It’s more than just my body that got hurt: 
The psychophysiological consequences of sex trafficking

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Abstract: Those subjugated to sex trafficking endure psychological, physical, sexual, social, and spiritual abuse that results in physiological trauma. Therefore, survivors require access to integrative treatment options that address the consequences of multi-dimensional maltreatment and exploitation. The link between sex trafficking and the psychophysiological consequences of chronic stress and trauma implies the need to develop systems of care that intervene at many levels. This article describes general physiological reactions to stress and trauma, long-term health consequences associated with trauma, and reasons for variability in the effects of chronic stress. In conclusion, recommendations are made for ways in which multidisciplinary professionals can assist in reducing the effects of stress and trauma as well as increase protective factors among sex trafficking survivors.

Keywords: human trafficking; sex trafficking; victims; stress and trauma; psychophysiological

Introduction

“Abby”, a 15 year old female survivor of sex trafficking, once described that “I don’t even know myself anymore. It’s like… I became someone else in order to even deal with it (the sex trafficking)… and then I was someone else for so long. My body hurts. You see all these cuts I got on my face? And I got bruises everywhere. My hands… my neck and my back are all stiff and hurt. My fuckin feet even hurt. Sometimes I start thinkin… I get so stressed my body stiffs up and I can’t move at all. But… it’s more than just my body that hurts. You see… I feel so stressed… I am always shakin. I keep blankin out… zoin… going nowhere in my head like I did when I was with a trick. Even my brain hurts. I aint the same person anymore.” Interviewed as part of a larger study toward the development of the domestic sex trafficking risk and resilience assessment (DST-RRA) (Countryman-Roswurm & Bolin, 2014; Countryman-Roswurm, 2012), “Abby” is just one of the many young women with whom we have had the honor and privilege to serve and walk alongside as she journeyed from a place of pain caused by childhood traumatic experiences and sex trafficking (ST) to a position of prosperity. While the details of “Abby’s” adverse childhood experiences are uniquely hers, the way in which such experiences acted as risk factors for susceptibility to ST, and the manner in which the experiences of ST wreaked havoc on her physical and psychological health, are quite common (Anda et al., 2005; Countryman-Roswurm, 2014a; Farley, 2003a; Farley et al., 2003; Hossain et al., 2010; McDonald, 2013). Therefore, in order to effectively promote the holistic health and wellbeing of those abused and exploited through sex trafficking, it is essential that multidisciplinary providers understand how the stress and trauma induced by ST causes psychophysiological damage.
Sex Trafficking Defined

ST is a form of abuse and exploitation that contains elements of psychological, physical, and sexual violence (Boxill & Richardson, 2007; Countryman-Roswurm, 2012; Farley, 2003a). Distinct from molestation, rape, or other forms of sexual assault due to the characteristic of commodification, ST predominately ensnare vulnerable women and girls who lack viable alternatives or who are unable to escape their subjugation (US Department of State, 2010). ST also includes “survival-sex” or “survival-rape” which refers to the “exchange” or “acceptance” of sex acts in order to meet one’s own basic needs (e.g., food, clothing, hygiene, shelter, etc.) or for other survival purposes (Countryman-Roswurm & Bolin, 2014; Countryman-Roswurm, 2012; Covenant House, 2013; Sangalis, 2011).

For the purposes of this paper, ST refers to a type of stressor that results in trauma. It is defined as a type of violence (including verbal, emotional, physical, and sexual abuse) that preys upon the vulnerable populations and includes coerced or forced sexual acts in exchange for, or the promise of, money, drugs, food, clothing, shelter, or other survival needs (Countryman-Roswurm, 2010). Ultimately, it is a form of abuse and exploitation in which the whole person is treated as a commodity to be stolen, traded, or sold.

Stress and Trauma

Supportive of studies that examine the individual consequences of ST (e.g., Farley, 2003a; Hossain et al., 2010; Oramet et al., 2012b), “Abby” described feeling “stressed” when considering the impact ST had on her life (Countryman-Roswurm, 2012). From a psychophysiological perspective, stress is broadly defined as “any challenge or condition that forces our regulating physiological and neurophysiologic systems to move outside of their normal dynamic activity” (Perry, 2002a, p. 4). Therefore, any event or situation that disrupts biological homeostasis may be considered stressful (Perry, 2002b). However, stress is not always negative, particularly if it is moderate, controlled, and occurs in the context of a safe, loving, and supportive environment (Perry, 2002b; Smith & Selye, 1979). In fact, experiences of moderate stress are necessary in healthy development as it cultivates human resilience and malleability (Perry, 2002b).

On the other hand, extreme forms of stress, such as that caused by experiences of ST, become traumatic due to their unpredictable, extreme, and threatening nature (Courtois, 2008; Farley, 2003b; Herman, 1997; Perry, 2002b). Trauma, often used interchangeably to refer to a distressing event and the distress itself (Briere & Scott, 2006; Levine, 1997), is caused by a psychologically overwhelming threat that triggers an extreme sense of fear, terror, and helplessness and that, whether experienced directly or vicariously, overwhelms an individual’s adaptive coping resources (Farley, 2003b; Herman, 1997; Levine, 1997; Perry, 2002b; Smith & Selye, 1979; Van der Kolk et al., 2007). Therefore, when stress is severe enough to be considered trauma, it acts as a risk factor that increases vulnerability to further physical and/or psychological harm, rather than leading to resiliency (Farley, 2003b; Perry, 2002a; Smith & Selye, 1979).

Physiological Responses to Stress and Trauma

The human body can be conceptualized as an orchestra where all of its parts work together in concert (Van der Kolk et al., 2007). In this metaphor, the brain functions as the conductor that detects, amplifies, analyzes, connects, and controls all internal and external information in efforts to maintain a homeostatic environment. To do so, the brain makes use of several major communication systems within the body, one of which is the endocrine system – a collection of glands that secrete hormones (Bremner & Vermetten, 2001; Lambert & Kinsley, 2005; Thompson, 2000; Van der Kolk et al., 2007). With this in mind, when a person is subjected to the trauma of ST, the endocrine system responds by activating the hypothalamic-pituitary-adrenal (HPA) axis or “stress circuit” (Bremner et al., 2003; Bremner & Vermetten, 2001; Danese & McEwen, 2012; McEwen, 2008; Neigh, Gillespie & Nemeroff, 2009; Thompson, 2000; Van der Kolk et al., 2007).
As the stress circuit is activated, the body releases a series of hormones into the bloodstream including norepinephrine, epinephrine, and cortisol (Bremner et al., 1997; Bremner & Vermetten, 2001; Neigh, Gillespie & Nemeroff, 2009; Selye, 1950; Selye, 1965; Thompson, 2000). These hormones prepare the body to react to the stressor through increases in blood pressure, body temperature, and muscle tone (Lambert & Kinsley, 2005; Neigh, Gillespie & Nemeroff, 2009; Selye, 1950; Selye, 1965; Thompson, 2000). This response to stress is the body’s natural method of focusing resources on physiological functions that will aid in survival (fight) or escape (flight). When the stress has resolved, the stress circuit is no longer active and the body returns to homeostasis (Bremner & Vermetten, 2001; Lambert & Kinsley 2005; Neigh, Gillespie & Nemeroff, 2009; Selye, 1965; Thompson, 2000).

While the aforementioned stress response is highly adaptive with an acute stressor, such as an immediate and short-term need to flee from an attacker, repeated activation of the stress circuit becomes maladaptive over time (Perry, 2002b; Selye, 1965). If the stress is severe, or becomes chronic in nature, the stress circuit becomes overactive and eventually breaks down due to fatigue (Perry, 2002a; Thompson, 2000). This has been termed the ‘stage of exhaustion’ and can last as long as the stressor continues to some degree of severity (Selye, 1950). Over time, the body begins to ‘keep score’ of this stress (Van der Kolk et al., 2007), which can cause a number of suboptimal physiological responses resulting in energy depletion, impairment of the immune system, and, in extreme cases, death (Bremner et al., 1997; Lambert & Kinsley, 2005; Neigh, Gillespie & Nemeroff, 2009; Selye, 1950; Selye, 1965; Thompson, 2000; Voorhees & Scarpa, 2004; Yehuda et al., 1993).

Repetitive or long-term exposure to stress or trauma provides a breeding ground for a variety of stress-related diseases (McEwen, 2008; Neigh, Gillespie & Nemeroff, 2009; Selye, 1950; Selye, 1965; Van der Kolk et al., 2007). These diseases, coined by Hans Selye (1950) as ‘diseases of adaptation’ include peptic ulcers, bronchial asthma, rheumatoid arthritis, myocardial infarctions, and hyperthyroidism (Lambert & Kinsley, 2005; Levine, 1997; Selye, 1965; Selye, Gabbiani & Tuchweber, 1964; Smith & Selye, 1979). Specifically relative to ST, victims and survivors have reported persistent headaches, fatigue, dizziness, memory problems, chest pain, stomach pain, and back pain (Oram et al., 2012a; Oram et al., 2012b; Zimmerman et al., 2008). Further, literature on childhood trauma indicates that experiencing a multi-faceted stressor, such as ST, increases the likelihood of developing diabetes, heart disease, pulmonary lung disease, and cancer and can reduce life expectancy by up to 20 years (Anda et al., 2006; Felitti et al., 1998; Stevens, 2009).

Psychological Effects of Stress and Trauma

Chronic and multi-faceted stressors such as ST can also cause anxiety, depression, suicidality, insomnia, dissociative disorders, low self-esteem, self-mutilation, mood swings, eating disorders, and drug and alcohol dependencies (Abas et al., 2013; American Psychiatric Association, 2000; Bremner & Vermetten, 2001; Farley et al. 2003; Gabbiani & Tuchweber, 1964; Herman, 2003; Hossain et al., 2010; Smith & Selye, 1979). However, the most common problem that is linked to dysfunction in the endocrine system (the home of the stress circuit), and which is frequently identified by direct practitioners serving survivors of ST, is posttraumatic stress disorder (PTSD) or (complex) posttraumatic stress disorder (CPTSD) (Bremner & Vermetten, 2001; Choi et al., 2009; Farley, 2003a). Note that the term CPTSD is proposed by many researchers and practitioners as an alternative to the traditional diagnosis of PTSD in order to reflect the prolonged nature, and developmental effects of repetitious and cyclical interpersonal trauma, such as ST (Choi et al., 2009; Cook et al., 2005; Courtois, 2008; Herman, 1997; Van der Kolk, 2005). Although complex trauma is currently considered only an associated feature of PTSD, empirical support is growing for inclusion in the Diagnostic and Statistical Manual of Mental Disorders as a standalone diagnosis (Courtois, 2008; Courtois & Gold, 2009). CPTSD is considered an anxiety disorder that is marked by re-experiencing of a traumatic event (e.g., including a response of extreme fear, horror, and/or helplessness); and in which increased arousal and excitability causes a patient to avoid (either physically or through dissociation) stimuli that may be
connected to the trauma experience (Courtois, 2008; Lambert & Kinsley, 2005; Perry, 2002a). Additionally, indications of CPTSD include shifts in the ability to regulate affect and impulse, modifications in consciousness (such as experiences of dissociation), major shifts in self perceptions, significant changes in key supportive relationships with others, and changes in physical conditions due to maladaptive mental states (Choi et al., 2009).

ST survivors suffering from PTSD often display symptoms that fall into three categories: intrusive re-experiencing of the trauma, dissociation or emotional numbing, and/or physiological hyperarousal (Farley et al., 2003; Clawson, Salomon & Grace, 2008). It is not uncommon for survivors to re-experience or flashback to traumatic events (Farley et al. 2003b; Hom & Wood, 2013). As a protective factor, survivors may avoid people, places, or situations that remind them of the trauma and/or disassociate in situations where they feel unsafe (Farley et al. 2003b; Hom & Wood, 2013). Additionally, PTSD results in the hyperarousal of the autonomic nervous system that can cause survivors to become overly alert, jittery, irritable and have difficulty sleeping (Farley et al. 2003b). If trauma is long term and CPTSD results, survivors may experience an altered sense of self, have difficulty regulating their emotions, and may have a hard time maintaining relationships (Farley et al. 2003b; Clawson et al., 2008).

The stressful and traumatic experience of ST has been directly linked to both PTSD and CPTSD (Abas et al., 2013; Choi et al., 2009; Farley, 2003b; Hossain et al., 2010; Zimmerman et al., 2008). Farley et al. (2003) utilized the PTSD Checklist, a self-report inventory for assessing the DSM-IV 17 symptoms of PTSD, to interview 854 survivors of ST across nine countries. Of the 854 respondents, 68% (562) met the criteria for a PTSD diagnosis. Additionally, recognizing that most survivors of ST have an extensive history of risk factors and childhood trauma, researchers Choi and colleagues (2009) examined the relationship between ST and CPTSD in 46 sexually exploited women, while controlling for the history of childhood abuse. Independent of experiences of childhood, the majority of women (50% or more) were found to meet the assigned conditions of CPTSD (Choi et al., 2009) and sexually exploited women (N=46), in comparison to non-sexually exploited women (N=31), met more of the symptom-level indications of CPTSD. Further, those who had experienced childhood abuse prior to ST experienced a greater severity of CPTSD symptomology (Choi et al., 2009).

**Variability in Effects of Stress and Trauma**

Due to the diverse ways in which individuals perceive stress, there are varying degrees of stress and trauma experienced by ST victims and/or survivors. Additionally, each ST survivor has their own unique psychophysiological response dependent upon genetic predispositions, gender, personality characteristics, social environments, past childhood stress and trauma, the severity of and multiple forms of abuse experienced during ST, length of ST, and the presence, or lack of social support networks (Abas et al., 2013; Adshead & Ferris, 2007; Bremner & Vermetten, 2001; Perry, 2002a). Consequently, some, but not all, ST survivors will acquire the symptomology of stress-related diseases.

In consideration of the estimates of women and girls subjugated to ST each year, it is important to note the variability in the effects of trauma based on gender and age. For example, women have been found to be twice as likely as men to exhibit symptoms of CPTSD (Bremner & Vermetten, 2001) and while women typically exhibit “internalizing” symptoms such as avoidance, dissociation, and anxiety, men usually exhibit “externalizing” symptoms such as inattention and hyperactivity, aggression, and impulsivity (Perry, 2002b, p. 17). Relative to age, childhood stress and trauma has been found to be a primary environmental factor influencing neurobiological and psychobiological development (Bremner & Vermetten, 2001; Cook et al., 2005; Courtois, 2008; Perry, 2002a; Perry, 2002b; Trickett & Putnam, 1993) and the earlier the childhood trauma occurs, the more likely that the psychobiological consequence(s) will be severe and cause cumulative impairment (e.g., psychiatric and addictive disorders; medical illness(s); educational, employment, and familial problems) (Bremner & Vermetten, 2001; Cook et al., 2005; Courtois, 2008; Perry, 2002a; Perry, 2002b; Trickett & Putnam, 1993). Thus, survivors of ST, often born and raised in an environment fraught with stress and trauma, are
more susceptible to further forms of physical and psychophysiological harm (Farley, 2003a; Farley, 2003b; Perry, 2002a).

Key Practice Implications
The link between ST and the psychophysiological consequences of chronic stress and trauma implies the need to develop systems of care that intervene at many levels (e.g., prevention, intervention, after-care) and that address the biological, psychological, social, and spiritual needs of survivors (Countryman-Roswurm, 2014a; Countryman-Roswurm, 2012; Hom & Woods, 2013). Accordingly, because such efforts are vast and require various forms of expertise, there is a need for collaborative multidisciplinary teams and holistic centers of care that include outreach workers, social workers, law enforcement officers, medical practitioners, mental/emotional health therapist, faith mentors, etc. (Countryman-Roswurm, 2014a; Countryman-Roswurm, 2014b). Noting research on practices that specifically target the psychophysiological effects of trauma, it is important that all such direct-service interventions 1) are intentionally tailored to the unique needs of each survivor, 2) recognize the survivor as the true expert of their own life and are therefore survivor-centered, and 3) promote the restructuring and development of psychophysiological homeostasis (Clawson et al., 2008; Countryman-Roswurm, 2014b; Courtois, 2008; Hom & Woods, 2013; Lloyd, 2011; Van der Kolk, 2005; Williams, 2010). Responding to the trauma of ST in a manner that allows a survivor to restructure and develop psychophysiological homeostasis requires that multidisciplinary responders a) care for themselves in order to practice mindfulness, b) respond in a manner that challenges the survivors feelings of distrust and fear due to experiences of neglect, abuse, exploitation, c) offer consistent and predictable patterns of strengths-based, empowerment-focused care, d) appropriately assess and engage survivors physical/motor, behavioral, emotional, social, cognitive, and spiritual domains, e) proactively intervene as soon as possible (Clawson et al., 2008; Perry, 2006).

While little research on integrative practices such as this exists, the Lotus Anti-Trafficking Victim to Vitality Program Model, an evidence-based model designed for collaborative multidisciplinary services, including therapeutic mental/emotional care and residential treatment, has been developed and is being utilized and assessed for use with ST survivors (Countryman-Roswurm & Bolin, 2014; Countryman-Roswurm, 2012; Wenzl & Finger, 2014).

At the foundation of the Lotus Anti-Trafficking Victim to Vitality Program Model is the belief that all individuals are created with immeasurable value and purpose, everyone should be treated with dignity and respect, and all human beings are malleable and resilient (Countryman-Roswurm, 2014a). That is, victims of abuse and exploitation have the ability to not only survive ST, but also prosper and live abundantly (Countryman-Roswurm, 2014a). Primary principles of the Lotus Program Model include the promotion of 1) transformational relationships; 2) safety and predictability; 3) grace and forgiveness for oneself and others; and 4) multifaceted healing practices that are intentionally facilitated to address the complex trauma associated with ST (Countryman-Roswurm & Bolin, 2014). Additionally, there are eleven operating principles (e.g., trauma-informed, developmentally grounded, gender conscious and responsive, narrative therapy, trauma-focused cognitive behavioral therapy, etc.) that define the manner in which Lotus Program services are delivered to survivors of ST (Countryman-Roswurm, 2012).

The Lotus Program Model is designed to be an integrative approach that addresses all stages of practice including: prevention (e.g., awareness/education through use of the Prevention for Prosperity Curriculum, demand reduction, etc.); assessment and intervention (e.g., individualized shelter and/or therapeutic practices that are guided by use of the Domestic Sex Trafficking Risk and Resiliency Assessment/DST-RRA); and aftercare and prosperity services (e.g., long-term mentors, community integration, higher education and employment opportunities, etc.) (Countryman-Roswurm & Bolin, 2014; Countryman-Roswurm, 2012). The Lotus Program Model is currently being applied in anti-trafficking multidisciplinary teams for survivor-led case planning, individual and family therapy, psychoeducational peer groups, as well as, therapeutic staff-secure residential settings (Countryman-
Lotus assumes that all elements of health must be in balance in order to restructure and develop psychophysiological homeostasis and achieve wellbeing. Therefore, the trauma associated with ST is addressed globally, by recognizing the needs a victim/survivor may have in many areas, including: physical (e.g., nutrition, housing, medical treatment, etc.); psychological (e.g., mental/emotional health therapy, medication, healthy coping skills, exercise, etc.); social (e.g., exposure to healthy role models, connection to positive peer groups, living in a safe community, healthy group norms, etc.); and spiritual (e.g., achieving a sense of higher meaning and purpose, which may include formal activities of organized religion; meditation, faith mentor, etc.) (Countryman-Roswurm, 2014a; Countryman-Roswurm, 2012; Wenzl & Finger, 2014).

With a summary of the Lotus Program Model in mind, it is important to note that the initial focus of care with the ST survivor must be on meeting basic needs (e.g., food, clothing, physical/sexual health care, restful shelter, etc.), providing a consistent safe place, and offering a committed set of stable and supportive caregivers, mentors, and peers (Countryman-Roswurm, 2014a; Smith & Selye, 1979; Van der Kolk, 2005). Following this, direct-service interventions should strive to develop and/or enhance the factors that increase resilience in survivors of ST such as: a positive view of self (Dodsworth, 2012; Dodsworth, 2014; Glennon, 2008; Lloyd, 2011; Saewyc & Edinburg, 2010), insight, (Countryman-Roswurm, 2012; Glennon, 2008), the ability to conceptualize trauma as an opportunity for growth (Glennon, 2008; Lloyd, 2011), a sense of inner strength (Dodsworth, 2012; Dodsworth, 2014; Lloyd, 2011; Williams, 2010), and an ability to visualize and plan for the future (Countryman-Roswurm, 2012; Dodsworth, 2012; Glennon, 2008; Lloyd, 2011). Lastly, therapeutic practices should assist survivors to realize the repetitive nature of their trauma, create new scripts for navigating through life, and empower adaptive methods of maintaining biological, physical, psychological, social, and spiritual health and life balance (Adshead & Ferris, 2007; Courtois, 2008; Van der Kolk, 2005).

**Conclusion**

Those who have been subjected to ST have endured psychological, physical, sexual, social, and spiritual abuse and exploitation. Therefore, it is essential that responses to ST are informed by the psychophysiological consequences of such stress and trauma and are characterized by collaborative, survivor-led, integrative care. It is only then that survivors such as “Abby” can be empowered to not only exit a life of ST but also journey through a process of resilience, recovery, and prosperity.

**References**


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