Trauma in Human Systems: A Brief Introduction

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Many of the effects that floods, earthquakes, tornados, car accidents, suicides and serious acts of violence have on the human organism are documented and known amongst helping professionals. These effects, however, are typically understood within the context of how trauma affects individuals. Although this is essential information for professionals and the victims of trauma to know, there are other factors that are not well understood that also influence the trauma response of individuals: namely the system. Following the 1999 random-type school shooting in Taber, Alberta the author found a lack of research in the literature regarding the impact of trauma on systems and the related issue of traumatic aftermath in schools and communities. Although many research projects had conducted longitudinal studies in communities impacted by trauma the research paradigms were primarily individually focused. The Alberta Government Taber Response Project (1) was formed two weeks following the school shooting and consultations began with American communities that had been impacted by school shootings as well as several Canadian communities that had been impacted by a variety of other traumas. Out of these consultations came the development of the Traumatic Event Systems (TES) model.

The TES model was originally developed to assist multi-disciplinary trauma response teams to apply the learning obtained during and after school shootings in Canada and the United States. It is heavily rooted in systems theory and views trauma intervention as a complex and comprehensive process that requires schools and communities to address issues of traumatic aftermath in the unique context of the systems structure, function and history. The TES model helps practitioners understand the phenomenology of the aftermath of school shootings, as well as

(1) Kevin Cameron was the Team Leader for the Taber Crisis Response Team and subsequently one of the members of the Alberta Government Taber Response Project. The views provided in this paper are those of the author and do not represent an official viewpoint of the Government of Alberta.

interventions for school and community systems which are impacted by trauma, including suicides, accidental death, and natural disasters. The model also assists multi-disciplinary teams to assess high-risk behavior, in the aftermath, from both a behavioral and a systems perspective.

This paper will provide an introduction to some of the key concepts developed in the TES model in conjunction with practical applications of the model. A general overview of systems theory will be presented and a distinction between crises and traumatic events will be outlined. The remainder of the paper will address pre-trauma functioning as an indicator for response and recovery of the system, and a new construct for assessing systems before and after a crisis or traumatic event.

Systems Theory

There are multiple definitions, perspectives and sources for what is commonly referred to as systems theory. Many see themselves as "systems thinkers" but lack a well-defined theoretical orientation. The term systems theory may reflect influences from research in biology, physiology, cybernetics, or other sources that have in common the general theme that "the whole is greater than the sum of it's parts" (Nichols & Schwartz, 1998, p. 109). The theoretical orientation underpinning some of the TES model concepts expanded upon here is derived from Bowen Family Systems theory. Dr. Murray Bowen was not satisfied with applying mechanistic theories or simplistic biological explanations for complex human functioning. Instead he looked at family functioning and therefore human functioning as a natural system of it's own that did not require other models to extrapolate principles of human interaction and behavior.

> *Rather than applying general systems concepts to the family, Bowen assumed that the family was a naturally occurring system. The word "natural" refers to something that pertains to nature, to something formed by nature without human intervention. The concept of a natural system, in other words, assumes that systems exist in nature independently of man's creating them. The existence of natural systems does not even depend on the human's being aware of them. The principles that govern a natural system are written in nature and not created by the human brain. The solar system, the ant colony, the tides, the cell, the family of homo erectus, are all natural systems. The human family system sprung from the evolutionary process and not from the human brain. We did not create it. We did not design human relationships anymore than the elephant or gibbon*

> *designed their family relationships. Family systems theory assumes that the principles that govern such things are there in nature for us to discover (Kerr and Bowen, 1988, p.24.)*

Bowen identified the "emotional system" as an essential component of individual and therefore system functioning and the interactions unique to each family system as the "nuclear family emotional process". A casual observation of families reveals there are no two alike. Structure and function may vary in family systems yet there are common principles that when applied can explain how the emotional system influences individual and systemic responses to multiple life situations; situations influenced in large part by the emotional system. In relation to this system, Kerr and Bowen (1988) state:

> *Defined broadly, the concept (emotional systems) postulates the existence of a naturally occurring system in all forms of life that enables an organism to receive information (from within itself and from the environment), to integrate that information, and to respond on the basis of it. The emotional system includes mechanisms such as those involved in finding and obtaining food, reproducing, fleeing enemies, rearing young, and other aspects of social relationships. It includes responses that range from the most automatic instinctual ones to those that contain a mix of automatic and learned elements. Guided by the emotional system, organisms appear to respond sometimes based on self-interest and sometimes based on the interests of the group (p. 27-28).*

Gaining a greater understanding of how trauma impacts systems requires an assumption that the emotional process, as unique and varied as what is experienced in families, influences all human systems including schools, communities, and crisis response teams. The emotional process in systems generates predictable patterns of behavior, some of which are only activated during times of elevated anxiety in the system. As a result, practitioners in the helping professions are better equipped to deal with traumatized systems and individuals within them, if they understand how each system functions rather than assume that all systems function the same. This includes consideration of the pivotal role of acute and chronic anxiety within systems.

Anxiety

Emotional systems can be assessed by observing the flow of anxiety within the system and also observing how anxiety is bound or managed by individuals within the system. All

human systems generate anxiety naturally through the cycle of emotional connectedness and disconnectedness common in important relationships. An individual who wants to be emotionally connected to a loved one, such as a spouse who is gone overseas to work, will generate anxiety within themselves that will need to be bound or managed to prevent emotional disequilibria in that individual. How it is bound (i.e.: calling a friend, yelling at the children, alcohol abuse, or affairs) is reasonably predictable for each individual and system. When the individual cannot manage all of the anxiety contained within them "anxiety transfers" occur between individuals and within systems.

Consider the family system: often one parent seems to be more influenced than the other by the multiple anxieties generated by family members. They may respond by yelling at family members or by projecting the anxiety outside of the family system towards teachers, coaches or bosses of other family members. In this case the parent bears more of the family's anxieties than others and family members may naturally gravitate to that parent laden with their own anxieties resulting in a transfer of the burden when they have "emotional contact" with the parent. In this case the parent does much of the emotional functioning for members of the family: they overfunction.

In other family systems an individual member may underfunction as the family focuses their anxieties onto the mental, emotional, or physical weaknesses of that individual. This process of projection onto one member of the system is so natural that when anxiety increases inside systems we can predict who will absorb much of the anxiety. For example, it is not uncommon for one sister to be injured in a car accident and have another sister in the family display the more pronounced trauma response if the second sister serves the function of bearing much of the family's anxieties. Many school personnel complain of the student who has no "real connection" to a tragedy that has occurred in their school or community and yet often seems more traumatized than the primary victims. This is often viewed by members of the system as "just trying to get attention" when clinical experience suggests many of these individuals may be

anxiety sponges who automatically absorb excess anxiety in the system such as that generated by trauma. In some settings, these individuals inadvertently influence members of the system to suppress the trauma response after observing the dramatic behaviors of the anxiety laden symptom bearer. Therefore, understanding how trauma impacts systems requires a general knowledge of how anxiety influences systems.

Consider two schools in the same school division: both have recently been impacted by a cluster of three suicides within a six month period with the same divisional crisis response team responding to both schools. In the first school, the team works with school administration, staff, and students with ease. Individual and group interventions seem to result in an open expression of the impact of the trauma on individuals at all levels and a climate for good intervention and recovery is achieved.

In the second school, the team works with the school administrator with ease while the individual and group interventions are viewed by the crisis team as having mixed results. Some team members report that students and staff were openly relieved to have help from the team and reported good results from the crisis intervention. Other team members, however, report it was the most difficult call they have responded to, to date. Students and staff responded to them like they were intruders by not responding to invitations to share their experience, giving "dirty looks" to crisis team members and in some cases being told, "Why are you here? We don't want you here!"

Like many crisis response teams, this hypothetical team is left to ask the question, "Why?" If the crisis team has a high level of cohesion, it may be inclined to assume the problem with the second school lies with some internal dynamic within the school itself. If the crisis team was struggling with internal conflict prior to responding to the second school, some members may not see school dynamics as the problem but instead may focus anxiety on the real or perceived "ineptitudes" of some team members. One thing is certain: there is not enough data in the above examples to understand what happened when the same team had two different

experiences inside of what looks like similar systems (schools) using the same model of crisis intervention. To begin the process of assessing systems impacted by trauma, a useful first step is to make a distinction between crises and traumatic events using systems dynamics rather than individual characteristics as the lens.

Crises and Traumatic Events

In the field of crisis response there are multiple terms used to indicate that an event is traumatic. Terms like crisis, tragic event, critical incident, traumatic event and trauma are just a few of the common expressions used to indicate that something has happened that would cause a state of mental, emotional, and physical disequilibria to individuals when they are exposed to the situation. The list of activating events or circumstances that can trigger a trauma response in individuals is legion, therefore, distilling these events into types and then determining how different traumas impact systems has usefulness for all crisis response teams. It is generally within formal systems where the work of the crisis response team occurs and it is the system's response to trauma that is used to describe and explain the distinction between a crisis and traumatic event. Although these concepts will be initially presented as a dichotomy, in practice they are part of a Systems Trauma Response Continuum (STRC).

Crisis

A crisis is contained within the system where it occurs. This refers to the emotional influence of the trauma that does not go beyond the school or community system where the incident happened. An example would be a grade one student hit by a car and killed outside her school. While the community may be in shock by the tragic death, the state of emotional disequilibria would not spread to other systems resulting in a multiple systems trauma response: school and communities in Kentucky would not be affected by the accident if it happened in Montana.

With a crisis, there are adequate resources within the system to respond. This suggests that during a crisis there are sufficient police, ambulance, hospital and crisis response team

resources available. The above is not an exhaustive list of resources; it is an example of necessary resources. In the case of a small community that normally receives hospital resources from a nearby larger center, it would still be considered a crisis because they are using resources typically used by the system.

During a crisis there is a high level of predictability concerning who will most likely be impacted by the trauma. When a grade eleven student commits suicide it is appropriate to assume that the victim's family, friends, classmates, teammates and boyfriend/girlfriend may be seriously impacted. Even those with no relational tie to the victim may be predictably traumatized by the news of the suicide it they lost someone close to them who had also committed suicide. This ability to predict during a crisis allows the identification of potential high-risk students and adults to happen with relative ease.

A crisis is expected. While that language seems inappropriate, the reality is that most schools and communities expect that from time-to-time someone will die in a car accident. They expect people will die from terminal illness or commit suicide. What is unexpected is often the identity of the individual that died and even then there are times when that was expected. Our awareness of the many forms of common causes of death generally leaves systems only impacted when they have a relationship or emotional tie with the deceased or injuried.

Traumatic Event

In contrast, a traumatic event is not contained within the system where it occurs; it affects multiple systems. The crisis response team in Taber, Alberta that responded to the school shooting that occurred only eight days following the school shooting in Littleton, Colorado had responded to several crises of the description presented above but the Taber school shooting was experienced as qualitatively different from prior incidents. The influence from the school shooting in Taber had an immediate impact on multiple systems hundreds and thousands of miles away. Many school and community systems had a trauma response similar to that experienced at the actual location of the traumatic event.

During a traumatic event the system does not have the necessary resources to respond and must rely upon outside resources to respond to the magnitude of the event. In the case of the school shooting in Taber, the fifteen person Taber Crisis Response Team was not capable of responding to the number of traumatized individuals. In the school alone, approximately twenty outside crisis responders were assimilated into the team with an additional sixty crisis responders brought in to form "make shift teams" to assist the other schools in the division. Police resources were not adequate and specialists were brought in from other areas to assist with the initial investigation. The Alberta government sent communications experts to help school and town officials deal with the intense media coverage. The length of crisis intervention was also protracted as the crisis response team spent a week providing services in the aftermath as compared to the norm of one-day interventions for what are now referred to as crises.

The capacity to predict who will most likely be impacted during a traumatic event is significantly diminished. Anyone may be traumatized by a traumatic event as the very nature of these types of events has multiple aspects that the human organism can relate to on multiple levels. The September 11, 2001 attacks in New York City and Washington, D.C. are examples as many reports have been made to the writer of eighty and ninety year old Canadian men and women who lived through World War II and other conflicts, but have never talked about their experiences and are now undergoing a profound trauma response. Others have simply identified with the pain experienced by others and it has resulted in dramatic states of disequilibria.

A traumatic event is unexpected. This is in relation to the first traumatic event of any sort. For Canadians, the school shooting in Taber was highly unexpected. Prior to April 28, 1999 most Canadians viewed school shootings as a tragedy confined to the United States, so when an American tragedy became a Canadian experience the trauma response was felt throughout the entire nation. On a much larger scale the terrorist attacks against the United States were unexpected. However, once the first traumatic event occurs, the anxiety within systems may be

intensely elevated by the new fear that it may happen again. As such, there are discernible trajectories of response and recovery that can be hypothesized based on the intensity and frequency of real or perceived threats to have the event duplicated or if it actually occurs again elsewhere. Over time any traumatic event may become so commonplace that it is no longer unexpected and no longer results in intense fear; instead the system accommodates the event and it is experienced as a crisis.

When applying the collective experience of crisis responders in schools and communities across the United States and Canada it is reasonable to say that the constructs of crises and traumatic events are on a continuum. The Systems Trauma Response Continuum (STRC) is not about labeling suicide or accidental death as a crisis but instead it is about describing the system's response to the suicide and other tragedies. When crisis responders are able to consider where a trauma fits on the systems trauma response continuum they can be better prepared for what awaits them inside of schools and communities. However, simply being able to assess where a trauma may be on a continuum has limited usefulness without understanding how pre-trauma or pre-incident functioning influences systems exposed to trauma.

Pre-trauma Functioning

Understanding how a system functions prior to a trauma anywhere on the STRC is useful information for crisis response personnel. The example of two schools dealing with suicide clusters, introduced in the forepart of this paper, is helpful in posing questions about why two similar systems would respond differently to the same model of crisis intervention and to the same personnel administering the model of intervention. Once again the Taber school shooting will be utilized to explain the concept of pre-trauma functioning.

Traumatic Events affect multiple systems but this does not imply that they affect all systems equally. The TES Model refers to the system where the trauma occurs as ground zero and the multiple systems affected beyond ground zero as the impact zone. Following the Taber school shooting it was unclear how large the impact zone was and initial information suggested

that not all schools and communities were responding the same. Some systems four thousand miles away were more traumatized than some school and community systems only fifty miles away from Taber. This aftermath phenomenon prompted an inquiry into possible correlates that may explain why some systems in the impact zone had an immediate trauma response while other systems had no apparent adverse reactions. An "immediate trauma response" (within minutes to hours of the news) typical of these systems is described by two or more of the following: a) threats by one or several students to duplicate the crime committed in Taber, b) several students, staff and/or parents in a state of disequilibria, c) schools formally closing and sending students home, d) parents coming and removing their children from school, e) students refusing to stay in school, f) students refusing to return to school, some of whom ended up being home schooled. Systems that responded this way are called secondary trauma sites.

The common denominator that was present in all secondary trauma sites was that these systems had poor pre-trauma functioning. In other words, there were high-risk indicators such as drug/alcohol abuse, vandalism, violence, school dropout or truancy that were identified problems in these systems prior to the traumatic event. They also had in common, multiple and unresolved traumas. One small community (under 1000) had ten deaths in five years. The K to 12 school experienced three suicides by adolescents in the school, a suicide of a mother with children in the school, a suicide of a father with children in the school; a father and son killed in a car accident driving to school, an elementary student (fell through the ice) drowned, and the longstanding Kindergarten teacher and her boyfriend, who was a member of the local Royal Canadian Mounted Police detachment murdered. These multiple traumas are unresolved because before a system has an opportunity to process, integrate and recover from one trauma it is impacted by another and depending on the intensity and frequency of these additional traumas, even the healthiest systems may become structurally and functionally impaired.

The assessment of pre-trauma functioning should be part of all initial crisis response team meetings prior to the team beginning the intervention in any school or community. When a

system has had multiple and unresolved traumas or has borne the intense scrutiny of a single high profile traumatic event, such as the massacre at Columbine High School, there are predictable ways systems will respond to the new trauma that has brought the school or community system to the attention of crisis response teams.

There may be other aspects of pre-trauma functioning that are not related to multiple and unresolved traumas but serve as indicators or predictors of a trauma response. For instance, the more an individual or system in an impact zone identifies with aspects of a trauma at ground zero the more likely it is that a trauma response will be intensified. The greater the psychological connection to the trauma the more likely crisis intervention may be required even in sites far beyond ground zero.

As an example, the writer teaches graduate school for an American university with a Canadian campus in Alberta. The terrorist attacks on New York City and Washington, D.C. stand at the pinnacle of North American traumatic events and even though this campus did not have multiple and unresolved traumas, prior to the attacks, the psychological links to the United States resulted in an immediate trauma response within this system. The writer was consulted on a campus-wide intervention and suspended classroom instruction to lead a crisis group intervention. Only ten percent of the students and faculty were American citizens, yet the psychological connections to the trauma were very impactful and the need for crisis intervention for this system was predictable.

Consideration given to the pre-trauma functioning of a system allows crisis response teams to predict what kind of an emotional response they may be confronted with when they provide services on the site. How a system has responded to prior traumas and where the system is at in terms of recovery from those traumas is essential for crisis teams to know because the same response by the team may not be appropriate for all systems. Some systems may be more closed to outside assistance than others and this dynamic should be part of the initial assessment and planning for an intervention.

A New Construct for Assessing Systems

Common vernacular among systems therapists are the use of the terms open or closed systems. In a general way this is understood to mean that systems that accept new information, from inside or outside the system, and process it for potential use to further the goals or functions of the system are considered open systems. Closed systems are those that do not permit new information to enter the system or if it is allowed to enter, it is not permitted to influence the system. In some cases the new information, if presented, might increase the anxiety inside the closed system and result in the system being even more resistant to future attempts to allow information in. A closer look at the impact of trauma on human systems suggests a need for a more comprehensive language to describe a system's pre-trauma functioning and post-trauma functioning beyond the general dimension of open or closed.

The TES model includes a description of systems as being on at least two possible continuums that include naturally open systems on one end of the continuum and naturally closed systems on the other end. A second dimension incorporating the impact of trauma on systems includes traumatically open systems at one end and traumatically closed systems at the other end of the continuum. Other configurations are possible as a system that is naturally open but exposed to multiple traumas may become traumatically closed.

Naturally Open System

When a system is naturally open there is little resistance to the flow of information between members. Each member of the system has some clearly defined beliefs and standards about how the system should function yet opposing opinions are not censured. When conflict occurs within the system there are consistent attempts to resolve the problem and learn from mistakes. Conflict within parts of a naturally open system rarely ignites conflict throughout the entire system. Anxiety is low inside a naturally open system so that the flow of information and human interaction is unencumbered. As well, outsiders are not generally viewed as potential threats to the equilibrium of the system unless real data indicates otherwise. When tragedy

occurs, the naturally open system is prepared to support individual member's responses to trauma and recognizes that recovery may be different for parts of the system and supports the need for togetherness and the counterbalancing need for individual mastery at points throughout recovery. In a naturally open system there is rarely an obvious starting point for the system's openness, it just seems to have always been that way.

Naturally Closed System

A system that is naturally closed tends to be moderately resistant to the flow of new information between members. Each member of the system has some clearly defined roles that contribute to the stability of the system. Beliefs and standards are common within the system and frequently stated. Opposing opinions are not permitted and if members of the system do not conform they are usually expelled from the system (i.e., kicked out or fired) or ostracized within the system. Scapegoats who are not expelled or refuse to leave the system inadvertently stand as an example to the rest of the system as to why conformity is more advantageous than rebellion. In this way the minority non-conformist may serve a function in helping to keep the system closed, as most members are not prepared to endure the negative projections of the system witnessed against the scapegoat. When conflict occurs within the system it is not resolved through dialogue but is generally concluded with sanctions to the least powerful member of the conflict. Conflicts within parts of a naturally closed system tend to elevate the anxiety throughout other parts of the system, as there is limited capacity to manage potential ongoing conflict and anxiety in the system. Outsiders may, at times, be viewed as a moderate threat if their message counters the standards of the naturally closed system but the status quo within these systems tends to be so longstanding that confidence is usually high concerning the "correctness" of the systems codes. When tragedy occurs, the naturally closed system opens briefly to allow the expression of grief and loss with parameters common to the system. Extreme reactions to tragedy are often experienced by the system as threatening and if members of the system cannot control intense emotional responses they may be expelled, ostracized, or sheltered from scrutiny that could

threaten the integrity of the system. Like the naturally open system, the naturally closed system rarely has an obvious starting point for the systems closedness; it just seems to have always been that way.

Traumatically Open System

The traumatically open system is not resistant to the flow of new information and is often highly influenced by that information. Therefore, crisis response personnel and others can have a significant influence on the system's response and recovery if the system is traumatically open during the immediate (hours to days) aftermath of a trauma (acute type). Systems that remain traumatically open in the weeks and months following a trauma (chronic type) tend to be chaotic as anxiety within the system is extremely high. This inability to manage anxiety within the system is reflected by a suspension or dissolution of functional roles, beliefs, and standards that had been more or less common in the system prior to the trauma. The pre-trauma worldview of the system may become so fragmented that the old identity is lost and is replaced solely by the effects of the trauma. In general, the system becomes a victim, without the ability to filter, process and compartmentalize the trauma.

A naturally open system exposed to trauma may chose to temporarily share leadership (i.e.: with a crisis response team) understanding that support during immediate aftermath of a crisis or traumatic event is helpful to the system while the traumatically open system, in contrast, gives up or abandons leadership. Human systems tend toward leadership structures but trauma sometimes results in leaderless systems, which in time, usually moves toward renewed leadership or the development of a new leadership structure. Until a traumatically open system reorganizes itself it will manifest a broad range of high-risk behaviors and symptoms with many individuals disconnecting from the system either emotionally or physically by moving away from the family, school, or community system where the trauma or traumas occurred.

Theoretically, systems cannot remain traumatically open and intact for years because the human organism cannot manage the intense anxiety generated within that type of system. If a

leadership structure does not surface within the chronic-type system it will fragment into subsystems or dissolve. When further tragedy occurs within the traumatically open system (chronic-type) a seemingly paradoxical response may occur where the new trauma brings temporary calm. Clinical experience suggests that when this occurs it is due to the temporary leadership structure of a crisis response team or some other source from outside the system that assumes control. In the smaller family system this dynamic is often cyclical and the system may naturally generate crises as a way to induct others into the leadership structure. Therefore, in some systems trauma may serve a function as it is a way to find relief from the often debilitating emotional intensity of living in a traumatically open system by drawing in temporary leadership: leadership that reduces the anxiety of the system.

Traumatically Closed System

Some systems respond to trauma by closing. The traumatically closed system, like the naturally closed system, may open during the immediate aftermath of a trauma but once the cultural rituals are performed (funerals, memorial services, etc.) the system traumatically closes. Roles, beliefs and standards are often intensified using pre-trauma functioning as the springboard. The school and community that is traumatically closed my increase financial support to an already successful sports program or intensify efforts to renovate and improve local structures as a way of detouring from the effects of the trauma. These activities can reinforce the belief that "we are o.k." or "we are strong". These responses to trauma do not denote a traumatically closed system but are useful as a potential indicator if the system also displays high levels of denial.

In their book, "Systemic Treatment of Incest: A Therapeutic Handbook" (1989) Terry S Trepper and Mary Jo Barrett divide denial into four parts: "(1) denial of facts; (2) denial of awareness; (3) denial of responsibility; and (4) denial of impact" (p. 110). Those who treat incest are treating human systems impacted by trauma and the types of denial noted above have relevance for understanding and intervening in all systems. For the purposes of this paper denial of impact will be the only type of denial expanded upon, not because the others are not relevant

but because this form of denial seems the most common. What follows is an extract from the Traumatic Event Systems Model addressing this issue:

> *Our experiences suggest that there may be a relationship between level of functioning within school and community systems and the degree of high-risk student behaviors during the first year aftermath of a school shooting. In the following sections two examples, schools and communities A and B, will be used to provide a general description of systems with different levels of functioning and accompanying degree of high-risk student behavior. These examples do not describe any particular system but are generalizations created out of our experiences and used here for explanatory purposes.*
>
> *In school and community A, the system opened wide to receive as many services as were offered. There was ongoing communication between parents, teachers, students and other professionals as to what was needed and the needs were met. Recovery was viewed as a process that might take months to years and the fact that some individuals would have a rapid recovery while others might be impacted for life was commonly understood. This general belief or understanding of recovery meant that it was okay to move on and heal, but recognition of possible difficult times ahead kept the system open to information and aid from internal and external sources. When symptoms developed in individuals at different times throughout the year, they were generally addressed in the context of living in the first year following a school shooting. In this environment the impact of the shooting was not denied by the system and, accordingly, asking for help at critical times was acceptable and encouraged.*
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> *In school and community B the system appeared to open wide during the first week after the shooting, but quickly closed thereafter. There was not ongoing communication between parents, teachers, students, and other professionals and disagreements occurred over the best plan of action. The eventual outcome was to have the conflict frozen in place. In other words, tensions resulted in the system closing to outside information and most internal information sharing stopped as well. Denial of impact was commonplace throughout the system and the prominent messages were to "Suck it up and move on" and "It's over now; let's stop talking about this." In this system, recovery was thought to have occurred in the first few weeks after the shooting. Therefore, when trauma symptoms continued into the first year aftermath, or when delayed symptoms surfaced they were generally denied by the system as having any relationship to the school shooting. In this system the message was, "We are all okay so if you haven't moved on there is something wrong with you." The few who did try to open the system to reveal the ongoing effects of the traumatic event were scapegoated and ostracized. In this system individuals denied their own traumatic responses as being related to the school shooting and instead found other sources to implicate as the cause of their emotional distress and behavior difficulties…*
>
> *High levels of denial regarding the impact of a traumatic event, in this case a school shooting, tends to infuse system B with additional anxiety beyond that expected from the original trauma. The dynamics seem similar to the secret keeping and denial within incestuous families where failure to address the father-*

daughter incest results in family symptoms that seem unrelated to the incest but clearly are related. From this perspective, the closed system with its denial of impact may actually be traumatizing and re-traumatizing itself thereby suppressing recovery. In other words, in system B which is closed to dealing with the emotional impact of a serious crisis or traumatic event, individuals affected to the point of requiring clinical intervention may not seek the needed services. This may be due to the embarrassment of not being able to cope or because they, like the larger school or community system, have denied the impact and attribute their symptoms to some other cause less threatening to the system, such as, "I've just been working too much lately and I'm tired." This way of responding results in an increase of high-risk behavior including drug and alcohol abuse, sexual acting out, suicidal ideation and threats to duplicate the original school shooting that transcends the symptom development and high-risk behavior of school and community A (Cameron and Gray, 2001).

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Denial of impact is a primary indicator for assessing systems impacted by trauma. The four types of systems described above, when utilized as a theoretical continuum, are useful to help explain, describe and predict potential outcomes of systems responses to trauma. Consideration of how a naturally open system may respond to trauma in comparison to how a traumatically open system may respond to a new trauma is an example of how all systems do not function the same and interventions for each system may require modification. In the naturally open system, standard crisis response procedure would likely be very successful. In the traumatically open system the team may choose to strategically focus on assisting the formal (institutionally recognized) leadership of the system to actually take more responsibility for decision making rather than perpetuating the existing pattern of providing temporary leadership for a leaderless system. In all systems described thus far, leadership in the system is probably the most influential factor for predicting how a system will respond and recover from trauma. Leadership may be the most sensitive and complex area to address.

Leadership (Formal & Informal) and its Influence on the System Impacted by Trauma

Following the school shooting in Taber, Alberta and in the role of team leader for the crisis response team, I asked several school principals/administrators, "How are things going in your school?" As noted earlier, many replied, "We are fine." When dealing with human systems, the crisis response leadership usually deals with the school leadership and it is assumed that when

the leadership says, “We are fine” that means the system they are leading is fine. What if the leadership of a system (family, school, agency, etc.) is not interested or aware of the emotional functioning of the members of the system? In that case the response “We are fine” may really mean, “I am fine and therefore I do not want the crisis response team in my school.” It may also mean the leader is closed or traumatically closed and this new trauma has resulted in a resurfacing of denial of impact that has been generalized to the current crisis or traumatic event. How does the leaders response to trauma influence the broader systems response?

In a large metropolitan school a school principal/administrator came under media scrutiny when a student revealed ongoing, intrusive and violent sexual abuse from a family member. The controversy resulted from evidence that suggested the student had disclosed the abuse two years earlier to the school principal who counseled the student to say nothing further about the abuse and then promised the student it would eventually stop. Helping professionals require little prompting to develop hypotheses that may explain the actions of the leader of this school.

In another school and community sixteen students in the high school died over a ten-year period from suicide (seven) and car accidents (nine), most of which were single vehicle and alcohol-related crashes. No crisis response or counseling services were provided to students or staff although they were offered. The leadership of the system felt they didn’t need it. Why?

The potential explanations for the actions of these leaders are broad and most likely related to the pre-trauma functioning of the leader and the leader’s relationship to the system. Additionally, it is commonly understood among systems thinkers that ‘not all members of a system are of equal influence.’ A simple formula can be applied to any system as a qualitative means of assessing potential response to trauma: it is that a leaders pre-trauma functioning will influence the response and recovery of a system in similar proportion to the degree of power (formal or informal) they have in the system. In other words, if the personality and emotional climate of a family, school, agency or other system is primarily under the control of one person,

that person's pre-trauma functioning will heavily influence how the rest of the system responds. An example would be when the leader of a system refuses to allow crisis response interventions because he or she believes "those people just stir everything up." Even if members of the system may feel differently, if the leader is viewed as very powerful no one, or very few members, would challenge the position of the leader. A typical result would be that a system that was open might be forced to close after a trauma because of the power (formal and informal) vested in the leader.

In the above case it may be that the leader lost a parent as a child and remembers how abandoned he or she felt as they watched the surviving parent go to therapists and support groups while they were left home to cope alone. Or it may be that they were raised in a naturally closed family system where emotional extremes were not tolerated and balance and stability came from internalizing pain and gaining personal mastery either on their own or through sources outside the system.

On occasion, leadership is so influential in a system that what appeared to be, in some cases, a naturally or traumatically closed system opened wide after the leadership changed. When the leader is highly influential and closed, clinical experience with multiple systems indicates that delayed and denied trauma responses will be more likely to occur as the ongoing build up of anxiety generated within the closed system results in members of the system developing symptoms including high-risk behaviors that pose a threat to themselves or others. Intervening in these type of systems requires an understanding of how trauma impacts individuals and systems. One step formal organizations like school districts can take is to develop crisis response protocols that require a number of leaders to determine what an appropriate response might be for a particular school or community and not leave the entire weight of the decision on the shoulders of one leader.

Conclusion

A new student moves into the community and attends school for three days. On the weekend he completes suicide. He is not known to the school or community other than maybe one boy in his class who talked to him a little during his only three days of school. Do you bring in the crisis response team? Hundreds of crisis responders have been asked that question and most answer "No." Using the TES model as a guide the answer would be, "It depends…" If the school had three suicides by students in the past six months there may be a fear within the school and community that, "We are cursed" and "He (the last victim of suicide) only lasted three days and the jinx took him." When considering pre-trauma functioning a crisis response may be required.

Not all members of a system are of equal influence. This maxim is applied to leadership in the system and also to gauging the initial response of a trauma using the STRC. The farther an incident moves from a crisis towards a traumatic event the greater the magnitude of the event, and therefore, the more individuals who will be affected. If the student who committed suicide after only three days in school was the MVP for the state champion football team and a media favorite to be drafted early into the NFL, the impact would be much broader as multiple systems would be affected and the trauma would be unexpected (while we expect students will commit suicide from time to time, we don't expect young sports stars with a whole career ahead of them to be in that group). In this instance crisis teams throughout the entire state and elsewhere should be mindful of the pre-trauma functioning of individual school and community systems as some hundreds of miles away from ground zero may need some form of intervention.

The TES model has been applied to a practical model of school and community trauma response. The model lists a number of questions for a school crisis response team to consider prior to meeting with school personnel. (a)What types of crises or traumatic events have impacted the system in the past? (b) What are the dates? Are there or have there been multiple or unresolved traumas? (c) How has the system initially responded to past crises or traumatic

events? (d) Has the leadership of the system changed since the last crisis or traumatic event? If it has, how is the system impacted currently? (e) Where is the school and community system in terms of open versus closed?

What about subsystems? (f) What is the Trauma Response Team's relationship like with the leadership of the system requesting the team's services?

When crisis response teams are aware of systems dynamics they can play a greater role in the initial intervention and also play a larger role in dealing with longer term aftermath issues. This includes understanding how each human system is structured formally and assessing whether it functions according to that structure or if some other informal structure is actually in place that has greater influence on the systems response. Applying the general concepts in this paper to the art of crisis responding in school or community systems requires dialogue and determination, not to simply understand how systems are impacted by crises or traumatic events in general, but to understand how your own systems are impacted by anxiety's greatest weapon: trauma.

The real work of trauma intervention requires a planned and purposeful trauma (crisis) response to immediate aftermath and strategic planning for longer-term aftermath recovery. How trauma impacts systems is heavily influenced by pre-trauma functioning and the predictable patterns of anxiety management and distribution that occur throughout the systems affected. However, the concepts in this paper are introductory as the reality of dealing with systems impacted by trauma is that some systems within systems may often be influenced more by internal subsystem dynamics that are not congruent with the larger system response. In many instances the response to trauma by subsystems may vary: (eg. a student system that is traumatically open; a teacher system that is traumatically closed and a leadership system that is new to the system but naturally closed). It is these complexities that make dealing with systems impacted by trauma one of the most important dynamics a helper can ever engage in and stands at the pinnacle of, what can be viewed as, truly thoughtful work.

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