

**NEONATAL HEART RATE DETECTION DEVICE**

**ROMPIENDO CADENAS: HOW CBT THERAPY ADDRESSES THE EFFECTS OF  
INTERGENERATIONAL TRAUMA IN LATINX COMMUNITIES**

A Thesis Prospectus

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By

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On my honor as a University student, I have neither given nor received unauthorized aid on this assignment as defined by the Honor Guidelines for Thesis-Related Assignments.

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## **Introduction:**

In my second year, I decided to enroll in a Psychology of Trauma course in the Education and Human Services department. My interest in this course derived from my personal experiences of analyzing the behaviors of my siblings and parents as a child. I noticed the root of my siblings' emotions and perception of themselves were caused by the trauma and behavior inflicted towards them from our family. As I investigated my family member's actions and outlook of life, the more I connected the links of trauma being perpetuated throughout generations in my family. Physical and emotional abuse, neglect, machismo, marianismo, distrust, and the lack of expressing emotions affected every generation of my family for the past four generations. This class, along with therapy, answered my questions and provided a reality check on my own perspective, yet returning home to the same environment was not beneficial for my mental health until years later. It took time, energy, and sometimes distance for each of us to heal what was hurting us. I have noticed that conversations and trust with each other has also allowed us to reflect. We now give ourselves more grace and take care of one another mentally, physically, and emotionally. Even with all the rough patches, I am grateful to have witnessed and experienced the growth of my family and be as close as we can be with each other. I want to see more people in the Latinx community give that to themselves and each other, but the research lies in how to get there.

A barrier to having a better relationship with my family was the topic of mental health. Our Colombian culture, like other Latinx identities, had a stigma and shame associated with mental health. As a Latina in a developed society where there is a consistent conversation of mental health awareness and therapies, I am curious to learn what led to this stigma in our culture, how to address the intergenerational trauma in the Latinx culture, question the effectiveness of individualized treatment for a familistic culture, and suggest treatment solutions

designated for the Latinx community. So, what does it take to help these Latinx individuals heal from what they have experienced? How does intergenerational trauma manifest in the Latinx community, and how does individualistic care address the needs of a Latinx patient with this trauma? What studies currently address these needs, and are there existing models of community-based treatment?

To answer these questions, I am proposing conducting a study on the effects of intergenerational trauma and cultural themes associated in the Latinx community. Additionally, I plan to investigate the success of individualized care in addressing these topics. I plan to complete these aims through interviews with Latinx and non-Latinx identifying therapist, faculty of the Latinx Studies Department in the College of arts and Science, and through literature review.

Disclaimer: Both my STS research paper and my technical project aim to solve a problem in healthcare, whether it is for the Latinx community or neonatal community, but that is the only link between both.

### **Technical Project:**

My technical project seeks to optimize an electrocardiogram (ECG) device to detect the heart rate (HR) of pre- and full-term babies in less than 30 seconds. This aim came about as the need for neonatal resuscitation is difficult to assess given the short decision time in the Labor and Delivery room. With the wrong decision, these newly born babies can either lose their lives, or be injured due to the resuscitation. The goal of this project is to have a foundational prototype of a device that is sized and adaptable for babies that are pre-term and full-term. This device should

be easy to use for clinicians and measure an accurate trend of the HR to provide a range that will be read by clinicians for them to assess the course of action for the care of the infant.

Our expectations for the innovation are based on current inefficiencies in the assessment, which can lead to a baby not needing to be resuscitated or not providing resuscitation when the neonate needs it. Current technology used to measure the HR of a newly born includes a stethoscope or an ECG. However, these technologies do not account for possible human error that can affect the course of action. With the stethoscope, the assessment of the HR of a baby is dependent on the count a nurse tapping as they listen, which is not always heard in a noisy delivery room. Another error that can occur is the ECG leads used to detect the HR are not placed due to not anticipating the need for it, which takes time that can be life-threatening for babies as time is of the essence when involving a baby's HR assessment, as a low HR is indicative of a baby that is not breathing (Aziz, 2020).

Our constraints will be the time it takes to assess the heart rate and the size of the device. With variability in the HR of an infant resulting in an inaccurate assessment, the algorithm we use/create should be able to assess the trend of the heart rate received and display that to clinicians quickly and effectively. Additionally, the device should reduce the amount of human error possible by being accurately shaped for a newly born of any size. If our device cannot continue to become a product in the neonatal device market, our project should at least be a foundation for future Capstone students to work on and improve.

My STS paper and my technical project are directed to provide a solution to healthcare, but that is the only tie between the topics.

**STS Section:**

What we know now is that Cognitive Behavioral therapy (CBT) is the golden standard used and most researched in the United States. This approach is based on psychological problems occurring due to faulty thinking, unhelpful behavior, and lack of coping mechanisms. CBT aims to change an individual's perception and understanding of situations to improve their quality of life. This is done by acknowledging the behavior and mentality of the individual, unlearning said behavior while reframing their mentality and learning healthier ways to problem-solve and cope with problems and situations at hand (American Psychological Association, 2017). This is considered the golden standard in psychotherapy because there is no other alternative treatment that has proven better. Studies referenced to prove CBT's efficacy has come from low quality data and should be reevaluated to target other conditions apart from depression and anxiety, like intergenerational trauma (David et al., 2018). CBT is currently the individualized therapy that is commonly used in individualized care that is commonly found throughout the United States healthcare systems, but there is room to conduct more research on other types of therapy, such as interpersonal therapy or psychodynamic therapy (Falk Leichsenring, 2017).

Intergenerational trauma was defined using the attachment theory and transmission of trauma. This theory describes the framework for generational trauma, how trauma experienced from a parental figure, and the diverse types of attachment styles the parents had towards their children, can manifest itself in the child as anxiety and feelings of personal loss. These intense feelings in the children due to a lack of attachment from their parental figures can lead to them having lower self-esteem, which hinders resilience that can aid in overcoming future traumas (Kural & Kovacs, 2021). As healing requires a re-establishment of order and meaning to an individual, seeking spirituality can provide such in the cases of intergenerational trauma.

Therapists suggest looking into faith or spirituality, as the healing care has been found to improve coping skills and reducing stress (Doucet & Rovers, 2010). Due to individuals' needs and preferences, there are religious and spirituality-based CBT therapy approaches individuals can seek separately from traditional CBT (de Abreu Costa & Moreira-Almeida, 2021).

A common source of intergenerational trauma in Latin America is colonialism. Colonization and colonial expansion cause mass traumas in marginalized communities, due to slavery, genocide, sexual violence, and displacement/immigration. Colonization also caused harm by establishing a power structure in Latin American government and the psyche of the Latinx community that are based on racism. The Latinx community continues to experience cycles of racialized violence and colonization through the maintenance of White supremacist structures of power and discrimination. Latinx children report greater poly-victimization, victimization across multiple types of traumas, than white youth, and are more susceptible to premature health deterioration by intergenerational trauma (Andrews et al., 2015). External factors, such as poverty and stress, have also perpetuated the intergenerational trauma onto parents and children.

Social norms in Latinx culture also create expectations that emphasize stigma and can create more trauma. Among these social norms are *machismo*, *familismo*, and *marianismo*. *Machismo* is the social construct of what defines masculinity in Latin America: among these traits includes courageousness, dominance, honor, respect, lack of emotional display, and sexism. This idea of *machismo* tied with sexism and dominance encourages male dominance over women and perpetuate the belief of traditional roles for women within a family (Nuñez et al., 2015). *Machismo*'s counterpart, *marianismo*, places a social emphasis for women to remain docile and have nurturing, calm, and submissive personalities within a household. The word *marianismo* is a reference to the Virgin Mary, the expectation for Latin-American women as a

nurturer and spiritual pillar that arrived in Latin America once it became colonized (Sotelo, 2023; Nuñez et al., 2015). Lastly, *familismo* is the obligation of putting family above the needs of oneself and is vital to the essence of self as the family provides the necessary support to the individual in the Latinx culture (Valdivieso-Mora et al., 2016). Another culturally accepted practice is harsh parenting. Harsh parenting, which is a cause of childhood trauma, has direct ties to the relationship between the parent's maltreatment as a child with their parents. An example of this is a study of domestic violence experienced by a mother, seen by the child, and the child later experiences adolescent dating violence. Genetically there was a relationship between the stress hormone, cortisol, with the weight of her baby, and the labor inducing hormone, oxytocin, with the bonding experienced; maternal trauma experienced reflected a higher level of bonding with her child (Cerdeña et al., 2021).

In terms of stigma, we are aware of stigma in the Latinx community that creates a bias and shames its community members from seeking mental health treatment and a lack of awareness. This stigma is caused through societal phrases and perspective. For example, phrases such as “Mental health problems aren’t real” (Ortega, 2023) or the idea that a person that claims to seek mental health resources is met with accusations of being “crazy.” Secondly, the Latinx culture and communities place an emphasis on religion to for support and trust. This trust in religion is not to be seen as negative, as there can be ways to heal through spirituality. However, religion can be a source of shame, as a mental health crisis or being mentally ill can be perceived by the community members as a means of punishment from a higher being due to “a lack of faith or prayer” (Ortega, 2023).

I am currently pursuing an IRB to continue researching more in depth into intergenerational trauma in Latinx individuals, and the benefits of CBT to deconstruct the behaviors and perception resulting from this trauma. The plan to discover a solution for

intergenerational trauma in Latinx individuals by conducting primary interviews with Latinx Studies Department Faculty and therapist. I will begin by contacting professors via email using a template which will explain the study and ask for their participation if they are interested. If these professionals are interested, I will ask the faculty questions pertaining to how the Latinx social constructs have perpetuated the intergenerational trauma in the community to both the therapists and the faculty, and I will invite therapists to share their perspectives and experiences with addressing these traumas and social constructs with Latinx individuals utilizing CBT. Once interviews conclude with one interviewee, I will ask for suggested people to interview and continue to gain samples through snowball sampling.

**Conclusion:**

Culturally, there are different social constructs that influence the behavior of those in the Latinx community to fit into the “set” model of a Latinx individual which can lead to conflicts in the psyche of oneself and with their own families. These conflicts can be observed and passed down through generations and should be addressed to avoid further trauma to be perpetuated. It was within my power to stop this cycle and break this chain that perpetrated throughout my family, but it continues to be a problem in my community. In conclusion, the aim of this project is to discover the root of effects of intergenerational trauma on the Latinx community, and to discover ways to heal this in a way that adequately addresses the needs of a familistic tied community. The goal of this project is to have the expertise of therapists and experts alike contribute their ideas and experiences to create a foundation for research to build onto in the future.



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