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Community Responses to Serial Murder:

A Guide for Law Enforcement

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Abstract

In the fall of 1990, Gainesville police discovered the murdered and mutilated bodies of five college students. While considerable research exists regarding individual responses to violence and community reactions to disaster, little empirical data have been collected on community responses to violence. One-hundred and sixty-four Gainesville residents were surveyed at three time periods (initial, 9 months, and 18 months following the murders) regarding their psychological distress, coping responses, and perceptions of the media and police. Results indicated that while only five members of the community were slain, 46% of respondents reported moderate to severe disruption of their daily lives and 35% indicated that they felt panicked or frightened in the weeks following the murders. Large numbers of residents also reported experiencing a number of "post-traumatic stress disorder" symptoms including increased startle response (36%) distressing thoughts (35%), sleep difficulties (19%), and concentration difficulties (10%). Those residents most affected were female students living close to the murder sites. Much of the psychological distress associated with the murders decreased over time with most residents reporting little distress at the 18-month follow-up. Symptoms of anxiety and fear appeared to be the most lasting with 10% of residents reporting increased startle response and 7% reporting distressing thoughts 18 months after the murders. Residents, attempted to deal with these stresses through a number of coping responses including increasing home security (84%), avoiding traveling alone (29%) and purchasing/carrying a firearm (11%). General perceptions of the police and media were mixed with about 40% of residents unsatisfied with these agencies immediately following the murders. However, both institutions were important to residents in terms of perceptions of safety. Police actions such as increased patrols and tips on personal and home safety were most highly valued by residents. Increased officer visibility and helicopter assisted patrols also made residents feel safer. Increased police visibility was rated by

58% of subjects as being "very effective" in reducing feelings of fear. Media programs on personal safety were also valued. Police secrecy about aspects of the murders, especially how entry was gained frustrated residents. Also, conflicting police reports caused some residents to question the integrity of the police. Media coverage of events was generally criticized as being sensational. In fact, 36% of residents reported that hearing about the body mutilations caused them to become more frightened. In terms of community planning, results indicate that intervention activities should be most intense in the weeks to months immediately following the trauma. It is during this time that resident psychological adjustment is likely to be the most tenuous. While interventions should be targeted for the entire community, special attention should be given to those residents likely to feel most vulnerable (i.e., those most similar to the victims). Programs likely to be most effective are those designed to enhance feelings of safety. Workshops on home security, minimizing personal risk, firearm safety and other self-defense measures might be the most useful. Cooperation between law enforcement and the media is encouraged. Early and rapid disclosure by police of information regarding how and where the victims were selected would be most useful. Media self-restraint, especially in the area of sensational reporting is also recommended. Finally, limitations of the present research are discussed.

Introduction

On August 26, 1992 police discovered the murdered and mutilated bodies of two college coeds in their Gainesville apartment. Within 48 hours the bodies of an additional three students had been found bringing the total number of dead to five, four women and one man. The egregious nature of the murders, including rumors of body dismemberment and decapitation, shocked and horrified residents, and soon attracted national media attention to a university town previously known for its academics and sports programs.

Within days, literally hundreds of reporters from the print and electronic media descended upon this community of 90,000 residents. Early reports indicated wide spread panic among both students and community residents. Some sources (Kornbluth, 1990) reported that 70% of students and 40% of community residents evacuated Gainesville during the Labor Day weekend that followed the murders. Additional reports surfaced that panicked citizens had sought protection by arming themselves and had cleaned out area merchant supplies of mace and firearms (Kornbluth, 1990).

Based on these media accounts of events, it appeared as though the community was in a state of panic. However, reliance on media reports may not be an accurate source of information regarding general resident reaction to the murders. The press is a complex institution that simultaneously attempts to perform a variety of functions. In addition to the mandate to inform, media also must wrestle with the "business nature" of reporting. This includes such factors a paper sales and ratings. Additionally, humans, as part of their curiosity, are often fascinated by the sensational, unusual, and sometimes voyeuristic experience of others' emotional pain. Anyone who has witnessed cameras focusing on a young college athlete crying following a defeat can appreciate this phenomenon. While such expression is a genuine reflection of that particular athlete's pain, it may not represent the general university's emotional reaction to the loss. Similarly, in covering a

tragedy such as a fire, news cameras often focus on those individuals expressing the most emotional distress (e.g., crying). It may be that a dozen or so people lost homes to the fire, however, those individuals showing less distress do not provide as good copy and thus may be less likely to receive interviews.

Therefore, attempting to gauge resident reactions to the student murders solely on media reports may be inaccurate and lead to a skewed representation of emotional distress in the direction of overreporting or exaggeration. Further, such reports give us little information concerning the specific emotional responses felt by residents as well as the frequency and duration of such reactions.

As a newly arrived faculty member in the University of Florida's Department of Psychiatry, I was intrigued by the events taking place around me, especially the human coping response. The general purpose of the project was to conduct a scientific investigation of the community response to the student murders. It is my hope that these results will be of help to community leaders in meeting the needs of their residents should similar events occur in their town.

Serial Murder

There is no single, generally accepted definition for serial murder. However, Egger (1984) describes this phenomenon as:

> when one or more individuals commits a second murder and/or subsequent murder;
>
> [the murder] is relationshipless (victim and attackers are strangers); occurs at a
>
> different time and has no connection to the initial (and subsequent) murder; and is
>
> frequently committed in a different geographic location.

While recent highly publicized cases have heightened our awareness of serial murder, such violent acts are by no means a modern phenomenon, and history is filled with accounts of these gruesome killers. For example, Gilles de Rais, a 15th century French nobleman, is believed to have raped, tortured, and murdered hundreds of children. Similarly, Fritz Haarman, known as the Ogre of Hanover, sodomized, murdered, and cannibalized scores of young boys in 19th century Germany. More recently, accounts of serial murder have surfaced in the United States. Most Americans are familiar with such notorious serial killers such as Ted Bundy, Kenneth Bianchi (Hillside Strangler), John Wayne Gacy, and David Berkowitz (Son of Sam). These killers are believed to have murdered hundreds of victims and each has sent terror and fear into the communities in which they operated.

While once thought to be a rare event, recent Federal Bureau of Investigation statistics suggest that as many as 5,000 Americans each year may be murdered by some 30 serial killers roaming across the United States (Holmes & DeBurger, 1985). Thus, the potential for other communities to have to contend with these issues is higher than one might expect.

Understanding Psychological Trauma

Definition:

Trauma, as defined by the current Diagnostic and Statistical Manual of Mental Disorders Third Edition, Revised (DSM-III-R) (American Psychiatric Association, 1987) is:

> an event that is outside the range of usual human experience and that would be markedly distressing to almost anyone, e.g., serious threat or harm to one's life or physical integrity; serious threat or harm to one's children, spouse, or other close relatives and friends; sudden destruction of one's home or community or seeing another person who has recently been or is being seriously injured or killed as a result on an accident or physical violence. (p.250)

Similarly, McCann and Pearlman (1990) define trauma as a sudden, unexpected, and non-normative event that exceeds the individual's perceived ability to meet its demands and disrupts the person's frame of reference or other central psychological needs.

Using these definitions, both individuals and communities can experience trauma. Individual traumas can include rape, or physical assault as well as loss of family or property through accident or intentional acts. Events such as fire, flooding, or other natural disasters typically comprise community traumas.

Whether the student murders were a trauma for the community of Gainesville is an empirical question. However, an a priori case be made to suggest that serial murder fits the definition of a community trauma. While five murders during a year may not be out of the ordinary for the city of Gainesville, the brutal and gruesome nature of the student murders does appear to meet the criteria delineated by McCann and Pearlman (1990).

Psychological Responses to Trauma

Individual Responses:

During the last several decades much has been learned about individual responses to trauma. Most of this literature focuses on rape victims and combat veterans. This literature has been fairly consistent in identifying specific psychological reactions subsequent to being raped and has led to the conceptualization of the rape trauma syndrome (Burgess & Holmstrom, 1974). Victims, seemingly overwhelmed by the feelings of vulnerability, powerlessness and violation often develop a variety of physical complaints and psychological symptoms. Physiologically, victims experience heightened autonomic arousal known as the "fight or flight response" (Selye, 1976). This hyperarousal is manifested through such symptoms as sleep disturbance, increased vigilance and increased startle response. Closely linked to this physiological change are a number of psychological symptoms including intrusive thoughts of the event, psychological numbing and affective instability (Everstine & Everstine, 1983; Kilpatrick, Resick & Veronen, 1981). While most individuals experience these reactions soon after the trauma, some may appear to be unscathed, only to face these symptoms later.

The severity and duration of trauma reactions are moderated by characteristics of the event as well as premorbid personality functioning of the victim. Physiological responses usually abate in the days and weeks following the event. Psychological reactions such as fear, anger, and helplessness may persist for months or years (Everstine & Everstine, 1983). However, most symptoms do show some amelioration with time.

Community Responses to Disaster:

Less research has been performed on studying community responses to trauma. The research that exists has concerned community responses to natural (e.g., floods) and technological (e.g., plane crashes) disasters. To my knowledge, there exists no widely published empirical investigation

examining community response to serial murder. Therefore, a brief review of the literature concerning community responses to natural and human-induced disasters will be conducted in an attempt to provide a background with which to understand reactions of the Gainesville community to the student murders.

It is difficult to completely understand the behavior of individuals outside the context of the settings and systems in which they live. During periods of community upheaval, individuals must not only cope with their own sense of loss or fear but they must also contend with rapid and severe changes that take place in the structure and social fabric of their communities (Gist & Lubin, 1989). There is wide variety in terms of the types of events that can be described as disasters or traumas within communities. Traditionally, disasters have been classified in terms of type, i.e., natural (hurricane) versus man-made (nuclear accident), duration, degree of personal impact, potential for reoccurrence and control over future impact (Berren, Beigel, & Ghertner, 1980). These variables are important not only in terms of their taxonomical value, but also because of their role in predicting how victims will respond to events and how victims are perceived by others. For example, Fredrick (1980) observed that victims of natural disasters often differ from victims of human violence in a number of ways including the emotional stages through which they pass, the psychological symptoms they experience, and the social processes they encounter.

Because these serial murders represent human-induced trauma rather than natural disaster, a more detailed discussion of research regarding the former will be conducted. Human-induced disasters can be dichotomized into acts of omission and acts of commission (Berren, Santiago, Beigel & Timmons, 1989). Acts of omission represent disasters that, while potentially catastrophic, are usually due to human error. In this type of event there is usually no intentional violence or malevolence. Examples of this type of disaster are fires which are the result of poorly designed

electrical wiring, flooding due to structural defects in a dam, or plane crashes due to human error. In these types of events there is usually no easily identifiable culprit, although attempts to scapegoat often occur. Resident fears of similar loss are often minimal and potentially avoidable (e.g., avoiding flying, having wiring checked).

Acts of commission represent events such as terrorism, kidnapping, mass murder and other criminal violence. The methods of violence may vary greatly. However, despite all the ways that humans perpetrate violence on each other, the literature indicates a rather consistent generic pattern of psychological response across victims (Young, 1989). Discussion of human reactions to violence begin with the individual being in a state of equilibrium in his or her natural social environment. Stress (e.g., financial pressure) and loss (e.g., death of a family member) are a part of daily life, and people have adaptive coping mechanisms to deal with these events. However, when events occur that exceed the person's natural coping abilities, this equilibrium is disturbed, and the person is left in a state of crisis. Research has shown that events that tend to be the most traumatic to individuals are those which are unexpected, random, and arbitrary; are life threatening; and limit the individuals sense of autonomy and control (Young, 1989). Such a model has direct bearing on the Gainesville murders in that serial killings, by their very nature, are random and arbitrary events, with any available meaning trapped inside the head of the perpetrator.

The first human reaction to such events is usually instinctive and physiological in which the person may feel paralyzed. This reaction has been described by Symonds (1975) as "frozen fright". This initial reaction is often accompanied by the psychological response of disbelief in which the mind rejects the reality of events (Young, 1989).

This physiological response is often followed by extreme emotional turmoil (Young, 1989). People experience, almost simultaneously, a variety of emotions that may range from anger and rage

to guilt and euphoria. Anger may be expressed towards oneself, other victims, the perpetrator, or government agencies perceived to have failed in their protective role. Fear may also arise from the realization of one's own vulnerability. As humans, we live in an almost constant denial of our own mortality and vulnerability. To do so is a necessary and adaptive defense which allows us to carry out activities of our everyday life. Imagine how unpleasant it would be if we constantly dwelt on the finiteness of our lives or the precarious existence in which we live. Regardless of the precautions we take a certain amount of vulnerability remains. For example, much of our safety when driving is dependent upon other drivers following traffic rules and remaining on their side of the road. If for any reason they failed to do this, whether it be due to accident (a cerebral hemorrhage) or volition (suicide or homicide) an accident is likely to ensue. Similarly, we deny our vulnerability to violent crime. People often believe that good things happen to good people and that individuals are generally responsible for what happens to them. It is this mind-set that leaves us blaming victims for their misfortune. For example, rape victims are often blamed for their assault due to their dress or some other factor (i.e., the proverbial "she was asking for it"). Thus, when events such as the student murders take place, community residents are forced to come to terms with the statement the "bad things can happen to good people too". This realization can lead to increased fear and negative emotional reactions. Following the trauma, most victims eventually return to a state of equilibrium. While much of the emotional turmoil has subsided in this phase, the new order is different than that of before. The person is forever changed by the event and has developed new perspectives on the world (Young, 1989).

While we are only beginning to understand community trauma, initial data suggest that the effects of this "vicarious victimization" are pervasive and involve far more than the actual victims and immediate families involved. Young (1989) cites the following factors as having the greatest potential

to affect the entire community: 1) Causes death or realistic threat of death to all members of the community; 2) Occurrence of events within communities in which people are strongly affiliated with each other; 3) Events which are witnessed by community members; 4) Victimization of individuals with special symbolic significance to the community; 5) Exposure of the community to extraordinary carnage; 6) Calls for numerous rescue workers; and 7) Extensive media attention. The strong sense of community, random nature of the murders, symbolic status of the students, reports of mutilations and extensive media coverage suggests that the Gainesville community was at risk for vicarious victimization. Young (1989) points out that, while not much has been written about community reactions, the community often responds as a singular entity and may experience reactions similar to individual victims of violence. Initially there is a sense of disbelief that can enhance community bonding. However, resolution of emotional turmoil is often more difficult, both because different community members may exhibit different reactions at different times and because such responses may reaffirm the perception of crisis and grate on others in turmoil.

Media Issues:

Events of tragedy and violence attract considerable media attention in our society. Whether the event is a natural disaster, technological accident, or act of human violence, large numbers of reporters often converge upon the disaster scene. Media coverage of these events is inevitable, and in many ways necessary. Without press coverage the communities affected, as well as the nation at large, would know very little about the event. Additionally, the media may be the only avenue through which community leaders can disseminate vital information about the crisis to local residents. This information can include locations of public assistance programs as well as the status of the particular crisis. Further, through the use of interviews and poignant pictures the media can afford

the crisis national exposure and thus, perhaps, facilitate private and governmental support for the particular victims.

However, media presence at a disaster scene can sometimes have a negative impact upon the community. The infusion of large numbers of the press into disaster stricken communities may impede relief or rescue operations (Tierney, 1989). Also, reporters in search of a "story" may insensitively intrude upon victims and family members still vulnerable from the event (Butcher & Dunn, 1989). Casey (1992), as cited in Libow (1992), exemplifies this point in an interview with a television reporter discussing the pressures of the news business to do whatever is necessary to get the story. The reporter states:

If someone [another reporter] got a kid [for an interview], she [the reporter subject] would have to as well. It's the way the game works. You don't want your competition to have any angle you don't have. (p. 24).

These types of tactics have caused many investigators to severely criticize the media's actions in disaster events (Elliott, 1989; Walters, Wilkins, & Walters, 1989). In fact, Butcher and Dunn (1989) have called exposure to the news media the "second trauma" experienced by victims of airline disasters.

Another criticism of press coverage of disasters, accidents, or human violence is that the media often provide inaccurate accounts of events. Gist and Lubin (1989) note that individuals in our society base their impressions of disaster behavior on media accounts, even when their personal experiences are at odds with media reports. In reporting on events such as natural disasters or technological accidents Wenger, James, and Faupel (1985) found that news reports often present an exaggerated and unrealistic account of public panic and confusion.

These same criticisms are often associated with media coverage of crime. Several studies have found that newspapers and television news programs overreport violence and street crime (Gordon & Heath, 1981; Graber, 1980; Shelly & Ashkins, 1981). For example, Okeefe and Reid-Nash (1987) found that while violent crimes make-up less than 20% of all reported crime incidents, they comprise more than half of the crime accounts appearing in the media. This media fascination with violence and tragedy has led investigators to question the effects of media coverage on the thoughts and emotional reactions of viewers.

Examination of the tenets of social learning theory would suggest that viewers' emotions and behavior can be affected by media presentations (Bandura, 1977). In the last decade, a growing empirical literature has emerged supporting this contention. For example, Gomme (1988) and Gerbner and Gross (1976) have found that individuals vicariously exposed to crime through the media showed statistically significant increases in fear of crime. Similarly, Okeefe and Reid-Nash (1987) concluded that:

> Individuals who pay greater attention to televised news about crime are more fearful of crime and are more concerned about protecting themselves from being victimized. Furthermore, it appears more likely that attention to televised crime news leads to increased fear and concern, rather than that the already more fearful and concerned become more attentive (p. 158).

These data would suggest that under some circumstances media reports can have an effect on the personal judgments and perceived vulnerabilities of viewers.

However, other researchers question the relationship between the media and viewers' emotional response. Tyler and his colleagues (Tyler, 1980; Tyler, 1984; Tyler & Cook, 1984) have found that media accounts affect an individual's societal level judgments but have little impact upon

personal risk judgments. Thus, while viewing stories on crime may make an individual more aware of the existence of increased crime in society, this same person might not alter their perception of personally becoming a victim of crime. Much of these data, however, were obtained using analog samples or have been based on situations with low emotional arousal. While experimental control in these studies is good, the generalizability of these data is unclear. In fact, Tyler and Cook (1984) note that media presentations may affect personal risk judgments when the frequency of the occurrence is high or when the individual closely identifies with the issue.

There is some anecdotal information regarding the effects of media coverage on Gainesville residents. Archer (1992), in describing events from the perspective of an individual involved in providing crisis intervention to students at the University of Florida stated:

> One of my most vivid images relating to the murders is driving to work one morning and seeing literally dozens of television trucks with satellite feeds parked around campus. The media swarmed around campus like bees (p. 98).

With literally hundreds of reporters descending on the community, residents had to deal with pervasive and almost constant media coverage. Some of this coverage was beneficial and aided crisis teams in their attempts to reach large numbers of residents (Archer, 1992). However, others in the media were criticized as being insensitive to resident needs (Archer, 1992). The observations of Archer (1992) as well as isolated reports of resident reactions provide some information about community perceptions of the media coverage surrounding the serial murders. However, such reports are anecdotal and may not accurately reflect perceptions within the community.

Police Issues:

The thought of being criminally victimized is intrinsically distressing for most people. National opinion polls and victimization studies have indicated that many Americans do experience a fear of

crime (Skogan & Maxfield, 1981). Fear of crime is a complicated phenomenon with a multitude of factors influencing individual concerns. Personal concerns over being victimized appear to be affected by vulnerability, environmental conditions, personal knowledge of crime, confidence in law enforcement, perceptions of personal risk, and seriousness of various offenses (Box, Hale, & Andrews, 1988). Fear of crime is unstable and likely to vary across time (Cordner, 1986). However, concerns over personal victimization are likely to be greatest among individuals and communities with personal knowledge or experience with crime (Skogan, 1987). This knowledge of crime or victimization can be vicarious with media accounts contributing to fear among victims (Heath, 1984). Additionally, the nature of the crime is strongly related to personal fear. Events that are unexpected, random, highly publicized, or marked with particular carnage will be the most distressing to people. Personal fear of crime is likely to be highest among community residents in the aftermath of some particularly violent or sensational event.

Thus, the fear of crime is both a personal and social problem that must be addressed by community leaders. Individuals who are frightened by crime may avoid certain areas, adopt extreme protective measures, remain in their homes, or even move (Cordner, 1986). Such reactions can tear at the social fabric of the community and fuel a cycle of increased crime and fear.

Much of the burden of allaying public fears of crime falls on law enforcement personnel. Police officers are viewed by many in the community as symbolic of order and safety. Thus, in the aftermath of community violence, police must not only contend with apprehending the offenders but also deal with mollifying residents' feelings of fear. However, the skills and procedures necessary to apprehend offenders are not the same as those useful in assuaging public fears (Goldstein, 1977).

In recent years law enforcement agencies have taken specific steps to reduce residents' fear of crime. This has led to a growing body of literature supporting the view that the police can play

a major role in controlling fear of crime (Bennett, 1991). Research has identified a number of police-initiated factors that appear to reduce citizens' fear of crime. The measures include increased patrols and contact with residents, dissemination of valid information about crime, programs on reducing personal risk of crime, and community outreach programs (Bennett, 1991; Cordner, 1986; Pate, Wycoff, Skogan, & Sherman, 1986).

Most of this research has investigated the effectiveness of police "fear-reducing" interventions in frequent crime areas rather than in response to a particular act of violence. While the same interventions may be effective in both situations there are potential differences between communities exposed to chronic and acute episodes of crime.

Soon after the student murders law enforcement personal were criticized by the media and public for not releasing sufficient information about the murders. Much of the criticism focused on the failure of the police to provide details on how the murderer gain entry into the residences. This led to considerable bad tension between community members and the police. While the police did their best to explain that such information was crucial to their investigation public resentment remained high (Archer, 1992).

Purpose of the Present Investigation

While there is a fairly robust literature on individual responses to violence and community responses to disaster, there is little empirical data on community reactions to violence and no research, to my knowledge, regarding community reactions to serial murder. Therefore, one purpose of this research is to provide data on the experiences of Gainesville residents to the student murders. Rather than just relying on anecdotal reports or press assumptions, this study attempted to obtain empirical information that could quantify and qualify the perceptions, experiences, and needs of community residents during this crisis. The second purpose of the research was to determine the duration and intensity of any observed changes by collecting data from residents at various times, up to eighteen months after the murders took place. The third purpose of the study was provide information of the role of the media in the community's understanding and reaction to the murders. Finally, the study examined the role of law enforcement with special emphasis on the effects of various police activities on the community's sense of safety.

Methodology

<u>Sampling Procedures:</u>

In an attempt to obtain a representative sample of community residents, initial subject lists were obtained by arbitrarily selecting names from the Gainesville residential telephone directory. Using this method, an arbitrary sample of 500 Gainesville community residents were selected to participate in the research. Of the 500 questionnaires mailed, 120 were returned due to incorrect addresses or failure to provide a forwarding address. This number represents 24% of the sample and on the surface seems quite high. However, Gainesville is a college town with over 30,000 students. It is in many ways a transient population where students frequently move and graduate without leaving forwarding addresses. Therefore, such a high bad address return is understandable. Completed questionnaires were returned by 164 residents, representing a response rate of 40%. While still below 50%, such a response rate is relatively good for mailed survey research. This number is especially impressive in that residents were asked to complete a 17-page questionnaire for no remuneration. Table 1 provides pertinent demographic information on the sample and the Gainesville community. Table 1 illustrates that compared to the Gainesville and surrounding county population, the sample contained more women, whites and college graduates. Correspondence of annual income between groups is dependent upon method of central tendency used. While the mean of the sample was considerably higher than the community, this number was somewhat inflated due to the presence of a disproportionate number of very high income families ($300,000+). Thus, the median, which is less susceptible to extreme scores may be a more accurate estimate. The demographic differences between the sample and community population appear to be relatively small with the exception of race and education. Thus, caution is advised in applying these results to the under-represented groups.

Subjects

One hundred and sixty four adults (68 males,96 females) participated in the research. The mean

subject age, years of education and annual income are provided in Table 1. All subjects were

informed of the voluntary nature of the research and no remuneration was given for participation.

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Insert Table 1 about here

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Measures

The survey questionnaire was designed by the author and included measures from standard

psychological assessment instruments as well as questions specific to the Gainesville murders. A copy

of the questionnaire is located in Appendix I. Information was collected along four broad categories

including emotional reactions to the events, resident coping responses, and perceptions of public

institutions such as police and the press.

Procedure

In order to obtain data from both men and women one of two forms of the questionnaire

were randomly to each household. One form asked that the oldest adult in the home complete the

questionnaire. The second form requested that the second oldest adult respond. The forms differed

only in terms of these instructions. During initial subject recruitment, residents were asked if they

were willing to participate in two follow-up data collections.

Initial data collection began within three weeks of the murders and continued for three

months. The sample collected during this period is described above. A second data collection took

place nine months after the murders. This sample, smaller than the initial group, consisted of 64

subjects (22 males, 42 females) or approximately 40% of the original sample. Again, this sample was also attenuated due to change of addresses and lack of forwarding address. Demographic characteristics of this sample, however, were quite similar to the original sample. The final data collection occurred 18 months following the murders. This sample, which was the smallest of the three, consisted of 30 subjects (12 males and 18 females) and represented 18% of the original sample. Despite its small size, this sample was also quite similar to the original sample in terms of many demographic variables.

Results

<u>Psychological Reactions</u>

Residents were assessed regarding a variety of psychological variables immediately following the student murders with subsequent follow-up data collection at nine and eighteen months. The first set of analyses examined sense of fear and disruption of daily life. Nine percent of subjects initially reported feeling panicked following the murders with 26% indicating they were very frightened. Similarly, almost half (46%) reported considerable or moderate disruption to their daily lives. While most residents admitted to some fear or disruption, a small percentage (9%) reported being unconcerned for their safety and only 8% indicated that the murders were not disruptive to their lives.

An analysis of demographic features of those individuals who appeared to be most affected by the murders was conducted. This sub-sample was comprised of individuals who reported feeling very frightened and panicked following the murders as well as experiencing the most disruption to their lives. As illustrated in Table 2, these individuals significantly differed from the general sample in terms of age, gender, student status, marital status, type of housing, and distance from the murder sites. Groups were not significantly different in terms of the number of years living in Gainesville.

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Insert Table 2 about here

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An analysis of demographic characteristics of subjects reporting the least amount of emotional distress and disruption following the murders was also conducted and is presented in Table 3. Examination of Table 3 reveals these subjects differed significantly from the general sample only in terms of gender.

Insert Table 3 about here

While these results indicate that a substantial portion of community residents were initially affected by the murders, long term adjustment is more complex. On some variables, the initial negative reaction appeared to be transitory. For example, while disruption to daily life was initially widespread, at 9 months no subjects reported feeling severe disruption of their lives and only 3% indicated moderate disruption. By 18 months, no subjects endorsed either of these categories. On the other hand, concerns over personal safety appeared to linger much longer. While fewer residents felt panicked (2%) at the 9 month follow-up, 27% still described themselves as very frightened concerning their personal safety. Similarly, at 18 months, no subjects reported feeling panicked, however, 25% of residents still reported being frightened. Community residents were also assessed regarding their experience of a number of specific psychological reactions. These reactions are often reported by individuals who have personally experienced a traumatic event. These reactions represent DSM-III-R (American Psychiatric Association, 1987) criteria used by clinicians to diagnose "post-traumatic stress disorder" (PTSD). Table 4 lists frequency of these symptoms reported by subjects at initial and follow-up data collection periods. As illustrated by Table 4, large numbers of community residents experienced serious emotional (e.g., irritability, demeanor), cognitive (e.g., concentration), psychophysiological (e.g., startle, sleep) and social (distance from others) reactions following the murders.

Insert Table 4 about here

It is important to remember that these data do not indicate that these individuals would have received a diagnosis of PTSD. In fact, such a diagnosis can only be made by clinician strictly adhering to DSM-III-R criteria. It does indicate, however, that large numbers of residents were reporting individual PTSD symptoms.

Similar to concerns over safety and disruption of daily life, some PTSD symptoms also appear to be ameliorated by time while others persist. For example, at nine months following the murders, substantial numbers of residents still reported distressing thoughts, feelings of danger, difficulty falling asleep and increased startle response. On the other hand, other symptoms such as changes in demeanor, feeling distant from others and concentration difficulties appeared to decline. Still, by 18 months, while most negative symptoms had abated, substantial numbers of residents were still reporting distressing thoughts regarding the murders as well as increased startle response.

Coping Responses

In addition to assessing community psychological reactions to the murders, residents were also questioned concerning their coping responses to these stressors. Subjects were asked what measures they took to protect themselves or enhance their sense of safety. Responses ranged from minor increases in home safety (checking locks) to purchasing for weapons. Table 5 lists the frequency of different coping responses reported by residents. Most residents attempted to deal with their concerns through increased security at home. By far the most frequent measures taken were checking locks and leaving on lights at night. Other residents appeared to cope with their fears by altering their lifestyles. These subjects reported avoiding traveling at night or traveling alone. However, other residents reported resorting to more drastic and potentially dangerous behaviors such as purchasing/carrying a weapon. As with the PTSD criteria reported above, the relatively small percentages can represent substantial numbers of people if the sample is representative of the

gainesville community. For example, an 11% response rate for purchasing/carrying a gun could translate into approximately 9,000 guns in the community that were not there prior to the murders. This finding is consistent with press reports indicating that local gun shops had emptied their inventories in the weeks surrounding the murders.

Insert Table 5 about here

These coping behaviors had various effects on resident feelings of safety and security. Overall, 23% of subjects reported that these measures made them feel very safe, while 14 indicated that these steps had minimal or no effect of perceived safety.

Sources of Information/Media Perceptions

In addition to psychological responses and coping behavior, data were also collected regarding resident perceptions of sources of information and evaluation of the media response. While the national media are often sought out by individuals for information concerning important events, just the opposite was true of our sample. The single most popular source of information concerning the murders was the local newspaper with 40% of residents identifying this as their primary news source. This was closely followed by local television news (38%) and local radio (23%). National television news and newspapers were identified as primary news sources by only 12% and 2% of respondents, respectively. In order to deal with the tremendous amount interest in events surrounding the murders, local officials attempted to disseminate accurate information through the establishment of a rumor hotline. Results indicated that 12% of respondents identified the rumor hotline as their primary source of information about the murders.

Press coverage of the student murders was extensive. Another question asked in the research was what effect such intense media coverage had on resident functioning; that is, whether such coverage led to an amelioration or exacerbation of psychological distress and concerns over personal safety. Results indicate that the media played a major role in residents' lives. In fact, 86% of subjects report that they paid very close attention to news reports. However, not all information was equally well received by community residents. Respondents were asked to identify what types of information reported by the press were valuable and what types were undesirable. Of the total sample, 142 subjects (87%) discussed their perceptions of press information. Table 6 lists what information people found valuable and Table 7 presents that which they did not.

Insert Table 6 about here

Insert Table 7 about here

In general, residents appeared to find information on minimizing personal risk as the most valuable. This was manifested in resident interest in a variety of facts concerning the murders, especially information on when and where the murders took place as well as how entry was gained, etc.

Examination of Table 7 reveals resident perceptions of what media information was not valuable. In general, it appears that residents viewed information about the mutilations and gossip or rumors as least valuable. A common thread through virtually all negatively viewed information was that of sensational reporting. In fact, some of the most affect laden language used by residents

responding to the questionnaire occurred during their criticisms of syndicated television shows coming to Gainesville.

Certain information was widely seen by residents as exacerbating their sense of fear. For example, when specifically asked about graphic reports on the mutilations of the victims, 36% of respondents indicated that this information caused them to be more frightened. No one indicated that this type of information enhanced resident perceptions of safety.

Press coverage of the student murders appears to have had a profound impact on resident perceptions of the media. Forty-one percent of residents felt that the press did an inadequate job in covering the murders. These criticisms are varied and are presented in detail in Table 8. These responses appear to question the responsibility of the press. Indeed, for many residents, trust and respect for the media declined as a result of their coverage of the student murders. For example, 27% of residents indicated that their perceptions of the press had changed as a result of the murders. In virtually all instances, these changes resulted in a more negative view of that press than before the murders. This dissatisfaction with the press also appeared to influence peoples' perceptions of the integrity of the press. For example, only 17% of subjects indicated that they had very much trust in the press to provide the public with accurate information about events, while 20% indicated that they had little such trust.

Insert Table 8 about here

Police Perceptions

In addition to the press, the activities of the police were also assessed. Because a major goal of this project was to develop a guide for law enforcement, special attention was given to public

perceptions of law enforcement's response to the student murders. During times of community

upheaval and disaster, residents often turn toward police for information, protection and assurance.

While most residents were satisfied with police performance, a substantial number were not. In fact,

41% reported that they felt that the police did not do an adequate job in responding to community

needs following the murders. These complaints are varied and are summarized in Table 9. The most

frequent complaints involved perceived police withholding of information surrounding the murders.

The most serious criticism involved perceptions of police misinformation. For example, many

residents complained that the police did not honestly or fully report such pertinent information about

how the murderer gained into the students' apartments.

Insert Table 9 about here

However, despite these criticisms, residents appeared to trust police disclosed information much

more than that of the various other avenues of the press. Figure 1 evaluates the source, accuracy

and trust of various information sources as reported by community residents. As illustrated by Figure

1, while local radio, television and newspaper were primary sources of information, subjects judged

police information as the most accurate and trustworthy.

Insert Figure 1 about here

Local law enforcement, in an attempt to provide additional protection and help assuage

community fears, implemented a number of programs and community services. The effectiveness of

these programs is dependent not only on the program itself, but also on the publics awareness of its

existence. Table 10 lists police services that subjects reported being aware of following the murders. Residents were most aware of increased police visibility through increased patrols. As illustrated above, such police visibility was very important in helping residents feel safe. Interestingly, while 20% of residents were aware of police escort, only 3% reported utilizing this service.

Insert Table 10 about here

Residents were also asked what police services they would have found most valuable in terms of making them feel safe. Table 11 lists these services and their perceived effectiveness in safety enhancement. Again, programs designed to reduce risk were the most valued. While measures such as increased patrols or helicopter patrols may not be of value in actually reducing risk, it appears as though they do play a role in perceived safety enhancement.

Insert Table 11 about here

Discussion

The present study provides some initial data for understanding resident responses to violent community trauma like serial murder. While the loss of life and property may be much greater following natural disasters such as hurricanes or fires, traumas like serial murder also affect substantial portions of the community. Fears over personal safety and disruptions of daily life extended far beyond the university population and appeared to create a "vicarious victimization" for the community as a whole.

This contagion of fear throughout the community may be due to several factors. The first may have to do with the egregious nature of the murders. The shock value of hearing of body dismemberment would likely be sufficient to make even the most stolid person cringe. Second, the risk period for natural disasters such as floods and hurricanes is usually measured in terms of hours or days. However, without a credible suspect in police custody, the threat of continued violence in Gainesville persisted for months. When asked if they thought the murderer would kill again, 95% of residents answered "yes". Similarly, when asked their opinion on the whereabouts of the killer, 15% of subjects reported that they thought that he was in Florida with 9% believing that he was still in Gainesville. With this perception of continued risk, it is not surprising that fear quickly became a pervading and lasting phenomenon. A third reason is likely related to the extensive and arguably excessive media coverage of the events. Residents were continually reminded of the murders through unrelenting television, newspaper, and radio reports. While residents did value some aspects of this coverage, it is clear that the sensational reporting of body dismemberment and unsubstantiated rumors was viewed by residents as increasing feelings of fear.

However, there was considerable variation among individuals in terms of range and magnitude of emotional response. As with most traumatic events, different people experience different

psychological reactions. Such information is valuable in that it suggests that while large segments of the community were affected by the murders, some groups suffered more than others. In this study, the most severe and lasting reactions were experienced by individuals most similar to the victims; young, college women living close to the murder sites. This pattern is likely to be seen in other communities. In the future law enforcement officials, in conjunction with mental health professionals, should construct a profile of community residents likely to feel most at risk and aim a major part of their efforts as reassuring this group.

The majority of citizens, while stressed and frightened by the murders, were able to function with only mild to moderate disruption to their daily lives. These individuals, while more cautions and apparently experiencing some symptoms of anxiety and trauma, were not overwhelmed. This finding is somewhat inconsistent with media reports of widespread panic and pandemonium in Gainesville. These data illustrate how press perceptions of community reactions can be inaccurate and biased due to their limited sampling of the community. As described above, those individuals with the most severe reactions are the most likely to attract news attention, providing a skewed representation of the overall community response.

While a substantial portion of the community was affected by the murders, much of the emotional distress abated over time. This pattern is similar to that in observed in communities exposed to natural disasters. For most people, psychological distress began to diminish as within a year after the murders with most residents appearing to return to baseline by 18 months. This time period may represent the minimal period of time necessary for a community to begin to heal the wounds inflicted by serial murder. However, for some people, recovery is not complete. These individuals still evidence lingering symptoms of anxiety. For example, 10% of respondents still reported increased startle response, a sign of anxiety, 18 months after the murders. These residents

may likely require mental health intervention to overcome the effects associated with the murders and may continue to experience symptoms for a number of years.

In an age of limited social support services, decisions on the expenditure of finite resources is very important. Data from the present study would suggest that intervention programs be implemented early, and that the most intensive efforts be directed during the first three to six months following the trauma. It is apparently during this time the resident psychological defenses and customary coping measures are most overwhelmed, leaving the individual particularly vulnerable to experience a variety of negative psychological reactions. By nine to twelve months it appears as though most individuals have regained their "psychological balance". Their sense of safety and control begins to approach pre-trauma levels and they appear in less need of external assistance.

The final, and perhaps most important, question addressed by this research is "what steps should community leaders take to minimize resident psychological distress and promote healing?" Clearly, the most pervasive community emotional reaction was that of fear and anxiety. This is seen not only in the psychological symptoms reported (e.g., sleep disturbance, increased startle response, etc.) but also in the coping measures employed by residents (e.g., avoidance of traveling alone, increased home security, obtaining weapons, etc.). These results would suggest that organized efforts to increase perceptions of home and personal safety would be most effective.

While such programs could be conducted by a variety of community leaders, results indicate that police, working in conjunction with the press, would be the most effective deliverers of such information. These efforts should include workshops on home safety (e.g., effectiveness of different types of locks, etc.) and personal risk (e.g., methods of minimizing personal risk, etc.). These programs could be implemented through workshops conducted in local neighborhoods as well as through the print and electronic media (e.g., a television show on installing more secure locks).

Another related activity likely to be useful is police workshops on weapon use. The present data indicated that over one-third of residents opted to purchase/carry some sort of weapon to cope with their fears and that 11 per cent chose firearms. Because it appears to be a fact that some residents will arm themselves, programs on the use and limitations of many of these weapons would be most valuable. This is especially important in that, if not used properly, these weapons of self-defense can be more dangerous to their users than the attackers. For example, approximately nine months after the student murders, two female students were found strangled in their apartment. Media reports indicated that the women had been killed after they sprayed their attacker with mace and then physically confronted him. From these accounts it is apparent that these women did not know the proper use and limitations of mace. It does not immobilize an attacker, and at best provides only a limited amount of time for the victim to flee. Therefore, police information on how these weapons work would be most valuable. This forum could also utilize both direct officer contact and media presentation.

Residents also reported being comforted by actual police presence. By far the most valuable police activity was increased visibility through increased neighborhood patrols. This included use of helicopters and special task force search parties. The present data do not comment on whether such measures are cost effective from an investigation point of view. However, it is clear that seeing police in their neighborhoods helps residents feel safer. While these resources should obviously be concentrated in the areas where the murders took place, efforts should be made to increase visibility across the community. While such interventions are likely to be expensive, the data indicate that such concentration would be most valuable during the months immediately following the trauma.

Related to this sense of resident safety is the issue of dissemination of information. Clearly, many residents were frustrated with lack of police details surrounding the murders, especially

information about how entrance was gained and the general modus operandi of the killer. These complaints are apparently related to resident attempts to minimize their personal risk. Police must keep some information secret to aid in their apprehension and prosecution of the assailant. However, any information regarding personal safety and minimizing personal risk not directly related to apprehension of the killer should be revealed as soon as possible. Most residents are can appreciate that police need to keep some information secret. However, a total shroud of secrecy about events apparently only adds to resident fears.

Clearly, not all information was regarded a valuable and some residents' fears were actually increased by the media's publication of rumors and general sensationalized reporting of events. Results indicate that the press needs to more closely monitor itself in the reporting of events. While sensational headlines and graphic descriptions of mutilations sell papers and increase rating share, they also increase the sense of fear of residents left to cope with the situation.

However, not all information from the press was undesirable, and the media has the potential to be a positive and healing force in the community. Cooperation by the press is essential to implement the programs discussed above. The present data suggest that more cooperation between the press and the police would be quite helpful in minimizing negative effects from the trauma.

There are several methodological limitations of the present study which suggest that some caution be used in the interpretation and generalizability of the present results. First, the limited sample size is a problem. While efforts were made to include all segments of the community, the data indicate that some groups were clearly underrepresented while other groups were overrepresented. Thus, the obtained results may reflect a bias specific to these groups. A second associated problem has to do with the accuracy of the reported statistics. Use of small samples increases the amount of possible error in the data. This is especially relevant when discussing

confidence intervals surrounding particular data points. Thus, the reported statistics should be viewed as a range or estimate of the particular phenomenon and not an absolute. The third problem with the research is the severe subject attrition associated with the 9 and 18-month follow-up studies. One might argue that the "decrease" in psychological symptoms were due to the most disturbed individuals dropping out of the study. While a separate analysis of the 30 individuals who participated in all three data collections suggests that this is not likely, the possibility still remains. Therefore, the present data should be viewed as tentative and as a baseline for additional research

In conclusion, the present study provides initial empirical data for understanding the psychological experiences of individuals in a community exposed to serial murder. These data generally indicate that while the most severe psychological reaction are experienced by individuals most similar to the victims, negative psychological reaction reach far into the community at large following a violent event like serial murder. While significant, many of these reactions appear to be transitory with most residents returning to pre-trauma levels within 18 months after the murders. However, for some individuals, the psychological impact of the murders remained for a considerable amount of time. In terms of community response, the most effective intervention strategy appears to involve a concentration of community resources during the early phases of the trauma. These intervention plans should include cooperative efforts between the police and the press with the goal being the dissemination of information designed to increase resident feelings of safety and control. Sensationalizing of events, spreading of rumors and details of mutilations as well as unnecessary police withholding of information appears to be counterproductive and may actually lead to increased resident fear.

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Table 1

Demographic characteristics of study

sample and community residents*

Variable	Sample %	Community %
Gender		
Male	42%	49%
Female	58%	51%
Age		
Mean	41.43	N/A
Range		
18-24	23%	25%**
25-44	42%	32%
45-64	23%	15%
65+	12%	9%
Ethnicity		
White	96%	78%
Black	1%	18%
Hispanic	2%	3%
Married	53%	48%
Education		
Mean in years	16.0	13.4

% College Graduates	71%	29%

Income (in $)

Mean	32,157	15,279
Median	24,788	22,657

Years in Gainesville

Mean	13.28	N/A***
0-5	39%	N/A
5-10	18%	N/A
10-20	22%	N/A
Over 20	21%	N/A

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* Community statistics are based on Alachua County residents. Gainesville is in Alachua county.

** Community totals are less that 100% due to the number of residents under 18 years old.

*** Statistics not available

Table 2

Demographics of residents most affected

by the student murders

Demographic Variable	Most Affected	General Sample
Mean Age	32	46**
Percent Female	91%	59%***
Percent single	50%	35%**
Mean years in Gainesville	9	13
Percent Student	40%	29%*
Live in house	55%	71%**
Home distance to murder sites		
1 mile	20%	12%*

* p≤.05

** p≤.01

*** p≤.001

Table 3

Demographics of residents least affected

by the student murders

Demographic variable	Least Affected	General Sample
Mean age	52	46
Percent female	31%	59%*
Percent single	18%	35%
Mean years in Gainesville	11	13
Percent student	24%	29%
Live in house	74%	71%
Home distance to murder sites		
1 mile	6%	12%

* $p \leq .01$

Table 4

Frequencies of PTSD symptoms

Symptom	Initial	9-month	18-month
Increased startle responses	36%	34%	10%
Distressing thoughts	35%	22%	7%
Difficulty falling asleep	19%	19%	0%
Feelings of danger	10%	13%	0%
Feel distant from others	10%	6%	3%
Concentration difficulties	10%	8%	0%
Loss of interest in activities	7%	3%	0%
Increased irritability	6%	5%	0%
Dreams about murders	5%	0%	0%
Change in demeanor	4%	3%	0%

Table 5

Resident coping responses to deal with

fears associated with the murders

Coping Responses	% reporting
Check door locks	84%
Leave on lights	55%
Call a friend	32%
Avoid traveling alone	29%
Avoid traveling at night	28%
Purchase Mace	17%
Purchase/carry gun	11%
Purchase alarm	8%
Exercise	7%
Purchase/carry other weapon	5%
Purchase/carry knife	4%
Purchase answering machine	4%
Purchase a dog	2%
Move in with someone else	2%
Call crisis center	2%

Table 6

Resident perceptions of what news

information was valuable

Information	% Reporting
Police press conferences	30%
How killer gained access/time of day	28%
Safely/security measures	25%
Reports on police activities (e.g., patrols)	20%
Location of murders	12%
Status of police investigation	9%
All information was valuable	4%

Table 7

Resident perceptions of what news

information was not valuable

Information	% Reporting
Details of mutilations	37%
Rumors/gossip	32%
Sensational reporting	24%
Syndicated television	11%
Amount of coverage/repetition	11%
Police press conferences	10%*
Interviews with victim family/friends	6%

* These residents criticized press conferences because they felt that little useful information was given.

Table 8

Resident criticisms of press coverage

of the murders

Criticism	% Reporting
Sensationalism	32%
Graphic reports of mutilations	17%
Harassment of police investigation	39%
Too much focus on unlikely suspects	20%
Inconsiderate toward victims family and friends	10%
Irresponsible reporting of rumors	41%
Repetitive reporting	10%

Table 9

Resident criticisms of police performance

Criticism	% reporting
Too little information regarding break-in	44%
Too much secrecy	39%
Provided false sense of security	5%
Released more information regarding suspects	10%

Table 10

Resident awareness of police programs

Program	% reporting
Increased patrols	90%
Rumor hotline	46%
Escort Service	20%
Police press conferences	14%
Security tips/safety training	10%
Air patrols	9%

Table 11

Perceived effectiveness of police activities

on resident safety

| | | Some | | |
Activity	Very	What	Little	None
Press conferences	28%	34%	25%	12%
Neighborhood meetings	9%	21%	14%	54%
Rumor hotline	10%	27%	16%	47%
Newspaper column	15%	42%	23%	19%
Increased patrols	58%	32%	5%	5%
Workshop on home security	20%	27%	15%	38%
Workshop on reducing personal risk	21%	26%	13%	40%
Workshop in firearms safety	14%	19%	14%	52%

Figure Caption

<u>Figure 1</u>. Popularity, accuracy and trust of various information sources.

PERCENTAGE INDICATING FIRST RANKING

Legend: POPULARITY, ACCURACY, TRUST

INFORMATION SOURCE: Newspaper, Local TV, Radio, Police, National TV, Hotline