The Power of Words: The Relationship Between Emotional Imagery, Depression, and Anxiety Indices in Child Holocaust Survivor Narratives

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Abstract

This paper describes a research project that studied the narratives of child Holocaust survivors and the relationship between referential activity (RA), distinctive circumstances of their survivorship, as well as narrative-derived indices of anxiety, depression, and related clinical characteristics. Childhood trauma, as studied outside the specific context of the Holocaust, has been found to impact individuals in a variety of ways, resulting in outcomes during adolescence and adulthood associated with PTSD, depression, and anxiety. RA takes into consideration the referential linking function, or a way by which nonverbal inner experience, including emotional experience and imagery, is connected to language. This research project studied how one's level of RA in a traumatic event narrative, drawn from a project interviewing child Holocaust survivors (3.5-6 decades in retrospect), relates to the outcome of depression or anxiety symptoms, and how that is moderated by a number of factors, including demographics and wartime specifics. Results found a positive relationship between RA and anxiety, with the relationship moderated by gender, circumstances, and separation from parents.

Keywords: Holocaust, childhood trauma, depression, anxiety, referential activity

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Holocaust survivors represent a unique group of people who experienced a collective trauma during a specific time period; the trauma endured was shared yet individualized, with each survivor part of a collective horror of human history but with their own singular experience and interpretation of the circumstances and events they personally survived (Yehuda et al., 1994). The psychological impact on survivors has been well documented in a number of different clinical cases and research studies (Yehuda et al., 2001; Shmotkin et al., 2003). Psychiatrists working with survivors in the immediate aftermath of the war coined the term "konzentrationlager-syndrome," which translates from German to "concentration camp syndrome," in an effort to categorize the symptomology they were seeing in a time before post-traumatic stress disorder (PTSD) was an official diagnosis (Sharon et al., 2009). Many research studies have shown evidence of PTSD, depression, and other psychiatric diagnoses and symptoms in Holocaust survivors (Sharon et al., 2009; Yehuda et al., 1994).

It has been suggested that classifying a diagnosis does not truly capture the quality and nature of the post-traumatic symptoms that Holocaust survivors have experienced (Shmotkin & Barilan, 2002). In one sample of survivors, 46% were found to meet criteria for PTSD, with an almost-universal endorsement of sleep disturbances including Holocaust-related nightmares (Kuch & Cox, 1992). Other related symptomology included: avoidance of reminders of their experience, diminished interest in daily living, intrusive recollections, difficulty concentrating, irritability, and hypervigilance. While the vast majority of individuals presenting with PTSD are diagnosed in a clinical setting, symptoms have also been found in non-clinical populations of

survivors (Shmotkin et al., 2003). This includes higher levels of emotional distress and lower levels of subjective well-being (Shmotkin et al., 2003).

While every survivor of the Holocaust undoubtedly experienced at least one event that elicited a traumatic reaction, the circumstances and experience of each individual survivor are vastly different (Suleiman, 2002). Major research studies focused particularly on survivors of concentration and death camps, but there is an additional body of research that examines the effects of other situations, such as hiding and living under an assumed identity (Lev-Wiesel & Amir, 2000; van der Hal-Van Raalte, van IJzendoorn, & Bakermans-Kranenburg, 2008; Yehuda et al., 1997). Some of the stressors of hiding include the loss of family and social supports as well as constant vigilance for danger and being discovered (Yehuda et al., 1997). Those in hiding also could have endured similar physical conditions as those in the camps, such as starvation and exposure to the elements, which also have psychological correlates that continue past the end of the war (Yehuda et al., 1997).

Studies of child survivors of the Holocaust show similar outcomes to adult survivors. One study examining levels of cortisol in over 200 adults, all of whom were child survivors, found that the youngest male group (those born between 1941-1944) had higher levels of cortisol than the other survivor groups (males born before 1941 and all females) (van der Hal-Van Raalte, Bakermans-Kranenburg & van IJzendoorn, 2008). Additionally, this same study found that male respondents who suffered from PTSD-related symptoms had elevated cortisol levels compared to those who did not endorse symptomology (van der Hal-Van Raalte et al., 2008). These results were found in child survivors, most of who survived multiple stressors without the psychological capacity that adults have developed, and often without parental support (Yehuda et al., 1997). In one study of child survivors, there was a strong association between depression and parental loss,

particularly the loss of both parents during the wartime years (van der Hal-Van Raalte, Bakermans-Kranenburg, & van IJzendoorn, 2008).

The National Association of Jewish Child Holocaust Survivors (NAHOS) defines child survivors as "those who were children or teenagers during 1938-1945" (Suleiman, 2002; van der Hal-Van Raalte, van IJzendoorn, & Bakermans-Kranenburg, 2008). Suleiman (2002) speaks of a "1.5 generation," where the individuals were alive during the time period of persecution, but were not in a position to necessarily comprehend or make decisions about their circumstances. Child survivors are then broken down into three groups: 1) infancy to 3-years-old, who are too young to remember; 2) children aged 4 to 10-years-old, who remember but may not understand; and 3) adolescents aged 11 to 14, who are old enough to understand but not old enough to be responsible for their actions or reactions (Suleiman, 2002). The International Study of the Persecution of Children (ISOPC) division of Child Development Research (CDR) classified children as individuals under the age of twelve at the point of occupation of the country in which the child resided (Bass-Wichelhaus, 2017).

Children have experienced violence and persecution in other places and times besides the Holocaust. The term "genocide" was officially legally defined by the United Nations (1948) Convention on the Prevention and Punishment of the Crime of Genocide as:

> any of the following acts committed with intent to destroy, in whole or in part, a national, ethnical, racial or religious group, as such: (a) killing members of the group; (b) causing serious bodily or mental harm to members of the group; (c) deliberately inflicting on the group conditions of life calculated to bring about its physical destruction in whole or in part; (d) imposing measures intended to prevent births within the group; (e) forcibly transferring children of the group to another group. (p. 1)

Since that definition was proposed, other mass persecutions and murder were classified as genocides, including those in Armenia, Cambodia, Yugoslavia, and Rwanda (Lindert et al., 2017; Neugebauer et al., 2009). In recent years, children across the world have been forced to leave their homes and seek asylum elsewhere, due to violence, wars, and armed conflict (Song, 2021). Many of these children have witnessed or been victims of interpersonal violence, with a vast majority ending up separated from their parents and support systems (Dyregrov et al., 2000). Child refugees from Syria, living in Turkey at the time of the research study, had increased levels of emotional and behavioral difficulties, which were dependent on their parents' stress and post-traumatic symptoms (Eruyar et al., 2018).

The Wide-Ranging Effects of Childhood Trauma

Research has shown a wide variety of effects of trauma in childhood; first, the age of the victim at the time of the traumatic exposure is indicative of long-term consequences (Alistic et al., 2014; Ballard et al., 2015; Lev-Wisel and Amir, 2000). Trauma may alter the development of children and adolescents, and this could result in long-term effects that continue into adulthood (Dunn et al., 2017; Mandelli et al, 2015). Childhood trauma can lead to changes in brain development, which can result in both behavior problems and psychiatric symptoms (Ballard et al., 2015). A large body of research has looked at what effect trauma has on the developing brain. Those who experienced childhood adversities showed clear reduction in grey matter volume in the cerebellum compared to a control group (Walsh et al., 2014). In this study, Walsh et al. (2014) also found lower grey matter volume in the para-hippocampal region, which they believe was associated with a neuroendophenotype risk for the development of mental illness by adolescence. Research into non-human primates has also found reduction in protein production in the same hippocampal regions after unpredictable maternal care, which researchers believe

may reduce the capacity for maintaining emotional memory (Fulton et al., 2021). Children exposed to traumatic stressors are shown to have poorer school performance, lower reading achievement, and decreased verbal IQ scores (Carrion & Wong, 2012; Enlow et al., 2012). Additionally, adults with a history of adverse childhood experiences (ACEs) are at higher risk for depression, suicidality, and substance abuse (Carrion & Wong, 2012).

PTSD and depressive disorders are the most commonly associated diagnostic categories studied in conjunction with trauma (Alistic et al., 2014; Mandelli et al., 2015). Results are inconclusive as to what percentage of children exposed to traumatic events later develop PTSD (Alisic et al., 2014). In one analysis, fewer than a quarter of children who were treated for trauma-related difficulties at the National Child Traumatic Stress Network met criteria for a PTSD diagnosis (D'Andrea et al., 2012). While there are a variety of different correlates that increase the chance of PTSD or other clinical diagnosis, simply having been exposed to a wider scope of "victimization" is influential in the development of symptoms across many different diagnoses (D'Andrea et al., 2012; Finkelhor et al., 2009).

In a review of studies that analyzed rates of PTSD in children and adolescents who have experienced trauma, Alistic et al. (2014) found that those who had experienced interpersonal trauma were more likely to meet criteria for a diagnosis than those who experienced non-interpersonal trauma. Interpersonal trauma includes incidents of assault and war, whereas non-interpersonal trauma revolves around accidents and natural disasters (Alisic et al., 2014). A meta-analysis of twenty-six studies found a significant relationship between interpersonal trauma in childhood and later development of a depressive disorder in adulthood (Mandelli et al., 2015). Specifically, there is evidence that loss of a parent early in life can lead to both depression and anxiety symptoms in adulthood (Heim & Nemeroff, 2001; Kendler et al., 1992).

Theories variously anchored in psychoanalysis, attachment theory, and neurobiology converge in linking depression in adulthood to reactivation of childhood trauma and loss (Kendler et al. 1992; Luyten & Fonagy, 2018; Beatson & Taryan, 2003). Children who suffer from the loss of a parental figure can experience breakdowns and disruptions in their ability to properly integrate their emotions during development (Sossin et al., 2014). Budden (2009) suggests that experiencing a traumatic loss can interrupt the normative development of the "psychic structure of the social self," thereby causing difficulties in maintaining emotional boundaries.

How and for whom childhood traumatic experience unfolds into an adult psychiatric condition is a complex matter. Trauma can stem from a singular event or can be collective or complex due to a series of traumatic events (Kliethermes et al., 2014). Complex trauma does not always correlate with a diagnosable illness, as PTSD does not capture the extent of post trauma symptomatology, particularly as it presents in children (D'Andrea et al., 2012). Situations of war, including the Holocaust, are often classified as experiences of complex trauma rather than one specific traumatic occurrence (Cook et al., 2017). Research on complex trauma in children has delineated several areas of functioning that are impacted, including: 1) attachment, 2) biology, 3) affect regulation, 4) dissociation, 5) behavioral control, 6) cognition, and 7) self-concept (Cook et al., 2017). In particular for affect regulation, children who experience complex trauma are more likely to exhibit difficulty with labeling and expressing their feelings, as well as with knowing and describing their own internal states (Cook et al., 2017).

In addition to the type of trauma, there is evidence that both gender and age can influence whether or not a traumatic experience leads to a diagnosis (Mandelli et al., 2015; Perrin et al., 2014). Many studies indicate that there are measurable differences in trauma experienced in

childhood versus in adolescence (Ballard et al., 2015; Schoedl et al., 2010). However, there are conflicting findings as to which results in more post-traumatic symptomology, especially into adulthood. One argument postulates that the onset of traumatic events in childhood (occurring before age twelve to thirteen) leads to more symptoms, and a larger variety of symptoms, than trauma that occurs during adolescence or adulthood (Ballard et al., 2015). Specifically, one study found that there is a higher risk of severe depressive symptoms associated with trauma occurring before age twelve than after age twelve (Schoedl et al., 2010). Opposing this, there is evidence that trauma in adolescence, rather than in childhood, is more likely to lead to the development of PTSD in adulthood (McCutcheon et al., 2010; Schoedl et al., 2010). Research on Holocaust survivor narratives conducted by Sandler-Saban et al. (2017) found similar mixed results in regard to age, echoing what is demonstrated clinically – that the effect depends on the individual, and is often (with our current state of knowledge) unpredictable.

There are different developmental reasons that could support both arguments: either earlier or later trauma-inducing experience leading to worse sequelae. In infancy and early childhood, the loss or removal of a parental figure during attachment pattern formation could lead to later development of psychopathology (Doyle & Cicchetti, 2017). Children under age eleven do not have the capacity to think hypothetically or properly understand and use abstract words in the way that adolescents can (Suleiman, 2002). It is possible that the child's experience of the trauma is regulated by these differences in understanding, which then also alters the child's development into adulthood (Suleiman, 2002). On the other hand, one developmental perspective of PTSD assumes that the development of PTSD in particular requires a more mature memory organization and arousal modulation, ones that are not exhibited in young children, but rather in adolescence or adulthood (Maercker et al., 2004).

This difference even extends to the discrepancy between early and later childhood. One study found that exposure to trauma in early childhood (before age seven) increased the probability of symptoms presenting in adolescence as compared to exposure to trauma in later childhood. (Alameda et al., 2015). Other studies put the age even lower, showing that there are higher rates of depression in adulthood if trauma exposure occurs before age five (Dunn et al., 2017). Looking specifically at functional behavior after childhood trauma, Alameda et al. (2015) found that the age of the child at first exposure changed the outcomes of functionality. In their comparison, they found that when the first exposure occurred before age eleven, the individual had more functional impairment than one who was exposed to trauma at a later age (Alameda et al., 2015). In all of these studies, the type of trauma is one of the major mediating factors that influences later diagnostic outcomes (Alameda et al., 2015; Dunn et al., 2017).

Narrative Analyses

Many studies looking at the effects of trauma utilize a number of different rating scales, but some have reported evidence that more information can be revealed through narrative reports of traumatic events (Crespo & Fernández-Lansac, 2016; Dunn et al., 2017; Mohatt et al., 2014). Within narratives, there are elements of the structure, process and content that can shed light on the susceptibility of developing PTSD or other psychiatric symptoms (Jaeger et al., 2014). There are two different levels of narratives that are involved: one that connects the cause-effect relationship between the traumatic event and the symptoms, and another level that views memory of a traumatic event as a constructed representation (Mohatt et al., 2014). Theories of PTSD state that the emergence of symptoms depends on whether or not the traumatic event was incorporated into other autobiographical memories, or if it remains as a separate event (Crespo & Fernández-Lansac, 2016). In a measure looking at the type of information revealed in trauma

narratives, researchers found that these narratives predominantly consisted of sensorial, perceptual, and emotional details (Crespo & Fernández-Lansac, 2016). Additionally, those who described intense negative emotional reactions immediately after the trauma were more likely to exhibit later symptomatology (Crespo & Fernández-Lansac, 2016).

In fact, it has been found that individuals diagnosed with PTSD have higher levels of emotion words in their narratives than those without PTSD (Jaeger et al., 2014). While PTSD is the most studied outcome of a traumatic event, it is possible to see any number of symptoms and diagnoses post-trauma, including depression, anger, guilt, and anxiety (Jaeger et al., 2014). In analyzing narratives, most studies look for specific word usage and organize them into emotion words, adjectives, self-referential words, and other linguistic categories (Crespo & Fernández-Lansac, 2016; Jaeger et al., 2014).

The Gottschalk-Gleser Content Analyses Scales have been used for decades to measure psychological states and traits through narrative information, presented as coded scores in a variety of different outcome categories (Gottschalk & Gleser, 1969). These categories include anxiety, hostility, depression, hope, social alienation-personal disorganization, cognitive and intellectual impairment, human relations, dependency strivings, achievement strivings, health-sickness, and quality of life (Gottschalk & Bechtel, 2002). The underlying concept behind the Scales assumes that one's thoughts and feelings can be revealed through the words that they choose (Gottschalk & Lolas, 1989).

The Gottschalk-Gleser Scales have been used in many contexts, including investigating the efficacy of neuropsychopharmacological interventions, neuropsychiatric syndromes, and psychodynamic therapy (Bantum & Owen, 2009; Gottschalk, 1986). Further investigation into the Gottschalk-Gleser Scales shows that demographic factors including age, socioeconomic

status, and gender can have effects on the Anxiety subscales (Gottschalk & Gleser, 1969). In particular, males have significantly higher scores in death anxiety and females have higher scores in separation anxiety (Suslow, 1998). Originally coded by hand by a team of extensively trained evaluators, ratings on the Gottschalk-Gleser Scales were transposed into a computerized scoring system, the Psychiatric Content Analysis and Diagnosis (PCAD) (Gottschalk & Bechtel, 2002).

Another method of analyzing narrative content is to look at referential activity (Bucci et al., 2016). Referential activity (RA) takes into consideration the referential linking function, or a way by which nonverbal experience is connected to language through the lens of multiple code theory (Bucci et al., 2016; Perrella et al., 2016). RA focuses on emotional communication and expressing an experience in words that will arouse the same experience in a listener (Bucci et al., 2016; Górska & Soroko, 2017). This is separated into three different phases: 1) arousal or activation of an emotion schema; 2) symbolizing and describing images and events; and 3) reorganization and reflection (Bucci, 2001; Bucci et al., 2016). The referential process is described as the "connection of verbal symbols to experience" that is expressed as the way words are connected with emotional imagery (Bucci, 2001).

RA can be measured in a narrative as a continuum ranging from "high" levels of specific words and imagery in the RA coding system to "low" levels (Bucci et al., 2016). Research has been inconclusive about whether level of RA directly corresponds to level of, or type of, pathology (Bucci et al., 2016; Górska & Soroko, 2017; Perrella et al., 2016). Generally, those who express higher levels of RA are considered to be healthier, richer in descriptions, and more in touch with their emotions than those with lower levels of RA (Bucci, 2001). RA has been used to look at mental representation and its impairment in severe personality disorders (Górska & Soroko, 2017). They found that individuals with diagnoses containing emotion regulation

difficulties had higher levels of referential activity compared to a non-clinical control group (Górska & Soroko, 2017). This research studied a population with borderline personality organization (BPO), and results showed that narratives describing negative situations had higher levels of RA than positive ones. The authors theorize that the results from the group with BPO experienced an over activation of the affective core in relating the negative stories compared to the control group, which makes the reorganization phase of the referential process inaccessible. Perrella et al., (2016) also considered the connection between RA and psychopathology, as well as levels of adaptive functioning. They explain that any emotion schema can be connected to either adaptive or maladaptive functioning, but the degree of integration of new information will determine what the functioning looks like in any particular situation.

Research Questions and Hypotheses

While there is research on RA in connection with different outcomes and therapy prognosis, there is little that specifically looks at how RA is presented in trauma narratives, and how it predicts outcome levels of symptoms and diagnostic categories (Górska & Soroko, 2017; Perrella et al., 2016). More specifically, there is no research on how the connection between RA levels and diagnostic category is moderated by the age of trauma onset, or any other factors relating to the circumstances of the traumatic experience. The main question of this research is: Will a trauma narrative low in referential activity have a higher association with psychological constructs, specifically related to anxiety and depression, than a narrative high in referential activity?

Hypothesis 1: Narratives low in referential activity will be associated with higher rates of anxiety and depression as compared to those high in referential activity.

Some central theoretical tenants of RA (as elaborated in Bucci, 2001) are here delineated: RA is allied with a model of well-being/pathology that underscores the importance of flexible emotion schemas in elevating positive adaptation. Adaptive functioning is dependent on the integration and connection between multiple modes of emotion schemas, but pathology stems from a disconnection or dissociation between the schemas. While the emotional schema may still be activated, it is no longer given the same meaning as the symbolic image that was previously associated with that schema. This high level of arousal without any meaning behind it results in the individual supplanting the emptiness with maladaptive coping mechanisms, emotions, and behaviors. On this ground, it is hypothesized that lower levels of RA will be associated with more indices of pathology (i.e., depression and anxiety).

Hypothesis 1a: Narratives with low RA will be associated with higher numbers of depression symptoms than anxiety symptoms.

Previous research indicates that individuals who meet criteria for different diagnoses, such as PTSD or depression, have a history of childhood traumatic experiences (Mandelli et al., 2015). In particular, many studies have found a relationship between childhood trauma and depression later in life (Mandelli et al., 2015). This post-traumatic reaction is often found to be associated with dissociation and experiences that could lead to emotional hyper-arousal (Bromberg, 2003). As previously stated, the 'pathology' associated with low referential activity includes a high level of emotional arousal without a connection to the imagery to give it meaning (Bucci, 2001). Some feelings associated with the emotional hyper-arousal include shame and hopelessness (Bromberg, 2003). On this ground, it is hypothesized that narratives with lower RA will align with the diagnostic category of depression rather than with anxiety.

Hypothesis 2: The relationship between levels of RA and level of depression or anxiety symptoms will be moderated by several demographic and circumstantial factors as set forth in the following sub-hypotheses.

Hypothesis 2a: Female respondents will have a stronger relationship between RA and level of depression or anxiety symptoms than males.

Research has shown that women have higher rates of PTSD, despite similar rates of exposure to traumatic events in men and women (Perrin et al., 2014). Additionally, higher rates of anxiety, depression, and neuroticism have been found in women who have experienced traumatic events compared to men (Breslau, 2009). Research is inconclusive as to the rationale behind these discrepancies, although some hypotheses postulate neurobiological differences, including length of HPA axis responses and neuroendocrine stress responses (Sherin & Nemeroff, 2022). For this reason, it is hypothesized that biological sex will be a moderating factor between RA and depression and anxiety symptoms.

Hypothesis 2b: Those with an older age of onset will have a stronger relationship between RA and depression symptoms and RA and anxiety symptoms than those with a younger age of onset.

The timing of trauma has an impact on an individual's diagnostic and clinical outcome (Maercker et al., 2004; McCutcheon et al., 2010; Schoedl et al., 2010). A previous analysis of the 108 interviews that are also used in this research did not find age at onset of persecution to be a significant predictor of total anxiety or total depression in adulthood (Sandler-Saban et al., 2017). However, there was an indication of a relationship between relatively older age and specific forms of anxiety (mutilation anxiety and shame anxiety) and depression (self-accusation). When factoring in RA, developmental level of the child at the time of trauma is an important factor on