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Domestic Minor Sex Trafficking In Minnesota: A Geographic Analysis

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Abstract

This research project explores how geography impacts the severity of domestic minor sex trafficking (DMST) in Minnesota. This project draws from theoretical and empirical human trafficking scholarship. While conducting research, I analyzed data on high-risk locations across Minnesota with county-level data collected from the Safe Harbor Network, which is used as a service provided for youth who have experienced DMST in Minnesota. This project uses a quantitative approach to test my hypotheses that counties will have more DMST in them if they have more geographic high-risk locations. The findings from this project supported a connection between certain geographic locations and vulnerabilities, such as foster care facilities, motels, poverty and child poverty, and an increase in the prevalence of DMST. During the analysis, there were unexpected negative correlations between high-risk locations and a decrease in DMST. This project gives insight into why certain counties in Minnesota may be more susceptible to DMST than others. Additionally, it addresses how thoroughfares, businesses, and socioeconomic status play a role in DMST severity on a county level. To further the scholarship and findings of this project it concludes by highlighting how looking at DMST's relationship to geography has the potential to protect the lives of youths in Minnesota.

1. Introduction

Domestic minor sex trafficking (DMST) strips individuals of their rights. DMST can happen to anyone, despite socioeconomic status, gender, or cultural background. However, there are certain high-risk indicators that make youth vulnerable to being exploited through trafficking. DMST's market is vast and does not exist solely in one place. Youths are sold through different methods of online advertisement and word of mouth. As there are a variety of locations in which this occurs, this project seeks to address whether or not geographic high-risk indicators of DMST impact the prevalence of DMST at a county level.

DMST is part of the much larger market of human trafficking, which involves both forced labor trafficking (which is common in fishing, mining, and farming), and sexual slavery (which can mean trafficking a person from state to state to be sold for sex, forced pornography, and other types of sexual exploitation). According to the *International Labour Organization,* in 2014 human trafficking was worth roughly 150 billion dollars[1]. Since 2015, human trafficking has grown exponentially, in 2017 there were 40 million people trafficked globally[2]. In 2018 and 2019, the National Trafficking Hotline saw a 19% increase in victims and survivors' outreach to their trafficking hotline from 2017, which also increased from the previous year[3]. It should be noted that there is no way to truly gauge the number of people who have or are experiencing human trafficking because of the difficulties in creating a reliable census. DMST was chosen as the primary focus for this project due to its prevalence in Minnesota, where much of the data was collected.

In this paper, I ask why the severity of DMST varies geographically across Minnesota. Currently, Minnesota ranks ninetteth in the United States for worst states for human trafficking[4]. DMST ranking in Minnesota is inconclusive because of lack of data. In 2010 the *Women's Funding Network* conducted a study on ads for DMST on illegal websites

and found that "124 girls were sex trafficked in Minnesota in August 2010—up from 80 in February 2010"[5] . Further, this report noted that "domestic minor sex trafficking is more prevalent in Minnesota than the monthly number of reported incidents of teen girls who died by suicide, homicide and car accidents, infants who died from sudden infant death syndrome or women of all ages murdered in one year"[6]. Given the hidden nature of DMST, it is hard to actually know how many minors in Minnesota live this experience. Despite estimates on DMST prevalence in Minnesota being inconclusive we know that it is a problem Minnesota is facing. Currently, other forms of minor exploitation are on the rise in Minnesota. According to *The Minnesota Bureau of Criminal Apprehension,* 2020 saw a 30% increase from 2019 in complaints filed for child pornography and backpage.com advertisements that sell minors[7].

Minnesota prevention and postvention for DMST is mainly addressed through the Safe Harbor Law which went into effect in 2014 mandating that Minnesota, "developed a Safe Harbor Network of victim-centered, trauma-informed services and safe housing, as well as Regional Navigators who connect youth with services and serve as experts for their communities"[8]. This network and the current policies surrounding DMST have yet to address the full scope of DMST in Minnesota and to stop the growth of this market, which is why more research is needed on this topic. I believe the key component of adequately addressing this issue is to understand how geography impacts DMST. In this paper, I argue that counties with thoroughfares and major transportation passes through them will be more vulnerable to DMST. Furthermore, I propose that counties with more motels, bars, casinos, and sexually-oriented businesses within a 5 miles radius of entry and exit ramps off of Minnesota's two interstates, I-94 and I-35, will have increased DMST severity. Lastly, counties with more airports, malls, foster care facilities, cargo ship harbors, poverty, child poverty, Black/African American residence, Asian residents, American Indian and Alaska Native residents, and Hispanic residents will have a higher risk of DMST. Understanding where and why DMST happens in certain locations in Minnesota can help shape policies and educational training around DMST. The findings of this research project support some high-risk locations increasing the prevalence of DMST and highlights how other high-risk locations may actually decrease DMST.

The framework of this project is as follows; first, there is a literature review of current scholarship on human trafficking, mainly DMST and the effects of geography. Second, I develop my arguments and present 7 different hypotheses on how geography impacts DMST in Minnesota. This will be followed by an empirical analysis and a discussion of my findings. To conclude, this paper will summarize my key findings and discuss the need for further research on DMST.

2. Literature Review

This literature review seeks to evaluate the theories and research on domestic minor sex trafficking (DMST). Broadly, there are two definitions used to define DMST in the literature: *the United Nations International Children's Emergency Fund* (UNICEF) defines it as, "the recruitment, coercion, transportation, transfer, harboring or receipt of children under the age of 18 for the purpose of exploitation. It is a violation of their rights and their well-being and denies them the opportunity to reach their full potential"[9] and the *Trafficking Victims Protection Act of 2000* defines DMST as, "the recruitment, harboring, transportation, provision, or obtaining of a person for the purpose of a commercial sex act where the person is a U.S. citizen or lawful permanent resident under age 18"[10]. Within this research project I have chosen to define DMST using the UNICEF definition.

The framing of DMST has varied within the literature, however, within the last decade, there has been a substantial push to view DMST through a public health crisis lens[11]. Scholars acknowledge the importance of social services and law enforcement in addressing DMST, however, some scholars stress that for those agencies to properly do their job DMST must be framed as a public health crisis[12]. In labeling DMST as a public health crisis, prevention, (strategies to prevent minors from being domestically trafficked) intervention, (how we intervene to get a minor out of DMST) and postvention, (calculated responses to a minor who experienced DMST to ensure that they are mental and physically healthy and won't be trafficked again), can fully encompass the necessary steps to adequately address the trauma at an individual, family, and community level[13]. Scholars agree that there are substantial gaps within the empirical evidence in the literature[14]. Without comprehensive research, any policy that seeks to address DMST will fall short.

There are several limitations to collecting data on DMST. For this reason, the data that is used to showcase the severity of DMST are rough estimates with a high undercount, further, there is no official government estimate used within the literature. Organizations such as the *International Labour Organization* estimates that there are 40.3 million victims of human trafficking globally and that 25% of them are children[15] . The *Shared Hope International* conducted research using various methods as well as utilizing federal human trafficking task forces in 2006 and estimates that

between 100,000 to 300,000 DMST victims were in the United States[16], similar variability can be seen in the *Congressional Research Service's* estimate that, "the number of child victims of sex trafficking in the United States could be in the hundreds of thousands"[16]. Though their estimates differ, these organizations and the scholarship agree that DMST is underreported and that the data obtained is often not representative of the issue as a whole and instead represents only one of many aspects in DMST[18]. Organizations emphasize that DMST is one of the fastest-growing markets. Between 2010-2015 the *National Center for Missing and Exploited Children* reported an 846% increase in suspected DMST cases[19]. DMST estimates will never fully account for the number of minors who experience DMST in the United States due to unreported DMST cases, and the hidden nature of human trafficking. Additional reasons to believe that estimates are likely biased include the fact that location, such as youth shelters and support groups, where the data is collected is not conducive to comprehensive data collection. Not everyone has access to these services nor do all DMST survivors trust them, thus this data is not fully representative of minors who experience DMST[20]. Furthermore, certain youths experiencing DMST may be turned away for an uncited reason, be undocumented, or be on runaway status and wanting to remain unidentified, therefore left out of the data [21]. Willingness to testify and cooperate can also play into who is counted within the data, leaving others out of the literature and data[22]. Another reason that makes tracking and identifying youth experiencing DMST challenging is the 'unwillingness' of some minors to admit to being trafficking due to trauma bonding between youths experiencing DMST and traffickers. They could also be untrusting of the legal system. Further restrictions are willingness to share instances of abuse, and divulging said information[23]. Another hurdle for scholars is that youths experiencing DMST might be unaware or in denial of their situation and therefore would have no reason to seek out help[24]. Lastly, youths experiencing DMST might be misidentified as prostitutes or juvenile delinquent
by law enforcement due to DMST stereotypes and bias[25]. These barriers pose serious challenges for scholars to collect data on DMST.

Within the literature, some scholars note that DMST research is biased as it is motivated by emotion, ideology, and is policy-driven[26]. Some scholars also note that low-quality research is common in DMST literature, lacking valid empirical methods, analyses of prevention strategies, and peer-reviewed research[27]. It should also be noted that there is a lack of rigorously testing for intervention and postvention procedures, and there is a hole within the literature that discusses this specifically. Furthermore, several scholars note that both theory and research in DMST literature are underdeveloped[28]. Scholarship overwhelmingly agrees that DMST needs further research and empirical evidence to understand the full scope of DMST and the complexities within it.

The DMST literature has established a pattern of vulnerabilities for minors. DMST has been reported in every state within the United States, and no child is immune to being groomed by a trafficker. Vulnerabilities related to DMST are poverty, experiencing physical and sexual abuse, substance abuse problems, being in the foster care system, experiencing runaway episodes, and homelessness. Minors who are LGBTQ+, undocumented, Black, Hispanic, Asian, and Indigenous experience greater vulnerability to DMST[29]. In regards to data collection, scholars underscore that boys and transgender individuals are notoriously underreported. Boys and transgender individuals do not fit the stereotype of DMST that is prevalent in media, policy, and some scholarship. The DMST stereotype tends to describe victims only as being young girls who were tricked or kidnapped into DMST and leaves out minors who participate in survival sex or seek out pimps which can lead them into trafficking[30]. The literature on vulnerabilities notes that stereotyping leads to inadequate research, as well as law enforcement misidentification and lack of DMST self-identification[31]. The scholarship has identified certain geographic locations as being high risk for DMST. One identifier is the specific locations in which youths tend to congregate, such as malls. Geographic locations that are either isolated or highly frequented can be a predictor for higher rates of DMST. Interstate highways are commonly used to transport youths who are experiencing DMST. Socially or physically isolated areas are high-risk because they offer more privacy for sexual acts to take place outside or in cars, or for the transfer of a minor from trafficker to a buyer without being seen. Cheap motels, hotels, and bars near the interstate are high-risk because they can be found alongside the interstate, oftentimes in isolated areas, and are used by traffickers to sell DMST victims out of. Airports and malls are high-risk because they are highly frequented locations, which makes it harder to identify if a youth is experiencing DMST. Further, the airport is used to traffick youths from one location to the next, whereas the malls are used most commonly to recruit minors. Bus lines are also high-risk as they are used both for recruitment and trafficking purposes. Sexually-oriented businesses such as strip clubs or illicit massage parlors increase the likelihood of an individual's chances of experiencing DMST because it attracts individuals who might be buyers and therefore traffickers know to go to these locations to find buyers[32]. There are still significant gaps in this literature, for example, foster youths are particularly vulnerable as they are found at the intersections of high-risk characteristics, however, there is a hole in the literature that focuses on foster youth shelter's proximity to locations that are high-risk for DMST, such as the interstates, malls, or airports[33]. Further missing information in the literature includes how bodies of water, freight trains, and season changes impact the severity of DMST. Due to all of the limitations in the research discussed

above, scholarship on DMST does not fully identify the scope of the issue. It is important to further scholarly research on DMST in order to fully address this injustice. I hope that my research will help fill in some of the gaps within scholarship on geography and DMST in Minnesota.

2.1 Hypothesis 1: Thoroughfares

Spatial patterns include both social and physical environments, which can either increase or decrease the likelihood of DMST. Proximity to interstate highways I hypothesize will increase the likelihood of an individual's chances of experiencing DMST[34]. Research shows that highways increase the presence of prostitution[35]. I argue that the same goes for DMST, especially since DMST victims are frequently misidentified as prostitutes[36].

Minnesota's two biggest interstate highways are I-35 and I-94; they cross paths in Ramsey County, Washington County, and Hennepin County. I hypothesize that both of these interstate highways are prone to DMST. In other states, such as Texas, I-35 is used as one of the main modes for trafficking drugs, guns, and humans[37]. Given that I-35 also runs through Minnesota, I hypothesize that similar trafficking trends may be occurring in Minnesota. Austin, Texas researchers found that their analyses of spatial patterns of urban sex trafficking revealed, "a significant geographic clustering of sex trafficking offenses that is positively associated with proximity to the interstate highway"[38]. I plan to test this hypothesis by using a dummy variable, 1 indicates that there is a thoroughfare, and a 0 indicates that there is not. I will collect data on which counties have I-94 and I-35 passing through them, and compare this data to the Minnesota Department of Health county-level data on how many referrals were given out to youths experiencing DSMT through the Safe Harbor Network between April 2017 and June 2019.

2.2 Hypothesis 2: Bars, Casinos, Motels/Hotels, and Sexually-Oriented Businesses

Proximity to bars, casinos, motels/hotels, and sexually-oriented businesses I hypothesize will increase the likelihood of an individual's chances of experiencing DMST. Anne LaFrinier-Ritchie, who works directly with human trafficking victims as the West Central Minnesota regional Navigator which is a part of Minnesota's *Safe Harbor Network,* says youth are taken to remote casino hotel parties under the promise of drugs, money, or alcohol, and are then trafficked[39]. Both I-94 and I-35 have cheap motels/hotels, sexually-oriented businesses, and bars residing along them. In 2019, Motel 6 in St. Paul off of I-94 was used by trafficker Ricardo Antonio Miranda to traffick a 14-year-old girl who had run away from home. She was sold out of the motel encountering roughly 10 buyers a day[40]. I hypothesize that bars, casinos, motels/hotels, and sexually-oriented businesses in close proximity to the interstate exit and entry ramps will have higher rates of DMST. I plan to test this hypothesis by collecting data on the locations of bars, casinos, motels, and sexually-oriented businesses that are within a five-mile radius of the interstate's exit and entry ramps, and comparing them to the number of referrals given to youth who experience DMST in their respective county.

2.3 Hypothesis 3: Buses, Ships, and Trains

Another high-risk location is buses and trains which are used to recruit DMST victims. The Women's Foundation of Minnesota's reported that certain bus lines, times of the day, and areas on the bus are more vulnerable to DMST than others, one interviewee stating, "The guys recruit the girls at the back of the bus. They are using language with the girls and touching them. The bus driver is not doing anything to protect them. The girls are scared to go on [specific bus lines]. They're scared to get onto any bus line after 8 p.m."[41]. Further, I argue that the Megabus's are vulnerable areas for recruitment, and are used to traffick youths experiencing DMST in and out of Minneapolis and Minnesota.

U.S. ships that travel into and out of Minnesota are also used as a method of trafficking. The Duluth-Superior harbor is used to traffic, specifically native women, out of Canada (Porter 2013). Christine Stark is a researcher and co-author of *Garden of Truth: The Prostitution and Trafficking of Native Women in Minnesota,* and in her interview with CBC News she says, "The women and children — and I've even had women talk about a couple of babies brought onto the ships and sold to the men on ships — are being sold or are exchanging sex for alcohol, a place to stay, drugs, money and so forth"[42]. Additionally, Stark says, "I have spoken with a woman who was brought down from Thunder Bay on the ships and talks about an excessive amount of trafficking between Canada and the Duluth-Superior harbor"[43]. I hypothesize that areas close to bus lines, MegaBus stops and cargo ship harbors are going to have higher rates of DMST referrals. I plan on testing this hypothesis by collecting data on these locations and comparing them to the number of DMST referrals given out within Minnesota counties.

2.4 Hypothesis 4: Malls and Airports

The Mall of America is commonplace for traffickers to scout for potential youths to traffick, as the demographic who frequents the mall is made up of young teenagers[44]. Attached to the mall are a multitude of hotels that are frequented by individuals flying to or from Minneapolis-St. Paul International Airport; the light-rail connects these two locations. This is noteworthy because Minneapolis-St. Paul International Airport is another location that is vulnerable to DMST. This creates a web of high-risk places that are connected by I-94 and public transportation. I hypothesize that the malls and airports are high-risk locations for DMST recruitment and transportation. I plan to test this hypothesis by collecting data on malls and airports across Minnesota and comparing them to the number of referrals given to DMST victims in said counties.

2.5 Hypothesis 5: Foster Care

Vulnerabilities related to DMST include experiencing physical and sexual abuse, having substance abuse problems, being in the foster care system, run away episodes, and homelessness[45]. The number of Minnesotan youth in need of a foster home has doubled since 2014. In 2019, roughly 17,000 children needed temporary or long-term foster care placement[46]. Children within the foster care system are one of the most vulnerable populations for DMST, as foster care youth experience multiple vulnerabilities outside of being in the foster care system. Due to how they enter the foster care system they are at high risk of experiencing one or all of the vulnerabilities outlined above. Among youths with a foster care placement at the age of 10 or older, 19% have experienced a runaway episode at least once. Furthermore, of the youth who ran away from foster placement, 7% experienced DMST while on the run[47]. The Women's Foundation of Minnesota report found that "police records also suggest that many girls are runaway, precariously housed and homeless. Roughly one-third of the unduplicated victims in the MPD domestic minor sex trafficking cases (24 of 73) were described in the cases as runaways"[48]. I hypothesize that counties that have more foster care locations will have higher rates of DMST referrals because traffickers are using these locations to scout for minors who are vulnerable, looking to run away or a way out of the foster care system. I plan to test this hypothesis by collecting data on the number of foster locations in each county and comparing the number of referrals given to DMST victims in said counties.

2.6 Hypothesis 6: Child Poverty and Poverty

Youth experiencing economic vulnerabilities are a high-risk group for DMST[49]. Poverty and homelessness can lead to youth seeking out survival sex which is defined as trading sex for shelter, food, money, drugs, etc. The difference between survival sex and DMST is the lack of a third party that controls the minors. Various studies note that youth who engage in survival sex later are approached by a third party to be trafficked[50]. This is because youths seeking out survival sex are around both high-risk environments and traffickers who are aware of how to exploit youth in these positions. Poverty, homelessness, and inequality have a statistically significant correlation with neighborhoods in Minnesota, specifically Minneapolis, that are more prone to experiencing DMST[51]. There are 41 neighborhoods in Minneapolis that are considered high poverty neighborhoods[52]. These neighborhoods reside inside of Hennepin and Ramsey County. I hypothesize that counties with higher poverty will have more DMST referrals. Further, I hypothesize that counties with the highest levels of child poverty will have higher severities of DMST referrals. I plan to test this hypothesis by comparing child poverty and poverty to the number of referrals given out per county.

2.7 Hypothesis 7: Demographics

Multiple studies note that Black, Hispanic, Asian, Indigenous, and non-white minors are at higher risk of being victims of DMST[53]. Minnesota has its greatest concentration of people of color living within Hennepin and Ramsey county[54]. In these counties Hispanic, Indigenous, and Asian subpopulations, and Black people, experience poverty at a higher rate than White residents. Redlining in Minnesota plays a large part in this[55]. The Women's Foundation of Minnesota's report found that "our interviews surfaced the same themes and vulnerabilities as we found in law enforcement data. Youths were described as predominantly girls of color living in poverty"[56]. I hypothesize that counties with higher racial or ethnic minorities experience greater rates of DMST due to greater risks of poverty as a result of historical and current inequality. I plan to test this hypothesis by collecting county-level demographic data and comparing the number of DMST referrals given out in each county.

3. Quantitative Approach

For this project, I will be conducting a correlational study to answer my research question on if the severity of DMST fluctuates based on geographic location across Minnesota. I will be testing my theories quantitatively. The purpose of this research is to attempt to understand how geography in Minnesota affects the severity of DMST. The results of this study will answer the following: broadly is DMST severity affected by geography in Minnesota, which counties in Minnesota have the highest rates of DMST referrals, and do those counties have an increase of high-risk predictors, such as high levels of child poverty and malls within them.

4. Unit of Analysis and Dependent Variable

The units of analysis in this study are the 87 counties in Minnesota. My dependent variable is the number of DMST referrals given out by the Safe Harbor Network in each county. The Safe Harbor Network was formed as a result of the Safe Harbor Law being passed in 2011 in Minnesota and going into effect in 2014. This law mandates that Minnesota, "developed a Safe Harbor Network of victim-centered, trauma-informed services and safe housing, as well as Regional Navigators who connect youth with services and serve as experts for their communities"[57]. Safe Harbor provides services to/for youths up to 24 years of age and is allowed to share data on youths who have been provided services across the Minnesota network. I define referrals as anytime a service provided in the Safe Harbor Network documents that they have given out a referral to people who have experienced DMST. I will count the number of referrals given in each county. To measure this I will be using the Minnesota Department of Health which tracks referrals given out by the Safe Harbor Network.

5. Independent Variables

In total there are 4 independent variables in this study. My first independent variable is thoroughfares in Minnesota counties, which is defined as a route between two places. I have five measures for this. I will be using dummy independent variables for 3 of these measures, I-94, I-35, and bus lines. If I-94, I-35, and bus lines exist within a county they will receive a 1, if they do not they will receive a 0. For my other 2 measures, the Megabus and cargo ship harbors I will collect the number of Megabus stops and cargo ship harbors in each county. In retrieving data on interstates I will use the Minnesota Department of Transportation State Highway Map which is updated annually. Megabus stops are retrieved from the Megabus website Bus Stop Details map. To collect information on cargo ship harbors I will be using Duluth Seaway Port Authority Maps. Whether or not a bus line goes through a county I will obtain through the Minnesota Department of Transportation transit maps. The next independent variable is businesses that are likely to be high risk. I have 6 measures for this. Google Maps and Minnesota Shopping Centers Maps will be used in collecting data on the number of malls per county. Airports will be located through Minnesota's Department of Transportation Aviation website. In collecting the number of casinos across Minnesota I will be using Minnesota's Casino Guide. Further in collecting bars and motels/hotels within a 5-mile radius of interstate entry and exit ramps I will be using Google Maps and Hotel Guide. Another measure is a sexually-oriented business. I define sexually-oriented businesses as either strip clubs or massage parlors where sexual activity occurs. I will be using two different producers to gauge the number of sexually-oriented businesses within a five-mile radius of interstate entering and exit ramps. I will be using the website *Rubmaps*, which is an online network for people looking for and reviewing sexually-oriented businesses. In locating strip clubs I will use Google Maps. From this, we can determine if these locations are high risk for DMST in Minnesota and if counties that have more high-risk locations have more cases of DMST referrals being given out. My third variable is socioeconomic status. I have 8 measures for this. The percentages of children in poverty per county will be collected using the Department of Health's Child Poverty Data. For the collection of total poverty rates per county, I will be utilizing census data from 2018. From this, I can determine if poverty and child poverty affect DMST severity in Minnesota. Furthermore, in collecting data on the percentage of Black/African American, Asian, Indigenous, and Hispanic population per county I will use the 2019 Census Bureau's, Populations Estimate Program Data which is updated annually. For retrieving the total population per county MN State Demographic Center data from 2018 will be used. My final independent variable is foster care facility locations. I will collect the number of foster care locations per county using foster care licensing records from the Minnesota

Department of Human Services. From this, we can determine if counties with higher amounts of foster care locations have greater amounts of DMST.

Table 1. Summary Statistic DMST Referrals

Variable	Min	Max	Mean	Median	SD	Total
DMST Referrals	0	134	5.7	1	17.3	501

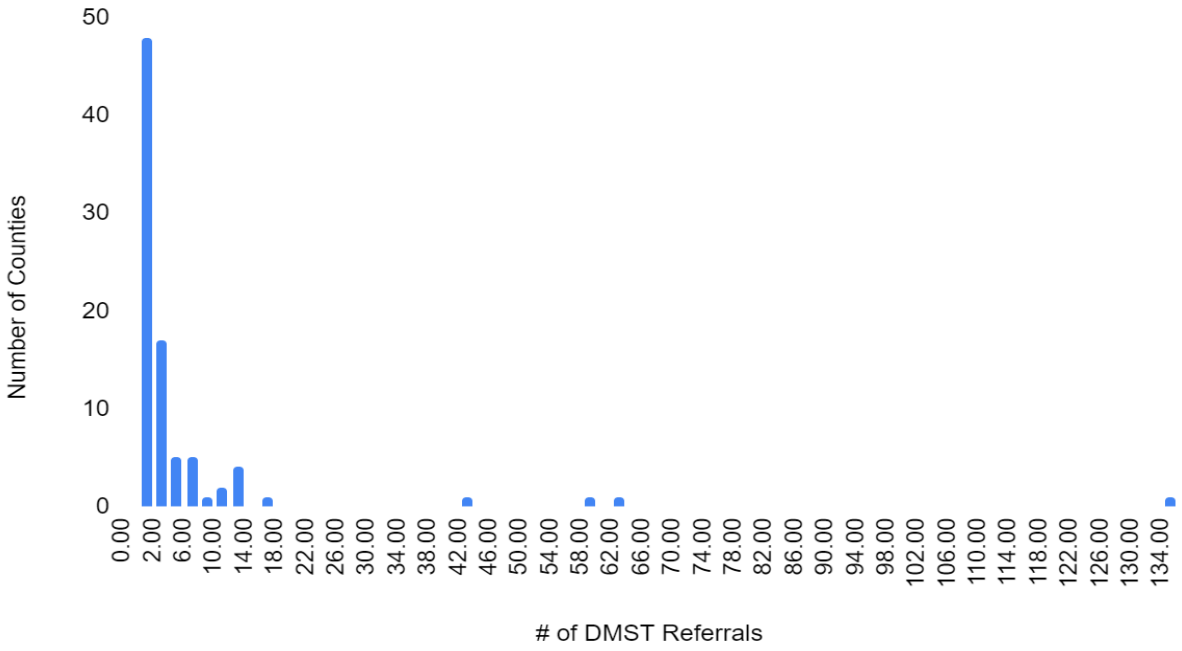

Figure 1. Histogram # of DMST Referrals

6. DMST Referrals

Among the 87 counties in Minnesota, 52 of them have cases where the Safe Harbor Network issued referrals, whereas 32 do not. Large metropolitan areas, such as Hennepin, Ramsey, St. Louis, and Olmsted have the highest number of DMST referrals being given, which is not unexpected as large metropolitan areas have more resources available to identify people experiencing DMST, as well as, more people in total. Minnesota's rural counties tend to have zero cases of referrals being given, however, this does not mean that these areas don't have DMST, as the literature states it is harder for DMST victims to be recognized in rural areas due to lack of education and training. This could factor into why referrals in these areas are low. However, Wadena county is an outlier to this, having 10 referrals given. Further, Wadena county has one bus line and no other thoroughfares or high-risk businesses in it.

7. Thoroughfares

The two biggest highways within Minnesota are I-94 and I-35, both interstate highways only pass through three counties, Hennepin, Ramsey, and Washington county. Hennepin county is the most populated county in Minnesota, Ramsey is the second and Washington county is the 5th. Of the 87 counties in Minnesota, 13.79% of counties have I-

94 going through them. Whereas 14.94% of counties have I-35 going through them. Across Minnesota counties, 88.37% of them have bus lines, whereas only 2.29% of counties have MegaBus lines. The MegaBus stops in both Hennepin and Ramsey counties, this is not unsurprising as both are the largest metropolitan areas in Minnesota. There are 6 cargo ship harbors in Minnesota, of those 6 counties, 3, Cook, Koochiching, and Lake have 0 instances of DMST referrals being given out. The other 3 counties, Hennepin, Ramsey, and St. Louis have the highest number of DMST referrals being given out.

Table 2. Summary of High-Risk Businesses

Variable	Min	Max	Mean	Median	SD
Bars within a 5-mile radius of entry and exit ramps on I-94/ I-35	0	136	4.88	0	18.4
Motels within a 5-mile radius of entry and exit ramps on I-94/I-35	0	96	3.37	0	12.77
Casinos within a 5-mile radius of entry and exit ramps on I-94/ I-35	0	1	0.4	0	0.21
Sexually- Oriented Businesses	0	34	1.73	0	5.61
Malls	0	6	0.19	0	0.77
Airports	0	4	0.26	0	0.73

8. Bars Within a 5 Mile Radius of Entry and Exit Ramps off of the Interstate

Throughout Minnesota, there are 425 bars located within a 5-mile radius of entry and exit ramps off of I-94 and I-35. Of the 87 counties in Minnesota, 18 counties have bars that fall into this category. The top 3 counties for DMST referrals are also the top 3 counties for the highest number of bars within a 5-mile radius of entry and exit ramps off of I-94 and I-35. This is not unexpected given that these areas are metropolitan. However, this overlap between the top 3 counties for DMST and bars within a 5-mile radius of entry and exit ramps on the interstate could point to a connection between the two. Interestingly, Ramsey county which ranks 3rd for DMST referrals, having 58 referrals, has the highest number of bars. In total Ramsey county has 136 bars within a 5-mile radius of the interstates. Hennepin has 96 and St. Louis has 39 bars that fit into this category.

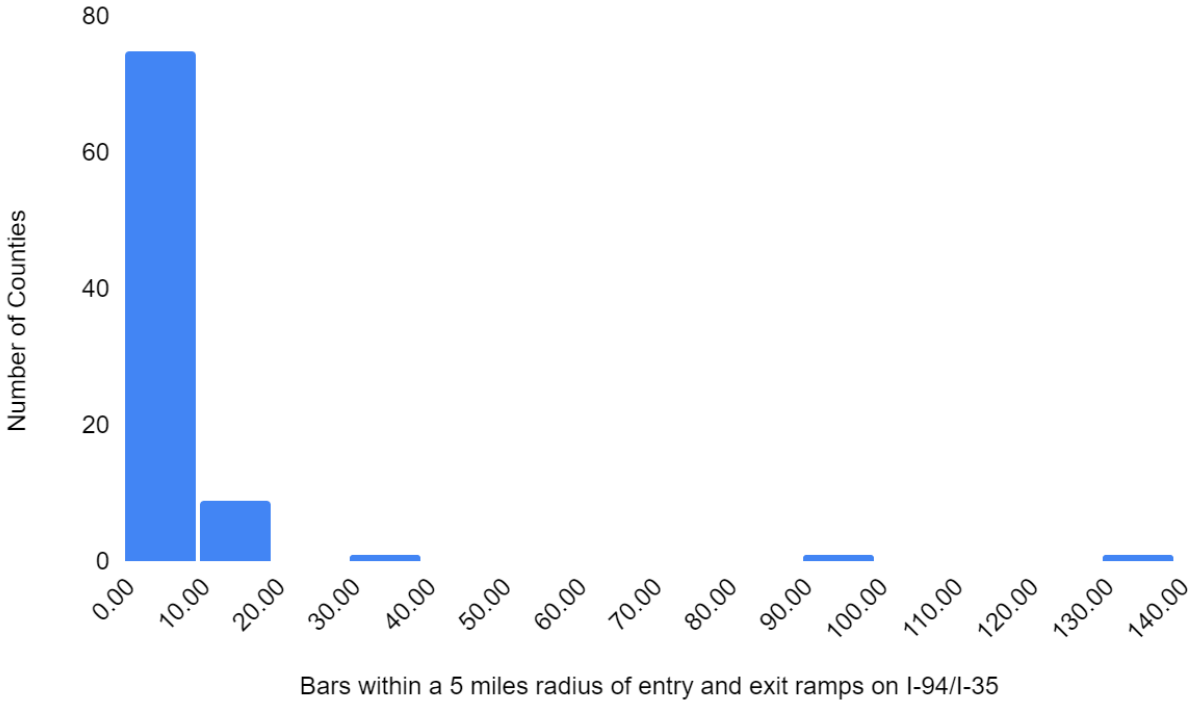

Figure 2. Histogram of Bars within a 5 miles radius of entry and exit ramps

9. Motels/ Hotels Within a 5 Mile Radius of Entry and Exit Ramps off of the Interstate

Within Minnesota there are a total of 294 motels and hotels located within a 5-mile radius of entry and exit ramps off of I-94 and I-35. Out of the 87 counties in Minnesota, 17 of them have motels and hotels within close proximity to the interstates, 6 of these counties have over 10 motels and hotels that fall into this category. The highest number of motels and hotels located off of the interstates is in Hennepin county. There are the same number of motels/hotels in this county as there are bars, 96. Hennepin county also has the highest DMST referral rate. As stated above this is not surprising given that it is a populated metropolitan area. Ramsey county has the third-highest rate of DMST referral and has the second-highest number of motels/hotels, 51, within a 5-mile radius of entry and exit ramps on I-94 and I-35. Dakota, which only has 5 DMST referrals has 36 motels/hotels within a 5-mile radius of entry and exit ramps off of the interstates. Dakota has six more motels/hotels than St. Louis which ranks 2rd for the highest rate of DMST referrals.

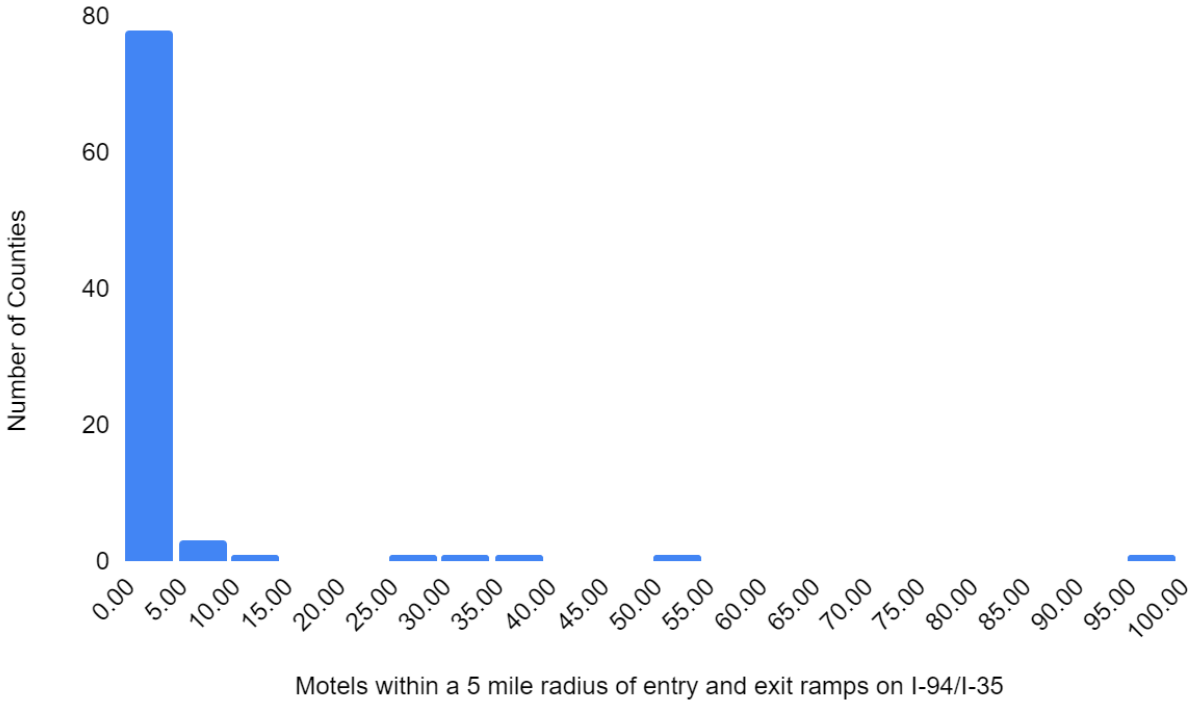

Figure 3. Histogram of Motels within a 5-mile radius of entry and exit ramps

10. Casinos Within a 5 Mile Radius of Entry and Exit Ramps off of the Interstate

There are only 4 counties in Minnesota that have casinos within a 5-mile radius of entry and exit ramps off of I-94 and I-35. Each of these counties only has 1 casino that fits into this category. 3 of these counties have low numbers of DMST referrals, Cook county has 0, Carlton county has 1, and Anoka county has 3. However, St. Louis county is different. It has the second-highest rate of DMST referrals, at 63, also has 1 casino within a 5-mile radius of entry and exit ramps.

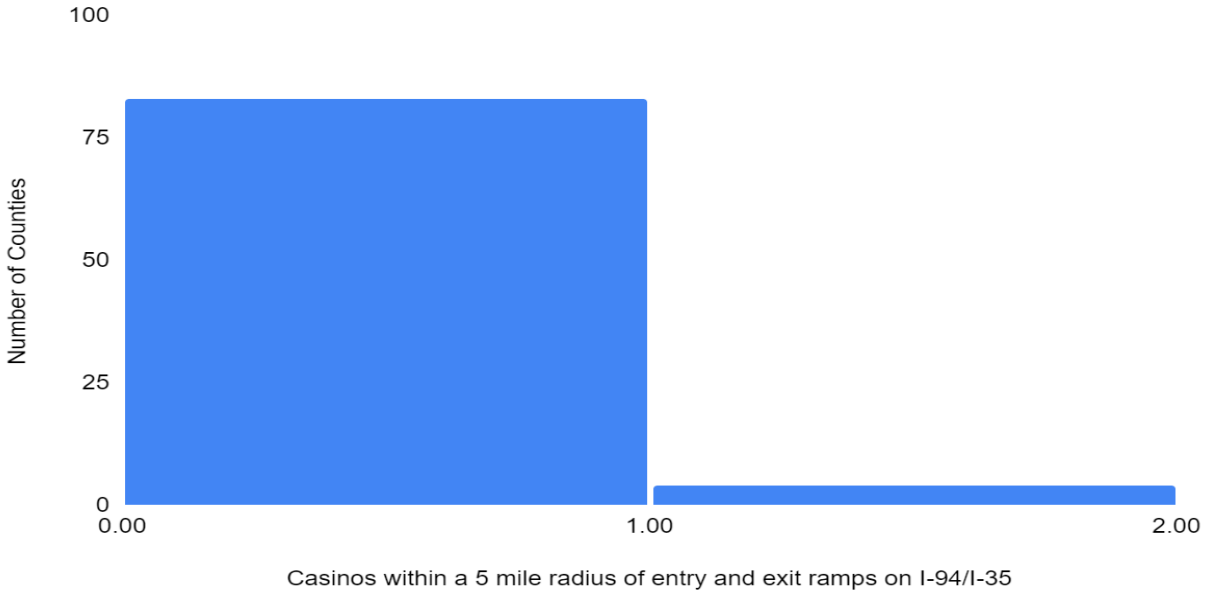

Figure 4. Histogram of Casinos

11. Sexually- Oriented Businesses

Across Minnesota, there are 151 sexually-oriented businesses. Out of the 87 counties in Minnesota, there are 38 counties where no referrals were made, of those 38, 34 of them have zero reported sexually-oriented businesses. In total there are 58 counties with zero sexually-oriented businesses, and 29 with. The trend suggests that counties with zero sexually oriented businesses are likely to have less, or no DMST referrals made. 4 counties have over 10 sexually-oriented businesses in Minnesota. Hennepin County has the most sexually-oriented businesses, 34, and also the most DMST referrals. Dakota County has the second-highest number of sexually- oriented businesses, but only 5 DMST referrals. Ramsey County has the third-highest number of sexually-oriented businesses, 22. Anoka County has 11 sexually-oriented businesses and 3 DMST referrals.

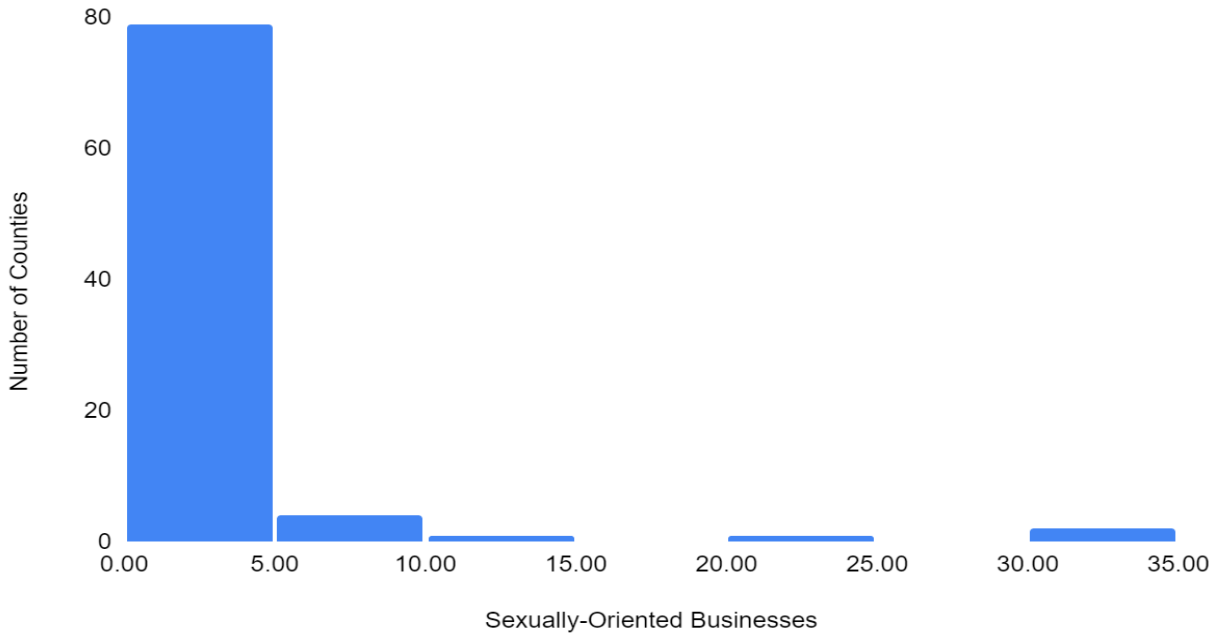

Figure 5. Histogram of Sexually-Oriented Businesses

12. Malls

Minnesota is home to the largest mall in the United States, the Mall of America. The Mall of America is so large that it occupies two counties. These counties are Hennepin and Dakota county. Hennepin, again, has the highest number of malls, 6 and 134 DMST referrals. Dakota county has 3 malls and 5 DMST referrals. There are 7 other countries that have malls in them. Anoka county has 3 malls and 3 DMST referrals. Ramsey county has 2 malls, and the third-highest number of DMST referrals. Kandiyohi county, Olmsted county, St.Louis county, Stearns county, and Washington county have 1 mall in them. The top 4 counties with the highest DMST referrals have malls in them.

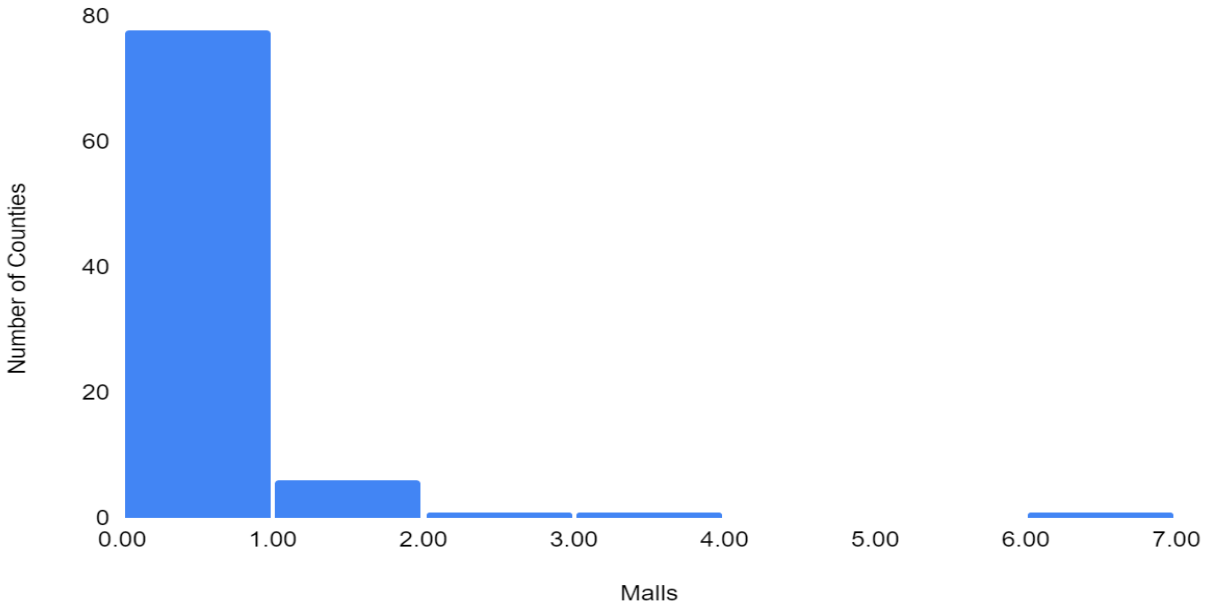

Figure 6. Histogram of Minnesota Malls

13. Airports

The majority of airports across Minnesota are considered small airports. Typically these airports look like landing spirits with one or two plan hangers attached to them. In total there are 23 airports in Minnesota, 13 counties house these airports. Dakota county has the highest number of airports within one county, 4. Ramsey county has 3 airports, and is home to the largest and most frequented airport in Minnesota, Iowa, Nebraska, North Dakota, South Dakota, and Wisconsin, the Minneapolis-St Paul International Airport. Ramsey county has the third-highest rate of DMST referrals, 58. Washington county also has 3 airports, however, it only has 6 DMST referrals. If airports are high-risk locations, the size and popularity of Minneapolis-St Paul International Airport could factor into why Ramsey county has more DMST referrals than Washington county. Similarly, Scott county has 2 airports, and 7 DMST. Hennepin and St. Louis also have 2 airports, however, Hennepin county has the largest number of DMST referrals and St. Louis county has the second largest number of referrals. Hennepin and St. Louis's airports are more populated and considerably bigger than Scot's airports.

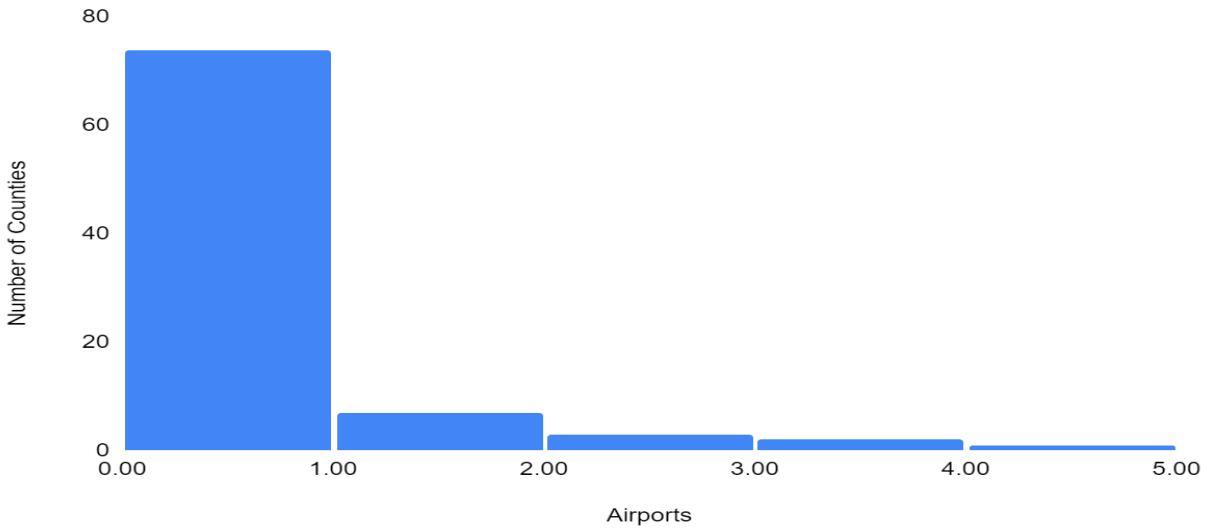

Figure 7. Histogram of Airports

Table 3. Summary Statistics of Socio-Economics

Variables	Min	Max	Mean	Median	SD
Poverty	4	22.7	11.04	11.3	3.36
Child Poverty	3.3	34.2	14.21	14.9	5.31
African American	0.3	13.8	2.11	0.9	2.55
Asian	0.1	15.3	1.68	0.8	2.24
American Indian	0.2	43.7	2.41	0.8	5.46
Hispanic	1.2	29.4	4.91	3.9	4.4

14. Poverty and Child Poverty

Poverty and child poverty exists in all Minnesota counties. Mahnomen county has the highest rate of poverty and child poverty and 0 DMST referrals. This could be because Mahnomen county has no airports, malls, bars, hotels/motels, casinos, sexually-oriented businesses, interstates, MegaBus, or foster care facilities in it. The median of poverty is 11%, and for child poverty, it is 15%. Child poverty rates are higher than poverty rates in Minnesota.

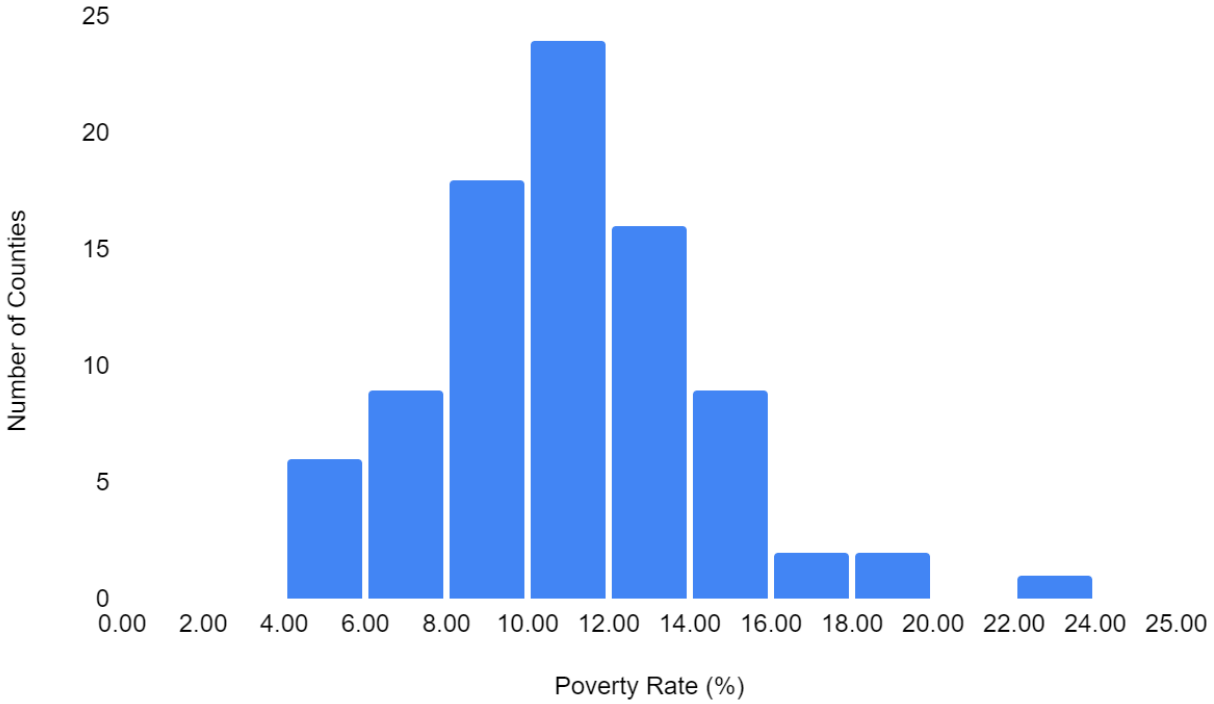

Figure 8. Histogram of Poverty Rates in Minnesota

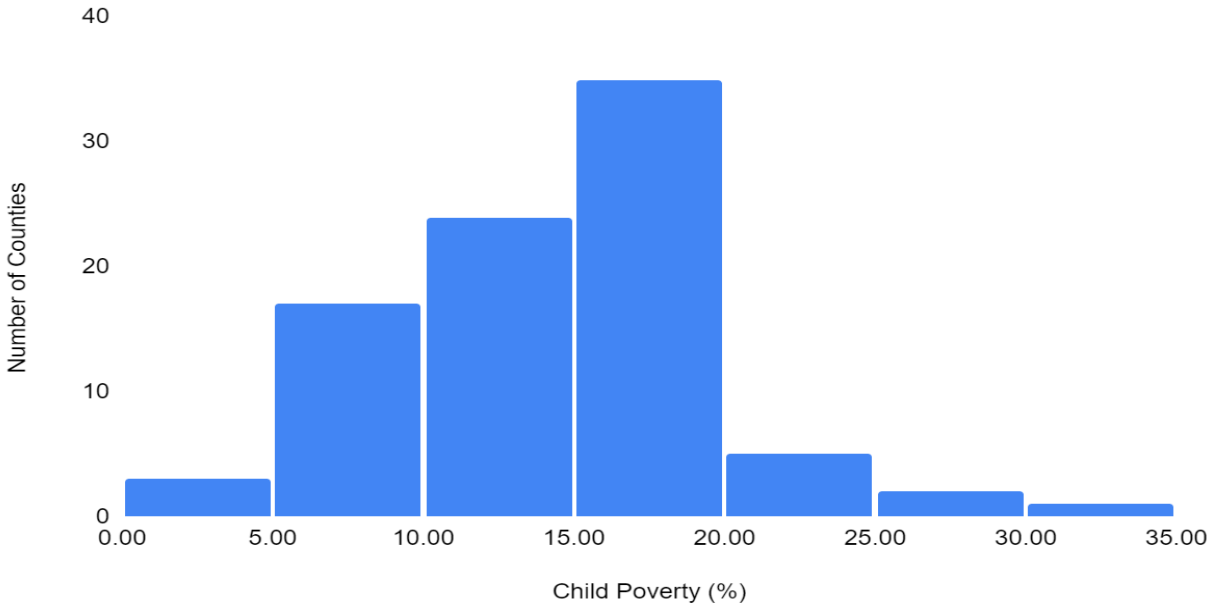

Figure 9. Histogram of Child Poverty Rates in Minnesota

15. Analysis

In order to evaluate my hypotheses, I choose to run 7 different regression models. This decision was made in order to ensure that highly correlated variables such as my I-94 and I-35 dummy variables and potentially high-risk businesses

near the entry and exit interstate ramps did not cause multicollinearity, and bias effects. Furthermore, my high-risk businesses are highly correlated so I separate each high-risk business into a different model along with my instate dummy variables. Nonetheless, I wanted to ensure that my other variables such as poverty, foster care facilities, and demographics were included in each model. Thus I concluded that 7 different models were necessary.

Table 1. Regressions Coefficients and Standard Errors

Variable	Model 1	Model 2	Model 3	Models 4	Model 5	Model 6	Model 7
Intercept	-3.94	-7.14	-9.31	-7.75	-7.26	-4.22	-1.16
	(3.84)	(3.78)	(3.70)	(3.85)	(3.77)	(3.73)	-3.58
City Bus Lines	0.92	0.78	0.13	0.87	0.44	1.86	1.41
	(2.39)	(2.49)	(2.43)	(2.57)	(0.44)	(2.58)	(2.38)
Mega Bus	-18.49	-14.60	-5.54	-8.56	-27.32	-7.82	-18.72
	(13.39)	(14.4)	(12.95)	(13.73)	(19.84)	(14.38)	(13.74)
I-94	—	—	—	1.01	—	0.53	—
	—	—	—	(2.62)	—	(2.67)	—
I-35	—	—	—	-1.44	—	-2.11	—
	—	—	—	(2.92)	—	(3.00)	—
Cargo Ship harbors	4.84	10.04	5.69	7.62	6.04	9.35	5.63
	(4.19)	(4.69)	(4.19)	(4.36)	(4.38)	(4.38)	(4.20)
Motels (within 5 miles)	0.66	—	—	—	—	—	0.74
	(0.23)	—	—	—	—	—	(0.22)
Bars (within 5 miles)	—	—	—	—	0.21	—	—
	—	—	—	—	(0.15)	—	—
Sexually-Oriented Business	—	—	-1.10	—	—	—	—
	—	—	(0.42)	—	—	—	—
Casinos (within 5 miles)	—	-6.56	—	—	—	—	—
	—	(4.81)	—	—	—	—	—
Malls	4.67	3.05	-1.29	2.03	3.28	2.53	5.32
	(3.05)	(3.13)	(3.18)	(3.08)	(3.18)	(3.15)	(3.04)

Airports	-3.06	-2.42	-0.25	-2.32	-2.98	-2.57	-3.29
	(1.94)	(2.01)	(2.14)	(2.10)	(2.03)	(2.15)	(1.95)
Child Foster Care	1.77	1.96	1.84	1.79	1.49	1.82	1.79
	(0.48)	(0.51)	(0.48)	(0.51)	(0.54)	(0.52)	(0.48)
Poverty Rate (%)	0.4	0.66	0.83	0.7	0.7	—	—
	(0.33)	(0.33)	(0.32)	(0.34)	(0.33)	—	—
Child Poverty	—	—	—	—	—	0.19	0.6
	—	—	—	—	—	(0.22)	(0.21)
Black or African American (%)	-1.4	-1.89	-0.92	-1.21	-1.57	-1.00	-1.31
	(0.67)	(0.69)	(0.68)	(0.72)	(0.73)	(0.73)	(0.67)
Asian (%)	1.47	0.83	0.48	0.82	0.90	0.90	1.54
	(0.75)	(0.74)	(0.78)	(0.76)	(0.74)	(0.79)	(0.76)
American Indian/Alaska Native (%)	-0.12	-0.21	-0.30	-0.23	-0.22	-0.10	-0.02
	(0.18)	(0.18)	(0.18)	(0.19)	(0.18)	(0.19)	(0.18)
Hispanic (%)	0.11	-0.08	-0.03	-0.06	-0.04	-0.05	0.10
	(0.20)	(0.21)	(0.20)	(0.21)	(0.21)	(0.23)	(0.21)
Total Population	0.00002	0.00007	0.00011	0.00007	0.00007	0.00006	0.00001
	(0.00003)	(0.00002)	(0.00002)	(0.00002)	(0.00002)	(0.00002)	(0.00003)

Note: Shown is regression coefficients above standard errors in parentheses.

15.1 Hypothesis 1: Transit routes

Highways play a significant role in DMST as they are used to transfer people from one location to the next which is one of the defining characteristics of DMST; the transfer of a person from one location to another. Further, highways have entry and exit ramps which I hypothesized make these thoroughfares valuable to traffickers as they offer easy and quick access to different locations and the ability to change locations or direction should a trafficker feel in danger of being caught. I hypothesize that traffickers specifically use Minnesota's two biggest interstate highways, which are I-35 and I-94; they cross paths in both Ramsey County (St.Paul), and Hennepin County (Minneapolis). Both of these counties have high rates of DMST referrals given out by the *Safe Harbor Network*. Hennepin County has the highest number of referrals given, 134, and Ramsey County has the third-highest number of referrals given, 58.

I coded both interstates as dummy variables, counties, where I-35 or I-94 passed through, were coded as 1, 0 otherwise. I find this hypothesis to be partially supported by Models 4 and 6 as shown in Table 1. My coefficients for I-94 are positive, meaning there is a 1.01 and 0.53 increase in my dependent variable, DMST referrals, if my

independent variable, I-94, increases. These effects are not statistically significant. I-35 in Models 4 and 6 are negative as shown in Table 1. Thus as my independent variable, the coefficient for I-35, decreases my dependent variable, DMST referrals. This could be explained by construction that began in 2017 on I-35W, a major section of I-35 in Minneapolis, specifically Hennepin county. The data I used from the Minnesota Health Department collected for the Safe Harbor Network is from 2017 to 2019. This construction lasted until 2020 and reduced the 9 lane intersection to a five-lane intersection. Additionally during different periods of construction certain ramps and bridges were closed[58]. This could have deterred traffickers from frequenting I-35, as slower speed limits, fewer lanes, less accessibility to exits, and work zone police presence could cause issues for effectively trafficking a person without getting caught.

15.2 Hypothesis 2: Bars, Casinos, Motels and Sexually-Oriented Businesses

Traffickers use locations that are easily accessible but also isolated, this gives them the advantage of being able to come and go when they need and also give clients and themselves the protection of not being highly visible therefore less likely to be caught. I hypothesized that counties with high-risk locations, such as bars, casinos, motels, and sexually-oriented businesses close to the interstate will have higher rates of DMST. I find this to be supported for bars by model 5 as shown in Table 1. My coefficient is positive, 0.21, meaning that for every 5 bars in a county there is an increase in 1 DMST referral. These effects are not statistically significant.

Model 1 and 7 from Table 1 support my hypothesis that motels within a five-mile radius of exit and enter ramps increase DMST. My coefficients are 0.66 and 0.74 meaning that for every 3 motels there are roughly 2 DMST referrals. This effect is statistically significant. Model 2 from Table 1 does not support my hypothesis that more DMST cases would occur in counties with more casinos located within a 5-mile radius of entry and exit ramps. The coefficient of model 2 for casinos is -6.56, meaning that for every casino in a county there is a 6.56 decrease in DMST referrals. This effect is statistically significant. Model 3 from Table 1 does not support my hypothesis that sexually-oriented businesses such as strip clubs and happy-ending parlors increase DMST. My coefficient is -1.10, meaning that for every sexually-oriented business there is a 1.10 decrease in DMST referrals. This is statistically significant. This finding could be because sex workers in these locations deter minors from hanging out in these areas. There are a few possible reasons for this, minors hanging out around illegal sexually-oriented businesses could increase police presence which could scare off buyer, further sex workers could want to protect minors from traffickers and deter them from congregating around this business.

15.3 Hypothesis 3: Megabus, City Bus Lines, and Cargo Ship Harbors

Thoroughfares that are used by traffickers include the Megabus, bus lines, and cargo ships. I hypothesized that counties, where the Megabus stopped, would have more DMST referrals as the Megabus is a fairly cheap way to travel across or out of Minnesota. This is not supported by my regressions, as shown in Models 1 through 7. My coefficients range from -5.54 to -27.32. Meaning counties with MegaBus routes experience 5.54 to 27.32 fewer DMST referrals than counties without MegaBus routes. This could be due to the Megabus-only stopping in 2 different counties out of the 87 counties in Minnesota. Another possible reason for this could be due to Megabus payment which is by card not cash. Thus if a trafficker is buying multiple tickets it could leave a paper trail. The effect of Megabus stops is not distinguishable from zero.

I hypothesized that counties with city bus lines would have higher rates of DMST. I coded city bus lines as a dummy variable, 1 indicating that there is a city bus line in a county and 0 if there isn't. I find this to be supported by Model 1 through 7. My coefficients are positive. My highest coefficient is 1.86 and my lowest is 0.13. Thus for counties with a bus line, there is at least a 0.13 increase in DMST referrals. These effects are not statistically significant.

I hypothesized that counties with cargo ship harbors would have higher rates of DMST referrals as cargo ships are used as a method of transportation between Minnesota and Canada. I find this to be supported by Model 1 through 7. My coefficients are positive. My highest coefficient is 10.4 and my lowest is 4.84. Counties that have cargo ship harbors have at least a 4.84 increase in DMST referrals for every cargo ship harbor. Though these effects are large; they are not statistically significant.

15.4 Hypothesis 4: Malls and Airports

I hypothesized that the malls and airports are high-risk locations for DMST recruitment and transportation. I found this to be partially supported by Models 1 through 7 for malls. Model 1,2,4,5,6,7 coefficients are all positive, however, the coefficient in 3 is not. Further, they are not statistically significant. My models for airports do not support my hypothesis. Model 1 through 7 has negative coefficients. They are statistically significant. This may be due to the high volume of people in airports which makes it harder for law enforcement and airport personnel to identify potentially youth experiencing DMST, thus leading to less data on the prevalence of DMST in airports.

15.5 Hypothesis 5: Foster Care

Most foster locations are in Minneapolis, which resides in Hennepin County; Minnesota's largest metropolitan area. Hennepin County has the largest number of DMST referrals. Further interstate I-94 and I-35 both run through Hennepin County. I hypothesized that foster care locations are targeted by traffickers who are looking for possible runaways or vulnerable youth to prey on. Further, I hypothesized that counties with more foster care locations are likely to have higher rates of DMST referrals given out. I find this to be supported by Models 1 through 7 as shown in Table 1. My coefficients are all positive, the highest being 1.96 and the lowest being 1.49, meaning that a county will expand 1.5 to 2 additional DMST referrals for every foster care location in a county. The effect of foster care locations is statistically significant.

15.6 Hypothesis 6: Poverty and Child Poverty

I hypothesize that counties with the highest rates of poverty or child poverty will also have higher rates of DMST. I found this to be supported by Models 1 through 7 for both child poverty and poverty. My coefficients for child poverty are 0.19, 0.6 and for poverty they are 0.4, 0.66, 0.83, 0.7, and 0.7 meaning that if there is a 1% increase in poverty a county will experience a 0.4, 0.66, 0.83, 0.7, and 0.7 additional DMST referrals. If there is a 10% increase this number becomes more significant as this increase would be associated with 4.0, 6.6, 8.3, 7, and 7 additional DMST referrals. The same can be said for child poverty. Poverty is statistically significant in Model 1, 3, 4, and 5, with 2 breaking trends. Child poverty is statistically significant in Model 7 but not Model 6.

15.7 Hypothesis 7: Demographics

I hypothesized that counties with higher racial or ethnic minorities experience greater rates of DMST due to greater risks of poverty. However, I did not find this to be supported in Models 1 through 7 as shown in Table 1 for Black/African American residents. My coefficients are negative. This is statistically significant. This could be because of Black minors not being treated as victims of DMST therefore there are data limitations in areas where there are higher rates of Black/African American residents in counties[59]. Similarly, I hypothesized that counties with higher rates of American Indian and/or Alaska Native would have higher rates of DMST due to a greater risk of poverty. However, this is not supported by Models 1 through 7 as shown in Table 1. My coefficients are negative. This is statistically significant. This could also be because of data limitations due to misidentification of youths experiencing DMST. I hypothesized that counties with higher percentages of Hispanic residents would have higher rates of DMST due to a greater risk of poverty. I found this to be partially supported, Models 1 and 7 are positive whereas Models 2,3,4,5, and 6 are negative. This is statistically significant for Models 2,3,4,5 and 6, however, 1 and 7 are not statistically significant. I hypothesized that counties with higher percentages of Asian residents would have higher rates of DMST due to certain subpopulations of Asian residents having a greater risk of poverty. I found this to be supported by Models 1 through 7. My coefficients are positive, my highest being 1.57 and lowest being 0.48. This is statistically significant for Models 1 through 6, with 7 not being statistically significant where the effect is not distinguishable from zero.

16. Population Total

As shown in Table 1 my population coefficient is very small, Models 2 through 6 are 0.00002, and Models 1 and 7 are 0.00003. Despite these numbers being small initially, when applying population increase to them, they become significant. For example Models 2 through 6, suggests that an additional 10,000 persons in a county are associated with an additional 2 DMST referrals.

17. Summary

Geography could be a key piece in understanding why the severity of DMST changes regionally in Minnesota and across the country. In examining Minnesota DMST referrals and the role that geographic locations have on its frequency I have found that counties with thoroughfares are not more prone to DMST. Further, only two of my high-risk businesses have coefficients that are positive, motels and bars, and only one, motels, is statistically significant. Sexually-oriented businesses were negative and statistically significant. MegaBus, city bus, and cargo ship harbors were not statistically significant. Malls had a positive effect but were not statistically significant. Whereas Airports had a negative effect and were statistically significant. Child foster care facilities are positive and statistically significant. Hispanic, Black/ African American and American Indian/ Alaska Native populations had negative effects on DMST severity that were statistically significant. Whereas Asian populations had a positive effect on DMST prevalence and Models 1 through 6 were statistically significant, but not model 7. There are both data and time limitations to this project, should someone continue this work I would recommend a more in-depth analysis of poverty, counties with more foster care facilities in them and higher DMST rates as I suspect there is a connection.

18. Conclusion

The main argument of this paper is that there are certain geographic indicators that affect the prevalence of DMST. Proximity to interstate highways, foster care facilities, cheap motels and hotels, airports, bars near highways, and sexually-oriented businesses such as strip clubs or illicit massage parlors I hypothesized that would increase the likelihood of an individual's chances of experiencing DMST. Though my findings did not support all of my hypotheses, I found a positive effect of foster care facilities, poverty, child poverty, motels, and counties with higher Hispanic and Asian populations. Although other findings for I-94, bars, Megabus, business, airports, and cargo ships were positive, they were not statistically significant.

These results imply that geography could play a role in understanding which counties in Minnesota are more prone to DMST. One thing that geography can help us understand about DMST is where buyers and sellers feel comfortable conducting business, this is helpful for a few reasons. New policies can be put into place that have motel/hotel and other high-risk location staff trained on how to identify a minor experiencing DMST. As stated in the literature review this training should be done through a public health lens, not a criminalization lens. Further, shelter/care providers and anti-human trafficking organization infrastructure should be increased around areas that have been indicated as high-risk locations. This will increase the education in these areas, and get the community to talk more about DMST. By increasing the amount of physically and emotionally safe environments where youth experiencing DMST have more access to provide care and support, minors will be more likely to ask for help and more likely to be identified. In establishing more of these shelters they will also become more trusted within the community which could combat some of the hesitation DMST youth feel in turning to care providers. Geography impacts on DMST highlight how many different factors play into DMST prevalence, and why it is important to do further research in order to address the full scope of this issue. My project supports previous scholarship that highlights the vulnerabilities that foster care minors face and furthers this scholarship by suggesting that traffickers may scout for minors around foster facilities because of foster youths' intersection with multiple other high-risk factors. DMST needs to be studied more in-depth; if traffickers are using foster facilities as a place to prey upon vulnerable youths then this must be addressed. Additionally, my findings on poverty and child poverty suggested there is a correlation between the two and DMST. This research is important in preventative measures in DMST as it suggests that child poverty and poverty are some of the reasons minors are vulnerable to DMST. Building more infrastructure addressing child poverty and poverty in Minnesota counties could decrease the amount of DMST.

Further research should also seek to answer why my findings between Asian populations and DMST were positively correlated. If one group of people is being more heavily targeted by traffickers in Minnesota then this must be addressed. Lastly, future research should explore other potential high-risk locations such as afterschool programs, truck stops and rest areas. The more high-risk locations that can be identified the more we can understand where DMST happens. The market for DMST is not going away, and in order to address DMST, we need to understand where people go to buy, sell and conduct DMST. I believe understanding geographies' role in this is the key to doing this.

19. References

1. International Labour Organization. "Profits and Poverty: The Economics of Forced Labour". 2014. www.ilo.org/global/about-the-ilo/newsroom/news/WCMS_243201/lang--en/index.htm.
2. International Labour Organization. "Profits and Poverty: The Economics of Forced Labour." 2014. www.ilo.org/global/about-the-ilo/newsroom/news/WCMS_243201/lang--en/index.htm.
3. Polaris Project."2019 U.S. National Human Trafficking Hotline Statistics." polarisproject.org/2019-us-national-human-trafficking-hotline-statistics
4. World Population Review."Human Trafficking Statistics by State 2020." https://worldpopulationreview.com/state-rankings/human-trafficking-statistics-by-state
5. Women's Funding Network. "Six-Month Report: Domestically Sex-Trafficked Minors on the Rise in Key States." 2010. https://www.prnewswire.com/news-releases/six-month-report-domestically-sex-trafficked-minors-on-the-rise-in-key-states-102957239.html. Women's Funding Network. "Six-Month Report: Domestically Sex-Trafficked Minors on the Rise in Key States." 2010. https://www.prnewswire.com/news-releases/six-month-report-domestically-sex-trafficked-minors-on-the-rise-in-key-states-102957239.html
6. Mannix, Andy. "Cyber exploitation of Minnesota Kids Surges Under Quarantine." *Star Tribune.* May 18, 2020. https://www.startribune.com/cyber-exploitation-of-kids-surges-under-quarantine/570550402/
7. International Institute of Minnesota. "Safe Harbor." https://iimn.org/programs/refugee-services/safe-harbor-sexually-exploited-youth/
8. UNICEF. "Child Trafficking In The U.S." https://www.unicefusa.org/child-trafficking-us#:~:text=Child%20trafficking%3A%20a%20definition,to%20reach%20their%20full%20potential.
9. H.R.3244
10. Chang K.S.G., Hayashi A.S. 2017. "The Role of Community Health Centers in Addressing Human Trafficking." *Human Trafficking Is a Public Health Issue* 1: 374 -362. OTIP 2016. Kaplan, Dana M.D., Kemp, Kathleen Ph. D. 2015. "Domestic Minor Sex Trafficking: An emerging Health Crisis." *The Brown University Child and Adolescent Behavior,* Issue 7 p. 1-6.
11. Makini Chisolm-Straker, Jeremy Sze, Julia Einbond, James White, Hanni Stoklosa. "Screening for human trafficking among homeless young adults." *Children and Youth Services Review,*Volume 98, 2019, Pages 72-79.
12. OTIP 2016
13. Tyldum, Guri. 2010. "Limitations in Research on Human Trafficking." *International Migration* 48. Weitzer, Ronald. 2011."Sex Trafficking And The Sex Industy: The Need For Evidence Based Theory and Legislation" *The Journal of Criminal law and Criminogoly* 101: 1337-1369. Weitzer, Ronald. 2014. "New Directions In Research on Human Trafficking." *Human Trafficking: Recent Empirical Research* 653: 6-24. O'Brien, E. Jennifer, Kevin White & Cynthia Fraga Rizo. 2017. "Domestic Minor Sex Trafficking Among Child Welfare-Involved Youth: An Exploratory Study of Correlates." *Child Maltreatment* 22: 265-274. Franchino-Olsen, Hannabeth. 2019. "Vulnerabilities Relevant for Commercial Sexual Exploitation of Children/Domestic Minor Sex Trafficking: A Systematic Review of Risk Factors" *Trauma, Violence and Abuse* :1-13.
14. International Labour Organization. 2017. "Report: Global Estimates of Modern Slavery: Forced Labour and Forced Marriage". https://www.ilo.org/global/publications/books/WCMS_575479/lang--en/index.htm
15. Shared Hope. "The National Report On Domestic Minor Sex Trafficking." 2009. https://sharedhope.org/wp-content/uploads/2012/09/SHI_National_Report_on_DMST_2009.pdf
16. Congressional Research Service. 2015. "Sex Trafficking of Children in the United States: Overview and Issues for Congress." *Congressional Library.* https://fas.org/sgp/crs/misc/R41878.pdf

17. Clayton, Ellen Wright, Richard D. Krugman and Patti Simon, IOM (Institute of Medicine) and NRC (National Research Council). "Confronting commercial sexual exploitation and sex trafficking of minors in the United States." 2013. Washington, DC: The National Academies Press. Farrell, Amy, Jack McDevitt, Stephanie Fahy, Scott Decker, Nancy Rodriguez, Vince Webb, and Nikos Passas. 2008. "Understanding And Improving Law Enforcement Responses To Human Trafficking." *Institute on Race and Justice*. https://www.ncjrs.gov/pdffiles1/nij/grants/222752.pdf

18. National Center for Missing and Exploited Children. "Permanent Subcommittee on Investigations Committee on Homeland Security and Governmental Affairs United States Senate". 2015. https://www.hsgac.senate.gov/imo/media/doc/Souras%20Testimony%20-%20PSI%202015-11-19.pdf

19. Tyldum, Guri. 2010. "Limitations in Research on Human Trafficking." *International Migration* 48.

20. Tyldum, Guri. 2010. "Limitations in Research on Human Trafficking." *International Migration* 48. O'Brien, E. Jennifer, Kevin White & Cynthia Fraga Rizo. 2017. "Domestic Minor Sex Trafficking Among Child Welfare-Involved Youth: An Exploratory Study of Correlates." *Child Maltreatment* 22: 265-274.

21. Tyldum, Guri. 2010. "Limitations in Research on Human Trafficking." *International Migration* 48.

22. Deermer, Coleen. 2016. "Experiences, Challenges, and Resiliency Among Survivors of Domestic Minor Sex Trafficking." *Electronic, Theses, Projects, and Dissertations California State University, San Bernardino.* N.A. Perkins, B. Elizabeth & Cary Ruiz. 2017. "Domestic Minor Sex Trafficking in a Rural State: Interviews with Adjudicated Female Juveniles." *Child and Adolescent Social Work Journal* 34: 171-180.

23. Deermer, Coleen. 2016. "Experiences, Challenges, and Resiliency Among Survivors of Domestic Minor Sex Trafficking." *Electronic, Theses, Projects, and Dissertations California State University, San Bernardino.* N.A. Perkins, B. Elizabeth & Cary Ruiz. 2017. "Domestic Minor Sex Trafficking in a Rural State: Interviews with Adjudicated Female Juveniles." *Child and Adolescent Social Work Journal* 34: 171-180.

24. Clayton, Ellen Wright, Richard D. Krugman and Patti Simon, IOM (Institute of Medicine) and NRC (National Research Council). "Confronting commercial sexual exploitation and sex trafficking of minors in the United States." 2013. Washington, DC: The National Academies Press. Roe-Sepowitz, Dr. Dominique, Gallagher, Hogan, Ward, Denecour, & Bracy. 2017. "A Six-year Analysis of Sex Traffickers of Minors: Exploring Characteristics and Sex Trafficking Patterns." *ARIZONA STATE UNIVERSITY OFFICE OF SEX TRAFFICKING INTERVENTION RESEARCH. https://socialwork.asu.edu/sites/default/files/ASU-Sex-Traffickers-of-Minors-Six-Year-Study-Full-Report-April-2017.pdf* Deermer, Coleen. 2016. "Experiences, Challenges, and Resiliency Among Survivors of Domestic Minor Sex Trafficking." *Electronic, Theses, Projects, and Dissertations California State University, San Bernardino.* N.A. Perkins, B. Elizabeth & Cary Ruiz. 2017. "Domestic Minor Sex Trafficking in a Rural State: Interviews with Adjudicated Female Juveniles." *Child and Adolescent Social Work Journal* 34: 171-180.

25. Weitzer, Ronald. 2011. "Sex Trafficking And The Sex Industy: The Need For Evidence Based Theory and Legislation" *The Journal of Criminal law and Criminogoly* 101: 1337-1369. Weitzer, Ronald. 2014. "New Directions In Research on Human Trafficking." *Human Trafficking: Recent Empirical Research* 653: 6-24. Cojocaru, Claudia. (2015). Sex Trafficking, Captivity, and Narrative: Constructing Victimhood with the Goal of Salvation. Dialectical Anthropology. 39. N.A. Peck, Gunther. "The Shadow of White Slavery: Race, Innocence, and History in Contemporary Anti–Human Trafficking Campaigns." *The Power of the Past: History and Statecraft*, edited by HAL BRANDS and JEREMI SURI, Brookings Institution Press, 2016, pp. 209–234.

26. Farrell, Amy, Jack McDevitt, Stephanie Fahy, Scott Decker, Nancy Rodriguez, Vince Webb, and Nikos Passas. 2008. "Understanding And Improving Law Enforcement Responses To Human Trafficking." *Institute on Race and Justice*. https://www.ncjrs.gov/pdffiles1/nij/grants/222752.pdf. Gozdziak, Elzbieta, Micah N Bump. 2008. "Data and Research on Human Trafficking: Bibliography of Research-Based Literature." https://www.ncjrs.gov/pdffiles1/nij/grants/224392.pdf. Weitzer, Ronald. 2011. "Sex Trafficking And The Sex Industy: The Need For Evidence Based Theory and Legislation" *The Journal of Criminal law and Criminogoly* 101: 1337-1369. Weitzer, Ronald. 2014. "New Directions In Research on Human Trafficking." *Human Trafficking: Recent Empirical Research* 653: 6-24.

27. Weitzer, Ronald. 2011. "Sex Trafficking And The Sex Industy: The Need For Evidence Based Theory and Legislation" *The Journal of Criminal law and Criminogoly* 101: 1337-1369. Clayton, Ellen Wright, Richard D. Krugman and Patti Simon, IOM (Institute of Medicine) and NRC (National Research Council). "Confronting commercial sexual exploitation and sex trafficking of minors in the United States." 2013. Washington, DC: The National Academies Press. Weitzer, Ronald. 2014. "New Directions In Research on Human Trafficking." *Human Trafficking: Recent Empirical Research* 653: 6-24.

28. Farrell, Amy, Jack McDevitt, Stephanie Fahy, Scott Decker, Nancy Rodriguez, Vince Webb, and Nikos Passas. 2008. "Understanding And Improving Law Enforcement Responses To Human Trafficking." *Institute on Race and Justice*. https://www.ncjrs.gov/pdffiles1/nij/grants/222752.pdf. Clayton, Ellen Wright, Richard D. Krugman and Patti Simon, IOM (Institute of Medicine) and NRC (National Research Council). "Confronting commercial sexual exploitation and sex trafficking of minors in the United States." 2013. Washington, DC: The National Academies Press. Cojocaru, Claudia. (2015). Sex Trafficking, Captivity, and Narrative: Constructing Victimhood with the Goal of Salvation. Dialectical Anthropology. 39. Perkins, B. Elizabeth & Cary Ruiz. 2017. "Domestic Minor Sex Trafficking in a Rural State: Interviews with Adjudicated Female Juveniles." *Child and Adolescent Social Work Journal* 34: 171-180. Franchino-Olsen, Hannabeth. 2019. "Vulnerabilities Relevant for Commercial Sexual Exploitation of Children/Domestic Minor Sex Trafficking: A Systematic Review of Risk Factors" *Trauma, Violence and Abuse* :1-13.

29. Gozdziak, Elzbieta, Micah N Bump. 2008. "Data and Research on Human Trafficking: Bibliography of Research-Based Literature." https://www.ncjrs.gov/pdffiles1/nij/grants/224392.pdf

30. Perkins, B. Elizabeth & Cary Ruiz. 2017. "Domestic Minor Sex Trafficking in a Rural State: Interviews with Adjudicated Female Juveniles." *Child and Adolescent Social Work Journal* 34: 171-180.

31. Levitt, S. and S. Venkatesh. "An Empirical Analysis of Street-Level Prostitution." (2007).

32. Levitt, S. and S. Venkatesh. "An Empirical Analysis of Street-Level Prostitution." (2007).

33. Levitt, S. and S. Venkatesh. "An Empirical Analysis of Street-Level Prostitution." (2007). Campana, P., Varese, F. Exploitation in Human Trafficking and Smuggling. *Eur J Crim Policy Res* 22, 89–105 (2016). https://doi.org/10.1007/s10610-015-9286-6

34. Mletzko, Deborah, Summers Lucia, and Arnio N. Ashley. 2018. "Spatial patterns of urban sex trafficking" *Journal of Criminal Justice* 58: 87-96.

35. Cole, Jennifer, and Ginny Spang. 2015. "Sex trafficking of minors in metropolitan, micropolitan, and rural communities." *Child Abuse & Neglect* 40:113-123.

36. Gumm, Jones. 2020. "25 Investigates: Drugs, sex, and guns traveling through Central Texas daily on I-35" https://www.kxxv.com/news/25-investigates/25-investigates-drugs-sex-and-guns-traveling-through-central-texas-daily-on-i-35

37. Mletzko, Deborah, Summers Lucia, and Arnio N. Ashley. 2018. "Spatial patterns of urban sex trafficking" *Journal of Criminal Justice* 58: 87-96.

38. Chandler, Sarah. "A Closer Look at Minnesota's Sex Trafficking Problem." *Minnesota Monthly.* https://www.minnesotamonthly.com/lifestyle/a-closer-look-at-minnesotas-sex-trafficking-problem/

39. Horner, Sarah. 2019. "Minneapolis man forced 14-year-old runaway into sex trafficking out of St. Paul motel, charges say" https://www.twincities.com/2019/10/11/minneapolis-man-st-paul-motel-sex-trafficing/

40. Lauren Martin (PI), Alexandra Pierce (PI), Stephen Peyton, Ana Isabel Gabilondo, and Girija Tulpule. (2014). Mapping the Market for Sex with Trafficked Minor Girls in Minneapolis: Structures, Functions, and Patterns. Full report: Preliminary Findings (available at uroc.umn.edu/sextrafficking). September 2014

41. Porter, Jody. 2013. "Native Canadian women sold on U.S. ships, researcher says" https://www.cbc.ca/news/canada/thunder-bay/native-canadian-women-sold-on-u-s-ships-researcher-says-1.1325167

42. Porter, Jody. 2013. "Native Canadian women sold on U.S. ships, researcher says" https://www.cbc.ca/news/canada/thunder-bay/native-canadian-women-sold-on-u-s-ships-researcher-says-1.1325167

43. Jones, Kassandra. 2019. "Human Trafficking and Retail." https://justaskprevention.org/news/human-trafficking-and-retail/

44. Perkins, B. Elizabeth & Cary Ruiz. 2017. "Domestic Minor Sex Trafficking in a Rural State: Interviews with Adjudicated Female Juveniles." *Child and Adolescent Social Work Journal* 34: 171-180.

45. Minnesota Department of Human Services. 2019. "*Foster care: Temporary out-of-home care for children."* https://edocs.dhs.state.mn.us/lfserver/Public/DHS-4760-ENG

46. Latzman, E. Natasha, Gibbs, A. Deborah, Feinberg Rose, Kluckman N. Marianne, and Aboul-Hosn Sue. 2019. "Human trafficking victimization among youth who run away from foster care." *Children and Youth Services Review* 98: 113-124.

47. Lauren Martin (PI), Alexandra Pierce (PI), Stephen Peyton, Ana Isabel Gabilondo, and Girija Tulpule. (2014). Mapping the Market for Sex with Trafficked Minor Girls in Minneapolis: Structures, Functions, and Patterns. Full report: Preliminary Findings (available at uroc.umn.edu/sextrafficking). September 2014

48. Cole, Jennifer, and Ginny Spang. 2015. "Sex trafficking of minors in metropolitan, micropolitan, and rural communities." *Child Abuse & Neglect* 40:113-123.

49. Chohaney, M. L. (2016). Minor and adult domestic sex trafficking risk factors in Ohio. Journal of the Society for Social Work and Research, 7, 117–141. Roe-Sepowitz, D. E. (2012). Juvenile entry into prostitution. Violence Against Women, 18, 562–579.

50. Lauren Martin (PI), Alexandra Pierce (PI), Stephen Peyton, Ana Isabel Gabilondo, and Girija Tulpule. (2014). Mapping the Market for Sex with Trafficked Minor Girls in Minneapolis: Structures, Functions, and Patterns. Full report: Preliminary Findings (available at uroc.umn.edu/sextrafficking). September 2014

51. Kaul, Greta. 2020. "The number of concentrated-poverty neighborhoods in the Twin Cities has doubled since 1980" https://www.minnpost.com/metro/2020/07/the-number-of-concentrated-poverty-neighborhoods-in-the-twin-cities-has-doubled-since-1980/

52. Fedina L, Williamson C, Perdue T. Risk Factors for Domestic Child Sex Trafficking in the United States. *Journal of Interpersonal Violence*. 2019;34(13):2653-2673.

53. Minnesota State Demographic Center. "Age, Race and Ethnicity" https://mn.gov/admin/demography/data-by-topic/age-race-ethnicity/

54. Kaul, Greta. 2020. "The number of concentrated-poverty neighborhoods in the Twin Cities has doubled since 1980" https://www.minnpost.com/metro/2020/07/the-number-of-concentrated-poverty-neighborhoods-in-the-twin-cities-has-doubled-since-1980/

55. Lauren Martin (PI), Alexandra Pierce (PI), Stephen Peyton, Ana Isabel Gabilondo, and Girija Tulpule. (2014). Mapping the Market for Sex with Trafficked Minor Girls in Minneapolis: Structures, Functions, and Patterns. Full report: Preliminary Findings (available at uroc.umn.edu/sextrafficking). September 2014

56. International Institute of Minnesota. "Safe Harbor." https://iimn.org/programs/refugee-services/safe-harbor-sexually-exploited-youth/

57. Minnesota Department of Transportation. "I-34 Construction Between Burnsville and Lino Lakes." https://www.dot.state.mn.us/metro/projects/i35construction/

58. Clawson, J. Heather, Dutch Nicole, Solomon Amy, and Lisa G