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Effects of traumatic brain injury on domestic violence survivors

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EFFECTS OF TRAUMATIC BRAIN INJURY ON DOMESTIC VIOLENCE SURVIVORS

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Abstract

Very little research exists on the topic of traumatic brain injury within the context of domestic violence. The purpose of this research is to increase the body of knowledge on traumatic brain injury in domestic violence survivors. More specifically, this research serves to understand the frequency of traumatic brain injury among domestic violence survivors with the subsequent foci of analyzing the relationship between traumatic brain injury and domestic violence, identifying the impact of traumatic brain injury on domestic violence survivors, and discovering strategies for serving domestic violence survivors who have sustained traumatic brain injury. A secondary data analysis of a study measuring rates of traumatic brain injury and domestic violence among incarcerated women indicated an influential relationship between traumatic brain injury and domestic violence. An analysis of existing literature on these topics shed more light on this relationship as well as ways to incorporate awareness of traumatic brain injury into domestic violence services.

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Introduction

Domestic violence is a well-known societal and public health issue. Countless articles exist on the topic and agencies around the country dedicate themselves to raising awareness of the issue and serving victims affected by domestic violence. However, little information exists on the complex nature of the struggles faced by domestic violence victims with brain injuries.

Brain injury is a common consequence for domestic violence victims due to the physical violence they endure at the hands of their abusers. The nature of the injuries domestic violence victims experience can affect the brain in different ways, oftentimes leading to traumatic brain injury. Traumatic brain injury has widespread and debilitating effects on individuals, leading to cognitive, behavioral, and social consequences.

Understanding the complex nature of traumatic brain injury in the context of domestic violence is necessary in order for advocates and helping professionals to provide effective services and valuable resources for domestic violence victims.

Purpose

The purpose of this work is to understand the frequency of traumatic brain injury (TBI) among domestic violence (DV) survivors and to gain insight into the relationship between DV and TBI. More specifically, the primary purpose is to understand how often DV and TBI co-occur. Secondary purposes include analyzing the complex relationship between DV and TBI, understanding the impact of TBI on DV survivors, and discovering strategies for serving DV survivors who have sustained TBI. In order to better understand the relationship between TBI and DV, the author reviewed literature on TBI and its occurrence among incarcerated individuals

and DV survivors, and analyzed data collected by the Iowa Department of Public Health that includes rates of DV and TBI among incarcerated women in Iowa.

Background

In order to analyze how TBI impacts DV survivors, it is important to understand the basic components of a TBI diagnosis and how it occurs. Thurman and Guerrero (2012) define TBI as a "physiological disruption in brain functioning resulting from an external physical force, including blunt force and acceleration/deceleration" (as cited in Kwako et al., 2011, p. 115). The Brain Injury Association of America supports the definition of TBI "as an alteration in brain function, or other evidence of brain pathology, caused by an external force" (2012).

This impaired brain function can result from a multitude of external forces, especially in cases of domestic violence. Common injuries incurred include the smashing of a victim's head into a wall, punches to the head or face, stabbing or gunshot wounds, violent shaking, or strangulation. These injuries impact an individual's brain in different ways. Direct blows to the head can result in concussions, where the brain's blood vessels may stretch and the cranial nerves may be damaged, or contusions, where direct impact causes bruising/bleeding on the brain. Violent shaking can also lead to concussions, as well as diffuse axonal injuries that occur as the stationary brain delays behind the movement of the skull, resulting in torn nerve tissue. Penetrating injuries to the brain, such as those from bullets, knives, or other sharp weapons can send debris into the brain and cause disintegration of brain tissue. Strangulation can prevent oxygen from reaching the brain, thus depriving brain cells with the ability to function or live (Brain Injury Association of America, 2012).

TBI can be categorized as mild, moderate, or severe. While usage of the descriptor "mild" may indicate that such a brain injury is insignificant or minor, this is not the case. Mild brain injuries present serious symptoms that can significantly impact an individual's functioning. The effects of TBI include long-term cognitive consequences such as:

> Memory impairment; attention and concentration limitations; language deficits; and difficulties in problem solving, abstract thinking, insight, judgment, planning, information processing, and organization. Behavioral difficulties may include verbal and physical aggression, lack of insight, sexual dysfunction, depression, and anxiety. Social sequelae may include increased risk of suicide, divorce, chronic unemployment, financial stress, and substance abuse (Jackson, Philp, Nuttall, & Diller., 2002, p. 40).

TBI can significantly impair individuals' mental functioning, and often go unnoticed by those affected by the injury. According to Gronwall, "Mild traumatic brain injury can produce 'long-term damage … which may not be apparent in normal circumstances, but which is evident when the system is stressed'" (as cited in Jackson et. al, 2002, p. 40). Because individuals may be unaware that a brain injury influences their functioning, coping with the aftereffects of TBI can become even more difficult.

The difficulties in functioning caused by TBI can make it very difficult for battered women to make plans to leave their abusive partners and sustain independent lifestyles (Banks & Ackerman, 2008). Cognitive, social, and behavioral difficulties mentioned before, such as difficulty remembering, compromised ability in problem solving, insight, judgment, planning, and organization present significant barriers to women leaving abusive partners. Understanding the challenges DV victims face as a result of TBI is necessary in order for women to overcome these obstacles.

Literature Review

While domestic violence has been an area of study for decades now, relatively little research has focused on the impact of head injuries among DV survivors. One of the first articles to delve further into the issue of head injuries among DV survivors was written less than 15 years ago by Kathleen Monahan and K. Dan O'Leary. The two created the study "as an initial inquiry into the incidence, prevalence, and presenting symptomatology of head injury among battered women residing in a domestic violence shelter and the inherent issues that social workers need to address with this population" (1999, p. 270). Monahan and O'Leary's study found that nine of the 26, or 35 percent, of the women that they interviewed suffered head trauma as a result of domestic violence (1999, p. 275). The women in this study displayed various cognitive difficulties following their head injuries, including "difficulty with retaining information, concentrating, initiating self-directed activity, abstract thinking, memory loss, mental fatigue, and difficulty with decision making" (Monahan & O'Leary, 1999, p. 275-276). This research connected already established information on brain injury to victims of DV in order to better demonstrate the issues they face.

In 2011, a group of six researchers joined forces to analyze existing studies documenting TBI occurrence in intimate partner violence (IPV, a term which can be used interchangeably with DV). Twelve years after Monahan and O'Leary's article was published, research was still scarce in the area of TBI among DV survivors as the researchers could only find six "original research articles that explicitly examine the occurrence and outcomes of TBI sustained in the context of IPV" (Kwako et al., 2011, p. 116). From these studies, the authors found that the research indicated a 30 to 74 percent range in rates of TBI among IPV victims

seeking emergency shelter or health services (Kwako et al., 2011, p. 117). This wide range in rates of TBI among victims indicates a need for more research on these rates in general, in addition to a more standardized approach to measuring rates of TBI. After analyzing all available research, Kwako et al. (2011) postulated that many of the psychological and physiological issues found in DV survivors, which have been traditionally associated with the severity of abuse or post-traumatic stress disorder, may come from multiple brain injuries as well as "physiological disruptions, and the chronic stress associated with IPV" (p. 121).

Many of the consequences of TBI, such as lack of judgment, aggression, poor decision-making, mental health issues, financial difficulties, and increased risk of substance abuse create an ideal environment for cultivating criminal behavior among individuals with TBI. No research has been discovered (as of now) that studies the specific link between TBI sustained as a result of DV in an intimate, adult relationship and rates of incarceration among women. Most research is much broader in its scope, either detailing the negative effects of TBI on DV survivors or linking various neurobiological changes, as a result of prior abuse, to rates of incarceration among women. The majority of the research found on TBI in prisoners explored brain injury among male inmates and the possible implications for their violent behavior—oftentimes explaining acts of violence against women. At this time, no studies could be found that look at the rates of both TBI and DV among incarcerated women.

Numerous studies have analyzed the effects of abuse on the brain, which is shown to increase the likelihood of incarceration. Brewer-Smyth stated, "The current state of the science suggests that the difference between females who become violent criminals and those who do not could be related to personal histories of physical and sexual abuse and associated neuropathophysiologic correlates related to traumatic brain injuries with loss of consciousness"

(2004, p. 836). Brewer-Smyth found that of the population of female inmates that she interviewed, on average, women convicted of violent crimes had two TBIs with loss of consciousness compared to one per woman among those convicted of nonviolent crimes (2004, p. 842). However, Brewer-Smyth's research focuses on the neurobiological changes in the brain as a result of witnessing and experiencing violence, as well as TBI as a result of childhood abuse. The broad view of causes of incarceration among women who have been abused makes it more difficult to analyze the effects of violence experienced in adult intimate relationships. The focus on childhood abuse also leaves out the population of women who might not have experienced childhood abuse but have experienced DV as adults.

Another limitation to the existing research on female inmates with TBI is the lack of quantitative data and a statistically substantial number of study participants. According to Brewer-Smyth (2004), "The majority of studies of female inmates have been retrospective, qualitative, or descriptive, without control groups, and with small sample sizes" (p. 847). These studies have found a link between TBI and perpetration of violence among women, but the lack of a comparison group does not account for women who have been abused or sustained TBI but have not been incarcerated for crimes, raising further questions about the role of abuse among female offenders.

In addition to research linking prior abuse to incarceration, other studies have shown that sustaining a TBI increases the likelihood of perpetrating interpersonal violence. In an 8-year longitudinal study of at-risk youth, researchers at the University of Michigan identified a trend of greater interpersonal violence among young adults who had sustained head injuries during their adolescence than those who had not experienced head injuries as adolescents (Stoddard & Zimmerman, 2011, p. 1074). While this research corroborates other studies that link head injury

to later interpersonal violence, it is also limited in its application to DV survivors who are incarcerated because the population of study is made up of adolescents in an urban area. While generalizations can be made, there are large differences between adolescent youth and adult women who have been in abusive relationships.

While current research suggests a significant relationship between TBI and incarceration, TBI among DV survivors remains an area of study with limited literature that requires further research and inquiry. Quantitative data illuminating the prevalence of TBI among DV survivors coupled with additional investigation into the nature of the relationship between DV and TBI is a necessary extension of existing research.

Methodology

To meet the needs of research on TBI within the context of DV, the author executed a secondary data analysis of a study performed by the Iowa Department of Public Health on the prevalence of DV and TBI in the female prison population. In 2008, the Iowa Department of Public Health (IDPH) received funds from the U.S Department of Health and Human Services Health Resources and Services Administration (HRSA) to study and address TBI in Iowa. In order to receive the grant, IDPH specified two target populations on which to focus during the grant funding cycle: domestic violence survivors and incarcerated individuals.

IDPH worked with the Brain Injury Alliance of Iowa (BIA-IA), the Iowa Coalition Against Domestic Violence (ICADV), and the Iowa Department of Corrections (IDOC) to come up with an effective strategy to investigate the prevalence of TBI among these populations. Along with individuals from each of these agencies, two students from the University of Northern Iowa, including the author, were employed to assist with the study.

The purpose of the IDPH study was twofold; first, understand rates of TBI and DV among incarcerated women and second, connect them with resources for both of these issues and discover which resources were most useful for reentry. The three agencies determined that through the grant, a pilot project was necessary to accomplish the following:

1. Screen incarcerated women who were up for parole or work release, or who were currently on parole or work release, for TBI and DV.
2. Provide the women with resources about TBI and DV that may be helpful while reintegrating back into the community.
3. Gather feedback on the effectiveness of the resources.
4. Analyze the findings and provide recommendations for future screening and information and referral services.

Before initiating the screenings, staff from IDPH, BIA-IA, ICADV and IDOC compiled resources for individuals with brain injuries and survivors of domestic violence. Resources were pulled from BIA-IA and ICADV's already existing client resources. BIA-IA offered educational materials regarding TBI as well as referrals to neurological professionals in the community while ICADV provided educational resources on DV and the opportunity for individual DV advocacy. The UNI students developed a community resource guide with diverse information on services and helping agencies in the Des Moines metro area, including referrals to food and clothing pantries, legal aid, housing resources, substance abuse treatment facilities, and medical and health resources.

For screening purposes, ICADV helped craft a DV screening tool which asked about control, coercion, intimidation, fear, and physical violence (see Appendix A). For the TBI screening portion, IDPH, ICADV and BIA-IA used the HELPS Traumatic Brain Injury

Screening Tool (see Appendix B). The agencies organizing the study added a few demographic questions, but kept the integrity of the HELPS screening tool as it is a standard instrument to measure the likelihood of someone having experienced a TBI in their lifetime.

The HELPS Traumatic Brain Injury Screening Tool consists of five different areas of inquiry, each letter of the acronym representing a different section of the assessment. The "H" section asks, "Have you ever hit your head or been hit on the head?" and lists incidents in which a head injury could occur, including strangulation. The "E" section inquires about emergency and medical services sought for previously listed injuries. Next, the "L" section covers the subject of loss of consciousness as well as feelings of being dazed, confused, or the inability to remember what happened. Problems in daily life since the injury, such as difficulty reading, writing, or doing math, anxiety, depression, headaches, balance problems, and other issues are addressed in the "P" section. Lastly, "S" addresses any significant sicknesses that could have resulted in an injury to the brain.

In order to screen populations of female inmates who were nearing release, the study worked with women in two correctional institutions in the state. IDOC identified women who met the criteria of being eligible for or currently on parole or work release. Once identified, the women were notified about the screenings as well as the resources available and given the option to participate.

Staff from IDPH, BIA-IA and ICADV, as well as the UNI students, all who had undergone background checks prior to the study, performed the women's screenings. The screenings took place within each institution in communal areas. Screeners were paired one-on-one with participants and spread out throughout the room in order to provide as much privacy as permitted within the context of correctional institutions. The facilitators completed the DV

screenings with participants first and then followed with the TBI screening, reading each question to the participant and writing down her general response.

Following the screenings, the facilitators shared the results with participants immediately and provided them with and explained the resources compiled for them. Participants were informed that the on-site psychologist would be available to speak to them if they experienced any adverse emotional effects as a result of the screenings. They were also offered a follow-up visit from ICADV staff.

In order to utilize the results from the screenings for a secondary data analysis, the author submitted an application to the Institutional Review Board at the University of Northern Iowa. The author was permitted to perform the secondary data analysis on the conditions that any identifying markers be coded to maintain confidentiality and access to the data set remain limited to the author and her thesis advisor.

Results

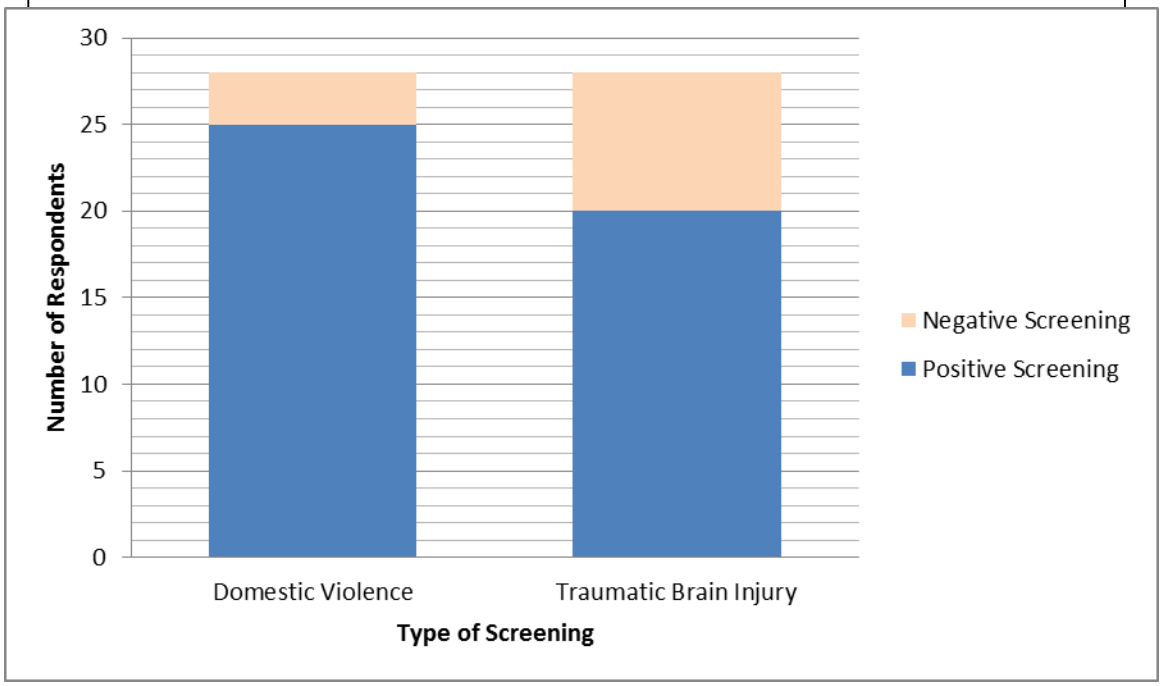
The study was able to screen 28 women total between the two institutions. All 28 women were nearing their exit date soon to enter parole or work release, with 15 exiting to or already on parole, nine exiting to or already on work release, and four for which data on this status was not collected. Of the women screened, 89.3 percent identified as Caucasian, 7.1 percent identified as African-American, and 3.6 percent identified as Alaskan Native. The oldest participant was 56 years old while the youngest was 23 years old. The study had a median age of 37.5 years and a mean age of 37.3 years.

In order to understand the frequency of TBI among DV survivors and to evaluate the relationship between DV and TBI, the author formulated a null hypothesis (“There is no

relationship between rates of DV and TBI") and an alternative hypothesis ("There is a relationship between rates of DV and TBI") to apply to the analysis of the data. The results from both institutions combined showed that of the 28 women screened, 89.3 percent (*n* = 25) of the women screened positively for experiencing DV. Out of the 28 women screened, 71.4 percent (*n* = 20) of the population screened positively on the HELPS Traumatic Brain Injury Screening Tool, indicating that they were at risk for having sustained TBI.

Among the women who screened positively for DV, 76 percent (*n* = 19) screened positively for TBI. Only two women screened negatively for both DV and TBI, and only one individual screened positively for TBI without DV. Six women screened positively for DV without TBI, making up 24 percent of the population. The participants in this specific population showed high rates of DV and TBI, with the majority of women experiencing both. The following graph (Figure 1, see Appendix C) illustrates the results of the DV and TBI screenings in terms of positive and negative screening outcomes:

Figure 1



While sheer numbers appear to be indicative of a positive relationship between DVand TBI rates, the number of individuals in the population without DV is too low to provide an accurate comparison for the relationship between the two variables. Because the number of individuals in the population without DV was so low, Fisher's Exact Test was utilized instead of the Chi-Square test. Fisher's Exact Test showed the exact significance (both 1- and 2-sided) to be .188, which is greater than .05 and therefore not statistically significant. Without statistical significance the research is unable to reject the null hypothesis that there is no relationship between rates of DV and TBI.

Discussion

While the results of the data analysis were not statistically significant, they still provide significant insight into the complex relationship between DV and TBI. Though research was unable to reject the null hypothesis, sheer numbers alone, with 76 percent of DV victims screening positively for TBI, are worthy of further research. Seventy-six percent of DV victims screening positively for TBI exceeds the rate of 30 to 74 percent found in the research Kwako et al. synthesized (2011). These high rates of TBI among populations of DV survivors exposes the need for TBI awareness among DV service providers.

Due to the prevalence of TBI among DV survivors, it is crucial that DV service providers begin to factor knowledge of TBI into their treatment approaches. As detailed earlier, TBI can make it difficult for women to leave their abusive partners because of cognitive, behavioral, and social consequences. TBI complications may make it seem as though a client is being disrespectful or difficult, for instance if she is constantly losing personal belongings or forgetting appointments, but these behaviors can be symptomatic of brain injury (Banks &

Ackerman, 2002, p. 141). This problem emphasizes the importance of knowing whether or not a DV survivor has TBI so treatment plans and general interactions with the client can meet client needs and address limitations. Jackson et al. (2002) assert that many women may be relieved to know that some of their symptoms, which are seemingly out of their control, are not a reflection of their character or personal shortcomings, but rather their neurological state which can be addressed through treatment (p. 44). Understanding the challenges individuals with TBI face is crucial for professionals working with victims of DV so that they can effectively assist them.

A simple and effective way to begin to integrate TBI awareness into DV services is to screen clients for TBI upon their entering shelter or receiving services. Existing research on brain injury within the context of DV suggests that victims of physical abuse be screened regularly for TBI, with specific questioning about the type, incidence, and extent of injuries (Jackson et al., 2002, p. 43). The HELPS Traumatic Brain Injury Screening Tool was created for use by non-medical professionals and is therefore very user friendly and simple to execute. In addition to its ease and convenience, the HELPS Traumatic Brain Injury Screening Tool also provides relevant background information on clients, such as what cognitive, behavioral, or social problems they struggle with and the types of physical abuse they experienced. When advocates and case managers can identify barriers their clients face, they are more equipped to connect them with useful resources and help them overcome those impediments.

In order to maximize the benefits of resources for DV survivors, the underlying neurological problems as a result of brain injury must first be addressed. Therefore, it is important for DV agencies to develop partnerships with neurological healthcare professionals who can work with DV survivors with brain injuries. Jackson et al. (2002) suggest the following in working with DV clients who have sustained TBI:

> Accordingly, we recommend some combination of psychosocial and rehabilitation treatment designed to do the following: address safety issues, enhance patients' self-esteem, furnish emotional support, provide education about head injury and its effects, reduce isolation, strengthen cognitive capacities to process and interpret information, improve ability to cope with everyday aspects of family and community life, provide information about available resources, and when necessary, assist patients in "navigating" the health and rehabilitation systems (p. 44).

Clearly, in order to meet these needs, DV service agencies need to forge productive partnerships with neurological healthcare professionals to provide effective and well-rounded services to clients. An integrated approach including neurological treatment in addition to traditional client treatments will be most effective in empowering survivors of domestic violence and leading them to self- efficacy.

Implications for Future Research

Future research could take many different approaches in analyzing rates of TBI and DV across different populations. For instance, it would be advantageous to screen DV survivors for TBI who had not been incarcerated. As mentioned previously, DV survivors in prison may have multiple causes of TBI, not limited to TBI sustained from DV. Clarifying how the TBI was sustained so that differences could be accounted for between TBI sustained through DV and TBI sustained through other means, such as accidents or other assaults could provide further insight into the nature of TBI within the context of DV.

Additionally, having a comparison group of DV survivors screened for TBI who have not been incarcerated would be beneficial because it could help calibrate the samples and

therefore demonstrate a well-rounded look at TBI among survivors of DV. Screening DV survivors who have not been incarcerated for TBI was initially the author's plan. However changes in funding for DV agencies in the planned service area of study prevented the author from gathering a significant number of participants. The author was able to perform a DV and TBI screening with one woman who the author recruited from a local DV outreach service agency. This screening served as an effective example for future research among populations of non-incarcerated DV survivors. The participant screened positively for both DV and TBI though she had never been incarcerated. In order to continue this research and compare rates of TBI between incarcerated and non-incarcerated DV survivors, participants would need to be recruited from DV service agencies, as the author had begun to do.

Another option for future research would be to increase the sample size of the current study in order to obtain more accurate data. To do so, one would need to sample a population with greater numbers of individuals with TBI without DV. Increasing this sample would provide statistical significance that would show a more accurate picture of TBI rates among DV survivors. Populations that might provide appropriate participants include individuals seeking professional services not centered around DV, such as substance abuse treatment or family therapy.

Conclusion

The initial purpose of this study, to uncover the frequency of TBI among DV survivors, was measured through a secondary data analysis of information collected through the Iowa Department of Public Health's study on rates of TBI and DV among female inmates in the Des Moines metro area. Though the results of this secondary data analysis came out to be

statistically not significant, clearly there is some type of relationship between the rates of DV and TBI among this sample. The fact that over three-fourths of DV survivors screened positively for TBI is too profound to be ignored. Because of the clinical significance of this initial study, further research is necessary to shed more light on the relationship between DV and TBI. Increasing the sample size of the present study would be a natural progression for future research as it would provide the statistical significance that this study lacked. Furthermore, screening DV survivors who have not been incarcerated would help calibrate the samples, giving a well-rounded look at TBI among survivors of DV.

Most importantly, further research is critical in order to push the issue of traumatic brain injury among domestic violence survivors to the forefront of the social work field. Evidence-based practice is the foundation of the social work profession, and further research can bring much needed attention to this issue and fuel advocacy efforts for this vulnerable population. Once DV clients impacted by TBI have effective strategies for managing their brain injuries, it is much easier for them to meet their goals of securing stable housing, employment, and ultimately, life satisfaction.

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Appendix A

Domestic Violence and Brain Injury Screening

Iowa Department of Public Health and Iowa Coalition Against Domestic Violence
At Iowa Correctional Institution for Women
Summer 2012

My name is _____ and I'm with Iowa Department of Public Health/Skylark Project. Thank you for speaking with us today.

The Iowa Department of Public Health and the Skylark Project are working together on a study about domestic violence, traumatic brain injury, and successful reentry. We are talking to you today because you are planning to reenter through Polk County, Iowa.

Today we'll walk through a short list of questions, and I will take notes about your answers. First there will be questions about your past relationships. Then I might ask questions to see if you have had injuries or accidents that could have given you a brain injury. At the end, all interview participants will receive the same bag of resources for the Polk County area, no matter what your answers to the questions.

These questions do not tell us for sure who has a brain injury. The questions tell us if a person has been at risk for a brain injury. Our goal is to help those people connect with doctors and resources to properly test for brain injury and to get help recovering.

We will follow-up with everyone about three months after your reentry to see if the resources were useful.

At the end of our study, Iowa Department of Public Health will write a paper talking about rates of domestic violence and traumatic brain injury. We want to make recommendations about which resources were useful for reentry. No participant names will be used in the report. All information will be anonymous and confidential. The information we learn from this study will be used to help women across Iowa by helping us understand how common brain injuries are and what resources help most.

Do you have any questions before we begin?

I'm going to ask you questions about your past relationships. Please think about any romantic relationships you've had since you were a teenager – people you have dated, the father of your children, or your spouse.

<u>Control, Coercion, Intimidation, Fear</u>

a) When you look back over time, how were decisions made in your relationships? How much did your opinion matter?

b) What happened when you spoke your mind or expressed your point of view to your partner?
c) Have any of your past partners ever stopped you from having contact with family or friends? If so, what happened?

d) Did your partner ever refuse to give you money for food, shelter, or medicine? Have any of your partners ever stolen your paycheck? If so, what happened?

e) Has a partner ever called you nasty names or put you down? If so, what did he or she say?

f) Did you ever feel afraid of a partner? What were you afraid of?

g) Has a partner ever felt afraid of you? What was he or she afraid of?

h) Has a partner ever damaged or destroyed your property? Ever harmed or threatened to harm your pets?

i) In your relationships, did you ever feel threatened or harassed because your partner followed you or wouldn't stop calling you? Because he or she interfered with your work or school? If so, what happened?

<u>Physical Violence</u>

j) When you and past partners were angry with each other, what happened?

k) Were you ever afraid for yourself or others based on "the look" from a partner? If so, tell me about it.

l) Has there ever been any physical confrontation between you and a partner? If so, what happened?

m) Has a partner ever done any of the following: pulled your hair, pushed you, shoved you, hit you, kicked you, choked you, or restrained you? If so, what happened?

n) Have you ever gone to the hospital or a doctor because your partner injured you? If so, what happened?

o) Has a partner ever used or threatened to use a weapon to harm you? If so, what happened?

p) Has a partner ever threatened to kill or injure you? Has your partner ever threatened to kill or injure a family member, friend, or coworker?

q) Have you ever had a no contact order or protection order issued against a partner? Have any of your partners had no contact orders or protection orders issued against you?

r)

If unsure how to screen:

s) Do you consider yourself a survivor of domestic violence? What else has happened in your life?

Past Domestic Violence

Thank you very much for sharing your story with me. These are very difficult questions, and I appreciate your willingness to talk openly with me. From what you've told me, you have survived a lot of scary stuff. I have just a few more questions to ask you. Then when we're done, in the resource bag is the contact information for domestic violence programs around Polk County. Sometimes survivors feel better when they have someone they can talk to about everything they went through. The advocates and groups at the local programs are great to talk to.

(Proceed to HELPS screening)

Domestic Violence Unlikely

Thank you for talking with me. Those were very personal questions, and I appreciate your patience. In the resource bag you'll find the contact information for domestic violence programs around Polk County. Please feel free to share them with a friend. Many survivors of domestic violence have trouble talking about their experiences. Sometimes having an advocate or group at a local program can help a survivor feel less alone.

Appendix B

HELPS Traumatic Brain Injury Screening Tool

	HELPS Screening offered:	Agreed to screening	Declined
H	Have you ever **H**it your **H**ead or been **H**it on the **H**ead? Incidents may have occurred at any age and include: car accidents, falls, assault, sports, etc., also violent shaking of the head (such as whiplash, being shaken), and strangulation.	YES	NO
E	Were you ever seen in the **E**mergency room, hospital, or by a doctor because of an injury listed above?	YES	NO
L	Did you **L**ose consciousness or were you dazed, confused, or could not remember what just happened?	YES	NO
P	Do you experience these **P**roblems in your daily life since the injury? • difficulty reading, writing, or doing math • difficulty performing your job/school work • headaches or dizziness • anxiety, depression, or mood swings • difficulty concentrating or staying on one topic • difficulty remembering • problems with eyesight or hearing • paralysis • weakness in your hands, arms, or legs • balance problems • constantly tired • epilepsy • trouble learning new things • trouble making decisions, planning	YES	NO
S	Any significant **S**icknesses? Brain injury may be caused by medical conditions, such as: brain tumor, meningitis, West Nile virus, stroke, seizures, or oxygen deprivation following a heart attack, carbon monoxide poisoning, drowning, or suffocation.	YES	NO
	TOTAL		

Demographic Data:

Client declined reporting personal information:			YES (skip to TBI info)	NO
Gender:	Male	Female		
Age:	0-17	18-24	25-59	60+
Services:	Shelter		Out-client	

TBI Information:

TBI bag offered?	YES	NO	Accepted?	YES	NO
TBI referral made?			YES	NO	

A HELPS screening is considered positive for a possible TBI when the following 3 items are identified:
1.) An event that could have caused a brain injury (yes to H, E or S), and
2.) A period of loss of consciousness or of being dazed and confused (yes to L or E), and
3.) The presence of two or more ongoing problems listed under P that were not present before the injury.

If you feel concerned about your results or would like more information, please talk to your health care provider or call the Brain Injury Association of Iowa at 1-855-444-6443.

The original HELPS TBI screening tool was developed by M. Picard, D. Scarisbrick, R. Paluck, 9/91, International Center for the Disabled, TBI-NET, U.S. Department of Education, Rehabilitation Services Administration, Grant #H128A00022. The Helps Tool was updated by

project personnel to reflect recent recommendations by the CDC on the diagnosis of TBI. See http://www.cdc.gov/ncipc/pub-res/tbi_toolkit/physicians/mtbi/diagnosis.htm.

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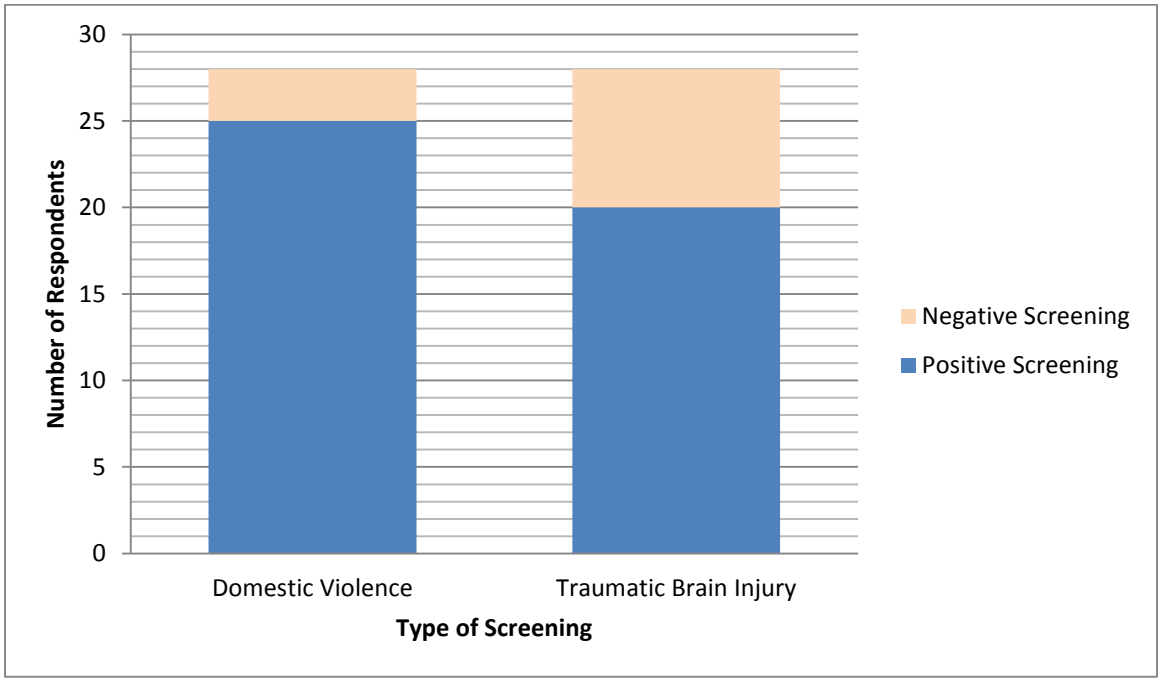
Appendix C

Figure 1

Rates of Domestic Violence and Traumatic Brain Injury



This Study by: Elizabeth Marie Martin

Entitled: Effects of Traumatic Brain Injury on Domestic Violence Survivors

has been approved as meeting the thesis or project requirement for the Designation University Honors with Distinction.

12/16/13 _____

Date William Downs, Ph.D., Honors Thesis Advisor, School of Social Work

12/20/13 _____

Date Jessica Moon, Ph.D., Director, University Honors Program

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12/20/13 Jessica Moon

Date Jessica Moon, Ph.D., Director, University Honors Program