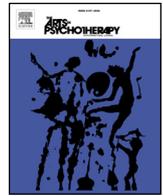




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Research Article

The therapeutic effects of imagination: Investigating mimetic induction and dramatic simulation in a trauma treatment for military veterans

Alisha Ali^{a,*}, Stephan Wolfert^b, Patricia Fahmy^a, Meghan Nayyar^a, Amna Chaudhry^a^a New York University, United States^b DE-CRUIT Veterans Program, United States

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ABSTRACT

The concept of *mimesis* has existed since the time of the ancient Greeks and continues to be debated by artists and scholars alike concerning its meaning and implications for our understanding of the effects of theatre and fiction. In this article, we consider the possible therapeutic potential of mimesis, which can be seen as a way of thinking about theatre as a form of simulated story in which we can imagine ourselves. We focus on the healing effects of the imagination by analyzing its application through DE-CRUIT, a theatre-based treatment program for traumatic stress in military veterans. Through examples of specific veterans who have taken part in DE-CRUIT, we show how the imagination opens up emotional and psychological space for the exploration of trauma, thereby constructing a path to recovery that draws upon the human capacity for story-telling and meaning-making.

Introduction

Since the middle of last century there has been increased interest among academics and artists in the concept of *mimesis* as an orienting framework for the analysis of literature, including drama and all forms of fiction (Auerbach, 1953; Mar, Oatley, & Peterson, 2009; Oatley, 2001, 2011). The notion of *mimesis* has existed since the time of the ancient Greeks (Auerbach, 1953). Psychologist Keith Oatley, in his book *Such Stuff as Dreams: The Psychology of Fiction* (Oatley, 2011) and in his article “Shakespeare’s invention of theatre as simulation that runs on minds” (Oatley, 2001), presented an integrative theory of the therapeutic value of fiction – and of theatre in particular – which conceptualized mimesis as a psychological process of *simulation*. In that process, the reader or audience member begins to imagine themselves in the role of one of the story’s fictional characters and undergoes a simulated experience in which they reflect upon what their own emotions, decisions, and actions would be in the narrative before them. Drawing upon Oatley’s interpretation of mimesis, and upon several years of using theatre to help military veterans transition back to civilian life, we have derived a therapeutic model for the treatment of trauma among veterans that uses simulation and mimesis as key therapeutic factors.

Our program, called DE-CRUIT, originated from a community theatre program that featured veterans as performers. Over the years, the program expanded to include dramatic works written by veterans.

More recently, the program integrated a therapeutic component and a scientific component, and today DE-CRUIT is an evidence-based trauma treatment that is supported by a team of psychologists and researchers who conduct ongoing scientific evaluation of the program. In this article, we will describe the veteran-informed therapeutic model of DE-CRUIT as well as the empirical investigation of the program. This work has been influenced by research by other experts on the benefits of the arts, theatre, and dramatic re-enactment of military-related trauma for veterans (e.g., Balfour, in press; Belliveau, Cook, McLean, & Lea, in press). The focus of our description and the corresponding analyses in this article is on the role of the imagination in providing a process of healing and recovery for traumatized veterans.

The DE-CRUIT program

The focus of the DE-CRUIT program is on the works of Shakespeare. Shakespeare’s plays relate directly to the modern-day veteran experience in that the characters include soldiers, veterans, and loved ones of veterans. The Elizabethan Great Chain of Being reflected in Shakespeare’s verse was a world of hierarchy that readily corresponds to the rigid rank-based structure of the military world. Particularly poignant for the veterans taking part in DE-CRUIT, reading Shakespeare’s plays reveal that veterans from hundreds of years ago experienced traumas and life challenges that closely parallel the suffering of the current day soldier and veteran. It is through those

* Corresponding author.

E-mail address: alisha.ali@nyu.edu (A. Ali).<https://doi.org/10.1016/j.aip.2018.12.006>

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parallels that the DE-CRUIT veterans undergo our process of *mimetic induction* (Ali & Wolfert, 2016). This induction involves the evocation of emotions through Shakespeare's characters and through the language of Shakespeare's verse that represent complex, nuanced feelings and thoughts.

According to Oatley (2011), encountering emotionally-heightened scenarios such as those in Shakespeare's tragedies can provide insight into ourselves and into the ways we react to the world around us – as well as presenting us with possibilities for the ways we could choose to react in future situations. Oatley states: “The way we see the world can change, and we ourselves can change...Art enables us to experience some emotions in contexts that we would not ordinarily encounter and to think of ourselves in ways that we usually do not” (Oatley, 2011, p. 188). In the process of mimetic induction, the DE-CRUIT veterans are immersed in the world of Shakespeare's verse as a simulation of the world they inhabit and – most importantly – of the ways they can interact, react, and act in a civilian world rife with pitfalls and challenges for veterans who have grown accustomed to the world of the military.

The process of immersion begins with an experiential analysis of various monologues from Shakespeare which primes the participating veterans for writing their own personal trauma monologues that recount the traumatic experience that they believe has shaped them the most (which can be a military or non-military trauma). For 7 consecutive weeks, 3h per week, the veterans work on their monologues and explore the relationship between Shakespeare's representation of trauma and their own experiences. Each veteran then “hands off” their personal monologue to a fellow veteran who will rehearse and perform that monologue for the entire group, thereby providing an aesthetic distance (Landy, 1983) through which each veteran can witness their story spoken by a peer. Through that distancing, they begin to forgive themselves for violent or unacceptable actions that they might have undertaken during service by first empathizing with and forgiving their fellow veteran.

In addition, each veteran is assigned a monologue from Shakespeare to learn and rehearse. That assigned monologue is selected to match the content of the trauma they had identified as the event that has most affected them. Over the past few years, our team has developed and refined an algorithm for the selection of an appropriate monologue for each veteran. The algorithm uses a database of monologues that we have identified from Shakespeare's plays as being relevant to various experiences common to veterans; these experiences include difficulty sleeping, flashbacks to combat scenes, disillusionment with military service, guilt over killing people, missing military camaraderie, and grief over the loss of a comrade. The selection of monologues for the veterans is derived from a process that we based on the life stressor coding method developed by Brown and Harris (1978) which uses written descriptions of stressors that are categorized by the nature of the stress experience. Accordingly, the algorithm matches the experience(s) reflected in the Shakespearean monologue (e.g., Lady Macbeth's haunted and disturbed sleep in her “out, damn spot” speech) to the trauma experience described by the veteran (e.g., insomnia due to disturbing nightmares).

The therapeutic value of imagination

Much of the content and process of the DE-CRUIT program is based on principles of drama therapy that have been developed, refined, and examined by drama therapists and other experts in the field over recent decades (e.g., Sajnani & Johnson, 2014). Given that the focus of DE-CRUIT is on the processing of trauma, we have found it helpful to learn from and collaborate with drama therapists who specialize in trauma. Through this collaborative process, we come to understand the value of practitioner-based knowledge in creating a pathway for researchers to more fully see the nuances behind the concepts that we study. We have also seen the limits of traditional scientific inquiry in aiming to capture therapeutic effects through strictly quantitative methodologies (Ali &

Sichel, 2018; Wolfert & Ali, 2018).

Building our DE-CRUIT therapeutic model has involved integrating and elaborating upon various trauma-informed therapeutic components that are most relevant to the veterans who take part in our treatment. This process of elaboration has drawn upon the use of the imagination on numerous levels such that the therapeutic implementation of the imagination has become a defining element of the DE-CRUIT model. In particular, there are three features of the program that are directly derived from the notion of the imagination as a therapeutic approach. These are: the liberatory function of the imagination, the neurological correlates of imaginative thought, and the narration of nightmares and dreams.

The liberatory function of the imagination

Many veterans who have taken part in the DE-CRUIT program have identified the benefits of writing and performing their firsthand experiences of trauma through a simulative experience that mimics their suffering while providing the safety of aesthetic distance. This distancing instills a feeling that reinforces the notion that the narration of trauma does not itself constitute a threat in the way that the actual trauma stimulus would. This simulation supports healing through the creation of an external object (the written monologue) that can be examined, discussed, and reflected upon. As an additional step, witnessing one's own trauma being performed by a fellow veteran constructs a level of simulation that communalizes the veterans' suffering through group processing.

Part of the foundation of our conceptualization of this process is derived from trauma expert Bessel van der Kolk's theorizing on the utility of the imagination in recovery from trauma. van der Kolk (2015) presents findings from ongoing empirical studies that demonstrate the role trauma plays in undermining individuals' ability to engage in imaginative thought. He asserted that “We...learned that trauma affects the imagination, that [traumatized individuals have] lost the capacity to let their minds play, not displaying the mental flexibility that is the hallmark of imagination” (p. 17). He goes on to write that “Imagination is absolutely critical to the quality of our lives. Our imagination enables us to leave our routine existence...Imagination gives us the opportunity to envision new possibilities” (p. 17, van der Kolk). This process of envisioning is key to the DE-CRUIT method in that our therapeutic approach embraces the belief that imagination opens up a landscape of possibilities for our veterans that becomes the basis for them to construct a new story for themselves – a story that acknowledges their past trauma while also moving forward and away from that trauma.

The neurological correlates of imaginative thought

As an empirically-driven treatment program, DE-CRUIT is grounded in scientific evidence generated by our team and others demonstrating the therapeutic value of the imagination. One emerging area of evidence supporting this work comes from studies of neurological correlates of creative engagement and imaginative thought. For example, Beaty et al. (2018) used a recently developed method of functional brain imaging analysis called “connected-based predictive modeling” to identify a network of brain regions that become activated when study participants engaged in “daydreaming and imagining”; that team of researchers emphasized the need for future research to further illuminate the processes involved in such modes of thinking. Similarly, a different research team examining the same network as the Beaty et al. team (Marron et al., 2018) found activation of that network to be associated with both creativity and internally-directed thought, each of which are processes that are key to the imagination and corresponding self-reflection elements of the DE-CRUIT method.

In a related line of research, Belkofer and Konopka (2008) measured the patterns of electrical activity in participants' brains while they engaged in creative thought. They suggested that “temporal lobe

activation may be related to the bubbling up of suppressed or forgotten memories that occur in art making and often lead to therapeutic moments of insight [and] art making may activate the temporal lobes to elicit dormant memories, emotions, and sensations” (pp. 61). These findings support our therapeutic hunches about the role of veterans’ creative narration of trauma, flashbacks, and nightmares. There appears to be some sort of re-wiring that occurs in DE-CRUIT that undoes the process that military recruits undergo in basic training to ready them for war. The DE-CRUIT re-wiring process constructs a non-judgmental space that is conducive to the recollection and examination of past traumas through the safety of art, and specifically through the written word that veterans can use to express and explore their trauma in their own words (Wolfert & Ali, 2018).

The narration of nightmares and trauma

A key facet of the imagination for the veterans who participate in DE-CRUIT relates to a process that begins with the identification of trauma-based nightmares that contribute to insomnia and to a host of other problems stemming from insufficient sleep (e.g., difficulty concentrating and struggles with seeking and keeping employment). The therapeutic use of the DE-CRUIT method to address trauma-related nightmares is derived from the application of Shakespearian verse as a narrative scaffold to the veterans’ construction of their own trauma monologues. Shakespeare’s plays portray stories and experiences that are often “other-worldly”, blurring the divide between the literal world and the world of the imagination. The plots are inhabited both by real-world historical characters and by ghosts and ghost-like characters that transverse the human world and the non-human world. The ethereal, mystical experience created by those stories open a gateway for the imagination that can create for the DE-CRUIT veterans a space to explore their nightmare experiences through the structure and safety of the monologue form.

Many of the veterans in DE-CRUIT have reported that the improvement in their long-term insomnia has been the most important impact of their participation in the program. Shakespeare’s narration of dream-like and nightmare-like encounters leads to the veterans’ narration of their own nightmares in the form of their firsthand monologues. As they write, re-write and refine their monologues in preparation for handing them off to a fellow veteran in the group, they explore their nightmares more and more deeply, uncovering and discussing with the group the bodily sensations and psychological processes attached to these nightmares and related experiences. Eventually, as a final step in the DE-CRUIT program, the therapeutic process culminates in each veteran performing their monologues for the group and for an invited audience of friends, family, and community members. This performance rounds out the therapeutic process by using communalization (Shay, 1995) as a treatment element that allows others to bear witness to the veterans’ suffering and allows the veterans to reflect on their own experiences as they narrate them more publicly for the first time. Importantly, this culminating performance and the self-witnessing of their own narration of trauma also very often serve as an opening-up for the veterans to tell their loved ones for the first time about their trauma, a step that is essential to the feeling that they can move forward with their lives (Ali, Wolfert, Lam, & Rahman, 2018).

Researching the imagination

One of the most challenging tasks in the evaluation of the DE-CRUIT program has been fulfilling our aim of using the tools of science to capture as accurately as possible the experiences of the veterans who participate in the program. We have adopted a veteran-informed approach in our research wherein we consistently rely on veterans’ guidance and feedback in the selection of which variables we measure and in our choice of instruments to measure those variables (Ali, Wolfert, & Homer, in press). As such, each of the program features outlined above

are reflected in our data collection and analysis of the effects of the program. After several discussions with various groups including veterans and practitioners specializing in trauma, the variables described below were added to our research strategy in order to represent the ways that creativity and imagination can help veterans to overcome trauma and to more readily undertake the transition to their lives after leaving military service.

In consideration of the liberatory function of the imagination, especially in relation to building veterans’ confidence in moving forward with their lives, we chose to add the construct of *self-efficacy* (Sherer & Adams, 1983) to our research measures. Self-efficacy refers to the phenomenon in which an individual believes they can successfully carry out the behaviors that are necessary to accomplish their desired goals. Several trauma therapists we have consulted with have emphasized the need to reflect in our research instruments the strengths-based approach that defines the DE-CRUIT program. Self-efficacy is a construct that captures a key element in the transition process because it relates to so many plans and goals that veterans have, including seeking fulfilling employment, forging meaningful connections with loved ones, and staying connected to the veteran community (Ali et al., in press).

Similarly, we have realized over time the need to measure neuro-cognitive variables as there are components of DE-CRUIT that were designed to support neuro-cognitive functioning as a way of supporting veterans in their ability to carry out both day-to-day activities as well as achieving long-term goals. Accordingly, we have begun taking EEG readings at regular intervals from the veterans taking part in the DE-CRUIT program. In keeping with our veteran-informed model, our EEG measurements do not utilize scanning equipment that requires the veterans to be confined in a machine, especially given the experiences of confinement and torture that some of our participants experienced during the service. Instead, we utilize headsets that taking readings from veterans while they sit comfortably in a chair.

One of the main research strategies we have undertaken most recently in analyzing the effects of DE-CRUIT is the use of the veterans’ own trauma monologues as a source of data reflecting the therapeutic process. We are conducting thematic analyses of the monologues in order to gain insight into the nature of the traumas that veterans choose to describe as their most significant trauma and also into the language they use to describe those traumas. Such analysis is especially important given that each veteran knows that they will be presenting their monologues to each other and to an audience.

We have developed a three-step coding procedure to extract the dominant themes from each of the veterans’ trauma monologues. The coding is performed by two trained research assistants (both graduate students in psychology). In *Step #1* of the coding procedure, each trauma is coded as being either primarily “Military” (M) or “Non-Military” (NM) in terms of its content. *Step #2* involves more detailed coding based on the coding result from the first step; for instance, non-military traumas are coded as either “Pre-Military” (PRE) or “Post-Military” (POST). *Step #3* involves a further level of detail; for example, pre-military traumas are coded as either having occurred during “Childhood” (C) or “Not during Childhood” (NC). For the remainder of this paper, we will focus on examples of monologues that were coded using this procedure.

Findings from our analysis of veterans’ monologues

In analyzing the participating veterans’ monologues, we have found in our previous research that a large percentage of the veterans report their primary trauma to be trauma that pre-dated their entry into the military but which was instrumental in their decision to join the military (e.g., in order to escape an abusive environment or extreme poverty). Because the imagination as a therapeutic tool can open up access to old memories and to nearly-forgotten experiences, we have seen that these early life experiences come to the forefront of the veterans’ narration of trauma experiences and in their description of the long-lasting

effects of those experiences. Accordingly, the themes we describe in this section were selected in part to illustrate the ways that the imagination can be used in a treatment context to explore early life trauma and to help to counteract the effects of that trauma in the veterans' current day-to-day lives.

The use of figurative language

One theme that closely connects to imagination in the veterans' monologues is the use of figurative language to describe traumatic experience. We have found that the participating veterans begin to use less literal language in their descriptions as they progress from session to session and become increasingly familiar with Shakespeare's use of language. As their comfort with reading non-literal language develops, the veterans use language differently in their own writing. We see this as a significant step in the healing process because the use of figurative language can be a way of evoking the experience of aesthetic distance by making the trauma more story-like. As such, the DE-CRUIT facilitators support the veterans in experimenting with different types of language and expression, including the use of metaphors and symbols that represent details of trauma incidents.

An example of the use of figurative language is the narrative written by "Tony", a middle-aged, half-Puerto Rican, male navy veteran who described a history of violence and abuse beginning in childhood and continuing during military service. After struggling through using lengthy phrases to capture the depth of the hopelessness and fear he experienced in his abusive childhood home, Tony eventually used the phrase "Love was just a word." This was precisely the correct language to use to reflect a household in which there was ongoing hidden violence that eventually led him to alienate himself from others, even from his comrades during his military service. An emotional shift occurred during the process of writing the monologue wherein Tony moved from describing specific abuse incidents that no one outside of the family knew about to using the symbolic phrase of "just a word" to represent the secrecy of the abuse; identifying the depths of this secrecy allowed him to tie that secrecy to his ongoing shame and his feelings of being different from and separate from those around him. Thus, in this example we see that exploring varying uses of expressive language can be therapeutic in that it allows the veterans to engage in a parallel process of exploring their trauma through a new lens that reflects both suffering and nuance.

The use of sensory description

Another theme that has emerged in relation to the therapeutic use of the imagination in the veterans' monologues is the use of language that evokes the senses. In particular, the use of descriptions of sounds from childhood that are echoed later in military experiences (e.g., shouts, gunshots, breaking glass, cries) occur and re-occur often. We see an example of this theme in the trauma monologue of "Sam", a middle-aged, White, male army veteran who encountered ongoing abuse in childhood:

The way we grew up, it was tough... Every day you would have to, of course, go to school and look behind your back. Crime everywhere, bullets flying. Coming home having my father beat my mum. One day, I had enough. I walked in and he was beating on her. I grabbed him by the neck and I almost killed him. I hear my mum's crying, "Stop!" I ran and ran. And two years later, I joined the military.

The haunting sound of hearing his mother's cries is reflected in Sam's choice of verb tense in the immediacy of "I hear my mum's crying." The vivid use of description and verb tense brings this experience from the deep past into the present moment. This experience is further accentuated in the DE-CRUIT culminating performance when Sam performs this monologue and then the Shakespearian monologue

that was assigned to him, which is Falstaff's speech from Act 5 Scene 1 of *Henry IV, Pt. 1*. Most poignant for Sam in this assigned monologue is the description of the futility of honor as a military and war-time value:

Can honour set a leg? No. Or an arm? No. Or take away the grief of a wound? No. Honour hath no skill in surgery, then? No.

These sentiments mirror Sam's own disillusionment with the military experience which, in the end, did not constitute an escape from the traumas of one's past. Thus the imagined world of *Henry IV* can be seen as a simulation of the real-world trauma that N. and others encounter in childhood, during military service, and beyond.

Capturing the child's-eye view

This final theme is evident in many of the DE-CRUIT veterans' depictions of real-world experiences through the use of creative, imaginative descriptions that remind us of the way young children perceive and encounter the world around them. Here we focus on the narrative of "Nancy", a middle-aged, White, female army veteran who endured recurrent childhood sexual abuse. A particularly powerful element of Nancy's narrative is the accuracy with which she uses her trauma story to evoke the reader/viewer's imagination to connect to the child's perspective. For example, in describing one of the men who sexually abused her when she was 11 years old, she recalls details that resonate with our collective recollection of a child's view:

One of mom's friends shows up. I have never met him, but everyone was so excited because he turned an old school bus into a travel home. Everyone wanted a tour...

The contrast between this excitement and the impending sexual abuse captures the trusting naivete of a child, something that draws us into the world of Nancy's story and helps us to envision the experiences she encountered in a way that allows us as readers/viewers to use our own imagination. Coming full circle, the audience at the DE-CRUIT culminating performance engages their imagination in much the same way the veterans did in their sessions; the audience thus runs a mimetic simulation in which we ask what *we* would do and what *we* would feel if we were a child in the scenario in front of us.

Discussion

As is evident from our description of the DE-CRUIT program, we are continuing our ongoing analysis and refinement of the treatment model, always keeping in mind the needs of the veterans we serve as well as the parallel needs of scientific rigor so that we can widely disseminate our findings and expand the reach of the program. There are many challenges we have encountered in this work. For instance, we have found that most treatment settings rely on traditional biomedical approaches to trauma treatment and do not embrace arts-based approaches. This resistance has reinforced for us the importance of developing a strong evidence base, not only for the DE-CRUIT program, but also for all viable, effective treatment approaches that use the arts to help veterans and other traumatized groups.

Another challenge we have found is that there is a general lack of validated, reliable measures that adequately assess the role of the imagination and related treatment components as therapeutic factors in addressing trauma. Our hope is to utilize parallel sources of data that rely on traditional quantitative, symptom-based measures on the one hand, and non-traditional measures such as first-hand trauma monologues on the other hand. These complementary data sources can build not only a corpus of findings on trauma and its accompanying symptom profiles, but also on the ways that our participating veterans use experiential storytelling to overcome trauma.

On a broader level, we have found that some of the challenges we encounter end up necessitating changes that ultimately strengthen the program. For instance, we have seen over the years that many of the

veterans who participate in DE-CRUIT live in remote, rural areas and travel great distances to attend the weekly sessions. This has meant that there are sometimes participants who miss sessions because of the distance. To accommodate these needs, we have partnered with the Consortium for Research and Evaluation of Advanced Technologies in Education (CREATE) Lab at New York University to utilize their state-of-the-art technology to allow veterans to participate in the sessions virtually. We also plan to use the CREATE advanced technology to develop a DE-CRUIT app that geographically isolated veterans can use to reach out to our trained facilitators after their completion of the treatment program. The app will allow all veterans who have taken part in the program to contact facilitators in times of crisis; it will also include access to videos demonstrating the various anxiety-reducing and grounding techniques taught during treatment sessions, in case a veteran needs a refresher on those techniques.

Overall, our work on DE-CRUIT has taught us the value of the arts in supporting recovery from trauma, while also showing us the obstacles that confront researchers who seek to utilize methodologies that fall outside of the traditional realm of scientific inquiry. Seeing these obstacles has led us to articulate and disseminate a model for veteran-led research that maintains a balanced focus on scientific aims and veterans' real-life needs (Ali et al., in press). This work has also taught the non-veterans on our research team a level of humility that we have not experienced in any of our previous research. Learning about the multi-layered suffering that so many of our participating veterans have experienced, we feel more committed than ever to using our training as scientists to advance the cause of supporting veterans in their transition back to civilian life and beyond.

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