

## **Invisible Offenders: A Study Estimating Online Sex Customers**

### **Research Report**

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## **Background Information**

Prostitution, the exchange of sex for money, drugs or other things has received increased attention in recent years from the media, advocacy groups, law enforcement and legislators with a specific focus on the victimization of minors in sex trafficking situations. Sex trafficking, sex trading and sex exchange are all used to describe the exchange of sex between a buyer and a provider or prostituted person. If the person is under the age of 18 years old or is prostituted by another person using force, fraud or coercion, it is defined as sex trafficking by the Victim of Trafficking and Violence Protection Act (2000).

Sex buyers of prostituted and sex trafficked persons are poorly understood as there are numerous challenges to detecting and studying them. The foci of this study, online sex ad customers, are hidden offenders who are rarely exposed to the public except by episodic targeted enforcement by police (Sanders, 2008). Online sex ad customers experience a lower risk of being caught by police than street-level prostitution customers due to the insulation provided by the relative anonymity inherent in internet-based solicitation. Other risk-mitigating factors include the fact that online sex customers remain out of (physical) sight of law enforcement while soliciting for sex, the arrangements are made by phone or email and the sex exchange is done in private in a hotel, brothel or private home, while street-level prostitution customers make sex exchange deals and many times engage in sex acts in public spaces where they are more likely to receive law enforcement attention. The overall number of sex buyers arrested in the United States is unknown as current national crime data collection does not separate persons charged with solicitation, prostitution or pandering.

An active anti-trafficking movement has grown in the United States in the past decade and has increased the public's awareness of the role of demand for prostitution and of the buyer of sex in sex trafficking. Demand reduction groups have begun to gain traction drawing attention to the behavior of customers and suggesting and developing prevention techniques. Some states and cities have begun to implement increasingly stringent penalties for customers, with a specific focus on those buying sex from minors. Other actions geared towards identifying sex buyers and changing their behaviors have burgeoned, including techniques using the public shaming of offenders through posting their personal information on websites and billboards, but little is known about the deterrent effect of these interventions. Sex buyers, except those caught in targeted stings, are elusive, complex to research and, in most cases, hidden in plain sight in our communities. Because of these challenges, they continue to be enigmatic. For this study we focus only on customers of online sex ads.

## **About this Study**

The authors were provided with funding from Thorn: Digital Defenders of Children and the ASU Office of Sex Trafficking Intervention Research to develop a comprehensive research agenda related to exploring the demand for prostitution in the United States. This study is the first product of this effort and is an attempt to better understand the scope of demand for sex from online sex advertisements. This study was done in consultation and partnership with law enforcement personnel, who assisted in the development of the methodology and goals of this study to specifically address the gaps in operational knowledge as to the scope of demand, the increasingly technological nature of solicitation, and the impact of demand on the overall sex trafficking landscape.

Our definition of demand for this study focused exclusively on phone-based (calls, voicemails, and texts) responses to decoy online sex advertisements of a female offering sexual services. We did not make any contact with respondents and the study was approved by the Arizona State University Institution Review Board to use deception to collect phone numbers from the subjects.

The issue of sex buying is multifaceted and complex, including different types of buyers varying from the hobbyist, men who regularly buy sex from different sellers (Milrod & Monto, 2012), occasional users, and first time users. This study is focused on the response by potential customers to sex ads placed online in 15 cities. For the purpose of developing a probability estimate, we used an innovative methodology that has been successfully used in ecology, population biology and demographic research to determine the estimated or probable size of a population that is complex to assess called capture/recapture.

### **Previous Research Used to Build This Study**

Research on prostitution demand, conducted through john schools and online discussion boards, has well documented why men buy sex from girls and women (Milrod et al, 2012; Monto, 2004; 2010; Monto and Hotaling, 2001; Shively, Kliorys, Wheeler, & Hunt, 2012) but is not sufficient to estimate the population or the extent of demand. Previous attempts at estimating the population of sex customers have been made through social surveys including the General Social Survey (as cited in Monto, 2010; Smith, Marsden, & Hunt, 1972-2010) with an estimate that 14% of men surveyed had previously bought sex and the National Health and Social Life Survey (as cited in Monto, 2010; Michael, Gagnon, Laumann & Kolata, 1994), which found that 16% of men had visited a prostitute in their lifetime. Unsupported media reports have estimated that between 16 and 80 percent of men pay for sex (Bennetts, 2011).

A recently released study by the Chicago Alliance Against Sexual Exploitation (CAASE) analyzed the attitudes and beliefs of online sex customers towards the sex sellers they frequent and the efforts of law enforcement to thwart them (Janson, Durchslag, Mann, Marro, & Matvey, 2013). The CAASE study also found that online buyers used websites to locate and contact sex sellers throughout Illinois, and travel to different areas to purchase it, suggesting that any response to demand must be coordinated to be effective.

Two research groups have previously attempted to estimate the population of sex buyers in a specific geographical area. The Shapiro Group attempted to estimate how many men were buying sex from 'young' girls from online venues in Georgia. Their study, although valiant in their goal, was rife with methodological issues and assumptions and did not result in a robust and replicable model (Pinto, 2011). Brewer, Roberts, Muth and Potterat (2008) were the first to attempt the complex task of creating an estimate of the size of the population of street prostitution customers in the United States based on data from six cities using a version of capture/recapture sampling called list matching. Their study explored arrest records and matched them with county health clinics, jails and outreach interviews. Brewer et. al (2008) created a model estimating the size of the population of male street prostitution customers by using the population base of each city and found their estimates to range from .3 percent to 1.4 percent during 1988-2002. This study builds upon the methods used by Brewer et. al (2008) but uses data collected from just one source, which more closely adheres to the assumptions of the capture/recapture model.

The goal of this study was to answer the following research question:  
*What is the probable population estimate for males seeking to purchase sex from a female using a prominent online sex ad venue?*

## **Research Methods**

This study used a capture/recapture sampling technique, which has been used in ecology and population biology, as well as demography research. Previous capture/recapture studies have been used to estimate the density of a population of animals such as jaguars in Brazil (Soisalo & Cavalcanti, 2006) and tigers in India (Karanth et al, 2002), as well as estimates of populations such as drug users in London (Hickman et al, 2002), heroin users in Australia (Larson, Stevens, & Wardlaw, 1994), and type 2 diabetes in the United Kingdom (Ismail, Beeching, Gill & Bellis, 1999). This sampling technique creates a model to estimate the size of a population by matching individuals from two random samples. Using this method, this study developed an estimate of the total size of the online sex ad customer population from the exposed population, all males in the metro area over the age of 18 (American Fact Finder, 2011) that appear in two samples taken from the same population (people who responded by phone to an online sex ad placed on two different days).

An example of capture/recapture sampling is the counting of how many deer are in a wooded area at a given time. A spotter is sent to the woods to photograph as many deer as they can during a 10-hour period. The photographs would be examined to identify each deer by some unique feature and a list would be created. A short time later, a spotter would return to the wooded area and photograph as many deer as they could in a 10-hour period. Those photographs are compared with the photos from the first data collection and the overlap is counted as capture-recapture cases, which create the formula to determine the size of the deer population. In both this study of online sex ad customers and the example of estimating the deer population in a wooded area, the overall population is not closed and to minimize issues of attrition and new recruits, we attempted to keep the time between collecting samples as short as possible. Recapture for this study is a caller making contact (call, voicemail or text) for both of the ads placed in that same city.

The team placed decoy ads online in 15 cities at two different times (seven days apart) to collect information about calls and texts from potential online sex buyers. The cities, all of whose police departments were made aware of the study included: Atlantic City, Boston, Baltimore, Chicago, Houston, Kansas City, Las Vegas, Miami, Minneapolis, New York City, Phoenix, Portland, San Diego, San Francisco and Salt Lake City.

Ads were placed on both craigslist.com (casual encounters) and backpage.com (adult entertainment, escorts). The identical ad was placed at 2pm (local time) on Fridays twice, one week apart and calls/texts were recorded, including phone numbers and messages.

**Study assumptions** necessary to consider when interpreting the findings from this study are:

- All men over the age of 18 that live in each city are potential customers for online sex ads. We realize that this is a significant assumption and excludes tourists and short term residents but using the information from American Fact Finders was necessary to develop the percentage estimate for each city.
- The ad placed on backpage.com was normative to all of the other ads posted (adult entertainment, escort section) on backpage.com regarding ad language and photograph, specifically for individuals advertising sexual services by females and targeted at male customers. The ad was designed with reference to three ads that had been posted previously by law enforcement for customer stings. Contextual development assistance was provided by the Lieutenant of a Vice Enforcement Unit in the 5<sup>th</sup> largest city in the United States (Phoenix, Arizona) and by a researcher with extensive experience analyzing online sex ads.
- The callers (customers) probably called other sex ads posted on backpage.com during the 24 hours after our ads were posted.
- The ads were placed on two average Fridays in late spring 2013.

## Findings

**Table 1: Population and Percentage Estimates of Online Sex Ad Customers.**

City	% of Males in City Who Call Sex Ads (Confidence Intervals)	Estimated Sex Ad Customer Population	Average # of Ads Posted on backpage.com in a 24 hour Period (Friday 2pm)
Atlantic City	1.4% (0.5% - 3.2%)	10,275	206
Baltimore	1.8% (1.1% -2.1%)	17,766	211.5
Boston	7.6% (4.8% -10.3%)	130,416	247
Chicago	2.4% (1.4% -3.1%)	83,478	518.5
Houston	21.4% (13.8% -29%)	169,920	472
Kansas City	14.5% (9.1% -17.9%)	106,624	98
Las Vegas	13.5% (9.1% -19.9%)	99,910	515
Miami	6.6% (4.2% -8.9%)	140,184	265.5
Minneapolis	4.9% (3.2%-6.7%)	60,120	167
New York City	3.9% (0%-7.6%)	21,514	341.5

Phoenix	4.9% (3.4%- 6.4%)	78,412	307.5
Portland	3.7% (2.6% -4.8%)	31,282	145.5
San Diego	3.1% (0% -7%)	36,890	310
San Francisco	.6% (.1% -1.3%)	9,504	96
Salt Lake City	2.6% (.6%-4.7%)	10,675	87.5

The craigslist.com ads in all cities were taken down almost immediately after being posted. In response to the two ads placed on backpage.com, we received a total of 677 contacts (texts and calls) from 415 unique phone numbers of online sex ad customers in the 15 cities during the seven days after the ads were placed. The majority (69.6%) of contacts were made during the first 24 hours after the ad was posted ranging from 48% in San Francisco to 90% in New York City. The contacts were from 105 area codes and ranged from one to nine calls/texts ( $M = 1.5$ ) per caller. Recaptured phone numbers (i.e. online sex ad customers who called both weeks in response to ads placed online in the same city) were found in six cities. Both Baltimore and Chicago had one recaptured number, two were found in Salt Lake City and Atlantic City, and three were found in Portland and Phoenix.

The estimated population size of male online sex ad customers was calculated for each city and then anchored to the metropolitan area population to determine the percentage estimate. The estimated population size ranged from 9,504 in San Francisco to 169, 920 in Houston. The number of ads placed during the same 24 hour periods as our ads were placed ranged by city from 87.5 other ads in Salt Lake City to 518.5 other ads in Chicago.

When applying the estimated population to create the percentage estimate we found on average, for all 15 cities, one out over every 20 males over the age of 18 was estimated to be soliciting online sex ads. In acknowledgement that some of the sex ad customers may not be from the city where the ad was placed, we conducted analytics of the area codes and differences between texts and voice calls. Area codes of the callers being from the metro area of the identified city was found to range between 54.7% (Portland) to 88.6% (Kansas City) except for Atlantic City which was an outlier at 17.9%. We acknowledge that some of these calls may be from hotel phones or phone applications that create false numbers.

### **Analytics**

The exposed populations for this study are all males over the age of 18 years old in the metro-area of each city. These were determined using census estimates from American Fact Finder, specifically the one year estimate from the American Community Survey from the most recent year available, 2011. This is the basis by which we calculated the percentage estimate of the male population in each city soliciting online sex ads. This exposed population is the denominator and calculated with the number of unique calls/texts for each ad (captured for 24 hours twice divided by number of recaptured phone numbers during the second 24 hours) and the

average number of ads posted on backpage.com (escort section) in each city (counted for 24 hours twice). This model reports the number of active online sex ad customers on the first data collection date (mid-June 2013) and considers issues of attrition (customers no longer buying sex from online ad source) and new customers (who are entering the market to buy sex online in that city for the first time) (Chapman, 1951).

**Technique we used to find the total population estimate of online sex ad responders (N):**

$$N = \frac{(n_1 + 1)(n_2 + 1)}{m + 1} / \text{Average \# of ads}$$

$n_1$  = number of phone numbers from the first ad responses

$n_2$  = number of phone numbers from the second ad responses

Average # of ads = average number of ads posted on escorts section during the 24 hours after the ad was placed X2

$m$  = number of phone numbers recaptured

## Discussion

Many assumptions were made to reach these results but we believe the estimates are reasonable given previous estimates and our adherence to the statistical model of capture/recapture. We attempted in every decision possible to make the most conservative choice. This study is the first to estimate online sex buyers using this methodology. The model we used has strengths and weaknesses and the probability estimates were higher than the researchers expected in some cities. Regarding Houston, the city with the highest percentage, no recapture contacts were made for both the first and second ad, thus we did not have a sense of the boundaries of the population and the number is the direct calculation of other ads placed during that same time period and the number of contacts. Even if we used the most conservative probability estimate of 13.8%, the estimate of 169,920 would account for one of every seven males over the age of 18 in the Houston metropolitan area.

A strength of this study is that the method of data collection and analyses can easily be replicated and changes in the estimated population over time or pre/post an intervention can be calculated. Limitations of this study include that we were only able to gather useable data from one website (backpage.com) in 15 metro areas and we did not make any contact with any of the customers so verification of their intent to solicit sex from the posted ad was not conducted. Another limitation includes our base population. We elected to use the census numbers from American Fact Finder, which estimates the adult male population in a geographic area but does not consider fluctuation in population like tourism. We included all contacts in our study but were unable to be sure who was a local resident or tourist except from our attempt to use area codes to link to local numbers. A final consideration is that perhaps all men over the age of 18 are not motivated to solicit sex through online sex ads, but to determine the real number of potential customers created a methodological challenge we were not able to estimate with any accuracy, thus we used the American Fact Finder census as the base population to develop the population percentage estimate.

No major weather activities or events occurred during the two dates the ads were posted but in Miami, a NBA Finals game was held the day before the second ad was placed. A number of trends in the data were noted including:

- Atlantic City contacts were the least likely of all of the 15 cities to be from a local area code.
- Kansas City contacts were made via call or voicemail (i.e. no texts) and had the highest rate of local area codes (88.6%); they were also the most persistent, with 50% being repeat callers.
- Most of the total contacts were via voicemail except in Miami and Salt Lake City where contacts were primarily by text (61.5% and 76.5%).

### **Future Research**

This study is a first step towards gaining a better understanding of the size of the population of online sex buyers. Other information that would be helpful to develop this area of research, as well as assist in the development of legislative and law enforcement actions, would include having better participation by online sex ad providers like backpage.com about the behavior of viewers and the number of clicks each advertisement receives.

The new information provided in this study about the size of the online sex buyer population is simply a contribution to the field of demand research and adds a new piece to the puzzle. The intention of this study is to inform law enforcement, advocacy group and policy makers about the scope of the illegal behavior of buying sex from ads posted on websites and to begin a dialogue about how to best integrate this new information into the demand reduction activities currently being implemented.

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