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Intuition: A Silver Lining for Clinicians with Complex Trauma

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Abstract

The following research study intends to explore one potential aspect of the etiology of intuition in clinician populations, which is complex trauma. The relationship between early developmental trauma is ascertained through the Childhood Traumatic Events Scale (Pennebaker & Susman, 1988), which consists of events that respondents could report having experienced prior to the age of 17. Additional outcome measures that were given include the Post-Traumatic Growth inventory (Tedeschi & Calhoun, 1996), the Toronto Empathy Questionnaire (Spreng et al., 2009) and the Types of Intuition Scale (Pretz et al., 2014). There were 28 participants, 23 of which reported one trauma or more and 16 with two or more exposures. There were 5 participants who reported having experienced no trauma prior to 17 years of age. Preliminary analyses were conducted between non-trauma (no trauma), trauma (1 or more traumatic experiences) and polytrauma (2 or more traumatic experiences) subgroups. It was hypothesized that clinicians with complex trauma histories (having experienced more than one traumatic event during childhood) would have heightened intuitive capacity; and that clinicians with trauma histories will have heightened intuition compared to clinicians without a history of trauma. Results indicate potential predictor variables of trauma exposure, intensity, and empathy yielding various types of intuition. One limitation within the research was a small sample size, which impacted the analyses conducted. However, results show a correlatory trend to lend in future research addressing complex trauma and intuition in clinician populations or other.

INTUITION: A SILVER LINING FOR CLINICIANS WITH COMPLEX TRAUMA

By

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Thank you, from the bottom of my heart, to those who have supported and accepted me for who I am while also gently nudging me toward growing into a better version of myself. You know who you are.

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Introduction

Introduction to Research

There is a great deal of literature devoted to the debilitating impact of trauma (Cook et al., 2005; Herman, 1997) on persons having experienced events such as combat, abuse, neglect, accidents, etc. There are numerous categorized circumstances, which characterize what might be considered as an overwhelming experience that can yield a variety of means of coping and integrating of the experience(s). For many, a return to baseline functionality equates with terms such as "resilience" while others develop acute or chronic diagnostic features of post-traumatic stress. Trauma has devastating effects both on the mind and body (Van der Kolk, 1997), challenging Cartesian duality of the separateness of these two. This mind-body connection is particularly poignant in the context of trauma, as mind and body can be an inseparable travesty for many.

Despite many disclosures of struggle post trauma, resilience may encapsulate another experience following trauma. Many persons report positive outcomes in the aftermath of devastation, overwhelm or experiences of intense trepidation. For instance, some persons find new purpose or meaning for themselves (Tedeschi & Calhoun, 2009).

Literature has used a variety of terms to describe the phenomenon of positive outcomes after trauma. Language associated with positive outcomes may include resilience (Bonanno, 2005; Fine, 1991; Herman et al., 2011), post-traumatic growth (Tedeschi & Calhoun, 1996; Lindstrom & Triplett, 2010; Woodward & Joseph, 2003), adaptability (Fine, 1991; Lev-Wiesel & Amir, 2006, p. 253; Birmes et al., 2009), and flexibility (Lev-Wiesel & Amir, 2006, p. 31 and 131). The various forms of growth that

many experience can also be integrated into the traumatized narrative; both the psychological (Neimeyer, 2004; Tedeschi & Calhoun, 2004; Jirek, 2016) and neurobiological (Siegel, 2001) forms. Research indicates that not every person who has a history of trauma develops negative post-trauma symptoms and many experience aspects of post-traumatic growth (Jin, Xu & Liu, 2014).

Kashdan and Kane (2011) explored specific factors that contribute to the potential development of Post-Traumatic Growth. For instance, avoidant emotionality versus tendencies to be open to a feeling-laden experience in relation with level of stress symptoms. Morrill and colleagues (2008) found post-traumatic growth to have a quality of defense in buffering the odds against some negative post-traumatic stress symptoms. In other words, the mindset associated with post-traumatic growth may promote better outcomes regarding responsivity to trauma.

Trauma ranges in what it entails and how the person experiencing it responds (Harvey, 1996). The element that is quintessential in importance is that the perception of trauma being traumatic (Fine, 1991; Miller-Karas, 2015, p.2) varies for each unique person rather than any specific event being inherently life altering. There is a strong relationship between physiological stress reactivity with psychologically appraising an event as either challenging or threatening (Harvey, Nathens, Bandiera & LeBlanc, 2010). In other words, a person may perceive an event as traumatic or non-traumatic; and subsequent manifesting alterations may be contingent upon this original perception. A retrospective perspective on the event(s) also contributes in deriving understanding, also known as "meaning-making" (Neimeyer, 2004; Jirek, 2016), as well as the potentiality of symptoms, either of negative or of positive valence (Frazier, Conlon & Glaser, 2001).

Statement of the Problem

Complex post-traumatic stress symptomology tend toward stigma when describing experiences of hypervigilance and various other arousal-related manifestations (Cook et al., 2005; Corrigan, Fisher & Nutt, 2011), such as the ability to self-regulate (Cloitre, Stolbach, Herman, Kolk, Pynoos, Wang & Petkova, 2009). If these outcome experiences could be reframed and transformed, particularly for therapists who have experienced complex trauma, there might be heightened post-traumatic growth and interpersonal healing. Compassion and social engagement (Porges, 2011) can be an antidote or buffer for deleterious effects of trauma.

Early developmental trauma typically involves damage within the caregiving relationship. This impacts both neurological development as well as the conception of internal working models of self and others (Beebe et al., 2012); impacting subsequent interpersonal relationships (Becker-Weidman, 2006). Adults who experienced developmental trauma and survived partly by expertly reading interpersonal cues may have greater interpersonal vigilance. This could manifest by picking up on subtle nuances through stronger mirror neuronal circuitry (Buk, 2009), particularly within the therapeutic alliance.

It is adaptive and non-pathogenic for any person, child or adult to attune to one's environment to orient and find equilibrium; much of the time this might involve interpersonal aspect, particularly in dependent children. Herman (1997) states:

> Children in an abusive environment develop extraordinary abilities to scan for warning signs of attack. They become minutely attuned to their abusers' inner states. They learn to recognize subtle changes in facial expression, voice, and body language as signals of anger, sexual arousal, intoxication, or dissociation and Child victims learn to respond without being able to name or identify the danger signals that evoked their alarm (p. 99).

This speaks to the implicit aspects of adaptive responsivity during the time of traumatic exposure that may later continue to manifest without conscious awareness or intent. Van der Kolk (2014) writes, "we instinctively read the dynamic between two people simply from their tension or relaxation, their postures and tone of voice, their changing facial expressions" (p. 76).

Trauma is not a prerequisite for intuitive capacity. However, some clinicians gravitate toward the helping professions having experienced adversity and subsequently a desire to help others through empathic understanding. Literature has focused on the negative outcomes of developmental trauma, including attachment disruptions (Beebe et al., 2012; Cook et al., 2005; Bailey, Moran & Pederson, 2007; Becker-Weidman, 2009), hypervigilance and heightened arousal (Cook et al., 2005; Corrigan, Fisher & Nutt, 2011), however this author hypothesizes there may be a heightened capacity for intuition in therapists with a history of complex trauma.

Goal and Purpose

The objective of this research is to explore the relationship between early experiences of trauma and adult intuition in clinicians. The etiology of intuition itself is unclear, and this study assesses the possibility that trauma, or perception of a traumatic experience could be a factor in later cultivation of intuition. Four variables were collected in this study: Trauma prior to age 17, empathy, post-traumatic growth and types of intuition and all were analyzed with the hope of supporting subsequent hypotheses in order to better understand the role of trauma in intuition in clinician populations. Given that clinicians hold deep and vulnerable narratives for their clients regularly, it may be important to understand the role of intuition within the therapeutic alliance.

Self of the Therapist (SOTT) can be defined as a use of oneself as a means of relational healing within the therapeutic alliance. This is a technique implemented in training therapists to be increasingly aware of their presence and its impact (Winter & Aponte, 1987). For instance, therapists may have personal narratives of trauma likened that of their clients. This parallel process might strengthen the therapeutic alliance. Additionally, the recognition of strength within the complexity of personal struggle might enhance the therapeutic relationship.

It is known that trauma can be stored at a physiological level, in other words implicitly (Levine, 2010, 2007). The Adverse Childhood Experiences study (ACE) has also provided significant findings such that trauma can manifest later in life somatically. This study was conducted through Kaiser Permanente to better understand longitudinal effects of early developmental trauma. It was discovered that experiences of trauma early in life,

such as child sexual abuse, violence, neglect, yield negative health outcomes in adulthood. It was also found that the greater number of exposures (ACE's) the more risk for medical ailments, such as cardiovascular disease (Felitti et al., 1998). Thus is it possible that what is stored physiologically can be transformed and used in a positive way. Perhaps some clinicians with histories of trauma are unconsciously transforming their trauma via the skill of intuiting within the therapy room.

Research Question & Hypotheses

The investigator in this research study had two main hypotheses, which subsequent analyses were conducted to in order to address. First, it is hypothesized that clinicians with complex trauma, or early developmental trauma, will have increased intuition. The second hypothesis is that there will be a difference between clinicians without trauma compared to clinicians with trauma in their level of intuition. The literature review below will further provide an understanding of the constructs within this study; trauma, post-traumatic growth and intuition. It will be further broken down, by distinguishing between complex and non-complex trauma. The neurobiology of trauma and intuition both will be discussed. The conceptual link between early experiences of trauma and later intuition is made through neurobiological mechanisms having parallel activation, which will be explored.

Literature Review

Trauma

Trauma can be a multifaceted concept with tremendous variance in both cultivating a conceptual definition as well as accounting for multidimensional impartiality in the responses to trauma (Harvey, 1996). Subjectivity in perception (Fine, 1990; Miller-Karas, 2015, p.2) and subsequent level of regulatory responsivity (Sherin & Nemeroff, 2011) vary greatly across persons experiencing trauma. It is important to note the use of language as well as delineation between both acute and chronic traumatology as well as exposures early in life versus during adulthood. Developmental stages of life progression (Cook et al., 2005) impacts the degree of physiological and emotional changes in persons having experienced trauma. Children are more susceptible to a traumatic event having longer-term impacts than an adult (Perry & Pollard, 1998).

Trauma Defined

Experiencing an event as traumatic depends upon the perception of the event. Perception is subjective and survivor's experiences of an event vary (Fine, 1990; Miller-Karas, 2015, p.2). In other words, whether an event is traumatic to a person is less poignantly about the content, but the process of experiencing the event.

The DSM qualifies traumatic exposure as experiencing "threat of death" or witnessing another experiencing this (American Psychiatric Association, 2013). The traumatic event itself has been demarcated in literature originally by Shapiro (1987), as being one of two typologies: big "T" trauma or little "t" trauma (as cited in Miller-Karas,

2015, p.2). Each can be exemplified by the socionormative vantage points assumed by the majority. For instance, a big "T" trauma might include but not be limited to experiences of sexual assault, rape, various forms of child abuse, combat and natural disasters. A little "t" trauma may consist of experiences such as a dental procedure, minor car accident, a dog bite or an experience of failure. A third typology was added to existing literature, entitled cumulative trauma or "C" trauma which may consist of experiences of oppression, domestic violence, chronic abuse or neglect, and poverty (Follette, Polusny, Bechtle & Naugle, 1996; Miller-Karas, 2015, p.2).

Traumatic experiences range in intensity, frequency and duration. Multifinality can be thought of as "a single means" yielding diverse outcomes (Kruglansky et al., 2013) and is one way to conceptualize variation between and among people. How an individual experiences an event is key in understanding whether there may be residual damage either phsysiologically, emotionally or behaviorally. For trauma to be categorized as such, it is typically experienced as overwhelming and coupled with fear, helplessness and/or horror. This language was a specific criterion of PTSD in the DSM-IV (APA, 2000), however these terms are no longer used in the DSM V (APA, 2013).

Complex Trauma vs. Non Complex Trauma

There is a clear distinction between complex and non-complex trauma. Complex trauma can be differentiated from non-complex trauma in understanding the etiology. Complex trauma typically includes experiences of childhood maltreatment, it is chronic as opposed to acute, it involves interpersonal interactions, and usually within the caregiving relationship, and it occurs during the developmental years (Becker-Weidman, 2009, 2011;

Van der Kolk, Roth, Pelcovitz, Sunday & Spinazzola, 2005). Complex trauma can result from various intrafamilial contexts such as abuse and neglect, among others (Courtois, 2008). Complex trauma impacts adults in a plethora of ways, particularly interpersonally (Becker-Weidman, 2009; Cook et al., 2005).

Becker-Weidman (2014; 2009) describes a cycle that causes and perpetuates early abuses as follows: (1) repeated early trauma, (2) limbic, orbitofrontal and right hemispheric brain alterations, (3) overreaction to triggers, (4) risk of pathogenic caregiving in their responsivity, (5) further experiencing of trauma. The neurological alterations of anatomical structures in children who have been exposed to adverse experiences are considerable. According to Perry (1998), "children are more vulnerable to trauma than adults…determining the foundational organization and homeostasis of key neural systems" and "as it organizes the developing brain" (Perry & Pollard, 1998).

It is important to understand the neural correlates physiological changes ensue with experiences of trauma leaving imprints. For instance, the limbic area is more heavily myelinated, particularly amygdalae in the right hemisphere with volumetric decreases in the hippocampus (Gilbertson et al., 2002). This has detrimental implications as this structure translates implicit memory to explicit autobiographical memory (Teicher, Andersen, Polcari, Anderson, Navalta, & Kim, 2003). In terms of integration both on a neuronal level and experiential level; cultivating a coherent narrative essentially yields better health outcomes both physically and mentally (Siegel, 2001), but this can be difficult when working with traumatic memory given the aforementioned neuroanatomical shifts.

Attachment plays an important role in complex trauma given the inherent nature of its etiology rooting in interpersonal context. The notion of an attachment to another is a

mammalian system for proximity seeking behavior. In other words, a biologically motivated construct for survival (Insel & Young, 2001). This can become conflictual when the caregiver is also the perpetrator of abuses where a child will also have a biological drive motivated by the limbic system to avoid threat. In such a case, disorganized attachment patterns may ensue (Cook et al., 2005; Cassidy & Mohr, 2001) and this can yield a hypervigilant state of arousal (Van der Kolk, 1997), overly attenuated to the adult. This may also be referred to as a double bind (Blizard, 2003). So for example, a child may pay a great deal of attention to the adult's facial expressions, tone and posture to protect themself in fear while simultaneously wishing to be close.

Responses to Trauma

There are various forms of responding in the aftermath of trauma. These include resilience, recovery, chronic dysfunction and/or delayed grief or trauma (Bonanno, 2004, 2012). Essentially, according to Bonanno, resilience pertains to persons returning to baseline fairly quickly after a traumatic event. Recovery refers to a temporary shift in functioning while integrating the traumatic experience. Chronic dysfunction refers to persons affected by post-traumatic stress symptomology. Delayed grief/trauma refers to a later heightening of post trauma symptoms with what appears to be normal functioning directly after the trauma. It may be reductionistic to assume every person might be categorized in this way, but these trajectories offer one way of describing and quantifying functionality after a traumatic event. Complex traumatic experiences may be more difficult to categorize in this way due to its chronic and pervasive nature, and the way in which resilience manifests within that domain may appear much different than in a case of an acute exposure.

In the face of trauma, persons respond in very adaptive ways enhancing survival. For instance, the nervous system is structured such that a sequence of responses is prompted. Reactions of flight, fight or freeze (Van der Kolk, 2015, p. 54) are natural in the moment of overwhelm. Walker (2014) writes about a fourth response he refers to as fawning (pp. 12-13). The fawn response has newly been termed accommodation (Stone-Fish, personal communication, July 26, 2016). This later term, accommodation, is particularly of interest here as this author posits the level of attunement to subserve to another may be elicited in the context of therapy. The clinician may acquire the skill to manage her response by attuning to the client, which might manifest as intuition.

Neurobiology of Trauma

When exposed to threat, the brain and central nervous system adapts in a way congruent with self-preservation, most typically, through activation of the sympathetic branch of the nervous system to mobilize a fight/flight response (Perry et al., 1995) or a freeze/immobilization response (Roelofs, Hagenaars, & Stins, 2010). The dorsal branch of the vagus nerve causes a freeze response or dissociative state (Porges & Peper, 2015). Porges (2015) asserts that social engagement is a response mediated by the ventral portion of the 10th cranial nerve of the vagus. Porges describes this as a means of tending and befriending to cope with potential threat, as perceived through neuroception (Porges, 2015). The aforementioned physiological manifestations of responsivity can also be termed "survival mindstate" as opposed to the relaxed, "engaged mindstate" (Barrett & Stone Fish, 2014). What might in the moment of a traumatic experience be very adaptive, becomes neuronally coupled with fear and a chronic pattern of responding to the environment as unsafe whether it is or not may ensue post trauma (Levine, 2010).

Trauma can have a major impact on neurological development. It is said:

> By internalizing and storing elements of the unique sequence and collection of our individual experiences, the brain forces us to become reflections of our personal histories. These histories may be filled with consistent, predictable, nurturing, and enriching experiences or marred by chaotic, threatening, and traumatic experiences. (Perry & Pollard, 1998)

The human brain is considered the triune brain as it is composed of three differentiated sections. At the base is the loci of brain stem, moving upward lies the limbic system, entailing the amygdalae and hippocampus, and the topmost structure are cortical areas (Van der Kolk, 2014, p. 59). All three aforementioned areas are impacted by trauma (Perry & Pollard, 1998) yielding dysregulation. During a traumatic event, the limbic system and brainstem are active while cortical structures of reasoning are shut off (Van der Kolk, 2014, p. 59).

The hypothalamic-pituitary-adrenal axis mobilizes hormonal shifts such as cortisol in order to respond to a threat (Van der Kolk, 2014, p. 60). Acutely this is beneficial and adaptive however if chronicity pervades, it becomes deleterious to overall functioning. Chronically insulted homeostasis by means of hyperarousal symptomology post-trauma can create a context whereby cortisol becomes low at baseline and the sympathetic nervous system is essentially stuck in an activated state (Yehuda et al., 2010). According to Yehuda and colleagues, “early life stress” may be correlated with adult outcomes due to epigenetics (Yehuda et al., 2010).

Post-Traumatic Growth

Trauma impairs human functioning and potential in a multitude of ways. This can be seen physiologically through the debilitating nervous system dysregulation and neurological shifts that yield incapacitating arousal symptoms, as well as in emotional, psychological, spiritual, relational and behavioral impact. Yet the meaning-making and potential for positive outcomes after experiencing trauma are seldom addressed directly. However, more recently the concepts of post-traumatic growth (PTG) and resilience have begun to be discussed (Bonanno, 2005; Fine, 1991; Herman et al., 2011; Tedeschi & Calhoun, 1996; Lindstrom & Triplett, 2010; Woodward & Joseph, 2003).

Post-Traumatic Growth can be seen in some persons who have experienced trauma either acutely or chronically. This process is associated with finding new life meaning after trauma. It may be correlated with resolution or heightened coherency in one's narrative as neural integration yields healthier functioning (Siegel, 2001).

Trauma overwhelms the neurological system. Many times, particularly in early trauma the related memories get stored implicitly as emotional and sensory experience in the region of the amygdala in the limbic system. During the traumatic experience the hippocampus, which creates an autobiographical narrative, goes "offline" and the memory is left in an implicit form (Shin et al., 2006). Perhaps a biological correlate of Post-Traumatic Growth relates to the aforementioned neural integration Siegel refers to in healing from trauma biologically (Siegel, 2001).

Post-Traumatic Growth is related to optimistic changes that ensue for persons having experienced trauma (Woodward & Joseph, 2010). Various manifestations of PTG

may be noted, such as increased connectedness interpersonally, a heightened sense of purpose or meaning attributed to life, and spiritual shifts (Tedeschi & Calhoun, 2009). An acquired positive attitude post trauma has also been observed (Prati & Pietrantoni, 2008). A shift towards a more positive sense of self and identity has been observed in persons having experienced trauma, offering new meaning for their lives.

Intuition

Intuition Defined

Post-Traumatic growth (PTG) manifests in a variety of ways as previously discussed. Intuition, as defined as including "sudden recognition, immediate knowledge, emergent awareness, nonverbal insight and holistic, integrative sensibilities" (Marks-Tarlow, 2012, p. 42), is hypothesized here to be a specific outcome of PTG. This may lie in the implicit aspects of intuitive processes (Marks-Tarlow, 2012, p. 42) as being internalized from earlier experiences and applying new meaning..

Intuition is a capacity that is difficult to articulate in words as much of the process is on a visceral level and non-verbal in nature. Tantia (2011) describes intuitive processes as an "embodied knowledge." In the aforementioned article, Schore (1994, 2003) and Siegel's (1996, 2006) work in correlating intuition with relational attunement is referenced, emphasizing the connection between people as poignant in intuitive processing. Intuition can be considered an implicit process due to its bottom up nature and can be experienced within the therapeutic alliance (Marks-Tarlow, 2012). Van der Kolk (2015) states that "focused attunement with another person can shift us out of disorganized and fearful states" (page 78). Essentially interpersonal intuition manifests as heightened attunement

and empathetic awareness of both self and other with outcomes of grasping knowledge that is less explicitly gained.

Epstein (2008) posits that there are two distinct means of cognition: an "experiential system" and a "rational system." Further, "the experiential system operates in a manner that is preconscious, automatic, nonverbal, imagistic, associative, rapid, effortless, concrete, holistic, intimately associated with affect, highly compelling, and minimally demanding of cognitive resources" (p. 24). It appears the "experiential system" describes that of intuitive processing, confirming the importance of the implicit, affect laden and unconscious aspects of acquiring knowledge.

Neurobiology of Intuition

As previously stated, intuition is associated with interoceptive awareness, in other words body centered. Intuition is most notably recognized at a physiological level as it is connected with the vagus nerve (Tantia, 2011). The ventral vagus is associated with the parasympathetic nervous systemic and social engagement (Porges, 2011). Marks-Tarlow (2012) specifies intuition as being subcortical and coinciding "fast processing" which utilizes pathways of the brain stem, hypothalamus, amygdala and insula (p. 39). Neurological correlates also include the caudate and putanum, which is in the basal ganglia. These areas are associated with implicit learning and intuitive process. The basal ganglia is also associated with "emotional, script processing, automatic evaluation and decision making "(Lieberman, 2000). It is also said that maturity of the prefrontal cortex is necessary for intuition as well as sophisticated ability to integrate at a "preconscious level" (Segalowitz, 2007), which is consistent with Siegels' (2001) claim for neural integration to

be a predictor for health. Schulz (1998) references the differentiation between brain hemispheres in relation to intuitive processing; "right hemisphere provides the intuition while the left hemisphere gives it expression and communication" (p. 61). To further exemplify the symbiosis of the mind and body as it relates to various processes, McCraty et al., (2004) conducted a study utilizing physiological data from both EEG and ECG finding the heart as well as the brain to be involved in intuitive processing.

Intuition and Clinicians

It is important to understand the link between intuition as defined and how it plays out in the room clinically. Mirror neurons play an active role in this process. "Our mirror neurons register their inner experience, and our own bodies make internal adjustments to whatever we notice" (Van der Kolk, 2015, p. 76). As the clinician sits with their client, they may viscerally pick up on tension patterns of their client or notice subtle shifts in facial expression, vocalizations or body movements. This use of the body as information might serve the therapeutic alliance, help the client feel understood, depathologize trauma symptoms, and co-regulate the distress. The accommodation response (Stone-Fish, personal communication, July 26, 2016) accounts for the overlap with traumatic responses and intuitive processes that can ensue. "Clinicians tend to use clinical intuition as a nonspecific mode of perception and response during the actual practice of psychotherapy" (Marks-Tarlow, 2012, p. 7).

Theory and Conceptualization

Neuroscience brings a breadth of understanding to overall functioning. Many brain structures are dually activated for many functions. However, it can be noted that subcortical regions are utilized both in trauma responsivity (Van der Kolk, 2014, pp. 59-60) and intuition (Marks-Tarlow, 2012, p. 39). The automatic and implicit nature is evident as well as emphasis on right hemispheric activity (Schore, 2001; Schulz, 1998, p. 61). Affective intuition being most poignantly that of associative learning (Pretz et al., 2014) and formulated from emotional valences or "affective arousal" (Pretz et al., 2014) might be a manifestation of a fear conditioned (Blechert, Michael, Vriends, Margraf, & Wilhelm, 2007) implicit response. In an applied sense, the energy of hypervigilance is unconsciously transformed into empathic attunement. Van der Kolk (2014) states "focused attunement with another person can shift us out of disorganized and fearful states" and "mirror neurons register their inner experience, and our own bodies make internal adjustments to whatever we notice" (p. 78). Persons with early experiences of trauma may have become interpersonally vigilant due to a context of fear which might be transformed into a means of registering interpersonal cues in a deeper manner due to implicit aspects of processing due to neurobiological wiring that was instilled during the developmental years.

Summary

The essence of understanding the relationship between trauma and intuition is to understand the aspect of post-traumatic growth. The clinician and client both grow at the same time due to the therapist's attunement to their client. Research indicates that the

tend and befriend (Taylor & Master, 2011) response is a social buffer, preventing post-traumatic stress.

Shame is a dominant and local discourse, which pervades for persons having experienced trauma. Van der Kolk (2015) states "As a result, shame becomes a dominant emotion and hiding the truth the central preoccupation" (p. 67). Research is necessary to eliminate beliefs about shame. The role of shame might tell many bright and talented clinicians who could be helpful to others that due to their experiences, they feel they cannot practice. Trauma disempowers and leaves many stuck. The purpose of this research is to advocate for moving the perception of trauma and the stigma associated away as there is much room for growth and positive outcome associated with the experiences of trauma.

Methods

Research Methodology

The purpose of this research is to explore the potential relationship between early experiences of trauma and later pro-social characteristics of posttraumatic growth, such as empathy and intuition. This study was exploratory in nature. As a non-experimental design was applied to the structure of this experiment, there were no controls or manipulation involved.

The objective of this study was to assess whether clinicians, who have experienced complex trauma, have an increased intuitive capacity. Additionally, to address whether clinicians with complex trauma histories will have heightened intuition with clients as compared to clinicians without complex trauma histories.

Participants volunteered to participate in this study without compensation. The task was given consistently to all participants with no variation between groups. Four questionnaires, which will be described in more detail, were offered for participants to complete. Data was collected from those who were both given informed consent, consent was obtained and questionnaires completed. Participants returned completed research packets to investigator at the time of collection. The potential for risk was managed through providing participants a resource list with appropriate places to seek out support in case negatively valenced emotions arose upon filling out the questionnaires.

Participants and Recruitment

This research study was approved by the Syracuse University Institutional Review Board and subsequent to approval, subjects were recruited voluntarily from both academic and community settings. Locations supportive to this experiment for purposes of recruitment included Marriage and Family Therapy Masters and Doctoral programs as well as, a local domestic violence and sexual assault agency. Participants were recruited following two MFT graduate level courses at both the masters and doctoral level; Recruitment also took place during a regularly scheduled meeting at the local agency whereby the majority of employed and interning psychotherapists were present.

Participant Inclusion Criteria

A focus of this research study was to explore one potential aspect of the etiology of intuition in some clinicians. Therefore, inclusion criteria consisted of individuals being in the role of a psychotherapist; and assumed to be actively providing psychotherapeutic services to clients. Participants that were included were of one of two professional

categories: student therapists and staff therapists. Each participant was over the age of 18 and consenting to participate. The only criterion yielding exclusion was individuals who were under 18 years of age or not conducting therapy.

Sample Size and Demographics

Twenty-eight (N = 28; 24 female, 2 male, 1 self-identified as cisgender, 1 trans) adults volunteered to participate in this research study in total; Thirteen (N = 13) were recruited from the Syracuse University MFT Master's program, two (N = 2) were from the Syracuse University Doctoral program and thirteen (N = 13) from a community agency specializing in domestic violence and sexual assault. Each participant was given informed consent and this was obtained from each person. The ages of participants range from 24 to 60 years old (M= 31.43, SD=9.83) and identified themselves as 64.3% (n=18) White/Caucasian 14.3% (n=4) Black, 7.1% (n=2) Asian, 7.1% (n=2) Hispanic, 3.6% (n=1) Mixed Race and 3.6% (n=1) missing data. Participants consisted of 71.4% (n=20) student status and 28.6% (n=8) non-student or professional. The frequency distribution of various training includes 10.7% (n=3) social work, 14.3% (n=4) mental health counseling (MHC), 60.7% (n=17) marriage and family therapy (MFT), 7.1% (n=2) dual MSW/MFT and 7.1% (n=2) dual MHC/MFT. Participants vary in level of experience as a practicing psychotherapist. It was reported that experience ranged from .80 to 30 years practicing (mean 3.99 years). Demography of respondent participants is also listed as follows (refer to Table 1).

Table 1

Demography of Respondent Participants*

		n	%
Age	18-24	6	21.4
	25-30	13	37.5
	31-34	2	7.2
	35-40	3	10.8
	41-44	0	0.0
	45-50	2	7.2
	51-54	1	3.6
	55-60	1	3.6
Ethnicity & Race	White/Caucasian	18	64.3
	Black	4	14.3
	Asian	2	7.1
	Hispanic	2	7.1
	Mixed Race	1	3.6
	Missing Data	1	3.6
Identified Gender	Female	24	85.7
	Male	2	7.1
	Cisgender	1	3.6
	Trans	1	3.6
Occupation	Student	20	71.4
	Not Student	8	28.6
Training	Social Work	3	10.7
	MHC	4	14.3
	MFT	17	60.7
	MSW/MFT	2	7.1
	MHC/MFT	2	7.1
Years Experience	0.8	1	3.6
	1	3	10.7
	1.5	6	21.4
	2	8	28.6
	3	2	7.1
	5	3	10.7
	8	1	3.6
	9	1	3.6
	11	1	3.6
	30	1	3.6
	Missing Data	1	3.6
Recruitment Location	SU MFT Master's	15	53.6
	SU MFT PhD	2	7.1
	Local Agency	11	39.0

*Percentages based upon total participants (N = 28)

Design

This study used descriptive research methodology with quantitative analysis. Each participant was invited to complete the same questionnaires administered across the subject pool. The independent variable, experiences of trauma, was consistent and it was explored through various analyses as to whether the outcome variables of empathy, intuition and/or posttraumatic growth (PTG) had any relationship to said trauma exposure. There was no control group and no elements within data collection were manipulated.

The purpose of this study was to explore one venue of the potential etiology of intuition. Due to its exploratory nature, an observational approach seemed most logical in seeking to better understand what is currently experienced in persons, and most poignant in this study, clinicians. The subgroup without having experienced trauma served as a comparison for the subjects reporting histories of trauma exposure(s).

The objective of this study aimed to observe correlatory associations between and among variables. The design incorporated two independent variables. The independent variable being that of experiences of trauma and a subsequent second independent variable of intensity of the trauma experienced. The variables of dependence included posttraumatic growth, empathy and intuition. In some analyses, posttraumatic growth also served as an independent variable as correlated and used in predictive capacity with outcome measures of empathy and intuition.

Measures

Early Developmental Trauma. Trauma was measured via the Childhood Trauma Questionnaire (Pennebaker & Susman, 1988). Questions asked address polytraumatization occurring before the age of 17. This questionnaire included six traumatic events, of which five were listed and one labeled as "other" where a participant might write in a qualitative other regarding an exposure they may have experienced that is not otherwise encapsulated. Exemplification of traumatic events from this questionnaire include: death of someone close (e.g., intrafamilial or friend), tumultuous parental dynamics including their relational demise, unwanted sexual experience (e.g., rape, child molestation), exposure to violence (including various abuses, excluding sexual forms), and/or medical trauma (e.g., chronic illness or injury). For each event listed including number 6 listed as "any other major upheaval that you think may have shaped your life or personality significantly," the questionnaire asks that if the event occurred, the age of occurrence. In addition the intensity of the trauma experienced is assessed using a 7-point Likert scale (whereby 1=not at all traumatic, 4=somewhat traumatic, 7=extremely traumatic) and likewise how much did one confide in others was rated on a Likert scale 1-7 (1=not at all, 7=a great deal).

Pennebaker and Susman (1988) claim its utilization to be unstandardized in scoring and adaptable to congruence with ongoing research. That said, there was no previously suggested scoring available. For purposes of this research study, the quantitative data analysis utilized a dichotomy of 1 (yes experienced) or 0 (have not experienced), age of onset (earliest age reported for each event), and a composite score of the total number of

traumatic events experienced and a composite score of the intensity of traumatic events experienced across all six domains.

Post Traumatic Growth. Post-Traumatic Growth was measured with the Post Traumatic Growth Inventory (Tedeschi & Calhoun, 1996). This scale includes various questions assessing potential aspects of growth that could ensue for some post trauma. There are a total of 21 items and the questionnaire utilizes a Likert scale of 0 to 5 (0=I did not experience this change as a result of my crisis, 1=I experienced this change to a very small degree as a result of my crisis, 2=I experienced this change to a small degree as a result of my crisis, 3=I experienced this change to a moderate degree as a result of my crisis, 4=I experienced this change to a great degree as a result of my crisis, 5=I experienced this change to a very great degree as a result of my crisis). The scoring both sums the total with higher scores being greater PTG and lower equating less while additional aspects of this inventory is broken into 5 factors including: (I) relating to others, (II) new possibilities, (III) personal strength, (IV) spiritual change and (V) appreciation of life. In totality, this inventory asked 21 questions (e.g., I changed my priorities about what is important in life, I have a greater feeling of self-reliance, I have a greater sense of closeness with others, I discovered that I'm stronger than I thought I was). According to Tedeschi and Calhoun (1996) the post-traumatic growth inventory shows itself to be beneficial in addressing positive outcomes after trauma.

Empathy. Empathy was measured utilizing the Toronto Empathy Questionnaire (Spreng et al., 2009). This measure is a conglomeration of various unstandardized empathy scales. Spreng and colleagues (2009) sought to cultivate higher homogeneity, whereby upon testing, it appears to be a valid measure with previous testing of this

measure indicating an alpha score of .87. The TEQ has a total of 16 items with ratings of 0-4 on a Likert scale (Never=0, Rarely=1, Sometimes=2, Often=3, Always=4). The range of possible scores would be 0-64 and the scoring is a summed composite score of the total after some items were reversed. Questions address how empathic the respondent (e.g., It upsets me to see someone being treated disrespectfully, I enjoy making other people feel better, I find that I am "in tune" with other people's moods) is and a higher score (toward 64) implies higher empathy.

Intuition. Intuition was measured through the use of the Types of Intuition Scale, which is a valid and reliable measure not only in addressing 3 main constructs of intuition with an additional fourth in including holistic aspects of intuitive processing (Pretz et al., 2014). This survey includes 29 questions with the option to rate on a Likert scale 1-5 (1=Definitely false, 2=Mostly false, 3=Undecided, 4=Mostly true, 5=Definitely true). There is no total composite score but rather sums for each of the four types of intuition: Holistic-Big Picture, Holistic-Abstract, Inferential, and Affective. The range of possible scores for each type of intuition are as follows: Holistic-Big picture (5-25), Holistic-Abstract (3-15), Inferential (12-60), and Affective (9-45).

Results

Due to small sample size (N=28) caution should be used in considering the findings as representative and/or generalizable to a larger population. Despite this limiting factor, correlatory and regression analyses were completed. Some findings were supportive of the initial hypotheses while rejecting the null hypothesis of there being no relationship among

variables; while others were too small to show significance. The analyses were run on three different subgroups in order to adequately explore the data as reported by participants. For instance, the total data (N=28) was split into 'no trauma,' 'trauma' (1 or more exposures) and 'polytrauma' (2 or more exposures). Results of the following analyses are insufficient to claim any causal relationship between variables though might be valuable in suggesting patterns among data for future study.

Data and Preliminary Analyses

In total, twenty-eight (N=28) participants completed questionnaires with twenty-three (*n*=23) reported having experienced one or more traumas (1 to 6 exposures). Sixteen (*n*=16) participants experienced multiple traumatic experiences (as suggested being 2 or more exposures on the Childhood Traumatic Events Scale). The data collected via the Childhood Traumatic Events Scale (Pennebaker & Susman, 1988) incorporates whether the event occurred in a persons life prior to age 17, age it occurred, how traumatic the event was for the respondent and to what degree they confided in others regarding the event (e.g., parental upheaval, sexual abuse, violence) being rated.

Below there are two figures exemplifying the data as reported by participants. The first shown figure reflects the number of participants in sample size of 28 who experienced a given number of traumatic events (e.g., 5 participants report zero exposures, 1 participant reported having experienced all six events). The second figure (Figure 2) reflects the number of participants (n=23) having experienced each specific event (e.g., 15 participants reported experiencing the death of someone close, 9 participants reported experiencing parental upheaval).

Figure 1

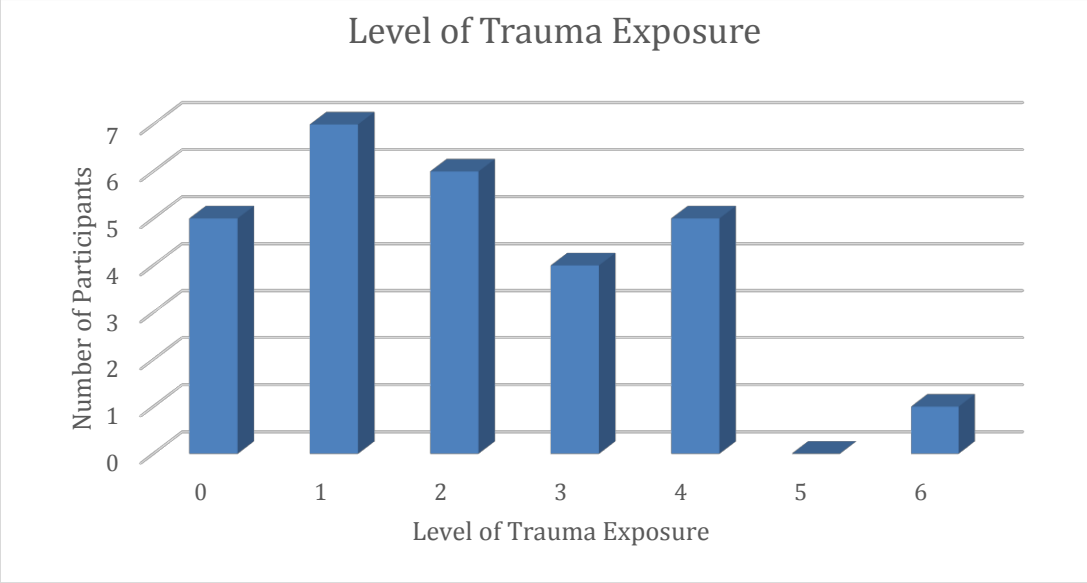


Figure 1. Based upon 23 (n=23) participants having reported trauma history prior to age 17. Values represent total number of traumatic exposures reported by participants.

Figure 2

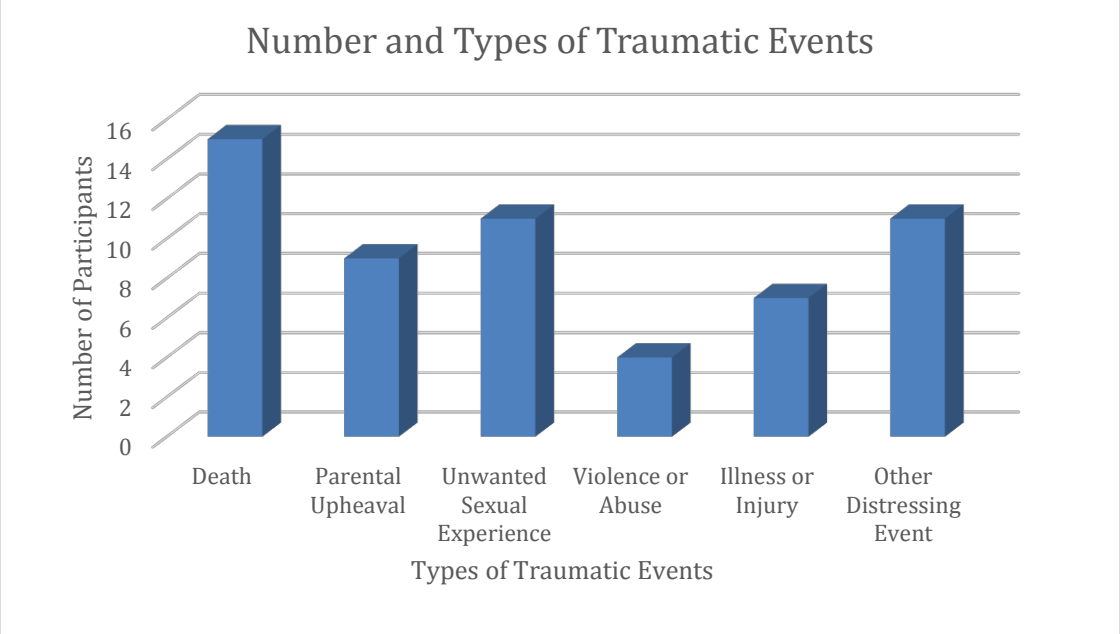
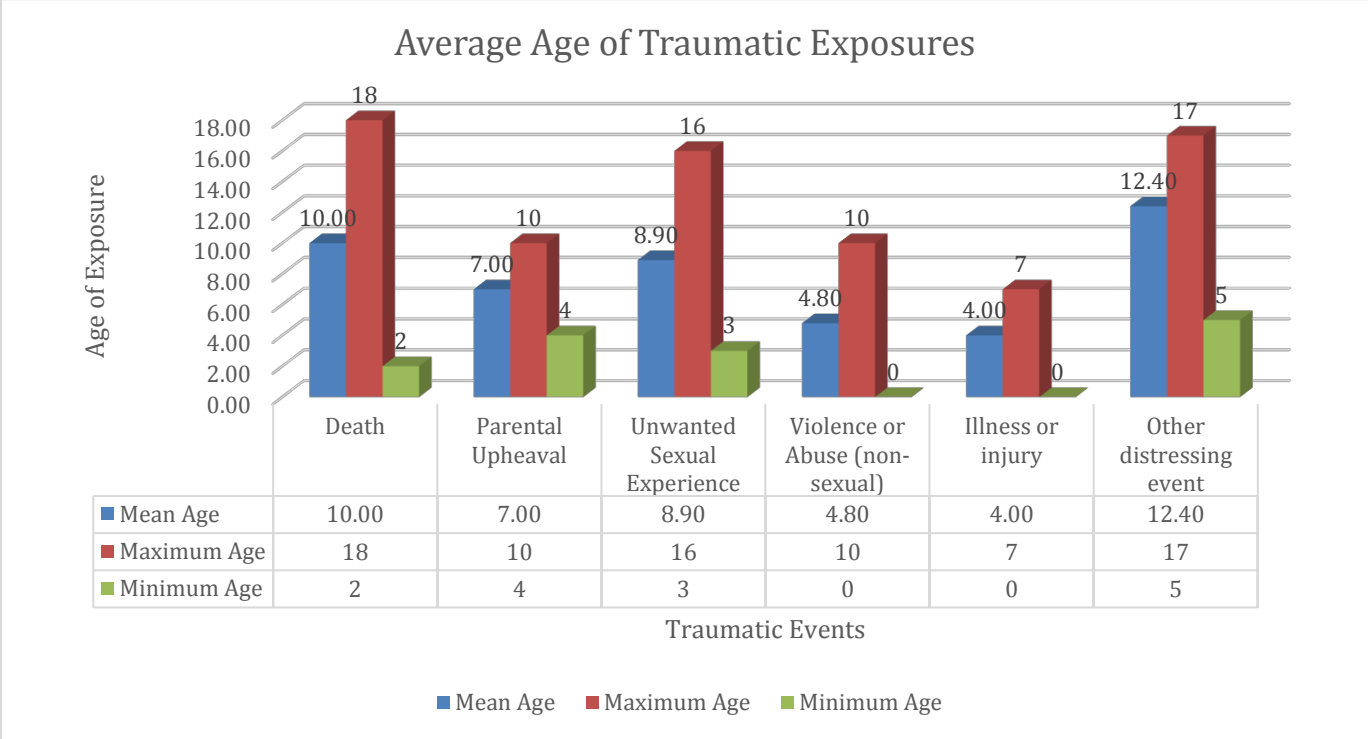


Figure 2. Based upon 23 (n=23) participants having reported trauma history prior to age 17. Additionally, values here are of total number of participants having experienced each specific event. This shows the respondent exposures per distribution of events.

Age is an important factor when addressing traumatic exposures. Particularly delineating between early developmental trauma versus later in life experiences. Data

shown is addressing potential disruptions in developmental years through inquiry of exposures having occurred prior the age of 17 for all participants. Note that one participant having experienced event number one (death or loss of a loved one or close friend) reported this occurrence to have been at age 18. However for purposes of this research this older age was not excluded from analyses and it is not believed that this skewed the data in any way. Mean ages as well as range of ages

Figure 4



*Note: This table expresses the mean age of exposure for each event by number of participants having experienced the specific event (see Figure 3).
*Note: The following distribution of ages is written as # year old (age) and in parentheses the number of participants reported said age for those with multiple (i.e., 5 years old (2 occurrences))
*Note: *age '0' years=infancy*

***Event #1 (n=15, M=10.00)*
Actual ages of trauma survivors were: 2, 3, 5(2), 6(2), 8, 11, 12(2), 14, 16(3), and 18.*
***Event #2 (n=9, M=7.00)*
Actual ages of trauma survivors were: 4(2), 5, 6, 7, and 10(3).
***Event #3 (n=11, M=8.90)*
Actual ages of trauma survivors were: 3, 5(2), 7(2), 8, 9, 10, 13, 15, and 16.
***Event #4 (n=4, M=4.80)*
Actual ages of trauma survivors were: 0(2), 9, and 10.
***Event #5 (n=7, M=4.00)*

Actual ages of trauma survivors were: 0(2), 3, 5, and 7(3).
***Event #6 (n=11, M=12.40)*
Actual ages of trauma survivors were: 5, 8, 9, 10, 15, 16(3), and 17.

Of the twenty-three (n=23) participants who had reported having experienced trauma, it was important to address the collinearity and multicollinearity between the independent variables (Howell, p. 527). This was explored within the construct of traumatic histories prior to the age of 17 years old (*with one participant having reported age of 18 years which was included in all analyses of exposure/intensity as an independent or predictive variable). To address this, correlations were conducted to assess homogeneity and significance levels within the relationships among variables (refer to Table 2).

Figure 5

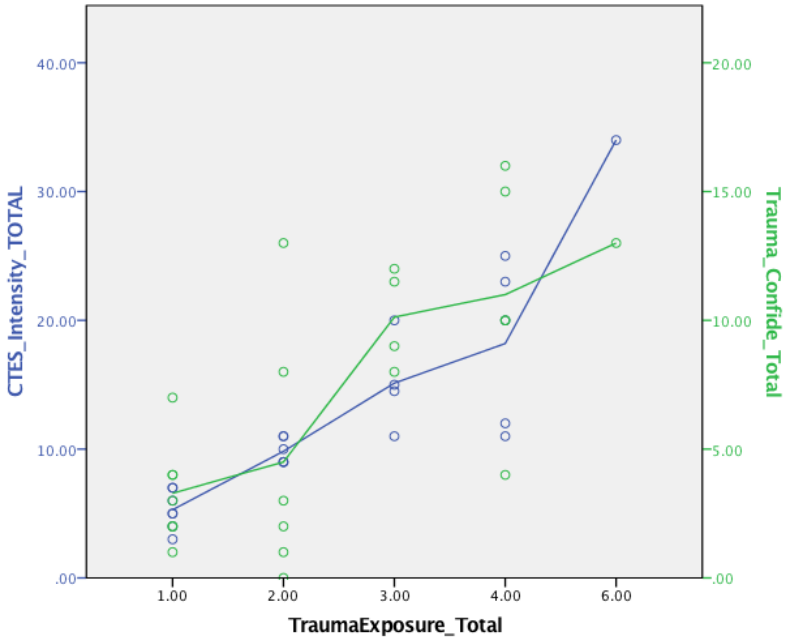


Figure 5.
CTES_Intensity_Total=Level of Intensity or how traumatic the event was
Trauma_Confide_Total=Composite score of the degree participants report having confided in others at the time of trauma
TraumaExposure_Total=Composite summation score of the number of Traumatic events participants experienced
*Graph is based on 23 participants (*n*=23) having reported trauma exposure prior to the age of seventeen (and in one case, 18).

There was a strong correlation between total trauma exposure (0-6) and intensity, r(21)=.895, p<.01. Total trauma and confiding in others is significantly correlated, r(21)=.690, p<.01, as well as confiding and intensity are correlated with significance, r(21)=.553, p<.01. This demonstrates the collinear and homogenous relationship among and between trauma exposure, intensity of trauma and degree to which participants confided in others at the time of the experiences. Please also refer to Figure 5 for an illustration of the correlatory relationship between trauma exposure, intensity and level of confiding.

Correlation: Post-Traumatic Growth

The relationship between post-traumatic growth (PTG) and trauma exposure was analyzed. A correlation assessing collinearity and homoscedasticity among variables was conducted to later utilize PTG as a predictor variable (refer to Table 3). All but one factor of Post-Traumatic Growth of the Post-Traumatic Growth inventory were significantly correlated with exposure to trauma. Post-traumatic growth in total was related to trauma exposure with some significance, r(21)=.499, p<.05. The five factors of PTG were also all strongly correlated with the total PTG score, showing homogeneity within the data.

Table 3

Correlation Between Post-Traumatic Growth and Trauma Exposure

1.Trauma Exposure	2. PTG Total	3. PTG Factor I	4. PTG Factor II	5. PTG Factor III	6. PTG Factor IV	7. PTG Factor V
1	.499*	.436*	.502*	.499*	.229	.506*
2		.944**	.920**	.935**	.695**	.934**
3			.811**	.815**	.636**	.864**
4				.866**	.486**	.817**
5					.616**	.862**
6						.623**
7						

1=Total Trauma Exposure, 2=Post-Traumatic Growth Total score, 3=PTG Factor 1 (Relating to others), 4=PTG Factor II (New Possibilities), 5=PTG Factor III (Personal Strength), 6=PTG Factor IV (Spiritual Change), 7=PTG Factor V (Appreciation of Life)
Based on N=23 participants
* $p \leq .05$, ** $p \leq .01$

The correlation, r(21)=.499, p<.05 is represented below. As can be seen, the composite score of PTG is lower for a single exposure and higher for two to four exposures. A possible

pattern of slight decrease in mean scores for PTG with four or more traumatic exposures is shown, though sample size distribution also factors into this result.

Figure 6

Post-Traumatic Growth

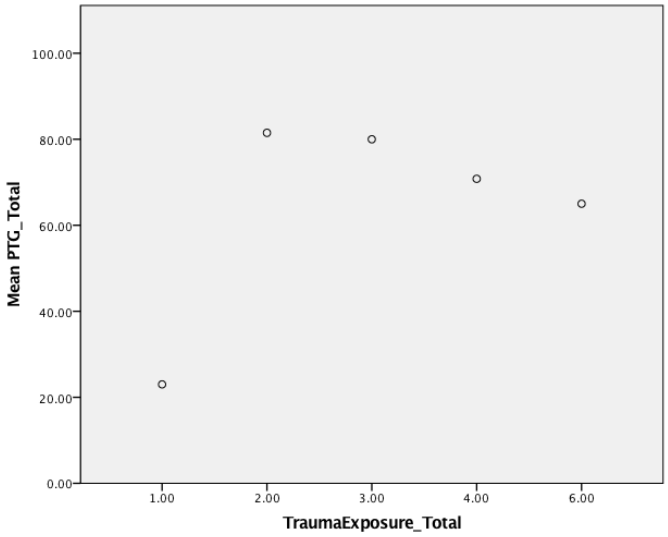


Figure 6. Illustration of the relationship between PTG and mean trauma Scores. *Based on *n=23*

Analyses: Descriptives in Outcome Variables

Data collected included measures on empathy and intuition as outcome variables. As previously stated, subjects were not excluded from participating whether they had experienced trauma or not. As such and congruent with hypotheses of comparing outcomes between groups some analyses were conducted having split the data into trauma (1-6 events experiences) and non-trauma (zero events reported); as well as multiple traumatic experiences entitled "Polytrauma" with data being split by 0-1 (*n*=12) and functioning as the comparison group with 2-6 (*n*=16) being multiple traumatic exposures. The following table illustrates the mean scores and standard deviations of the outcome

variables of post -traumatic growth, empathy and intuition (refer to Table 4) between polytrauma and single/no trauma subgroups.

Table 4
Descriptive Statistics of Outcome Variables

	Polytrauma N=16			**No Trauma/Single Event N=12**		
Measures	Mean (SD)	Min-Max	Range	Mean (SD)	Min-Max	Range
PTG Total	76.75 (14.08)	54-102	48	N/A		
PTG Factor I	23.88 (6.42)	12-33	21	N/A		
PTG Factor II	18.31 (5.11)	8-25	17	N/A		
PTG Factor III	16.44 (2.63)	12-20	8	N/A		
PTG Factor IV	5.75 (3.46)	0-10	10	N/A		
PTG Factor V	12.38 (1.71)	10-15	5	N/A		
Empathy	55.53 (4.57)	47-64	17	53.00 (4.45)	42-58	16
Intuition: HB	17.25 (3.21)	9-22	13	15.33 (2.06)	13-22	8
Intuition: HA	9.94 (2.17)	6-13	7	8.67 (1.83)	6-12	6
Intuition: A	33.75 (5.12)	26-45	19	31.83 (4.11)	24-37	13
Intuition: I	47.59 (2.82)	42-51	9	46.50 (5.05)	39-59	20

*Participants who did not report trauma may have filled out PTG for events outside the scope of this study. Thus, data for PTG in non-trauma category were not utilized or presented.
Illustration based on sample size of 16 having reported >1 traumatic exposure before age 17.

Analyses: Correlation and Regression

Correlatory analyses were conducted with a 95 percent confidence interval. Analyses were completed between groups (trauma or non-trauma; polytrauma or non-trauma/single event) as well as within the entire data set (N=28). As subgroups were formed, the sample size decreased which further constrained the analyses.

The aforementioned means show only minimal difference between trauma and non-trauma/single event groups for outcome measures. However, it yields a potential tendency or pattern, which was explored through subsequent analyses to test the

hypotheses of this study and/or propose a direction for future research with a larger sample size.

In correlating empathy with the types of intuition as scored in the Types of Intuition Scale, there appeared to be two significant findings. There were two main aspects of importance, which can be seen in both subgroups having reported trauma as one event or multiple events (see Table 5). There was a strong correlation in empathy and holistic abstract intuition, $r(14)=.791$, $p<.01$ and between empathy and affective intuition, $r(14)=.593$, $p<.01$ in the polytrauma subgroup. Similarly, this correlation was found to be significant in the trauma exposure subgroup *(n*=23) with resulting relationship of $r(21)=.602$, $p<.01$ for empathy and holistic abstract intuition along with $r(21)=.613$, $p<.01$ for empathy relative to affective intuition.

Table 5
Correlation Between Empathy & Types of Intuition
Polytrauma Subgroup, N=16

	1. Empathy (TEQ)	2. Intuit HB	3. Intuit HA	4. Intuit Infer	5. Intuit Affect
1		-.443	.791**	.284	.593**
2			-.284	-.216	-.077
3				.283	.747**
4					.387
5					
Non-PolyTrauma Group, N=12					
1		.297	.000	.230	.432
2			.516	.777**	-.036
3				.631*	.343
4					.390
5					

Trauma Subgroup, N=23

1	-.151	.602**	.272	.613**
2		.055	.239	.028
3			.436*	.633**
4				.344
5				

Non-Trauma (zero exposures) Group, N=5

1	.638	-.466	.209	-.179
2		.000	.168	-.361
3			.674	.659
4				.708
5				

* $p \leq .05$, ** $p \leq .01$

Due to significance in the relationship between affective empathy and affective intuition, it was of interest to go deeper in the analysis to further explore the relationship between these two variables. A linear regression analysis was conducted to determine significance of empathy as a predictor variable for affective intuition. This utilized the data in the subgroup of trauma exposure *(n*=23). Results can be seen in Table 6 below.

Table 6

Regression Analysis of Empathy as Predictive of Affective Intuition

	B	SE B	β	*t*	*p*
Empathy	.624	.176	.613	3.554	.002
Affect Intuit					

With a p value of .002, the regression analysis exploring empathy as predicting affective intuition is significant. This supports the researching hypothesis of trauma yielding greater potential for intuition compared to persons not having experienced trauma.

Figure 7

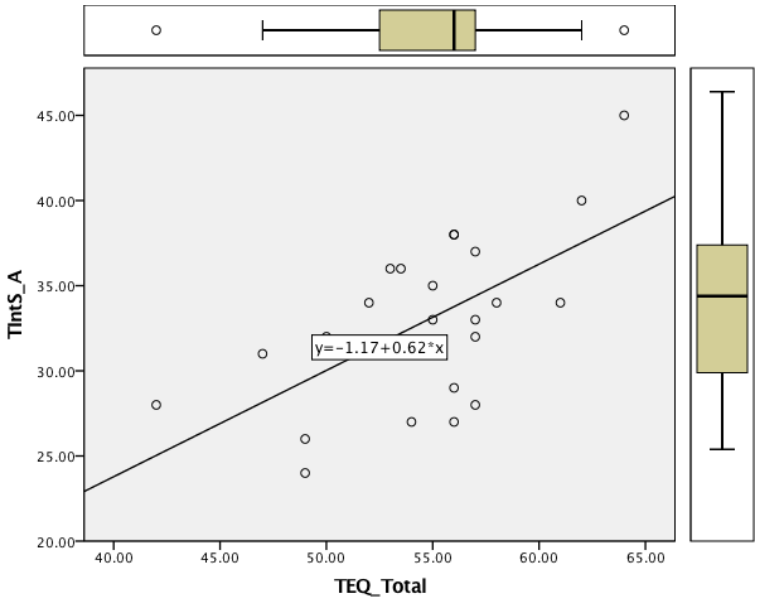


Figure 7. Illustration of regression plot; Empathy as a predictor for Affective type Intuition.

Correlations were used to explore the relationships among variables such as Post-Traumatic growth with the various types of intuition and empathy. None were significant with the exception of Factor 1, relating to others, of the post-traumatic growth (PTG) construct. This was significantly related to Inferential intuition with $r(14)=.621$, $p<.05$ within the polytrauma subgroup while non-trauma (single or zero events experienced) resulted in $r(14)=.015$, $p>.05$, which is not significant. Results can be seen in Table 7.

Table 7

Regression Analysis of Relating to Others as Predictive of Inferential Intuition

	B	SE B	β	*t*	*p*
PTG Relate To Others	.273	.092	.621	2.961	.010
Intuition Inferential					

A correlation was also conducted to explore any potential relationship between the intensity of the traumatic experience with various types of intuition. Findings were limited and insignificant. However, it was possible to take into account both degree of exposure to trauma along with perceived intensity held constant. A multiple regression was run to determine the possibility. Results indicated that Holistic Big Picture type of intuition showed most promise with both independent variables, trauma exposure and intensity, predicting this outcome variable. Set at a 95% confidence interval, resultant regression is as follows (refer to Table 8). The p value is .042, and as such it can be implied that the null hypothesis may be rejected, continuing to support the hypothesis of the interrelatedness of trauma and intuition.

Table 8

Analysis of Intensity of Trauma as Predictor of Holistic Big Picture Intuition

	B	SE B	β	*t*	*p*
Trauma Exposure	2.573	.956	1.151	2.691	.042
Intensity of Trauma	-.380	.173	-.941	-2.199	.042
Intuition Holistic Big Picture					

A simple regression analysis was also conducted to explore predictability of Empathy on Holistic Abstract Intuition with strong significance, p=.000. The results of this analysis are represented in Table 9.

Table 9

Regression Analysis of Empathy on Holistic Abstract Intuition in Polytrauma

	B	SE B	β	*t*	*p*
Empathy	.376	.078	.791	4.841	.000

Sample size (n=16) for the later aforementioned regression analyses was utilizing the Polytrauma subgroup as it compared to the correlation coefficients of non-trauma group. Thus it should be noted that results, significant or not are better understood as tendencies exploring patterns. The trends shown speak to potential means of understanding the relationship between

intuition and trauma, supporting the hypothesis of this study.

Discussion

Interpretation of Results & Analyses

The objective of this study was to address two main questions: whether clinicians with early developmental trauma have greater intuition and empathy compared to clinicians without trauma histories and if clinicians with a complex trauma history have increased intuitive capacity. These two inquiries were addressed through quantitative statistical analyses with extraneous indirect findings for which some are supportive of these hypotheses while other results are not.

With a total sample of twenty-eight (N=28) being small, statistical analyses were difficult to conduct. This is particularly true since there was a within group comparison that inherently decreased the sample sizes dramatically. That said, comparison of means, difference scores there within, simple and multiple regressions, correlations and testing for collinearity were all able to be completed. Significance was found in some domains that offer evidence, which rejects the null and supports the hypotheses that clinicians with trauma histories will have heightened intuition compared to clinicians without complex trauma. However, other tests showed no significance that would have been anticipated that may be attributable to the sample size.

The relationships among the independent variables of trauma exposure, confiding in others and intensity of traumatic experiences were all closely related. Testing for collinearity and homogeneity among those variables was helpful in understanding the data and the relationships between trauma and its component aspects. However, this finding is provocative in nature as quantity of traumatic events experienced showed a strong relationship with confiding in others and increased intensity. Confiding in others could be beneficial but in many

circumstances is retraumatizing due to disbelief or negative non-protective responses to the disclosure. This triune dynamic set the stage for subsequent analyses in this study, such as intensity with the types of intuition and addressing the relationship between empathy and intuition within the subgroups having experienced trauma.

Post-Traumatic Growth was also found to be strongly related to degree of trauma exposure. This is congruent with the literature in many persons having experienced trauma experience post-traumatic growth (Jin, Xu & Liu, 2014; Tedeschi & Calhoun, 2004). A few participants that did not report trauma prior to the age of 17 did fill out the PTG questionnaire and it is unknown what was rated though presumably an event during adulthood. During analyses noted in section 4 of results, utilizing the PTG measure, only data within the sample of 23 participants who reported trauma was included to account for this. It was unanticipated, though that correlations between Post Traumatic Growth as an independent variable did not relate significantly to empathy or to a great deal with types of intuition. This again could be due to small sample size.

Particularly poignant in the data were the significant correlations between empathy and types of intuition within the subgroups having experienced trauma. This supports the hypothesis that clinicians with complex trauma will have heightened intuition and attunement compared to clinicians without early developmental trauma. Empathy scores were associated with Affective intuition as well as with holistic abstract. This supports the hypotheses as clinicians high in emotional awareness might then have greater capacity for empathy and vice versa. This finding is also supportive of Neimeyer (2004) as the process of reconstructing the trauma story might yield increased compassion, which is aligned with the affective formulation of intuition. Regarding neurobiology, brain regions associated with intuition and empathy are similar to those

affected by trauma as previously noted by Marks-Tarlow (2012) and Van der Kolk (2014) through subcortical structures such as the amygdala.

Inferential intuition, as Pretz and colleagues (1995) describes being that of an implicit nature, is correlated significantly with Factor 1 of Post Traumatic Growth, relating to others. This is also supportive of the hypothesis given that interpersonal means of relating might be internalized and manifested through the ability to read others implicitly and at an unconscious level. This finding also supports Van der Kolk's (2014) work as it is earlier written his stating, "we instinctively read the dynamic between two people simply from their tension or relaxation, their postures and tone of voice, their changing facial expressions" (p. 76).

Regression analyses were helpful in exploration of whether variables might serve as predictors for intuition. Significant findings were seen with empathy and trauma exposure/intensity both predicting various types of intuition. In other words, findings suggest that trauma exposure and intensity may together predict Holistic Big Picture intuition. It would be recommended that this be retested for certainty with a larger sample size however. Other predictor tests such as simple regression analyses were conducted showing predictive value for variables such as empathy for Holistic Abstract intuition and Affective intuition types. Resonance through affect is stated in the literature to play a role in implicit aspects of understanding, usually unconsciously (Epstein, 2008). The relationship found in this study between affective intuition and empathy within the subgroup having experienced trauma compared to those that do not have a background containing traumatic exposure supports what is found in the literature to date, regarding right hemispheric activity (Schore, 2001), the social engagement system of the vagus (Porges, 2011) and experience dependent learning (Epstein, 2008; Pretz et al., 2014).

Statistical analyses were conducted that are prototypically intended for a larger sample size. Results show some pattern and trends with significance. This might best open possibilities for further thought and exploration within the topic of the etiology of intuition in clinicians. It can be interpreted from the results that there is some evidence showing a relationship between trauma and post-traumatic growth, empathy and intuition, as well as relating to others with intuition within groups having experienced trauma. These findings validate the hypothesis of trauma impacting the development of intuition in clinicians but further exploration is needed.

Clinical Implications

During the process of intuiting within the therapeutic relationship shifts occur. As the clinician embodies the tension of the client, the potential for both clinician and client to simultaneously grow can become possible. This aspect of tending and befriending through attunement is also helpful and a buffer for negative outcomes (Taylor & Master, 2011). The notion of mirror neuron activation might also yield promise for co-regulation of affect within the therapy room. As the therapist is able to sit with the discomforts that arise and is attuned to the client, likewise the client is attuned to the therapist through activation of the attachment system and ideally, the clinician creating a safe space ultimately fosters repair.

Limitations

There are quite a few limitations to this research study. First, the sample size consists of only twenty-eight participants. Secondly, subsequent analyses require that the sample size be split into subgroups serving to decrease the sample size further. Again, due to a small sample size, analyses incorporating age of traumatic exposures were too difficult to conduct in any

compelling manner. Initially ages were recoded into different variables as early developmental, middle developmental and adolescent to address the variation of impact during stages of growth during childhood, however spread of ages across each event created sample sizes too small to analyze. In addition, age variance is incredibly important, yet impossible to account for in quantitative analysis. For instance, many participants did not report a single age in correspondence with an event. Rather, they wrote multiple ages (e.g., hypothetical subject #01 may have written 0-4 range for event number 3, 6 and 8 for event 5). Complex trauma is complicated due to its chronicity and duration being repetitive exposures. Thus, accounting for age ranges and multiple experiences within each event construct would be important. Due to the confines of this study, it was out of the scope to address this. Another concern is that the Childhood Traumatic Events Scale asks whether each event occurred which a respondent would state yes or no, however frequency is not addressed. Again, etiology of complex trauma versus non-complex trauma is encapsulated in the trauma being chronic versus acute and it may be helpful to address this in data collection. One single event, which was removed from the polytrauma analyses may or may not be an acute event which may or may not impact subsequent intensity. These details cannot be inferred since the questionnaire was used for quantitative methodology.

The timing of data collection may have impacted respondent's answers as well as having a sample which includes a majority of therapists in training with a lesser percentage of practicing therapists in the field. Experience level may contribute to the findings however analyses were not conducted to address this potential skew.

Empathy is a construct that many clinicians possess with or without trauma. When the empathy questionnaire scores were recoded into high empathy, somewhat high, somewhat low

and low empathy scores, every participant scored high or somewhat high. Thus there was insufficient difference between those with or without trauma histories and subsequently impacted correlatory analyses attempting to show a relationship between empathy and outcome scores. It is possible that the population being addressed in particular are inherently holding the quality of empathy and will not then be related to other variables being analyzed.

Future Research

It is suggested that a mixed methods descriptive study be conducted to more holistically address the questions proposed in this research. It may be reductionistic to encapsulate complex traumatic narratives in a quantitative manner and honoring the complexity within early developmental trauma may necessitate some qualitative methodology in conjunction with quantitative. Mixed methods to address the research questions with a balance of qualitative to address trauma narratives, age and frequencies coinciding quantitative outcome measures may have a harmonious synergistic effect in more adequately addressing intuition as it does or does not relate to trauma.

It is also recommended that a larger sample size from (a) more dynamic range of clinicians' experience level and/or (b) collective of people some being clinicians and others not clinicians.

Data collected in this study shows potential with significant correlations between empathy and intuition, an aspect of Post Traumatic Growth and intuition, and trauma with one type of intuition. Any or all of these show promise in predictive value and support for the hypothesis of there being a relationship between trauma and intuition in clinicians. Adding variety to the sample and growing said sample may be two ways of expanding what preliminary

ideas might be cultivated here.

In a future study, the aspect of confiding in others should be addressed. For instance, the qualitative nature of confiding needs to be examined. Social affiliation may be a buffer and yield post-traumatic growth, however in many cases disclosures yield further trauma, increasing the inherent complexity of complex trauma. The finding in this study is provocative and would need to be addressed in a future study.

Appendix

Appendix A: Childhood Traumatic Events Scale (CTES)

Childhood Traumatic Events Scale

For the following questions, answer each item that is relevant. Be as honest as you can. Each question refers to any event that you may have experienced prior to the age of 17.

1. Prior to the age of 17, did you experience a death of a very close friend or family member?_____
   If yes, how old were you?_____

   If yes, how traumatic was this? (using a 7-point scale, where 1 = not at all traumatic, 4 = somewhat traumatic, 7 = extremely traumatic)_____

   If yes, how much did you confide in others about this traumatic experience at the time? (1 = not at all, 7 = a great deal)_____

2. Prior to the age of 17, was there a major upheaval between your parents (such as divorce, separation)?_____ If yes, how old were you?_____

   If yes, how traumatic was this? (where 7 = extremely traumatic)_____

   If yes, how much did you confide in others? (7 = a great deal)_____

3. Prior to the age of 17, did you have a traumatic sexual experience (raped, molested, etc.)?_____

   If yes, how old were you?_____

   If yes, how traumatic was this? (7 = extremely traumatic)_____

   If yes, how much did you confide in others? (7 = a great deal)_____

4. Prior to the age of 17, were you the victim of violence (child abuse, mugged or assaulted -- other than sexual)?_____ If yes, how old were you?_____

   If yes, how traumatic was this? (7 = extremely traumatic)_____

   If yes, how much did you confide in others? (7 = a great deal)_____

5. Prior to the age of 17, were you extremely ill or injured?_____

   If yes, how old were you?_____

   If yes, how traumatic was this? (7 = extremely traumatic)_____

   If yes, how much did you confide in others? (7 = a great deal)_____

6. Prior to the age of 17, did you experience any other major upheaval that you think may have shaped your life or personality significantly?_____

   If yes, how old were you?_____

If yes, what was the event?_____

If yes, how traumatic was this? (7 = extremely traumatic)_____

If yes, how much did you confide in others? (7 = a great deal)_____

Appendix B: Post Traumatic Growth Inventory (PTGI)

Post Traumatic Growth Inventory

Client Name:_____ Today's Date:_____

Indicate for each of the statements below the degree to which this change occurred in your life as a result of the crisis/disaster, using the following scale.

0 = I did not experience this change as a result of my crisis.
1 = I experienced this change to a very small degree as a result of my crisis.
2 = I experienced this change to a small degree as a result of my crisis.
3 = I experienced this change to a moderate degree as a result of my crisis.
4 = I experienced this change to a great degree as a result of my crisis.
5 = I experienced this change to a very great degree as a result of my crisis.

Possible Areas of Growth and Change	0	1	2	3	4	5
1. I changed my priorities about what is important in life.						
2. I have a greater appreciation for the value of my own life.						
3. I developed new interests.						
4. I have a greater feeling of self-reliance.						
5. I have a better understanding of spiritual matters.						
6. I more clearly see that I can count on people in times of trouble.						
7. I established a new path for my life.						
8. I have a greater sense of closeness with others.						
9. I am more willing to express my emotions.						
10. I know better that I can handle difficulties.						
11. I am able to do better things with my life.						
12. I am better able to accept the way things work out.						
13. I can better appreciate each day.						
14. New opportunities are available which wouldn't have been otherwise.						
15. I have more compassion for others.						
16. I put more effort into my relationships.						
17. I am more likely to try to change things which need changing.						
18. I have a stronger religious faith.						
19. I discovered that I'm stronger than I thought I was.						
20. I learned a great deal about how wonderful people are.						
21. I better accept needing others.						

Appendix C: Toronto Empathy Questionnaire (TEQ)

Toronto Empathy Questionnaire

Below is a list of statements. Please read each statement *carefully* and rate how frequently you feel or act in the manner described. Circle your answer on the response form. There are no right or wrong answers or trick questions. Please answer each question as honestly as you can.

Never = 0; Rarely = 1; Sometimes = 2; Often = 3; Always = 4

1. When someone else is feeling excited, I tend to get excited too
2. Other people's misfortunes do not disturb me a great deal
3. It upsets me to see someone being treated disrespectfully
4. I remain unaffected when someone close to me is happy
5. I enjoy making other people feel better
6. I have tender, concerned feelings for people less fortunate than me
7. When a friend starts to talk about his\her problems, I try to steer the conversation towards something else
8. I can tell when others are sad even when they do not say anything
9. I find that I am "in tune" with other people's moods
10. I do not feel sympathy for people who cause their own serious illnesses
11. I become irritated when someone cries
12. I am not really interested in how other people feel
13. I get a strong urge to help when I see someone who is upset
14. When I see someone being treated unfairly, I do not feel very much pity for them
15. I find it silly for people to cry out of happiness
16. When I see someone being taken advantage of, I feel kind of protective towards him\her

Appendix D: Types of Intuition Scale (ToIS)

Types of Intuition Scale

We are interested in how you make decisions and solve problems in your life. Read each of the following statements and rate the extent to which you would agree that that statement is true of you using the scale below. These items have no right or wrong answers; just respond based on what is true for you.

1 (Definitely False) 2 (Mostly False) 3 (Undecided) 4 (Mostly True) 5 (Definitely True)

_____ 1. When tackling a new project, I concentrate on big ideas rather than the details.
_____ 2. I trust my intuitions, especially in familiar situations.
_____ 3. I prefer to use my emotional hunches to deal with a problem, rather than thinking about it.
_____ 4. Familiar problems can often be solved intuitively.
_____ 5. It is better to break a problem into parts than to focus on the big picture.
_____ 6. There is a logical justification for most of my intuitive judgments.
_____ 7. I rarely allow my emotional reactions to override logic.
_____ 8. My approach to problem solving relies heavily on my past experience.
_____ 9. I tend to use my heart as a guide for my actions.
_____ 10. My intuitions come to me very quickly.
_____ 11. I would rather think in terms of theories than facts.
_____ 12. My intuitions are based on my experience.
_____ 13. I often make decisions based on my gut feelings, even when the decision is contrary to objective information.
_____ 14. When working on a complex problem or decision I tend to focus on the details and lose sight of the big picture.
_____ 15. When making decisions, I value my feelings and hunches just as much as I value facts.
_____ 16. I believe in trusting my hunches.
_____ 17. When I have experience or knowledge about a problem, I trust my intuitions.
_____ 18. I prefer concrete facts over abstract theories.
_____ 19. When making a quick decision in my area of expertise, I can justify the decision logically.
_____ 20. I generally don't depend on my feelings to help me make decisions.
_____ 21. I've had enough experience to know what I need to do most of the time without trying to figure it out from scratch every time.
_____ 22. If I have to, I can usually give reasons for my intuitions.
_____ 23. I prefer to follow my head rather than my heart.
_____ 24. I enjoy thinking in abstract terms.
_____ 25. I rarely trust my intuition in my area of expertise.
_____ 26. I try to keep in mind the big picture when working on a complex problem.
_____ 27. When I make intuitive decisions, I can usually explain the logic behind my decision.
_____ 28. It is foolish to base important decisions on feelings.
_____ 29. I am a "big picture" person.

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VITA

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EDUCATION

M.A. Marriage & Family Therapy, Syracuse University, Syracuse, NY **Expected August 2016**
GPA 3.9
900+ therapy hours, 200+ supervision hours

C.A.S. Trauma-Informed Practice, Syracuse University, Syracuse, NY **May 2016**

B.A. Psychology, Syracuse University, Syracuse, NY **May 2014**
Magna Cum Laude, GPA 3.8, Dean's List, Phi Kappa Phi, Honors

PROFESSIONAL EXPERIENCE

Couple and Family Therapy Center **August 2016 to Present**
Clinic Assistant

- Conduct preliminary intake interview with potential clients seeking services
- Welcome current clients as they arrive
- Alert therapists to client arrivals
- Assist students as needed

Vera House/McMahon Ryan Child Advocacy **May 2015 to May 2016**
Marriage and Family Therapist Intern

- Supervised by Carrie Land-Steves, LMFT (Primary supervisor) and Ellen Ford, LCSW-R
- Working with individuals (child, adolescent and adult), families and couples
- Serving clients that have experienced traumas including sexual assault (SA), domestic violence (DV) and/or child sexual abuse (CSA)
- Practicing Systems Theory
- Eclectic and Client Centered/Humanistic approaches
- Theoretical frameworks include: Trauma-Informed, Attachment, Experiential, Narrative, Bowen and Strength-Based
- Models of intervention include: Dyadic Developmental Psychotherapy (DDP), Attachment-Focused Family Therapy, Somatic Experiencing (SE), Trauma-Resiliency Model (TRM), Internal Family Systems (IFS) and Emotionally Focused Couples Therapy (EFT)
- Work is influenced by the Collaborative Change Model (CCM) to safety and containment for clients during sessions
- Practice rooted in beliefs around strong intersectionality between trauma and spirituality

Couple and Family Therapy Center **January 2015 to January 2016**
MFT Student Therapist

- Supervised by Dyane Watson, Ph.D.
- Work with diverse individuals, couples and families in a therapeutic setting

- Conduct therapy in a systemic manner using a variety of treatment techniques and approaches
- Practice grounded in Systems Theory
- Eclectic and Client Centered/Humanistic approaches
- Theoretical frameworks include: Trauma-Informed, Attachment, Experiential, Narrative, Bowen and Strength-Based
- Models of intervention include: Dyadic Developmental Psychotherapy (DDP), Attachment-Focused Family Therapy, Somatic Experiencing (SE), Trauma-Resiliency Model (TRM), Internal Family Systems (IFS) and Emotionally Focused couples Therapy (EFT)
- Work is influenced by the Collaborative Change Model (CCM) to create safety and containment for clients during sessions
- Practice rooted in beliefs around strong intersectionality between trauma and spirituality

Couple and Family Therapy Center **February 2015 to January 2016**
MFT Student Therapist

- Co-therapist with Lisa Tedeschi, LMFT
- Mentored and supervised by Lisa in attachment-based psychotherapy using Dyadic Developmental Psychotherapy
- Serving two families with children diagnosed with reactive attachment disorder (RAD) for attachment based therapeutic intervention
- Participating in weekly team meetings with to debrief and process the sessions that occurred

Trauma Resource Institute
Trainer in Training **March 2015 to Present**

- Trainer for the Trauma Resiliency Model

Community Resiliency Model Trainer

- Co-presented at various agencies such as Vera House, Catholic Charities, Headstart & Oncare

Trauma Resiliency Model (TRM) Facilitator **July 2013 to Present**

- Facilitate breakout groups at training conferences for TRM
- Direct practitioners in utilizing skills in mock clinician/client dyads
- Monitor trainees responses and report successes and concerns during consultation and supervision

Community Resiliency Model (CRM) Facilitator

- Facilitate breakout groups at trainings for CRM
- Direct practice sessions between guide and persons receiving skills
- Assist in understanding of the skills and application both for self-care and for client work

Teaching Assistant/Presenter Assistant **January 2016**
Bessel Van der Kolk, M.D. and Licia Sky
The Body Keeps The Score; trauma training conference

- Assisted Dr. Van der Kolk and Ms. Sky both prior to, during and after presentations/workshops
- Welcomed participants
- Answered any questions/concerns of participants
- Extended emotional support for participants as needed
- Participated in debriefing/processing with Dr. Van der Kolk, Ms. Sky and 3 other TA's following workshop
- Invited to assist Dr. Van der Kolk and Ms. Sky in upcoming trainings both at Kripalu and at the Garrison Institute; date TBD late spring/summer 2016

Teaching Assistant **August 2014-December 2014**
Dessa Bergen-Cico, Ph.D.
Syracuse University, Department of Public Health
Dynamics of Addiction: Alcohol, Other Drugs, Sex and Gambling

Vera House **January 2013 to August 2014**
Facilitator

- Planned programs prior to scheduled classes for the Alternatives Program
- Co-facilitated Domestic Violence classes for perpetrators of Domestic Violence
- Helped clients understand underlying thought patterns that motivate deviant behavior
- Taught the abuse cycle that is predictable in relationships
- Offered alternate coping mechanisms to prevent further violence

Vera House
Intern **August 2012- January 2013**

- Responded to risis calls with victims
- Attended clinical intake meetings
- Shadowed Domestic Violence education groups for victims of domestic violence
- Co-facilitated Domestic Violence Education classes for perpetrators of Domestic Violence
- Planed and developed programs
- Assisted in orientations for entrance into Alternatives and Step programs
- Assisted the Alternatives Coordinator during Probation and Parole meetings to advocate on behalf of clients

Women's Information Center **October 2012 –February 2013**

- Facilitated a weekly trauma informed group utilizing the skills of the Trauma Resiliency Model
- Provided individual consultation as needed

Hutchings Psychiatric Center, Syracuse, NY
Intern **June 2012 - January 2013**

- Co-lead and facilitated recovery based support groups
- Attended daily treatment team meetings with providers
- Headed up a project on Dialectical Behavioral Therapy skills training for patients
- Assisted with monitoring the daily activities of individual patients
- Offered one-on-one support to individual patients as needed

Onondaga Community College
Academic Tutor
Fall 2010
Tutored students in various Psychology, Sociology and Philosophy classes through the academic support center

PUBLICATION

Bergen-Cico, D., Wolf-Stanton, S., Filipovic, R. & Weisman, J., (2015). Trauma and neurological risks of addiction. In Victor Preedy (Ed.) *The Neuropathology of Drug Addictions And Substance Misuse.* Volume 3. Philadelphia, Academic Press.

RESEARCH EXPERIENCE

Mental Health **July 2016 to Present**

- Research Assistant for Linda Stone Fish, Ph.D. on grant-funded In This Together Study
- Data entry
- Scoring inventories
- Preliminary data analysis

National Science Foundation Student Research Fellow **2014**

Training Veterans to Conduct Trauma Research with Fellow Veterans (REU #1063014)
Syracuse University, SUNY Upstate Medical Center, SUNY Oswego

- Examined the physiological, clinical, cognitive, and family factors associated with various trauma outcomes in Veterans
- Nominated to represent 2014 NSF cohort in Washington D.C. (Fall, 2014)

Clinical Health Psychology **January 2014 to October 2014**

- Research Assistant under the guidance of Brooks Gump, Ph.D.
- Analyzed heart rate variability data in his current lead study
- Trained in Heart Rate Variability data collection processes
- Secondary data analysis correlating children's exposure to violence with physiological alterations in response to stress
- Presented poster on aforementioned children's exposure to violence at NSF conference in Washington D.C., Fall 2014
- Developed an intervention study under the guidance of Dr. Brooks Gump, Dr. Corey White and Dr. Dessa Bergen-Cico utilizing a somatic approach called the Trauma Resiliency model to decrease PTSD symptoms in veteran populations

Clinical Health Psychology **January 2014 to June 2014**

- Research Assistant under the guidance of Randall Jorgensen, Ph.D. investigating the validity of an anger scale
- Collected data
- Coordinated efforts of other RA's
- Assisted in various preparation efforts

Clinical Health Psychology **June 2013 to January 2014**

- Research Assistant under the guidance of Randall Jorgensen, Ph.D. on a pilot study on facial emotion recognition
- Processed participants
- Collected data
- Entered data
- Conducted literature searches

Clinical Health Psychology **December 2012 to September 2014**

- Assisted in various tasks as needed
- Student Research Assistant at the VA on a Web-based CBT project to decrease PTSD and SUD symptoms in OEF/OIF Veterans
- Entered and coded data
- Recruited Veterans and collected data from collaterals

- Follow-up interviews with Veterans
- Attended baseline interviews
- Assisted Kyle Possemato, Ph.D. in preparing a paper for publishing
- Assisted Kyle Possemato, Ph.D. in other research studies such as PTSD coach and MBSR intervention study

Social Psychology **February 2013 to January 2014**

- Research Assistant in a Psychophysiology lab under Richard Gramzow, Ph.D.
- Analyzed previously collected data from participants
- Developed a study on the freeze response in humans and the effect of social engagement
- Presented data on Narcissism at a Psychology Poster Session through the Psychology Department at S.U. and won an award

Cognitive Neuroscience **January 2012 to November 2012**

- Maintained the lab apparati and various equipment
- Conducted olfactory habituation experiments with CD1 mice.
- Worked closely under Catherine Cornwell, Ph.D. as well as fellow lab technicians.
- Provided training for a student in the PRIDE program over the summer.
- Presented results at a Psychology Poster Session through the Psychology Department at S.U. and won award for work
- Attended weekly lab meetings with Dr. Cornwell

TRAINING

2016

- The Body Keeps the Score trauma conference at Kripalu Yoga Institute with Bessel Van der Kolk, M.D. and Licia Sky
- Master Class Level II with Arthur Becker-Weidman in Attachment and Dyadic Developmental Psychotherapy (DDP)---12 two hour increments with total of 24 training hours
- Monthly consultation meetings in the Trauma Resiliency Model through Bill Cross, Ph.D. and Randy Imhoff, LMFT
- Monthly case consultation meetings with Dave Keith, M.D.
- Weekly seminar taught by Dave Keith, M.D. through Upstate Psychiatry

2015

- Master Class Level I with Arthur Becker-Weidman in Attachment and Dyadic Developmental Psychotherapy (DDP)— 12 two hour increments with total of 24 training hours
- Monthly case consultation meetings with Dave Keith, M.D.
- PESI online web training in Emotionally Focused Couples Therapy (EFT) with Susan Johnson
- NICAMB online trauma course
- Monthly consultation meetings in the Trauma Resiliency Model through Bill Cross, Ph.D. and Randy Imhoff, LMFT

2014

- Dan Siegel, M.D. 6.5 hour lecture on Mindsight and Interpersonal Neurobiology
- Mindsight three day intensive training with Dan Siegel, M.D.
- National Science Foundation REU course, mentored by Brooks Gump, Ph.D. and Dessa Bergen-Cico, Ph.D.

- Monthly consultation meetings in the Trauma Resiliency Model through Bill Cross, Ph.D. and Randy Imhoff, LMFT

2013

- Trauma Resiliency Model Level 2 training through Elaine Miller-Karas, LCSW; 18 Training hours
- Trauma Resiliency Model training through the Trauma Resource Institute as an 8-week class taught by Bill Cross, Ph.D.

2012

- Mindfulness Based Stress Reduction Classes taught by Bill Cross, Ph.D.
- Trauma Resiliency Model Level 1 training through Elaine Miller-Karas, LCSW; 18 training hours
- Somatic Experiencing Conference under Steve Hoskinson, Ph.D.

PRESENTATIONS

2015

- Co-presented at Office of Victims Services on Secondary Traumatic Stress
- Co-presented at Office of Victims Services on Vicarious traumatization
- Presented TRM at local chapter meeting of AAMFT

2014-2015

- Participated in trainings with colleagues at local Syracuse agencies teaching CRM/TRM skills

2013

- Co-presented at Trauma Task Force Trauma-Informed Care conference on CRM/TRM

AWARDS

- Allport Scholar Award for Excellence in Research, *Syracuse University 2014*
- Award for Excellence in Applied Psychology, *Syracuse University 2014*
- Member of Honor Society of Phi Kappa Phi, *Syracuse University*
- Member of the National Society of Collegiate Scholars, 2014
- Dean's List for academic achievement, *Syracuse University*, 2012-2014

COMMUNITY INVOLVEMENT

- Elected student representative for the local chapter of AAMFT: March 2016 to Present
- Trained various Syracuse community agencies Community Resiliency Model (CRM): 2014 to Present
- Board member for the Clean Slate Diaries, Domestic Violence and Sexual Assault awareness campaign: September 2012- April 2013
    - Involved in organization of an annual event
    - Solicited sponsors for the Clean Slate Diaries annual event
    - Attended monthly board meetings
- Member of the Syracuse Trauma Task Force: 2013
    - Participated in community outreach projects to advocate trauma informed care
    - Attended monthly meetings
    - Co-presented with Bill Cross, PhD the Trauma Resiliency skills and the biological aspects of the effects of trauma at a local Trauma Informed Care conference: 2013