here

For all three steps, the residuals showed a slight deviation from the normal distributions, and the data showed heteroscedasticity. This indicates that any conclusions drawn from the analysis should be very tentative.

Discussion:

Adolescents who reported being bullied more frequently than once or twice were found to experience significantly more PTS symptoms than those who reported being bullied only once or twice and those who reported not being bullied. These results supported hypothesis one. Indeed, those who were only bullied once or twice also experienced significantly more PTS symptoms than those not bullied. The cross-tabulation and chi-square analysis showed that over half of the group who were bullied more frequently than once or twice had scores which fell in the clinically significant range for PTS symptoms. The majority of adolescents who reported no bullying fell in the normal range for PTS symptoms. These results suggest that the sequelae following bullying such as avoidance, sleep problems, academic difficulties, somatization (Puura et al., 1997; Sharp, 1995) may be part of a PTS reaction. The results showing that significantly more adolescents who are bullied only once or twice experience clinically

more PTS symptoms than those who report no bullying indicate that even the experience of one or two episodes of bullying may lead to increased levels of PTS symptoms. Alternatively, the results may indicate that adolescents who are bullied may also experience significantly higher levels of PTS symptoms owing to other factors. As described in the introduction, a number of studies have shown that victims of bullying can come from punitive, controlling and authoritarian backgrounds (e.g. Baldry & Farrington, 1998). Therefore, it may be that factors associated with family background are the cause of elevated PTS symptoms rather than the bullying experience, although the latter may exacerbate them. Whatever the explanation, the results show that bullied adolescents, particularly those who are frequently bullied, are at risk of developing clinically significant PTS symptoms.

Hypothesis two, that adolescents who are victims of bullying will experience significantly higher levels of dissociation than those who are not bullied, was supported. Interestingly, there was not a significant difference between the groups of those who reported being bullied more frequently than once or twice and those who reported being bullied only once or twice. This lack of significant difference may show that dissociation is not related to frequency of bullying, although other studies have demonstrated that degree of dissociation is certainly related to frequency of abuse (e.g Boon & Draijer, 1993, Irwin, 1994, Murray, 1993). It is more likely that the collapsing of the bully frequency for the group *bullied more frequently than once or twice* (from the groups *sometimes*, *once a week*, *several times a week*), led to less extreme instances of bullying being compared and consequently the differences between frequency were not identified.

It is interesting that even adolescents reporting to experience only one or two episodes of bullying have increased levels of dissociation. These findings may show that even these episodes are sufficient to elevate dissociation. Alternatively they may demonstrate that bullied adolescents are experiencing higher levels of dissociation anyway owing to other factors, which may include poor family functioning (e.g. Baldry & Farrington, 1998). Following Kluft's (1990) proposal that when individuals dissociate they can make themselves vulnerable to further revictimization, it may be that the bullying experience is actually a consequence of the dissociation. Unfortunately, the lack of normative data regarding the A-DES means that it is not possible to state whether bullied adolescents' levels of dissociation fall in a clinical range.

Hypothesis three proposed that young people who are physically bullied will experience significantly more PTS symptoms than young people who are verbally bullied, and those who are not bullied at all. This hypothesis was derived from the findings that level of physical threat are related to extent of PTS symptoms (see Jenkins & Bell, 1997). Interestingly, there was not a significant difference between those who were physically and verbally bullied, only between both of these groups and those not bullied at all. The reason for this finding could be because of the crude way in which physical bullying was identified from verbal bullying without any consideration paid to the type and nature of either. Another reason could be that perceived threat is as likely to lead to a PTS reaction as physical harm, as indicated in other studies (e.g. Yehuda & McFarlane, 1995; Joseph et al. 1997). Consequently, the verbal abuse is perceived as

harmful as the physical abuse. A third reason for these findings may be again because bullied adolescents, regardless of the nature of the attack, are already experiencing significantly higher levels of PTS symptoms owing to other factors such as family background (e.g. Baldry & Farrington, 1998) or other factors which, as yet, have not been identified.

The initial intercorrelations between the variables: frequency of bullying, dissociation and PTS symptoms, showed mild but highly significant relationships. However, social support was not significantly related to any of the other variables, which in this study suggested that it was not a moderator to either bullying or the development of PTS symptoms. Considering the number of studies indicating that social support is an important moderator to both bullying and PTS symptoms (e.g. Burton et al., 1994; Irwin, 1996, Olweus, 1997) it may be that the CASSS was not measuring the same types of support as these other studies. A less likely reason, is that social support plays a much smaller part in moderating both bullying and PTS symptoms than previously thought.

Following Baron and Kenny's regression analysis (1986), dissociation was found to be a mediator between bullying and PTS symptoms. Furthermore, only a small proportion (but highly significant) of the variance in PTS symptoms was found to be predicted by bullying. These findings again indicate that other factors may account for the variance in PTS symptoms and explain why such a high proportion (53.1%) of the group who reported being bullied more frequently than once or twice fell in the clinically

significant range for the IES. Again, these factors may be associated with family background (e.g. Burton et al., 1994; Ogawa et al., 1997; Smith & Myron-Wilson, 1998), or other unidentified factors. The problems in normal distribution and heteroscedasticity in this analysis, however, mean that interpretation of these results should remain cautious.

Overall, the results suggest that young people who experience either verbal or physical bullying, particularly those who are bullied frequently fall in an "at risk" group of experiencing PTS symptoms. The results also suggest however, that the actual experience of bullying only accounts for a small amount of variance in PTS symptoms and therefore more studies need to be conducted exploring other possible predictors. It is possible that the IES is not as valid as previous studies have demonstrated (e.g. Dyregrov et al., 1996; Yule, 1992) and actually the symptoms measured may relate to other disorders such as depression and anxiety rather than PTS symptoms. It may be that the IES is only useful following Type I trauma rather than Type II as in this case. It would be useful if future research in this area used more formal PTS measures rather than a screening tool such as the IES.

There are many clinical reasons why we should continue to explore which groups are "high risk" populations for developing PTS symptoms. As has already been discussed, victims of bullying experience mental health difficulties such as depression, anxiety and psychosomatic difficulties (e.g. Kumpulainen et al., 1998). Consequently a high proportion of victims of bullying use mental health services (e.g. Kumpulainen et al., 1998). Berenson (1998) discusses how mental health professionals commonly miss

PTS symptoms in adolescents. This is partly because of the high comorbidity with other disorders (leading to the symptoms being overlooked) and partly because of the developmental manifestations such as externalizing behaviours that lead to misdiagnosis. Therefore, it seems important to highlight groups that are at "high risk" of developing symptoms associated with PTS to ensure that these are not overlooked or misdiagnosed. Consequently clinicians perhaps need to be alerted to this study's findings showing that a high proportion of bullied adolescents are experiencing clinically significant PTS symptoms and therefore perhaps form an "at-risk" group. Schools and teachers can also be helped to recognise PTS symptoms and possibly key members of staff trained to screen for them in adolescents who are frequently bullied, referring them to adolescent mental health services if appropriate. Despite there being such a high proportion of bullied adolescents seeming to experience clinically significant levels of PTS symptoms, the results of the regression analysis suggest that bullying itself is only a small predictor. Although these results should be interpreted with caution, it may be that there are factors other than bullying which trigger the PTS reaction. Consequently, for those who are severely bullied it may be necessary to explore further explore their backgrounds to determine whether they have experienced any other trauma in their lives.

Owing to the mediating role of dissociation between bullying and PTS symptoms, it may be appropriate to help bullied adolescents reduce their dissociation levels in an attempt to prevent the PTS symptoms from developing and to lessen the risk of future psychopathology (e.g. Everill & Waller, 1995; Griffin et al., 1997). In order to do this effectively, these individuals need to learn coping strategies other than

dissociation to manage the bullying experience. For this to happen, however, the adolescents have to report the bullying experience in the first place, which commonly does not happen (e.g. Salmivalli, Lagerspetz, Bjorkqvist, Osterman, & Kaukiainen, 1996).

There are a number of flaws in the study (some of which have already been discussed) which mean that the results can only be seen as preliminary results from which further hypotheses can be generated. Perhaps the greatest problem is that the study is cross-sectional and consequently the causal relationships can only be inferred. Furthermore, family background, other trauma or abuse experiences, personality factors, Socio-economic status (SES) and intelligence are not explored or controlled for in the study despite most of these having been identified as moderators for both bullying and PTS symptoms (e.g. Baldry & Farrington, 1998; Crittenden, 1985; Smith & Myron-Wilson, 1998). SES was not controlled for owing to external restrictions on questions we were allowed to ask the participants, however Burton et al. (1994) found that SES was unrelated to the development of PTS symptoms. The sample was limited to one school in the UK and therefore the results are not necessarily generalisable. Participants were not screened for learning difficulties which may have affected their ability to accurately fill the questionnaires in, and carrying out the study in class groups may also have affected the participants' responses. The reliability of participants' self report was not tested (e.g. through interviewing other informants). The length of time in which individuals had experienced bullying and the severity of the bullying episodes were not accounted for (apart from looking at frequency of bullying and crudely dividing between

physical and verbal bullying). Again these factors have been found to be important variables in other types of abuse in the development of psychopathology (see Jenkins & Bell, 1997). Consequently further research is necessary to look more closely at the hypotheses.

An important area of future research seems to be further exploring why such a high proportion of bullied adolescents are experiencing clinically significant PTS symptoms, when this study has found that the bullying experience itself appears to be such a small predictor. In order to carry out this research, it is perhaps important to look a lot more closely at past history and family factors as these have been identified as strong moderators in both the development of PTS symptoms and bullying (e.g. Irwin, 1996; Rutter, 1994 & Olweus, 1997). Furthermore, as this study has conflicting findings with other literature (see Boulton, Trueman, Chau, Whitehand & Amatya, 1999; Pynoos, Steinberg & Piacentini, 1999) regarding the moderating effect of support on bullying and PTS symptoms it would be useful to look more closely at these relationships. As very little research has been conducted on type of bullying and subsequent psychological disturbance, and this study only crudely divided between verbal and physical bullying, it may be useful to further look at whether certain types (e.g. sexual harassment) or aspects of bullying are more damaging than others. Finally, more research is perhaps needed to further investigate the mediating role of dissociation and PTS symptoms in adolescents, as this study was purely exploratory. If dissociation were found to be a key mediator, as this study suggests, efforts could be made for clinicians to target this before the PTS symptoms had developed.

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Table 1: Age and gender per group in the three databases:

	Completion of IES Sample A					**Completion of A-DES Sample B**					**Completion of all scales Sample C**				
Year	**7**	**8**	**9**	**10**	**11**	**7**	**8**	**9**	**10**	**11**	**7**	**8**	**9**	**10**	**11**
Girls n	18	12	6	2	7	17	10	5	2	7	9	6	3	2	5
%	*18.8*	*12.5*	*6.1*	*2.1*	*7.3*	*20*	*11.8*	*5.9*	*2.4*	*8.2*	*16.6*	*11.1*	*5.6*	*3.7*	*9.3*
Boys n	19	14	10	3	5	17	10	10	3	4	9	7	7	3	3
%	*19.7*	*14.5*	*10.4*	*3.1*	*5.2*	*20.0*	*11.8*	*11.8*	*3.5*	*4.7*	*16.6*	*12.9*	*12.9*	*5.6*	*5.6*
Total n	37	26	16	5	12	34	20	15	5	11	18	13	10	5	8
%	*38.5*	*27.1*	*16.6*	*5.2*	*12.5*	*40.0*	*23.5*	*17.6*	*5.9*	*12.9*	*33.4*	*24.1*	*18.5*	*9.3*	*14.8*
Total	96					85					54				

Table 2: Percentage of students bullied in whole sample (n=689)

Frequency of bullying	Frequency	Percentage
Not bullied	430	62.4
Once or twice	162	23.5
Sometimes	57	8.3
About once a week	14	2.0
Several times a week	26	3.8
Total	689	100

Table 3: Means and standard deviations of the IES, A-DES and CASSS for the whole sample and each database:

		Database[1]											
		Whole Sample (n=689)			**A (n=288)**			**B (n=255)**			**C (n=162)**		
Scale	**Group**[2]	**1**	**2**	**3**	**1**	**2**	**3**	**1**	**2**	**3**	**1**	**2**	**3**
IES	**mean**	*20.37*	*23.8*	*29.5*	*16.62*	*23.7*	*30.17*	*21.24*	*24.8*	*30.2*	*19.18*	*27.5*	*31.47*
	std dev	18.31	18.23	18.45	14.01	14.05	16.25	18.23	18.4	18.2	17.81	17.44	16.6
A-DES	**mean**	*3.15*	*3.12*	*3.44*	*2.11*	*3.16*	*3.46*	*2.22*	*3.13*	*3.47*	*2.01*	*2.84*	*3.05*
	std dev	1.48	1.82	2.05	1.56	1.72	2.06	1.56	1.82	2.04	1.61	1.82	2.00
CASSS	**mean**	*167.6*	*161.3*	*164.7*	*166.1*	*160.9*	*164.7*	*176.8*	*162.5*	*165.9*	*165.2*	*152.9*	*168.6*
	std dev	31.7	34.3	41.9	28.9	33.9	41.9	31.7	33.5	42.4	33.6	34.4	38.72

[1] A= Matched sample who completed the IES;

B= Matched sample who completed the A-DES;

C= Matched sample who completed all of the scales.

[2] 1= Not bullied;

2= Bullied once or twice;

3= Bullied at least sometimes

Table 4: Mean ranks and test statistics of the Kruskall-Wallis test exploring differences in scores for the IES between groups 1, 2 & 3.*

Group	**N**	**Mean Rank of IES Scores**		**Test Statistics**
1	96	111.63	**H**	28.295
2	96	146.50	**df**	2
3	96	175.37	**Significance**	.001
Total	288	433.50		

* *Group 1 = Not bullied*

Group 2 = Bullied once or twice

Group 3 = Bullied at least sometimes

Table 5: Summary of Mann-Whitney results exploring differences in IES results between groups 1, 2 and 3

Statistics	**Differences between groups 1 & 2**	**Differences between groups 2 & 3**	**Differences between groups 3 & 1**
Mann-Whitney U	3457	3649	2603.5
Z	-2.999	-2.493	-5.217
Significance	.003	.01	.001

Table 6: Cross tabulation of bullying and Clinical Range of IES scores (n=288):

		Clinical range of IES			
		I	**II**	**III**	**Total**
Bullying	**1**	63 (65.6)	13 (13.5)	20 (20.8)	96 (100)
Groups	**2**	41 (42.7)	24 (25.0)	31 (32.3)	96 (100)
n (%)	**3**	27 (28.1)	18 (18.8)	51 (53.1)	96 (100)
Total		131(45.5)	55 (19.1)	102 (35.4)	288 (100)

Table 7: Mean ranks and test statistics of the Kruskall-Wallis test exploring differences in scores for the A-DES between groups 1, 2 & 3.

Group	N	Mean Rank of A-Des Scores		Test Statistics
1	85	99.65	H	19.89
2	85	136.35	df	2
3	85	148.00	Significance	.001
Total	255	384.00		

Table 8: Summary of Mann-Whitney results exploring differences in A-DES results between groups 1, 2 and 3:

Statistics	Differences between groups 1 & 2	Differences between groups 2 & 3	Differences between groups 3 & 1
Mann-Whitney U	2556	3265.5	2259.5
Z	-3.293	-1.081	-4.217
Significance	.001	.279	.001

Table 9: Mean ranks and test statistics of the Kruskall-Wallis test exploring differences in scores for the IES between groups a, b & c.*

Group	N	Mean Rank of IES scores		Test Statistics
a	52	63.08	**H**	9.82
b	52	89.91	**df**	2
c	52	82.51	**Significance**	.007
Total	156	235.50		

* *Group a = Not bullied*

Group b = Verbally bullied

Group c = Physically bullied

Table 10: Mann-Whitney Tests exploring differences between Groups a, b and c:

Statistics	Differences between Groups a & b	Differences between Groups b & c	Differences between Groups c & a
Mann-Whitney U	896.5	1214	1005.5
Z	-2.967	-.898	-2.256
Significance	.003	.369	.01

Table 11: Intercorrelations between the different scales (n=162):

	A-DES[1]	**Bully Frequency**	**IES**[2]	**CASSS**[3]
A-DES	1.00	.261***	.434***	.049
Bully Frequency	.261***	1.00	.299***	.056
IES	.434***	.299***	1.00	.048
CASSS	.049	.056	.048	1.00

*** Correlation is significant at the .001 level (2-tailed).

[1] A-DES: Adolescent Dissociative Experiences Scale

[2] IES: Impact of Events Scale

[3] CASSS: Child and Adolescent Social Support Scale

Table 12: Regression equations demonstrating the mediating role of dissociation between Frequency of bullying as the predictor variable and PTS symptoms as the outcome variable:

Regression equations	**Standardised beta coefficient (ß)**	**t**	**p <**
Dissociation with *frequency of bullying*	.25	3.23	.001
PTS symptoms with *frequency of bullying*	.27	3.54	.001
PTS symptoms with *frequency of bullying* *PTS symptoms* with *dissociation*	.19 .35	2.48 4.65	.014 .001

Table 13: Regression equations demonstrating the mediating role of dissociation between frequency of bullying as the predictor variable and PTS symptoms as the outcome variable in the whole sample (n=689):

Regression equations	**Standardised beta coefficient (β)**	**t**	**p<**
Dissociation with *frequency of bullying*	.29	7.69	.001
PTS symptoms with *frequency of bullying*	.17	4.28	.001
PTS symptoms with *frequency of bullying* *PTS symptoms* with *dissociation*	.06 .37	1.46 9.6	.04 .001

Critical review of the dissertation:

As a preliminary study, the aim to draw links between bullying and PTS symptoms was achieved. The trauma literature, to date, tends to only discuss trauma in relation to catastrophic single events and severe adult-child abuse. Anecdotally, I observed that as a consequence of the current literature, clinicians were not viewing bullied children and adolescents as candidates for developing PTS symptoms. The results of my study may help to inform clinicians that, whether or not it is the bullying which causes the PTS symptoms, a large proportion of bullied adolescents (particularly those who are frequently bullied) are experiencing clinically significant PTS symptoms as measured by the Impact of Events Scale. My results were strengthened by the fact that I was able to target a whole school, giving me a large sample. The study may lead to further research in this area and help alert clinicians to the possibility that their bullied clients may be experiencing a traumatic stress reaction.

The study was restricted to adolescents for three reasons. The first reason being that I was offered access to the targeted school by my clinical supervisor, Adrian Faupel (Senior Educational Psychologist). The second reason was associated with the comparative lack of research conducted with adolescents in both trauma and bullying, most research focuses more upon children (under age 11 years) and adults. The third reason was because I wanted to look at dissociation levels in victims of bullying as this may be a factor as to why they are revictimized, the only self-report measure looking at dissociation (the Adolescent Dissociative Experiences Scale) is in adolescents.

There are many weaknesses in the two papers, several of which are discussed in the empirical paper and consequently will not be repeated here. By the nature of the subject matter, the literature review had to be very broad to include the most important aspects of trauma and bullying. This meant that some important details (such as more information regarding the different trauma models) had to be excluded, albeit reluctantly. Furthermore, the very large literature bodies for both bullying and trauma, made structuring the paper in a clear and meaningful way difficult. This difficulty was eased by reviewing the literature in parallel and drawing the subjects together at the end.

The main weakness of the empirical paper was the cross-sectional nature of the study, consequently although the statistical terms of predictor and outcome were used, the reality was that the causal direction of relationships could only be inferred. I found the assumptions of normal distribution frustrating as actually I felt that my results did represent the general population's responses (e.g. the majority of the population would report to not experiencing PTS symptoms). I also struggled with the notion that there is no correct answer or procedure in statistics, most people who I consulted had very different ideas regarding which tests and methods were acceptable. Furthermore, I found reporting the huge amount of data I had collected, in a succinct way, very difficult. I decided that using several tables with a small amount of data was much clearer than trying to fit the data into 3 or 4 big tables or attempting to describe it all in text.

Owing to numbers, my study did not distinguish between participants who were just victims of bullying and those who were bully-victims. As can be seen in my

literature review, there are important differences between these and therefore separating them might have been useful. Certainly any future research I conduct in this area will separate the two.

Perhaps the final problem with the research was the way in which it was conducted. Although every effort was made to ensure that any participants who experienced emotional difficulties regarding any aspect of the study were signposted to where they could seek help, there was no guarantee that some would not fall through the net. If the study had been conducted in much smaller groups or with individuals, there would have been more emphasis on the facilitator to ensure that any one who required help would receive it. Owing to a number of practical reasons (particularly in terms of receiving that level of school co-operation), this was not possible. Consequently, it may be that some students felt unable to respond honestly owing to pressures by the other classes.

I found both conducting the research and writing the dissertation extremely challenging and filled with uncertainty. Following completion of my dissertation, I would now like to repeat this study to redress the areas of weakness and incorporate factors such as family background. However, I realise that I perhaps needed to carry out the first study in order to identify how a better study could be conducted such is the process of research.

Appendices

Appendix 1: Instructions for Contributors - Journal of Child Psychology and Psychiatry and allied disciplines.

Instructions for Contributors

Journal of Child Psychology and Psychiatry and allied disciplines

GENERAL

1. Submission of a paper to the Journal will be held to imply that it represents an original contribution not previously published (except in the form of an abstract or preliminary report); that it is not being considered for publication elsewhere; and that, if accepted by the Journal, it will not be published elsewhere in the same form, in any language, without the consent of the Editors. When submitting a manuscript, authors should state in a covering letter whether they have currently in press, submitted or in preparation any other papers that are based on the same data set, and, if so, provide details for the Editors.

2.Authors are reminded that piecemeal publication of small amounts of data from the same study is not acceptable. Each publication should report enough new data to make a significant and meaningful contribution to the development of new knowledge or understanding.

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2. Authors whose papers have been given final acceptance are encouraged to submit a computer disk (5.251/4 or 3.51/2 HD/DD disk)

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(d) The file should follow the general instructions on style/arrangement and, in particular, the reference style of this journal as given in the Notes for Contributors.
(e) The file should be single-spaced and should use the wrap-around end-of-line feature (i.e. no returns at the end of each line). All textual elements should begin flush left, no paragraph indents. Place two returns after every element such as title, headings, paragraphs, figure and table callouts, etc.
(f) Keep a back-up disk for reference and safety.

3. Papers should be concise and written in English in a readily understandable style. Care should be taken to avoid racist or sexist language, and statistical presentation should be clear and unambiguous. The Journal follows the style recommendations given in the Publication manual of the American Psychological Association (4th edition, 1994), available from the Order Department, APA, P.O. Box 2710, Hyattsville, MD 20784, USA.

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The first page of the manuscript should give the title, name(s) and address(es) of author(s), and an abbreviated title (running head) of up to 80 characters. Specify the author to whom reprint requests should be directed. Authors requesting that their identity be withheld from referees should also provide a first page with the title only and adapt their manuscripts accordingly.

6. **Abstract**
The abstract should not exceed three hundred words and should be typed double spaced. (In addition, a longer summary may, if desired, be included at the end of the main article.)

7. Original articles and research reports should, in general, follow the conventional form: Introduction and review of the literature, Materials and Methods, Results and Discussion. To conserve space, less important portions of the paper, such as description of methods, should be marked for printing in smaller type. Descriptions of techniques and methods should be given in detail only when they are unfamiliar. In order to aid readers of the Journal, we encourage authors who are using acronyms for tests or abbreviations not in common usage to provide a list of them which will be printed to follow on from the Abstract.

8. **Acknowledgements**
These should appear on a separate sheet, double spaced, at the end of the body of the paper, before the References.

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The Journal follows the text referencing style and reference list style

The Journal follows the text formatting style and reference list style detailed in the Publication manual of the American Psychological Association.

(a) References in text.

References in running text should be quoted as follows:
Smith and Brown (1990), or (Smith, 1990), or (Smith, 1980, 1981a, b), or (Smith & Brown, 1982), or (Smith, 1982; Brown & Green, 1983).

For up to five authors, all surnames should be cited the first time the reference occurs, e.g. Smith, Brown, Green, Rosen, and Jones (1981) or (Smith, Brown, & Jones, 1981). Subsequent citations should use 'et al. ' (not underlined and with no period after the 'et '), e.g. Smith et al. (1981) or (Smith et al., 1981).

For six or more authors, cite only the surname of the first author followed by 'et al. ' and the year for the first and subsequent citation. Note, however, that all authors are listed in the Reference List.

Join the names in a multiple author citation in running text by the word 'and '. In parenthetical material, in tables, and in the References List, join the names by an ampersand (&).

References to unpublished material should be avoided.

(b) Reference list.

Full references should be given at the end of the article in alphabetical order, and not in footnotes. Double spacing must be used.

References to journals should include the authors ' surnames and initials, the full title of the paper, the full name of the journal, the year of publication, the volume number, and inclusive page numbers. Titles of journals must not be abbreviated and should be italicised (underlined).

References to books should include the authors ' surnames and initials, the full title of the book, the place of publication, the publisher 's name and the year of publication.

References to articles, chapters and symposia contributions should be cited as per the examples below:
Kiernan, C. (1981). Sign language in autistic children. Journal of Child Psychology and Psychiatry, 22, 215?220.
Jacob, G. (1983a). Development of coordination in children. Developmental Studies, 6, 219?230.
Jacob, G. (1983b). Disorders of communication. Journal of Clinical Studies, 20, 60-65. Thompson, A. (1981). Early experience: The new evidence. Oxford: Pergamon Press.
Jones, C. C., & Brown, A. (1981). Disorders of perception. In K. Thompson (Ed.), Problems in early childhood (pp. 23-84). Oxford: Pergamon Press.
Use Ed.(s) for Editor(s); edn. for edition; p.(pp.) for page(s); Vol. 2 for Volume 2.

10. **Tables and Figures**

10. Tables and Figures

These should be constructed so as to be intelligible without reference to the text. Tables should be double spaced. The approximate location of figures and tables should be clearly indicated in the text.

Figures will be reproduced by photo-offset means directly from the author 's original drawing and photographs, so it is essential that figures are of a professional standard. Line drawings, good photo prints and sharp copy from laser printers are acceptable. Graphic work printed on a dot matrix printer is not acceptable. Illustrations for reproduction should normally be about twice the final size required. Half-tones should be included only when they are essential and they should be glossy prints, mounted on separate sheets. All photographs, charts and diagrams should be referred to as 'Figures ' and numbered consecutively in the order in which they are first referred to in the text.

Figure legends should be typed on a separate page.

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No rigid rules are observed, but each paper should be consistent within itself as to nomenclature, symbols and units. When referring to drugs, give generic names, not trade names. Greek characters should be clearly indicated.

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Appendix 2: Revised Olweus Bully/ Victim Scale

Class.....

The following questions ask you about your life in school. There are several answers to each question. Each answer has a letter in front of it. You answer by putting a circle around one of the answers.

1) Are you a girl or a boy?

A girl
B boy

If you are a girl, put a circle around A. If you are a boy, draw the circle around B.

Now, let's take another question.

2) How do you like break time?

A dislike very much
B dislike
C dislike somewhat
D neither like nor dislike
E like somewhat
F like
G like very much

Put a circle around the letter that describes how you feel about break time. If you like break time, put a circle around the letter in front of 'like', that is, the letter F. If you dislike break time very much, put a circle round the letter in front of 'dislike very much', that is, the letter A, and so on.

Now try to answer the rest of the questions in the same way.

ABOUT FRIENDS:

3) How many good friends do you have in your class	A	none
	B	I have 1 good friend
	C	I have 2 or 3 good friends
	D	I have many good friends

---

4) How often does it happen that other young people don't want to spend break time with you and you end up being alone?	A	It hasn't happened this term
	B	It has only happened once or twice
	C	sometimes
	D	about once a week
	E	several times a week

ABOUT BULLYING:

Here are some questions about bullying. We say a young person is being bullied, or picked on, when another young person, or group of young people, say nasty and unpleasant things to him or her. It is also bullying when a young person is hit, kicked, threatened, locked inside a room, 'sent to Coventry', given poison pen letters, and things like that. These things may take place frequently and it is difficult for the young person being bullied to defend himself or herself. It is also bullying when a young person is teased repeatedly in a nasty way.

But it is not bullying when two young people of about the same strength have the odd fight or quarrel.

---

5) How often have you been bullied at school this term?	A	I haven't been bullied at school this term
	B	it has only happened once or twice
	C	sometimes
	D	about once a week
	E	several times a week

---

6) In what way have you been bullied at school? Circle any letters which apply to you.	A)	I haven't been bullied at school this term
	B)	I was called nasty names
	C)	I was physically hurt e.g. hit and kicked
	D)	I was threatened
	E)	I was 'sent to Coventry'
	F)	I have had rumours spread about me
	G)	I was called nasty names about my colour
	H)	I have had my belongings taken from me
	I)	I was bullied in another way, please write below

.....

.....

7) Where did you get bullied this term?	A)	I haven't been bullied at school this term
	B)	In the corridors
	C)	In the playground
	D)	In the classroom
	E)	Somewhere else, state where

.....

8) In what class is the young person or young people who bully you?	A)	I haven't been bullied at school this term
	B)	in my class
	C)	in a different class but same year
	D)	one or more years above
	E)	one or more years below
	F)	in different years

9) What sex is the young person or young	A)	I haven't been bullied at school this term
	B)	a boy/boys
	C)	a girl/girls
	D)	boys and girls

10) How often do the teachers try to put a stop to it when a young person is being bullied at school?	A)	I don't know
	B)	almost never
	C)	sometimes
	D)	almost always

11) How often do other young people try to put a stop to it when someone is being bullied at school?	A)	I don't know
	B)	almost never
	C)	sometimes
	D)	almost never

12) What do you usually do when you see a young person of your age being bullied at school?	A)	nothing, it's none of my business
	B)	nothing, but I think I ought to try and help
	C)	I try to help him or her in some way

13) Have you told any of your teachers or your form tutor about your being bullied at school this term?	A)	I haven't been bullied at school this term
	B)	no, I haven't told them
	C)	yes, I've told them

14) Have you told any one at home that you have been bullied at school this term?	A)	I haven't been bullied at school this term
	B)	no, I haven't told them
	C)	yes, I've told them

15) All the questions so far, have been about other young people bullying at school. Have you been bullied by anyone else in or outside of school this term?
Please write in the space below.....

.....

.....

ABOUT BULLYING OTHER YOUNG PEOPLE

16) How often have you taken part in bullying other young people at school this term?	A)	I haven't bullied other young people at school this term
	B)	it has only happened once or twice
	C)	sometimes
	D)	about once a week
	E)	several times a week

---

17) Have any of your teachers or your form tutor talked with you about your bullying other young people at school this term?	A)	I haven't bullied other young people at school this term
	B)	no, they haven't talked with me about it
	C)	yes, they have talked with me about it

---

18) Has anyone at home talked with you about your bullying other young people at school this term?	A)	I haven't bullied other young people at at school this term
	B)	no, they haven't talked with me about it
	C)	yes, they have talked with me about it

---

19) Do you think you could join in bullying a young person whom you don't like?	A)	yes
	B)	yes, maybe
	C)	I don't know
	D)	no, I don't think so
	E)	no
	F)	definitely no

---

20) What do you think of other young people who bully others?	A)	I can understand why they're doing it
	B)	I don't know
	C)	it's difficult to understand why they're doing it
	D)	it upsets me a lot that they're doing it

Appendix 3: Adolescent Dissociative Experiences Scale

The next few questions ask about different kinds of experiences that happen to people. For each question, circle the number that tells how much that experience happens to you. Circle a "0" if it never happens to you, circle a "10" if it is always happening to you. If it happens sometimes but not all of the time, circle a number between 1 and 9 that best describes how often it happens to you.
Example:

0 (1) 2 3 4 5 6 7 8 9 10
(never) (always)

1) I get so wrapped up in watching TV, reading, or playing video games that I don't have any idea what's going on around me.

0 1 2 3 4 5 6 7 8 9 10
(never) (always)

2) I get back tests or homework that I don't remember doing.

0 1 2 3 4 5 6 7 8 9 10
(never) (always)

3) I have strong feelings that don't seem like they are mine.

0 1 2 3 4 5 6 7 8 9 10
(never) (always)

4) I can do something really well one time and then I can't do it at all another time.

0 1 2 3 4 5 6 7 8 9 10
(never) (always)

5) People tell me I do or say things that I don't remember doing or saying.

0 1 2 3 4 5 6 7 8 9 10
(never) (always)

6) I feel like I'm in a fog or spaced out and things around me seem unreal.

0 1 2 3 4 5 6 7 8 9 10
(never) (always)

7) I get confused about whether I have done something or only thought about doing it

0 1 2 3 4 5 6 7 8 9 10
(never) (always)

8) I look at the clock and realise that time has gone by and I can't remember what has happened.

0 1 2 3 4 5 6 7 8 9 10
(never) (always)

9) I hear voices in my head that are not mine.

0 1 2 3 4 5 6 7 8 9 10
(never) (always)

10) When I am somewhere that I don't want to be, I can go away in my mind.

0 1 2 3 4 5 6 7 8 9 10
(never) (always)

11) I am so good at lying and acting that I believe it myself.

0 1 2 3 4 5 6 7 8 9 10
(never) (always)

12) I catch myself "waking up" in the middle of doing something.

0 1 2 3 4 5 6 7 8 9 10
(never) (always)

13) I don't recognise myself in the mirror.

0 1 2 3 4 5 6 7 8 9 10
(never) (always)

14) I find myself going somewhere or doing something and I don't know why.

0 1 2 3 4 5 6 7 8 9 10
(never) (always)

15) I find myself someplace and don't remember how I got there.

0 1 2 3 4 5 6 7 8 9 10
(never) (always)

16) I have thoughts that don't really seem to belong to me.

0 1 2 3 4 5 6 7 8 9 10
(never) (always)

17) I find that I can make physical pain go away.

0 1 2 3 4 5 6 7 8 9 10
(never) (always)

18) I can't figure out if things really happened or if I only dreamed or thought about them.

0 1 2 3 4 5 6 7 8 9 10
(never) (always)

19) I find myself doing something that I know is wrong, even when I really don't want to do it.

0 1 2 3 4 5 6 7 8 9 10
(never) (always)

20) People tell me that I sometimes act so differently that I seem like a different person.

0 1 2 3 4 5 6 7 8 9 10
(never) (always)

21) It feels like there are walls inside of my mind.

0 1 2 3 4 5 6 7 8 9 10
(never) (always)

22) I find writings, drawings or letters that I must have done but I can't remember doing.

0 1 2 3 4 5 6 7 8 9 10
(never) (always)

23) Something inside of me seems to make me do things that I don't want to do.

0 1 2 3 4 5 6 7 8 9 10
(never) (always)

24) I find that I can't tell whether I am just remembering something or if it is actually happening to me.

0 1 2 3 4 5 6 7 8 9 10
(never) (always)

25) I find myself standing outside of my body, watching myself as if I were another person.

0 1 2 3 4 5 6 7 8 9 10
(never) (always)

26) My relationships with my family and friends change suddenly and I don't know why.

0 1 2 3 4 5 6 7 8 9 10
(never) (always)

27) I feel like my past is a puzzle and some of the pieces are missing.

0 1 2 3 4 5 6 7 8 9 10
(never) (always)

28) I get so wrapped up in my toys or stuffed animals that they seem alive.

0 1 2 3 4 5 6 7 8 9 10
(never) (always)

29) I feel like there are different people inside of me.

0 1 2 3 4 5 6 7 8 9 10
(never) (always)

30) My body feels as if it doesn't belong to me.

0 1 2 3 4 5 6 7 8 9 10
(never) (always)

Appendix 4: Impact of Events Scale

Below is a list of comments made by people after stressful life events. Please check each item, and tick the box that indicates how frequently these comments were true for you *during the past seven days*. If they did not occur during that time, please tick the 'not at all' box.

	Not at all	Rarely	Sometimes	Often
1) I thought about it when I didn't mean to	☐	☐	☐	☐
2) I avoided letting myself get upset when I thought about it or was reminded of it	☐	☐	☐	☐
3) I tried to remove it from memory	☐	☐	☐	☐
4) I had trouble falling asleep or staying asleep because of pictures or thoughts about it that came into my mind	☐	☐	☐	☐
5) I had waves of strong feelings about it	☐	☐	☐	☐
6) I had dreams about it	☐	☐	☐	☐
7) I stayed away from reminders of it	☐	☐	☐	☐
8) I felt as if it hadn't happened or it wasn't real	☐	☐	☐	☐
9) I tried not to talk about it	☐	☐	☐	☐
10) Pictures about it popped into my mind	☐	☐	☐	☐
11) Other things kept making me think about it	☐	☐	☐	☐
12) I was aware that I still had a lot of feelings about it, but I didn't deal with them	☐	☐	☐	☐
13) I tried not to think about it	☐	☐	☐	☐
14) Any reminder brought back feelings about it	☐	☐	☐	☐
15) My feelings about it were kind of numb	☐	☐	☐	☐

Please tick the box if the stressful life event you thought of when answering these questions was about being bullied: ☐

Thank you for your help in answering these questions

Appendix 5: Child and Adolescent Social Support Scale

SAH14

CHILD AND ADOLESCENT SOCIAL SUPPORT SCALE

LEVEL 2 (Grades 7 - 12)

Malecki, C.M., Demaray, M.K., Elliott,S.N., and Nolten, P.W.

On the next two pages, you will be asked to respond to sentences about some form of support or help that you might get from either a parent, a teacher, a classmate, or a close friend. Read each sentence carefully and respond to them honestly. There are no right or wrong answers.

For each sentence you are asked to provide two responses. First, rate how often you receive the support described and then rate how important the support is to you. Below is an example. Please read it carefully before starting your own ratings.

	HOW OFTEN?						HOW IMPORTANT?		
	NEVER	ALMOST NEVER	SOME OF THE TIME	MOST OF THE TIME	ALMOST ALWAYS	ALWAYS	NOT IMPORTANT	IMPORTANT	VERY IMPORTANT
1. My teacher(s) helps me solve problems.	1	2	(3)	4	5	6	1	(2)	3

In this example, the student describes her 'teacher helps me solve problems' as something that happens 'some of the time' and that is 'important' to her.

Please ask for help if you have a question or don't understand something. Do not skip any sentences. Please turn to the next page and answer the questions. Thank you!

ABOUT MY PARENT(S)

	HOW OFTEN?						HOW IMPORTANT?		
	NEVER	ALMOST NEVER	SOME OF THE TIME	MOST OF THE TIME	ALMOST ALWAYS	ALWAYS	NOT IMPORTANT	IMPORTANT	VERY IMPORTANT
1. My parent(s) listen to me when I'm mad.	1	2	3	4	5	6	1	2	3
2. My parent(s) express pride in me.	1	2	3	4	5	6	1	2	3
3. My parent(s) help me practice things I'm involved in.	1	2	3	4	5	6	1	2	3
4. My parent(s) make suggestions when I'm uncertain.	1	2	3	4	5	6	1	2	3
5. My parent(s) help me make decisions.	1	2	3	4	5	6	1	2	3
6. My parent(s) give me good advice.	1	2	3	4	5	6	1	2	3
7. My parent(s) help me find answers to my problems.	1	2	3	4	5	6	1	2	3
8. My parent(s) praise me when I do a good job.	1	2	3	4	5	6	1	2	3
9. My parent(s) reward me when I've done something well.	1	2	3	4	5	6	1	2	3
10. My parent(s) tell me how well I do on tasks.	1	2	3	4	5	6	1	2	3

ABOUT MY TEACHER(S)

	HOW OFTEN?						HOW IMPORTANT?		
	NEVER	ALMOST NEVER	SOME OF THE TIME	MOST OF THE TIME	ALMOST ALWAYS	ALWAYS	NOT IMPORTANT	IMPORTANT	VERY IMPORTANT
11. My teacher(s) cares about me.	1	2	3	4	5	6	1	2	3
12. My teacher(s) is fair to me.	1	2	3	4	5	6	1	2	3
13. My teacher(s) understands me.	1	2	3	4	5	6	1	2	3
14. My teacher(s) tries to answer my questions.	1	2	3	4	5	6	1	2	3
15. My teacher(s) explains things when I'm confused.	1	2	3	4	5	6	1	2	3
16. My teacher(s) gives good advice.	1	2	3	4	5	6	1	2	3
17. My teacher(s) makes it okay to ask questions.	1	2	3	4	5	6	1	2	3
18. My teacher(s) helps me when I want to learn to do something better.	1	2	3	4	5	6	1	2	3
19. My teacher(s) helps me solve problems by giving me information.	1	2	3	4	5	6	1	2	3
20. My teacher(s) praises me when I've tried hard or done well.	1	2	3	4	5	6	1	2	3

ABOUT MY CLASSMATES

	HOW OFTEN?						HOW IMPORTANT?		
	NEVER	ALMOST NEVER	SOME OF THE TIME	MOST OF THE TIME	ALMOST ALWAYS	ALWAYS	NOT IMPORTANT	IMPORTANT	VERY IMPORTANT
21. My classmates ask me to join activities.	1	2	3	4	5	6	1	2	3
22. My classmates do nice things for me.	1	2	3	4	5	6	1	2	3
23. My classmates spend time doing things with me.	1	2	3	4	5	6	1	2	3
24. My classmates help me with projects in class.	1	2	3	4	5	6	1	2	3
25. My classmates make suggestions when I need help.	1	2	3	4	5	6	1	2	3
26. My classmates treat me with respect.	1	2	3	4	5	6	1	2	3
27. My classmates ask me for suggestions or ideas.	1	2	3	4	5	6	1	2	3
28. My classmates say nice things to me when I have done something well.	1	2	3	4	5	6	1	2	3
29. My classmates notice my efforts.	1	2	3	4	5	6	1	2	3
30. My classmates give me positive attention.	1	2	3	4	5	6	1	2	3

ABOUT MY CLOSE FRIEND

	HOW OFTEN?						HOW IMPORTANT?		
	NEVER	ALMOST NEVER	SOME OF THE TIME	MOST OF THE TIME	ALMOST ALWAYS	ALWAYS	NOT IMPORTANT	IMPORTANT	VERY IMPORTANT
31. My friend understands my feelings.	1	2	3	4	5	6	1	2	3
32. My friend makes me feel better when I mess up.	1	2	3	4	5	6	1	2	3
33. My friend spends time with me.	1	2	3	4	5	6	1	2	3
34. My friend helps me solve my problems.	1	2	3	4	5	6	1	2	3
35. My friend spends times with me when I'm lonely.	1	2	3	4	5	6	1	2	3
36. My friend shares his or her things with me.	1	2	3	4	5	6	1	2	3
37. My friend helps me when I need it.	1	2	3	4	5	6	1	2	3
38. My friend gives me advice.	1	2	3	4	5	6	1	2	3
39. My friend explains things when I'm confused.	1	2	3	4	5	6	1	2	3
40. My friend calms me down when I'm nervous about something.	1	2	3	4	5	6	1	2	3

We would like to know who you were thinking about when you answered the previous questions.

For the questions ABOUT MY PARENTS who did you think about:

(circle all that you thought about)

Mother Father Stepmother Stepfather

Other (e.g. Grandmother, Foster Mother, etc.) If other, who?_____

For the questions ABOUT MY TEACHER(S) how many teachers did you think about?

(circle) 1 2 3 4 or more

How often do you see this teacher or teachers?

1 – not very much 2 – sometimes 3 – often

If you mostly thought about one teacher, what do they teach? _____

For the questions ABOUT MY CLASSMATES, how many different classes did you think about? 1 2 3 4 or more

Who did you think about: (circle)

students you have class with or students you spend time with or both

---

For the questions ABOUT MY CLOSE FRIEND:

Think about the one friend you thought of most when answering the questions.

Is this friend from: (circle all)

School Neighborhood Church A Club (boy scouts) Sports

Other (where?) _____

Do you think your parents like this friend? ☐ Yes ☐ No

Appendix 6: University ethical approval

University of Southampton

Department of Psychology

University of Southampton
Highfield
Southampton
SO17 1BJ
United Kingdom

Telephone +44 (0)23 8059 5000
Fax +44 (0)23 8059 4597
Email

Miss Jenny Smerdon
Hall Flat
24 Kent Road
Southsea
PO5 3EW

22nd November 1999

Dear Jenny,

I am writing to confirm that the changes made to your ethical application titled, "Exploring the existence of post-traumatic stress symptoms in adolescents who are chronically bullied with dissociation acting as a mediator" has been given approval by the department.

Should you require any further information, please do not hesitate in contacting me on (01703) 593995.

Yours sincerely,

Kathryn Smith
Ethical Committee Secretary

Appendix 7: Local ethics board

Portsmouth and
South East Hampshire

Health Authority

Finchdean House
Milton Road
Portsmouth PO3 6DP

Switchboard: (01705) 838340
Central Fax: (01705) 733292

Direct Line (01705) 835092
Fax Number (01705) 835073
E-mail-ethics committee @ gw.portsha.swest.nhs.uk
X400: C=GB;A=NHS;P=NHS Portsmouth and SE Hants HA;OU1=GW;G=Ethics;S=Committee;

SR/appoint.wp6

16 September 1999

Ms J Smerdon
Hall Floor Flat
24 Kent Road
Southsea, PO5 3EW

Dear Ms Smerdon

Exploring the existence of post-traumatic stress symptons in adolescents who are chronically bullied with dissociation acting as a mediator.

This letter is to confirm that as the above project does not require ethical review by the Portsmouth Research Ethics Committee.

The study will be conducted as part of Adrian Faupel's (Senior Educational Psychologist) assessment of schools (with the Local Education Authority's permission) and will only use data already collected and anonymised.

Yours sincerely

pp Janice Gabriel
Acting Chair, Research Ethics Committee

Appendix 8: Letter to parents

Bridgemary Community School
Wych Lane, Gosport, Hampshire PO13 0JN
Tel: 01329 319966 Fax: 01329 512660
Headteacher: Mr A W J Cottrell BSc

22 November 1999

Dear Parent/Carer

ANTI-BULLYING INITIATIVE

We want Bridgemary School to be a safe place where people care for each other. Bullying is the very opposite of this. We are conducting a project for the whole school with a Senior Educational Psychologist and Trainee Clinical Psychologist from Southampton University, looking at how bullying can affect some people. Over two PSHE periods (on the 19th and 26th November) four questionnaires will be given to all pupils. These questionnaires will ask about:

1. Pupils' experiences of bullying.
2. How supportive or helpful they find their friends, family or teachers.
3. Some different kinds of experiences that happen to people.
4. How stressful events affect them.

The pupils will be told very clearly both by the teacher and in writing that they do NOT have to take part in the project and that they can leave any questions that they do not want to answer. After they have finished filling the questionnaires in they will be asked to put them into envelopes and seal them. This will mean no one from school will be able to look at their answers. They will not put their names on the questionnaires so it will not be possible to identify who has filled in what. Any coding system used is purely administrative on the part of the University Team and will be destroyed once the questionnaires have been processed. We do not anticipate pupils finding the questionnaires difficult. However, should they do so, arrangements have been made for pupils to visit members of staff or the school nurse.

A report with recommendations will be written to the school on the results of this study that will be made available for you to read if you would like to. It is hoped that the results of this will give us more information on how to help young people who are bullied.

Should you have any questions about the project, please do not hesitate to contact either Jenny Smerdon (Trainee Clinical Psychologist, Clinical Psychology Training Course, Southampton University, tel. 01703 595321) or Adrian Faupel (Senior Education Psychologist, Psychology Department, Southampton University, Tel. 01703 592609).

Yours sincerely

David Fordham

Coordinator of PSHE/CAREERS

HEALTHY SCHOOLS AWARD 1997-99

Appendix 9: Letter to participants

Information Sheet for pupils:

We want the school to be a safe place where people care for each other. Bullying is the very opposite of this. This is a project for the whole school, looking at how bullying can affect some people. The following questions ask you about:
1) Your experiences of bullying,
2) How supportive or helpful you find your friends, family or teachers;
3) Some different kinds of experiences that happen to people;
4) How stressful events affect you.

You DO NOT have to take part in this project. If you do not want to answer all of the questions then you can leave them.

After you have finished filling the questionnaires in put them into the envelope and seal it.

You do not have to put your name on the paper. *No one* (including teachers) will know how you have answered these questions. But it is important that you answer carefully and how you really feel. Sometimes it is hard to decide what to answer. Then just answer how you think it is. If you have questions, raise your hand.

Most of the questions are about your life in school during this term. So when you answer, you should think of how it has been only during this time.

If you feel at all upset after filling in these questions and would like to talk to someone about it, then please go to see your tutor, pastoral manager or school nurse or any other member of staff with whom you feel comfortable to talk to.

Appendix 10: Instructions to teachers

Bridgemary Community School Bullying Project

Information for Tutors

A school community is one which values the rights and dignity of all its members, both pupils and adults. Bullying is a direct attack on all the values the school stands for. This project is aimed at highlighting the nature and consequences of bullying.

We first need to know how much bullying pupils experience, when and where it happens and what pupils perceive to be the response of adults to it. For this purpose, all pupils will be asked to complete an anonymous Bullying Survey.

Secondly, whilst we know that in general terms bullying has serious consequences, the effects of bullying on young people are still not fully understood. Research shows that young people who are chronically and repeatedly victimised are likely to experience low self-esteem, depression and anxiety symptoms. However what does not appear to have been explored is whether these victimised young people experience symptoms associated with posttraumatic stress disorder (PTSD).

People commonly experience PTSD symptoms after having being involved in distressing or emotionally disturbing events. The most frequent symptoms are of nightmares, memory problems, anger outbursts, avoidance behaviours (e.g. school refusal) and feelings of intense fear and sadness. It is also common for people to cope with traumatic experiences by trying to "dissociate" or blank themselves off from the event. Everyone dissociates to a certain extent - when they are bored or driving for example. Young people dissociate regularly. This can be seen when they seem to be daydreaming and it is difficult to get their attention. In traumatic or painful circumstances, people will often dissociate as means of coping with the event. The amount and quality of support people receive has also been found to affect the degree to which they dissociate from disturbing events and the severity of the posttraumatic stress symptoms.

The project will try to find out whether young people who are seriously bullied:

* try to cope with this by blanking off or dissociating from the experience;
* experience more symptoms associated with posttraumatic stress (e.g. nightmares, memory problems, feelings of fear etc) than young people who are not chronically bullied;
* feel or do not feel generally supported by friends, school and family, and whether the nature of the support affects their levels of dissociation and posttraumatic stress symptoms.

The project will involve pupils completing a number of questionnaires:

1) The Bullying Survey looking at whether young people are being bullied;
2) A questionnaire looking at how much support young people feel they are receiving from the school, friends and family;
3) A questionnaire exploring whether young people try to blank off or dissociate from the bullying experience;

4) A questionnaire exploring whether young people are experiencing symptoms of posttraumatic stress as a consequence of being bullied.

This research will be very useful in furthering our knowledge of the effects of bullying. If young people are found to be experiencing high levels of dissociation and posttraumatic stress symptoms as a consequence of them being bullied:

a) It is extremely important that they receive appropriate help;

b) The lack of services for schools to draw on needs to be highlighted and this research will provide important data to help achieve this.

A report will be written and given to the school summarising the results of the project and subsequent recommendations. All the questionnaires will be anonymous and confidentiality will be respected. The school or any individuals within it will not be able to be identified in any publications using data retained in this project.

The project is being developed in partnership by the school with members of the Psychology Department at Southampton University. It forms a major element in a Doctoral Dissertation in Clinical Psychology by Jenny Smerdon ,Trainee Clinical Psychologist. The project is being supervised by Adrian Faupel, Senior Educational Psychologist and by Angela Park, Consultant Chartered Clinical Psychologist.

We would like to thank you for your help in this project. If you would like further information, please do not hesitate to contact JENNY SMERDON at Southampton University Clinical Psychology training course (tel. 01703 595321) or ADRIAN FAUPEL, Psychology Department, University of Southampton (01703 592609).

Bridgemary Community School Bullying Project

Instructions for Tutors:

Questionnaires will be completed by pupils in the two PSHE classes, 19 & 26 November. In order for the questionnaires from the two sessions to be matched whilst still guaranteeing anonymity they need to be coded. You will be given a list of codes alongside the names of the pupils (in alphabetical order) in your tutor group. The envelopes (with the questionnaires inside) will also have the codes. Please give each student the envelope with the code that corresponds with his or her name. Before the pupils start filling the questionnaires in please read out the following instructions:

Over the next two PHSE classes you will be asked to fill in some questionnaires as part of a project looking at how bullying can affect some people. These questionnaires will ask you about your experiences of bullying, how supported you feel by the school, your friends and your family, and some different kinds of experiences that happen to people. You do not have to answer any of the questionnaires if you don't want to. If you don't want to answer any of the questions a piece of paper has been provided at the back for you to write a letter or a short story instead (which you can then keep). You do not have to write your name on any forms and no one from school (including teachers) will see what you have written. The only people who will see the answers are the people conducting the project. When you have finished filling in the questionnaires, place them in the envelope provided and seal it. It is important that you think carefully about each question and if you have any problems then put your hand up. Please do not talk or look at each other's answers whilst you are filling in the questions. If you are feeling distressed by any of the questions asked in this study and would like to talk to someone about it, please talk about this with someone like the matron, your pastoral manager or any member of staff with whom you feel able to talk.

Then ask the group to start. If some students finish before others they can also use the blank paper to draw on etc. This page does not need to be handed in. Provide any appropriate assistance with reading/ comprehension difficulties.

Before you collect the questionnaires in, check that every one has put their responses into the envelope provided and has sealed it.

Please return the sealed envelope to David Fordham as soon as possible.

Session 2:

As with the first session, give each student the envelope (containing the questionnaires) which has the code corresponding to their name. Again before they start answering the questions, please read out the following instructions:

During this session, you are asked to fill in another two questionnaires as part of the project looking at how bullying can affect some people. Just like last time, leave any questions that you do not want to answer. If you do not want to answer any questions then you can again write a short story or letter on the blank piece of paper at the back which you

can keep. Again, when you have finished, put the questionnaires back into the envelope and seal it. This means that no one from school will look at your answers. As with last time, please don't talk or look at each other's answers. Remember that if you are feeling distressed by any of the questions, please talk to your tutor, pastoral manager, matron or any other member of staff with whom you feel comfortable.

Could you go through the example on the first page of the Child and Adolescent Social Support Scale to ensure pupils understand the process. Ask the group to start. When everybody has filled in their responses, please check that the students have put the questionnaires into the envelopes and sealed them.

Please return the sealed envelopes to David Fordham as soon as possible.