We be Drinkin': A Study of Place Management and Premise Notoriety among Risky Bars and Nightclubs

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Abstract*: Risky facilities are places that exhibit substantially more crime and disorder problems than properties of the same type. Explanations for why crime concentrates at certain places highlight the interplay between place management and premise notoriety. Site observations at 87 bars and 17 nightclubs, located along the I-10 and 215 corridors across three counties (San Bernardino, Riverside, and Los Angeles) in California, found significant differences between these two types of drinking establishments. As expected, alcohol control figured prominently in accounting for both internal and external crime issues at bars; whereas a greater range of problems were observed for crowded nightclubs. More importantly, interaction terms including Yelp.com ratings revealed something new about drinking preferences. Crowded bars that are rated higher on Yelp.com have significantly more problems. These findings suggest that Yelp.com ratings and other social media can be used to investigate alcohol-serving facilities.*

Keywords: crime, crowdedness, bars and nightclubs, place management, risky facilities, Yelp.com

INTRODUCTION

In November 2011, an altercation began between two groups inside Charlie Jewell's bar, located in Redlands, CA. Indoor security forced the combatants outside, which is a typical response to this common problem. The quarrel continued, resulting in a patron being fatally wounded by a gunshot. While alcohol-serving facilities are often linked to serious crime and disorder problems, most crime occurs in only a few premises—these high crime locations are known to be *risky facilities* (Eck, Clarke and Guerette 2007; Eck et al. 2009). What is generally found to separate

risky facilities from low crime places is a combination of place management and premise notoriety.

Using site observations of 87 bars and 17 nightclubs, this study tests indicators of poor place management that are predictive of risky facilities. Alcohol serving establishments with excessive crowding, lax alcohol control, and poor design, attract higher levels of crime and disorder than facilities of the same type. This research also introduces a measure of public notoriety, Yelp.com. The results suggest that internet-based social information networks are indicative of crime issues. Due to the relatively large sample of facilities, drawn from 14 cities

located along a 150-mile corridor of Southern California, policy implications can be generalized beyond the region studied. Controlling patron behavior through place management is critical to ensuring safety in alcohol-serving establishments. Collaboration between facility management and local governing agencies is essential to avoiding situations similar to the one that occurred at Charlie Jewell's.

DENTIFYING TROUBLESOME BARS AND NIGHTCLUBS

Risky Facilities

Alcohol serving facilities and the recreational inebriation they sponsor are important social issues, given the strong link between alcohol consumption and crime and disorder problems (Felson et al. 1997; Homel and Clark 1994; Scott and Dedel 2006; Stockwell 1997). Evidence routinely shows that crime victimization, particularly rates of violence, are more prevalent at drinking facilities than any other type of facility (e.g., Madensen and Eck 2008; Scott and Dedel 2006). A contributing factor is the tendency for city zoning policy to cluster bars, nightclubs, and restaurants into entertainment districts. Although it may be good for business, concentrating drinking establishments within a relatively small geographic area lubricates the flow of drunken patrons between places (Clarke and Eck 2007) and increases the chance of altercations as groups of people congregate (Homel et al. 1997; Scott and Dedel 2006). Even within a notorious entertainment district, crime and disorder is not evenly spread across all properties.

Within any distribution, a small proportion of locations account for the vast majority of crime and disorder incidents (see Clarke and Eck 2007; Eck, Clarke and Guerette 2007). As argued by Felson, these crime problems are best understood by uncovering behavioral routines—work, social, and residential—that shape the convergence of the six essential ingredients of crime events (2002). Crimes occur when a motivated offender (1) and a suitable target (2) intersect at a specific location (3) and there is a *conspicuous absence* of capable guardians (4), intimate handlers (5), and effective place managers (6) (Cohen and Felson 1979; Eck 1995, 2002; Felson 1995, 2002). Since place managers directly control operations at the location where crimes occur, it can be argued that they are the most vital ingredient among the confluence of factors that are linked to crime problems (Fox and Sobol 2000; Madensen and Eck 2008).

Place managers directly influence a diverse set of visible risk factors, including premise design and layout, patron use patterns, security management, alcohol control, and marketing (see Figure 1). Premises exhibit more severe crime and disorder levels when they are crowded,
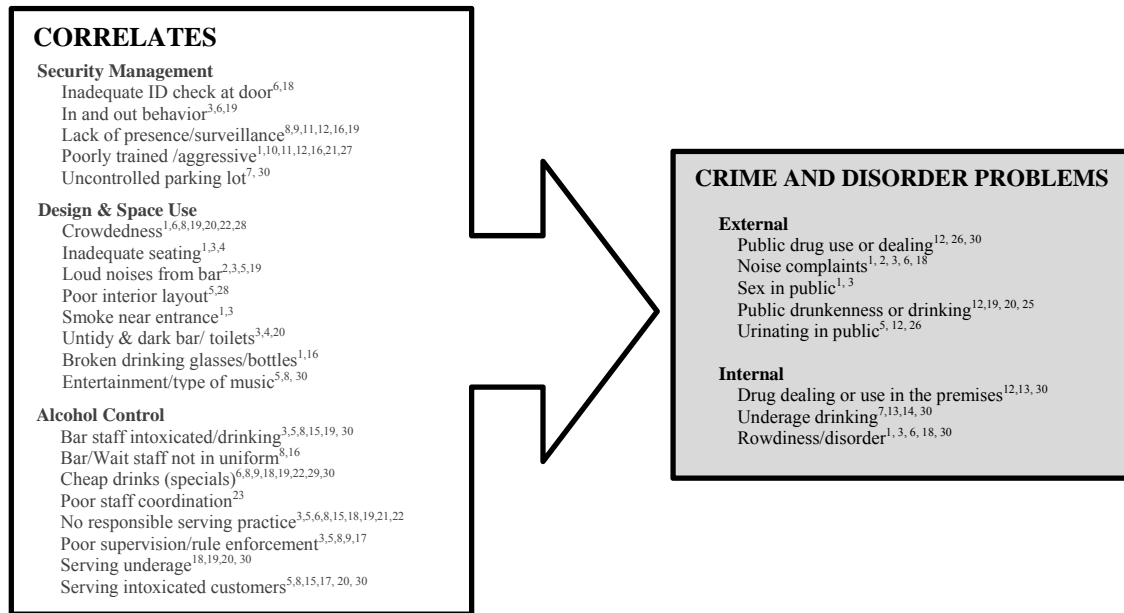
noisy, unclean, and few behavioral controls are enforced, i.e., highly permissive environments that allow movement in and out, congregation at the entrance, and little alcohol control (Dedel 2006; Felson et al. 1997; Graham et al. 2006a; Graham et al. 1980; Homel and Clark 1994; Homel et al. 2004). Additionally, aggression and disorder is higher when drinkers tailgate in parking lots and throw empty cans or bottles at people or property (Felson et al. 1997; Fox and Sobol 2000). For the most part, these are all attributes that are under some control of facility managers; thus, management plays a central role in generating the most extreme criminogenic conditions (e.g., Madensen and Eck 2008; Mazerolle, Roehl and Kadleck 1998).

Managing Bars and Nightclubs

Management decisions influence the opportunities for crime and disorder. Properly trained staff—bouncers, alcohol servers, and floor supervisors—are needed to ensure adequate crowd and alcohol control (Homel et al. 1999; San Diego PD 2011; South Wales Police 2008; Vancouver PD 1995). Establishing behavioral expectations begins with setting and enforcing rules: careful screening of patron age and eligibility (e.g. dress codes) upon entrance, monitoring activity in adjacent parking areas, funneling smokers to designated areas, and prohibiting the patrons from bringing in restricted items, i.e., drugs and weapons (Eck et al. 2009; Homel et al. 2004). Promotions, activities, and music also can increase aggression and other undesirable behavior (Eck et al. 2009; Fox and Sobol 2000; Madensen and Eck 2008). For instance, cheap drink promotions contribute to excessive binge drinking; booty shaking and wet t-shirt contests can incite aggressive overtures; and, cult music can encourage violent crowd behavior. Serving practices and policies clearly reflect the crime propensity of a bar or nightclub. A business ethos of promoting excessive alcohol sales without monitoring consumption increases crime and disorder issues, while adding food service in a similar setting reduces trouble (Homel and Clark 1994; Stockwell 1997).

Though marketing is an element of place management (Madensen and Eck 2008), the place management literature only examines risky facilities from the perspective of the owner and employees. What tends to be missing from this discussion is patron expectations and how this contributes to premise notoriety. When choosing where to drink, patrons frequent establishments that they believe offer the type of entertainment they desire. For instance, premises with a reputation for a rave-like party atmosphere will attract one segment of the club-going population, whereas a known "tough bar" will attract individuals looking to get rowdy. Thus, there may be a link between facility reputation and the development of criminogenic behavioral settings.

Figure 1. **Factors Associated with Crime and Disorder Problems at Alcohol Serving Establishments**

CORRELATES

Security Management
Inadequate ID check at door[6,18]
In and out behavior[3,6,19]
Lack of presence/surveillance[8,9,11,12,16,19]
Poorly trained /aggressive[1,10,11,12,16,21,27]
Uncontrolled parking lot[7, 30]

Design & Space Use
Crowdedness[1,6,8,19,20,22,28]
Inadequate seating[1,3,4]
Loud noises from bar[2,3,5,19]
Poor interior layout[5,28]
Smoke near entrance[1,3]
Untidy & dark bar/ toilets[3,4,20]
Broken drinking glasses/bottles[1,16]
Entertainment/type of music[5,8, 30]

Alcohol Control
Bar staff intoxicated/drinking[3,5,8,15,19, 30]
Bar/Wait staff not in uniform[8,16]
Cheap drinks (specials)[6,8,9,18,19,22,29,30]
Poor staff coordination[23]
No responsible serving practice[3,5,6,8,15,18,19,21,22]
Poor supervision/rule enforcement[3,5,8,9,17]
Serving underage[18,19,20, 30]
Serving intoxicated customers[5,8,15,17, 20, 30]

CRIME AND DISORDER PROBLEMS

External
Public drug use or dealing[12, 26, 30]
Noise complaints[1, 2, 3, 6, 18]
Sex in public[1, 3]
Public drunkenness or drinking[12,19, 20, 25]
Urinating in public[5, 12, 26]

Internal
Drug dealing or use in the premises[12,13, 30]
Underage drinking[7,13,14, 30]
Rowdiness/disorder[1, 3, 6, 18, 30]

Sources:
[1] Graham et al. 2006a
[2] Miami PD 2011
[3] Homel and Clark 1994
[4] Homel et al. 2004
[5] Eck et al. 2009
[6] Felson et al. 1997
[7] Halton Regional Police Service 2002
[8] Stockwell 1997
[9] Eck et al. 2009
[10] Homel et al.1999
[11] Vancouver PD 1995
[12] San Diego PD 2011
[13] White Plains PD 1997
[14] N. Slope Dept. of Public Safety 1995
[15] Arlington PD 1998
[16] South Wales Police 2008
[17] Scott 2006
[18] Dedel 2006
[19] Homel et al. 1997
[20] Graham et al. 2006b
[21] Graham and Homel 1997
[22] Stockwell 2001
[23] Madensen and Eck 2008
[24] Scott and Dedel 2006
[25] Scott et al. 2006
[26] Chatlotte-Mecklenberg PD 1999
[27] Graham et al. 2005
[28] MacIntyre and Homel 1997
[29] Quigley et al. 2003
[30] Fox and Sobol 2000

Note: This image builds on a table used by Eck and colleagues (2009) to summarize the findings of 9 studies.

Behavioral Settings

Behavioral settings are the smallest unit of social structure connecting dynamic individual activity with the social fabric of a community (Barker 1968). These geographically-anchored places develop temporally-constrained patterns of behavior, with commonly shared norms that shape individual choices. Settings exist irrespective of the individuals whom are present, and they are considered self-generating. Think of a local coffee shop. Ordering a scotch and asking to reserve a billiard table is not consistent with behavioral expectations at 0800; it would not matter which staff worked that day or who came into the shop. This behavior would be unacceptable. However, if the shop doubles as a bar in the late evenings, a second behavioral setting emerges that would support these expectations. This change in behavioral setting often occurs at bars and night clubs. Bars may act as restaurants during the day and party zones late at night. Some nightclubs act as dance studios during the day, offering lessons on how to Salsa, and then become dance clubs later.

Extending routine activities theory, Felson (2006) posits that an important subset of behavioral settings should be of concern to criminology. Offender Conver -gence settings are locations where people assemble in anticipation of criminal/delinquent activity (Felson 2006). They attract like-minded individuals looking to hangout and from this pool of potential co-offenders, new crime activity may be generated. On any given day, an individual will select a hangout based on their perceptions about the type of place it is. As argued by Madensen and Eck (2008), the collective decisions of place managers are the most important factor in determining the character of a place. Managers set parameters within which staff are expected to function when interacting with patrons, and these decisions will shape premise notoriety in such a fashion that an offender convergence setting may develop.

Measuring Premise Notoriety

Since the personality of an establishment is generated through the interaction between patrons and business decisions, capturing current trends across a wide area may be challenging. Fortunately, informal internet-based communications have become one of the most vital sources of information among the bar and club-going population. One notable source of reviews for businesses

that may serve as a barometer of notoriety and patron expectations is Yelp.com.

Yelp.com was launched in 2005 as a mechanism to capture consumer experiences with the products and services of local businesses. Individuals can examine ratings and comments made by reviewers in their community that have first-hand knowledge of the business. Reviewers rate businesses on an ordinal scale ranging from 1 star (not satisfied) to 5 stars (highly satisfied) and offer comments to justify the score. When a business is reviewed, the scores and comments are added to a master file. To protect consumers and business owners from fake or malicious postings, Yelp.com has an automatic filter that suppresses comments that appear in their totality (copies) on other review sites. In other words, only original content is accepted. If a review is deemed appropriate, it is retained for consideration. A proprietary algorithm filters through the file and selects positive and negative comments from the most *trusted* reviewers.

To qualify to review facilities, one must set-up a personal account that records details about their rating activity. Over time, some reviewers become more trusted than others, but Yelp.com does not offer many details; there are three factors that appear to be used to rate them. The three factors are: trust ratings increase with the length of participation, extent of activity, and review comments can be rated on usefulness. Therefore, allowing helpful reviewers achieve a higher trust status.

Yelp.com updates the reviews daily and depending on the mix of comments available for a business, the average rating will shift over time. Only the most trusted reviewers' comments are selected each day, with a balance of positive and negative reviews included. Yelp.com argues that the average rating becomes more accurate the longer a business is in the database and as the number of reviews increase.

Yelp.com receives about 53 million monthly visitors and contains about 20 million reviews; approximately 25% and 8% of Yelp.com users write reviews of restaurants (bars) and entertainment (nightclubs) respectively (Yelp.com 2011). Most users seek information for personal or entertainment purposes (Hicks et al. 2012); information posted is usually treated as a formal and legitimate review (Steffes and Burgee 2009). Thus, Yelp.com provides a measure of how drinking places are viewed by their customers and can give insight into their reputations. For example, as of June 27, 2013, Charlie Jewells' bar was reviewed 47 times and had an average Yelp.com rating of 2 stars (out of 5). Patrons commented that:

[Its] a place where young kids go to start fights. Posted by Rene C., Yucaipa, CA 4/9/2012.

It's definitely a meat market and definitely a place where fights are known to occur on the regular. CJ's is the local

hangout for bros and bro-hos. Posted by Stephie S., Los Angeles, CA, 1/6/2011.

If you enjoy expensive drinks, not being able to hear your voice, fights, and lots of bros then this bar is probably for you. If you are a normal human being go somewhere else. Posted by Austen K., Irvine, CA, 7/20/2009.

Tapping into this popular review of patron experiences offers a previously unused mechanism to peer into the character of specific premises.

Present Study

The present study contributes to the field in two distinct ways. Foremost, this study introduces a heretofore untested indicator—public notoriety as measured by Yelp.com ratings. This source of information might be an invaluable tool for law enforcement, city code enforcement, or alcohol licensing boards to identify crime problems. If found to be a significant correlate of crime and disorder, then Yelp.com ratings may offer a tool for prioritizing liquor license inspection schedules. Secondly, this study draws its sample from contiguous cities along a section of Southern California's primary highway system. This strategy offers a unique opportunity to identify robust predictors of risky businesses across a diverse set of bars and nightclubs. Aggregating across such a wide area pushes research beyond a case-study or a district-centric approach; thereby, offering a regional assessment of risky premise indicators. The findings can be used to design more resilient alcohol-oriented premises able to govern recreational behavior, and reduce the potential for igniting conflict, while retaining healthy profit margins and a festive atmosphere.

METHODOLOGY

Data Source

Sampling Frame

Internet resources, such as Google, Yelp.com and business websites, were used to identify all possible bars and nightclubs located along a 150 mile stretch of highway in Southern California; portions of Interstates 10 and 215, and Highways 57 and 62 were included. This area stretches from Pomona (29 miles East of Los Angeles) to 29 Palms (US Marine base in the vicinity of Palm Springs). This study region was determined by convenience (a member of the research team lived in each city) and relevance (this zone encompasses most of the catchment area for the University the researchers attended). Initially the sample included 142 facilities, but many sites were removed because: they did not meet the qualifying definitions (see below), were no longer in

operation, or had multiple names for a single establishment. The final sample includes 87 bars and 17 nightclubs spread across 14 cities within 3 counties—most sites were in San Bernardino and Riverside Counties (only one city was located in Los Angeles County). About 90% of the 104 facilities were located in urban and suburban areas; the remaining sites were located in rural, desert communities. To qualify for consideration the premise must fall within one of the following definitions.

A bar facility is defined as a low capacity (< 500 people) pub style establishment that is open to the public ages 21 and over. These facilities serve alcohol directly through a designated bartender or assigned wait staff. Typically, hours of operation begin around noon until closing approximately 0200 the following morning. Food and entertainment, such as karaoke, billiards, or live band performances are available. Cover charges depend on the type of entertainment offered.

A nightclub facility is defined as a high capacity, open plan establishment with a full service bar and roving wait staff that is open to the public ages 18 and over. Operational hours are restricted, starting around 2000 until 0200 or 0400 depending on local bylaws. Music (e.g., bands, DJs), dancing, and special lighting (e.g., disco ball, strobe lights, spot lights) are some of the core characteristics of a nightclub. Many establishments have bouncers to screen patrons and require a cover charge upon entering.

Data Collection Protocol

Data collection occurred between May 10 and May 19, 2012. Staff collected data during peak hours of activity: 37.5% of observations occurred between 2200 and 0200 when bars and nightclubs were most active, and 45% of observations occurred between 1800 and 2159 when happy hour drink specials were most common. Operating in pairs, researchers observed an average of 8 locations. In an attempt to capture the ordinary bar and nightclub environment, research staff were encouraged to maintain a low profile by acting as patrons.[1] However, some locations were small and frequented by regulars making researchers highly noticeable. On average, staff observed 3 locations each Friday and Saturday night, spending at least 30 minutes inside each facility and another 15-20 minutes surveying the parking areas and getting into the premise.

Maintaining a low profile during observations was vital to generating valid and reliable data. The instruments used during the structured observations were printed on 8.5 x 11-inch dark colored paper, which allowed folding to reduce noticeability. Many researchers reported annotating observations while alone, often in the restroom stalls. Parking in establishment lots or surrounding streets was avoided in accordance with stipulations made by the University's Institutional Review Board.[2] Researchers were required to leave the premise if the environment became hostile or if there were any personal safety concerns.

Pilot tests conducted in two bars and one nightclub uncovered several issues with the data collection form: items were reworded, coding revised, and staff retrained. The revised instrument was tested at eight bars and two nightclubs. As indicated in Table 1, the inter-rater reliability improved significantly.

Table 1. **Comparison of Pilot Test Results**

MEASURES	BARS		NIGHTCLUBS	
	Initial Pilot Test	Follow-up	Initial Pilot Test	Follow-up
Number of Items	62	49	37	47
Number of Sites	2	8	1	2
Number of Researchers	13	2	9	2
Avg. Consistency	63.0%	90.8%	69.7%	96.7%
Inter-rater Reliability*	.656	.896	.843	.943

* Spearman's Rho averaged for all researchers; 1-tailed tests reported.

Measures

Independent Variables

Security Management Index. The security manage-ment index takes into account: whether the external security staff are uniformed, visible and active; the nature of identification checks at the door (e.g., pat downs, ID scanners employed, purses searched, etc.); visibility and behavior of indoor security; control over the parking lot (e.g., staff observed walking around monitoring patrons near cars), and whether there were any in and out privileges. Nightclubs had a higher level of visible security, perhaps, due to more liability issues such as younger patrons and large crowds. This summative index was reverse coded so that higher scores reflect lower levels of security. Table 2 provides descriptive statistics for this

and all other measures, and Appendix A and Appendix B explain the data collection instruments in depth.

Design Index. Five design-related attributes were observed, alley accessibility, location of the restrooms, smoking by the front door, noise, and capacity. All variables are dichotomous where a score of "1" indicates the presence of the issue. Restrooms were rated for isolation or entrapment (restrooms location are in a secluded area or placed around the corner causing a 90 degree angle); and sightlines of bartenders were assessed for impediments (i.e., whether the bartender or the patrons could see the doors of the restroom). If researchers could hear music outside of the establishment, at least from fifty feet away, the facility was scored "1" for noise. Posted occupancy signs must be visible upon entering the establishment. On average, bars and nightclubs scored similarly on this summed index.

Crowdedness. Crowdedness in this study refers to how the researchers felt upon entering the facility. This independent variable categorized whether the researchers were comfortable (scored '0'), faced movement restriction (scored '1'), or were forced to squeeze by other patrons and furniture because the place was packed wall-to-wall (scored '2'). Bars scored a mean of 1.3 (SD 0.51) and nightclubs about .59 (SD 0.61).

Alcohol Management Index. Six attributes identified how well an establishment controls alcohol: drunken people were served, hard liquor bottles were in reach of patrons, bartender(s) consumed alcoholic beverages while on duty, drinks were served in glass bottles, existence of special drink promotions, and long lines to get served at the bar [this attribute was reverse coded, yes (0), no (1)]. All items were coded with a '1' for the presence of the issue. Higher scores on this summative index are suggestive of greater laxity in alcohol control.

Yelp.com Rating. The average Yelp.com rating was retrieved for each premise within three weeks of site observations (http://www.yelp.com). Searching premises by name, researchers captured the average rating that was generated from the most trusted reviews. Missing data was

Table 2. **Summary of Index Creation and Descriptive Statistics for Covariates and Dependent Variables**

VARIABLES	INDEX CREATION			DESCRIPTIVE STATISTICS				
	No. of Items	Alpha	% Missing	Mean	SD	Min.	Max.	Med.
Bars (N=87)								
Independent Variables								
Security Management Index	6	0.37	0.0	2.93	1.31	0	5	3.0
Design Index	6	0.38	0.0	3.20	1.41	0	6	3.0
Crowdedness	1	---	0.0	1.32	0.51	1	3	1.0
Alcohol Management Index	5	0.37	0.0	5.74	2.00	2	10	5.5
Yelp.com Rating	1	---	25.0	3.17	1.16	0	5	3.0
Dependent Variables								
External Crime & Disorder	8	0.59	0.0	0.93	1.26	0	5	0.0
Internal Crime & Disorder	2	0.37	0.0	1.34	1.04	0	4	1.0
Bar Problems (Σ of External & Internal)	10	0.65	0.0	2.27	1.90	0	8	2.0
Nightclubs (N=17)								
Independent Variables								
Security Management Index	11	0.81	0.0	4.35	2.67	0	10	4.0
Design Index	5	-0.20	1.0	3.19	0.83	2	5	3.0
Crowdedness	8	---	0.0	0.59	0.62	0	2	1.0
Alcohol Management Index	8	0.38	0.0	3.53	1.42	0	5	4.0
Yelp.com Rating	1	---	23.0	3.25	1.08	1.5	5	3.0
Dependent Variables								
External Crime & Disorder	8	0.79	0.0	1.94	2.10	0	6	1.0
Internal Crime & Disorder	2	0.47	0.0	0.29	0.59	0	2	0.0
Nightclub Problems (Σ of External & Internal)	10	0.77	0.0	2.24	2.31	0	7	1.0

a problem for 25% of bars and 23% of nightclubs. The issue of missing data is discussed at length in the limitations section of this article.

Dependent Variable

The dependent variable captured a range of external and internal issues of crime and disorder. External crime and disorder includes problems observed within the perimeter of the facility (designated parking area, open area immediately adjacent to facility, and if applicable, the back alley). Observers looked for evidence of: public sex, public urination, drug use, consuming alcohol in vehicles (tailgating), physical fights, and severe public intoxication (e.g., people observed passing out, falling down, or throwing up). Observations of internal activities included illicit sales or use of drugs, and any type of rowdy or rough behavior. These dichotomous items were summed to generate a score ranging 0-8 for bars and 0-7 for night-

clubs. Of note, this measure gauges the mix or range of deviance presence rather than the amount.

Inter-item Correlations

Inter-item correlation coefficients raise no concerns about multicollinearity; however, a few noteworthy correlations were found (see Table 3). For bars, low to moderately strong associations existed between the design index (problematic design features) and observed crime and disorder problems. Poorly designed bars were observed to have weaker alcohol control and greater external problems. Among nightclubs, strong correlations were found between external crime and disorder problems and crowdedness and security management; greater problems seemed to accompany larger crowds (Rho = .504, p<.01) and a more visible security presence, particularly screening the front entrance (Rho = -.432, p<.01). Nightclub crowdedness was also highly correlated

Table 3. **Inter-item Spearman's Rho Correlation Coefficients for Observed Bars and Nightclubs**[1, 2]

BARS (N = 87)	NIGHTCLUBS (N = 17)						
	1	2	3	4	5	6	7 (N=12)
1. External Crime & Disorder Issues		.090	-.432*	.181	.504*	-.041	-.205
2. Internal Crime & Disorder Issues	.427**		.053	.322	.371	.076	.631**
3. Security Management Index	.072	-.054		-.087	-.476*	-.029	.374
4. Design Index	.247*	.378**	-.081		-.003	.229	-.287
5. Crowdedness	.195*	.182*	-.061	.261**		.082	.156
6. Alcohol Management Index	.192*	.250*	-.079	.417**	-.208		-.208
7. Yelp.com Rating (N = 61)	.111	.060	-.013	-.126	.156	-.314**	

[1] One tail significance tests reported; * p<.05, and **p<.01.

[2] Items 3-6 are coded so that increasing score reflect worsening conditions.

with security management; when premises are packed, more visible security are present at the front doors.

Several Yelp.com correlations are of interest. For bars, the strongest inter-item correlation was found between alcohol management and Yelp.com rating (Rho = -.314; p<.01); facilities with more lax alcohol management earned higher Yelp.com ratings. Despite the small number of nightclubs observed, Yelp.com ratings were highly correlated with internal crime and disorder issues (Rho = .631, p<.01). Though not significant, the moderate relationship between security management and Yelp.com rating is interesting. As premise security weakens, there is a notable improvement in the Yelp.com rating. This suggests patrons desire places with less entrance control. The inverse associations with design and alcohol management hint that extreme crowding and poor alcohol control depress Yelp.com ratings.

RESULTS

Ordinary Least Square regression models for bars and nightclubs are shown in Table 4.[3] Three of the four models (one baseline and both final models) were significant despite the small sample sizes. Key differences between bars and nightclubs emerged. Readers should recall that the dependent variable is not the amount of crime and disorder observed, rather, this measure captures the array or mix of crime and disorder present. Higher scores indicate more complex, multifaceted problems. Only the parsimonious model estimates generated by a stepwise regression are discussed below.

Variation in the crime and disorder observed in and around bars was significantly related to poor alcohol control (alcohol management index) and the interaction between Yelp.com rating and crowdedness. Alcohol management is the most important explanatory factor with

a standardized beta coefficient almost double that of the interaction term Yelp.com*crowding. As alcohol control declines, there is a greater range of visible crime and disorder problems. The Yelp.com*crowding interaction term suggests that as both scores increase, ratings are higher and crowding is more extreme, there is a multiplicative increase in the array of crime and disorder issues observed. This model accounts for about 40% of the variance in the dependent variable (adjusted R^2 = .395, F (2, 61) = 20.885, p<.001). Regression diagnostics, a residual plot and the co-linearity tolerance statistic, reveal no major problems with this model.[4]

Two variables proved to be significant predictors of crime and disorder among nightclubs—the design index and crowdedness. Estimates generated by the stepwise regression model suggest that higher levels of crowding are associated with a greater range of crime and disorder problems. This effect is considerably stronger than design flaws. These two variables account for about 65 percent of the variation found in the crime and disorder index (adjusted R^2 = .650, F (2, 11) = 11.199, p<.01). A residual

plot of the crime and disorder index against the studentized residuals indicates that this model was correctly specified. Further, the co-linearity tolerance statistic achieved the required threshold value (value of 1), suggesting that multi-colinearity was not evident.

DISCUSSION

Drawing from the framework of routine activity theory (Cohen and Felson 1979; Eck 1995; Felson 2006), Madensen and colleagues argue that place managers are central to resolving crime problems as they are best positioned to control how places are used and maintained (Madensen and Eck 2008). By establishing behavioral expectations and regulating activity, place managers directly influence how patrons conduct themselves. Evidence suggests that a regulatory approach can be used to change how managers govern specific places, thereby mitigating site-level characteristics that are favorable to crime (e.g., Bichler, Schmerler and Enriquez 2013; Chamard 2006; Hannah, Bichler and Welter 2007).

Table 4. **Results of the Ordinary Least Square Regression Models Predicting Crime and Disorder Issues**

	BAR PROBLEMS			NIGHTCLUB PROBLEMS		
	β	t	Sig.	β	t	Sig.
Base Model						
Security Management Index	.078	.763	.449	.208	.748	.483
Design Index	.185	1.645	.106	.475	2.247	.066
Crowdedness	.165	1.520	.134	.967	3.287	.017
Alcohol Management Index	.495	4.552	.000	-.210	-.848	.429
Yelp.com Rating	.223	2.192	.033	-.248	-.929	.389
R^2 (Adjusted R^2)	.434 (.384)			.763 (.566)		
F (*df*)	8.589 (*61*)		.000	3.868 (*11*)		.065
Parsimonious Model with Yelp.com Interaction Terms						
Design Index	---	---	---	.425	2.383	.041
Crowdedness	---	---	---	.730	4.089	.003
Alcohol Management Index	.530	5.307	.000	---	---	---
Yelp.com * Crowding	.326	3.261	.002	---	---	---
R^2 (Adjusted R^2)	.415 (.395)			.713 (.650)		
F (*df*)	20.885 (*61*)		.000	11.199 (*11*)		.004

Note: This analysis used stepwise regression to identify the most parsimonious model from all independent variables and all Yelp.com interaction terms. Yelp.com interaction terms were generated by multiple Yelp.com ratings with each of the other explanatory variables. This produced four additional variables. To be retained in the final model, predictors must be significant at the p<.20 level. This threshold was selected due to the small sample sizes.

Managing Patron Behavior

Bartenders and security personnel are instrumental place managers and may also act as patron handlers and capable guardians. For instance, in a bar environment where there is little security, the bartender has the role of place manager and will often become a handler to the

regular customers; whereas, in large facilities such as nightclubs, security personnel are essential place managers controlling access to the property, as well as governing behavior within the premise by guarding targets. For this reason, a primary thrust of crime control policy has been on training bar and security staff to effectively diffuse

aggressive behavior (e.g., Graham et al. 2005), holding servers responsible for monitoring alcohol consumption (Felson et al. 1997; Homel 2001; Stockwell 1997), and stipulating protocol to strengthen entrance screening (Anaheim Police Department 2007; Dayton Ohio Police Department 2011; Felson et al. 1997). While confirming the importance of alcohol control, this study draws greater attention to the joint impact of design and crowdedness. Theoretically, this adds additional clarity to what factors contribute to the effectiveness of place management.

Design. As argued by Macintyre and Homel (1997), bad design weakens the effectiveness of management. Architectural guidelines for licensed premises should stipulate criteria for: restroom placement, separating bars and dance floor areas from passageways (through ways and building egress points), increasing visibility/vantage from bar areas (e.g., elevation of the bar, sightlines from bars and entrances), increasing the minimum distances between designated entrances and exits, widening passage ways, and ensuring that capacity is based on usable space. City planning guidelines can also stipulate what constitutes a suitable property for redevelopment into a bar or nightclub.

Crowdedness. Consistent with prior research, the interior layout of facilities is a critical correlate to crime and disorder (e.g., Eck et al. 2009; Macintyre and Homel 1997). Expanding on Macintyre and Homel (1997), even the most rigorous staff training is useless when places are over-packed. The control function exerted by staff deteriorates when threshold capacity is reached and interior design flaws exist. Communication among staff will fail when premises are busy. For instance, alcohol serving policies are ineffective when multiple bars and/or several bartenders are in use. Place management may be strengthened by developing appropriate staff-to-patron ratios to guide employee levels. Arguably, there is an important crime-control role to be played by fire marshals, perhaps ahead of alcohol licensing regulators; the calculations used to identify maximum capacity for facilities should place greater emphasis on usable space.[5]

Premise Notoriety

This study offers the first investigation into the link between internet-based social media and crime problems affecting alcohol-serving establishments; higher Yelp.com ratings were associated with a greater variety of bar crime and disorder problems, particularly when facilities are crowded. This illustrates the potential for using informal communications to single out specific places that enable deviant minded patrons to converge. Social media offers a unique method of identifying properties that are more apt to be serious crime generators. This may be another way of identifying the 20% of properties associated with 80% of the problems.

Integrating an internet-based indicator into the investigation of inebriation settings will aid efforts to identify emerging situations that are indicative of illicit behavior. These findings suggest that bars with high crime and disorder issues may attract a clientele interested in deviance (Homel et al. 1999). Patrons actively seek environments with permissive management. This provides additional support for Madensen and Eck's call to keep a closer tab on promotions and marketing, themes, and special events (Madensen and Eck 2008).

A Barometer of Change

Since the popularity of drinking facilities can change quickly, future research should explore whether monitoring Yelp.com ratings over time could be used to capture emerging trends in the nighttime economy that predate recorded crime data. Yelp.com ratings can provide an indication of a change in business focus/activity that signals an unraveling of place management—a slide from a suppressor or reactor into more criminogenic style of management. Where public use of Yelp.com and similar media are highly enmeshed into the drinking culture, emerging crime issues will be reflected in online postings before they are picked-up by traditional crime and disorder indicators (i.e., calls for service). Thus, Yelp.com may act as a barometer of management style that can be easily and regularly monitored.

Returning to our example, examining Charlie Jewells' reviews uncovers an overall decrease in the median rating (see Figure 2). Reviews from 2006 show a median score of 4. The ratings decline steadily to a median score of 1 in 2013. Clearly, something changed from 2008 to 2009 that generated a measurable shift in ratings. Future research should examine the relationship between changing yelp rating and the emergence of crime problems with a longitudinal research design. It is plausible that varying patterns, such as an improvement in scores compared with a decline in ratings, signal the onset of dissimilar crime issues.

Another useful feature of Yelp.com ratings is that reviewers indicate their city of residence. While 49% of the reviews were offered from people claiming to be from Redlands, CA, residents from 23 other cities posted reviews, some from as far away as San Diego, CA and Las Vegas, NV (see Table 5). The increase of patronage from individuals living at a fair driving distance from the site may also be indicative of emerging problems. By 2011, the site had become an inter-regional magnet for crime and disorder.

Figure 2. **Median Yelp.com Ratings by Year for Charlie Jewells' Bar (47 ratings)**
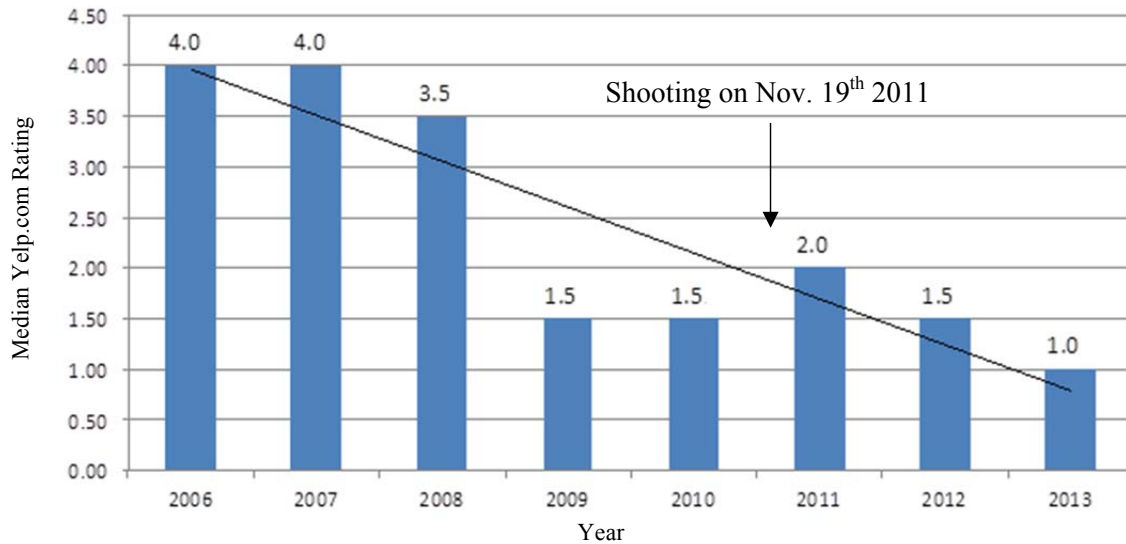
Until additional research confirms the importance of Yelp.com ratings, direct policy implications are premature. With this said, a potential policy direction is to work with Yelp.com administrators to develop a feature that will alert the registered owners, liquor licensing board, city code enforcement, and local law enforcement, that the nature of comments and ratings have changed significantly; indicating that something may be amiss. This public notification feature may be used to trigger inquiries. Once alerted about the change in the reported temperament of a place, crime analysts could investigate and monitor calls-for-service. Properties exhibiting dramatic changes in reviewer rating, tone of comments, or geographic range of the patrons may then be tagged for additional police attention. Given the nature of comments, local authorities have greater information upon which to consult when determining a course of action.

Table 5. **City of Residence Reported by Reviewers that Rated Charlie Jewells'**

CITY OF RESIDENCE	2006	2007	2008	2009	2010	2011*	2012	2013	TOTAL
Local Patron									
Same City	--	--	--	5	--	6	--	3	**14**
From an adjacent city	--	--	--	--	--	6	1	1	**8**
Out of Towner									
From a city in the region	--	--	1	1	--	3	1	1	**7**
Lives in another county									
(less than 2 hour drive)	--	1	1	2	1	5	3	--	**13**
Too Distant									
From Northern CA	--	--	--	--	1	--	1	--	**2**
From another state	1	--	--	--	--	1	--	1	**3**
Annual Total	**1**	**1**	**2**	**8**	**2**	**21**	**6**	**6**	**47**

* November 2011 shooting at the premise.

It should be noted that currently, there are two potential issues with relying on informal communications for information about the character of places, missing data and self-promotion. Within this study, missing data was more acute for establishments targeting Latinos. This could be reflective of a cultural difference in the use of internet-communications. Subsequent investigation of these missing data determined that the premises were posted on Facebook. Showing that the bar and club-going population is well versed in social media. However, since

Yelp.com entries are generated by customers, it is clear that with such a high level of missing data for Latino facilities, this population is not using Yelp.com. Perhaps, the Latino club and bar-going population could be encouraged through University and College settings that their opinions matter and should be included in this public forum.

Self-promotion on social media by bar and nightclub management is inevitable. Fortunately, Yelp.com uses a screening process to remove overly-biased postings that appear to be invalid, and likely the result of self-promotion or slander. Other social media administrators are less active in screening posts. For instance, many visitors to Facebook must complain about obscene or derogatory posts before administrators act to remove offensive comments. Therefore, educating the public about the biases inherent to social media, by encouraging them to participate in more systematic and consumer-based sites, will strengthen information internet-communications.

Encouraging Effective Management

Once risky facilities are identified, a course of action is needed to deal with irresponsible management. One strategy shown to be effective in dealing with irresponsible management is to use civil liability mechanisms and interagency inspection teams. Representation for each agency should include individuals with the ability to enforce their respective codes and regulations (Green 1995). Site inspections typically result in a list of specific items that require amendment. Though not described as such when enacted, this third-party approach using civil regulation may constitute a means-based method of crime control (Eck and Eck 2012; Farrell and Roman 2006).

A means-based approach requires civil authorities to stipulate exactly what managers must do to reduce crime, this means, crime control activity is prescribed. The success of means-based strategies rests on identifying the correct factors that promote crime and disorder problems (Eck and Eck 2012). Moreover, one must properly identify the specific situational and behavioral characteristics requiring redirection for each type of alcohol-serving establishment (Eck 2003). Studies have found that pressuring businesses to adopt uniform pricing and enforce maximum occupancy impedes bar hopping within an entertainment district and reduces excessive public intoxication (Homel et al. 1997). However, despite a large body of research investigating the correlates of bar and nightclub problems, the specific means for reducing crime remains unclear. As suggested by this study's findings, site inspections of nightclubs need to look for over-crowdedness, described as people crammed wall-to-wall, causing discomfort and impeding movement, as well as poor restroom placement and restricted sightlines of bar and security staff. The exact configuration needed to reduce crime and disorder issues is not established.

Repeated time-lapse analyses comparing different floor plans are needed to develop clear and effective design guidelines.

A second strategy is to use an ends-based performance standard (as described by Eck and Eck 2012). For example, the Chula Vista Police Department enacted a performance-based standard for all motels (Bichler, Schmerler and Enriquez 2013). This ordinance required motel operators to apply for a conditional operating permit that was awarded based on maintaining a crime rate below the city average. While advice was offered as to how to reduce crime, owners were responsible for identifying, developing, and implementing crime control strategies. This effectively redirected responsibility for controlling problems to the owners.

The challenges posed by using ends-based policies are to establish reasonable performance expectations and build the appropriate regulatory mechanisms to force compliance. The success of this strategy rests on accurate information about the nature and prevalence of current crime and disorder levels at each premise. Adding a measure of public scrutiny that is independent of official measures of deviance (i.e., calls-for-service and crime reports) would provide a counter-measure to police controlled data. Alternatively, public reviews may be utilized as additional evidence during civil regulatory actions, i.e., nuisance abatement proceedings to escalate sanctions against uncooperative managers.

Common to both strategies is to eliminate the *opportunity* for bad behavior, instead of simply dealing with each incident as an isolated event (Eck and Eck 2012). Management needs to be made responsible for the criminal and disorderly behavior occurring at their facilities. To advance this line of inquiry, evaluative research is needed to determine whether prescribing crime control measures or the requirement of management-initiated solutions is better at fostering responsible place management.

STUDY LIMITATIONS

Several caveats must be acknowledged. First, the dependent variable lumped several different types of crime and disorder problems into a single, summative index. Aggregating data in this way prevents us from determining exactly which crime or disorder problem serves to increase Yelp.com ratings. Do bar patrons prefer facilities wherein the bartenders drink while on duty, or do they prefer locations with active illicit drug markets? To resolve this problem, future research could investigate the association between Yelp.com ratings and different crime and disorder issues.

As discussed previously, a substantial drop in sample size was caused by missing data associated with Yelp.com ratings. In addition to the loss of Latino-oriented facilities, this limitation substantially decreased the nightclub sample

size. With only 11 premises left for the multivariate analysis, there really was not sufficient power to explore all of the covariates (5 explanatory variables and 4 interaction terms). Using a stepwise regression helped to tease out the important predictors, however, future research should consider either adopting a panel design or increasing the sample size.

In addition, this study only used a single Yelp.com rating—the average rating across all posted reviews. This value does not reflect the variation in scores, nor does it show how ratings change over time. As raised earlier, more information about the character of a place can be ascertained by capturing the change in scores. Further, Yelp.com ratings have accompanying text-based comments. Combing through these comments for the example bar, Charlie Jewell's revealed a dramatic shift in the types of patrons, patron expectations and behavior, staff behavior, noise level, and other characteristics of the premise. In addition, details about the reviewer are also available. The richness of these narratives could be harnessed to generate several different measures of premise notoriety. For example, recording the cities of residence and calculating the average distance traveled by reviewers to reach the rated facility could be used to capture place magnetism. Regional hubs, drawing people from great distances, are likely to generate more complex crime and disorder problems. The advantage of harvesting from the comments is that in addition to testing specific hypotheses about what types of notoriety are associated with specific crime and disorder problems, we might discover that bars and nightclubs serve very different functions. Thus, Yelp.com ratings might reflect different characteristics and issues.

Finally, cross-sectional research offers the advantage of capturing information for a large sample. This increases the external generalizability of the findings. However, much can be gained from longitudinal and ethnographic research. Repeated observations would better capture the behavioral dynamics causing crime and disorder issues. For example, using extended participant observations, Fox and Sobol (2000) were able to document how micro-shifts in patron activity interact with changes in bouncer and bartender guardianship to generate crime opportunities. Offenders were observed to capitalize on temporally-constrained opportunities as they emerged. Future research should consider merging both perspectives into a panel design wherein a small subset of facilities are studied repeated.

CONCLUSION

Bars and nightclubs are crime-generating environments, susceptible to a wide range of crime and disorder issues (Brantingham and Brantingham 2003). Overall, this study identified two robust indicators of crime

problems in bars and nightclubs: place management and Yelp.com ratings.

These results provide support for arguments suggesting that redesigning problem locations can significantly reduce crime and disorder (Felson et al. 1996). Elements such as dark corners and isolated restrooms can create favorable situations for drug use and sexual assault. Additional design features that need to be addressed in troublesome properties are patron traffic and congestion. Ensuring that there are proper walking areas for patrons will limit the amount of confrontations among individuals that may become volatile with excessive alcohol consumption.

Place managers need to be held accountable for the activity that is occurring within their establishments. These individuals can be bartenders, security, on site managers, and owners of the property. When a place manager chooses to be passive or act as an enabler of crime and disorder, they can be referred to as pollutants within a community (Eck and Eck 2012; Farrell and Roman 2006; Madensen and Eck 2008). Ends-based regulatory policy can encourage owners and managers to control activity on their property with an award system, similar to a health inspector's sign that is hung in the front window (Derbyshire Constabulary 2002) or civil-based penalty akin to the Chula Vista permit-to-operate ordinance (Bichler, Schmerler and Enriquez 2013).

Yelp.com ratings can be used for investigative purposes to monitor facilities that may become problem places in the future. This previously untapped resource is only effective when patrons actively review facilities. The absence of ratings for Hispanic clubs and bars may signal a cultural difference in rating habits. Future studies should incorporate a broader array of social media venues and investigate other features of Yelp.com data.

Notes

[1] To avoid attention, researchers coordinated their dress according to the type of bar or nightclub visited. Food and no more than one alcoholic beverage could be purchased in order to blend into the clientele; consumption of alcohol was permitted by accompanying persons (non-research staff).

[2] The IRB committee required researchers to park away from sites in order to decrease the possibility of encountering a drunken driver.

[3] Due to the highly skewed nature of the dependent variables used, a logistic regression analysis was conducted. The logistic regression for nightclubs, Nagelkerke R2 of .284 suggests that a model with all independent variables (excluding interaction terms) adequately accounts for variation in observed crime and disorder levels. Crowdedness and Yelp rating figured prominently. High crowdedness scores are 6.4 times more likely to be associated with observed crime and disorder. Higher Yelp ratings are associated with a significant decline in the odds of observing crime and disorder problems. Among bars, the Nagelkerke R2 of .325 suggests a reasonable model fit. Design and alcohol control substantively increased the odds of observing crime and disorder (Exp 1.8 and 1.2 respectively). Better security management was associated with significantly reduced odds of trouble. However, the crowdedness variable did not work in this mode and led the researchers to question the stability of the logistic regression. Since the purpose was to compare bars and nightclubs the two models used must be stable. Further, reducing the dependent variable to a simple dichotomy lost too much of the variation we sought to explain; the purpose of the study was to account for why some facilities are more risky than others. For these reasons, the OLS regression was preferred.

[4] A residual plot of the dependent variable against the studentized residuals shows a slight patterning. Lower scores on the dependent variable tend to exhibit lower residuals; whereas, higher scores are slightly more associated with positive residuals.

[5] For example, in California, capacity is calculated by dividing the square footage of public area by a predetermine value depending on the type of use. When considering areas without fixed seating the area open to public use would be divided by 5 (i.e., dance floors), for seated areas the square footage is divided by a factor of 7, and for areas with tables and chairs the factor is 15 (California Building Standards Commission 2010).

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APPENDIX A. Table of the Data Collection Instrument for Bars

Security Management Index (Non-weighted)	Description	Value
In and outs allowed?	Are patrons allowed to move in and out of the premises without restriction?	Yes/No
Control of parking	Is there parking staff or roving security patrolling the parking area of the establishment?	Yes/No
Uniformed door staff visible & active?	Is the door staff visible and uniformed?	Yes/No
ID check at the door?	Does door staff check ID at the entrance to the establishment?	Yes/No
ID Authenticity Check?	How does staff check ID authenticity?	Scanner/ Manual/Light
Capacity Placard present/visible?	Is the capacity placard visible without anything obstructing it from view?	Yes/No
Indoor security present/visible?	Is the indoor security present or visible inside the nightclub?	Yes/No
Indoor security uniformed?	Is indoor security uniformed and distinguishable?	Yes/No
Scale Range 0-11 (High score = Weak management presence)		

Design Index (Non-weighted)		
Rear alley/service area accessibility to property	Is the rear alley or service area easily accessible; meaning, are people allowed to freely walk through or across the alley way?	Secure/Could Lock/ Obstructed/ Open
Male Toilet Isolated?	Is the male toilet isolated from the main bar area?	Yes/No
Female Toilet Isolated?	Is the female toilet isolated from the main bar area?	Yes/No
Can you hear the music outside?	Is the music audible and easily heard from the outside of the club?	Yes/No
Is there smoking allowed just outside the door?	Is smoking allowed outside any door that leads into the bar establishment?	Yes/No
Adequate Seating?	Is there adequate seating for the amount of people allowed to be in the establishment (Patron Capacity)?	Yes/No
Scale Range 0-6 (High score = problematic design)		

Crowdedness		
How crowded is the facility?	How do you feel inside the bar, comfortable, tight, or wall-to-wall? (Ordinal)	Comfortable/ Tight/ Wall-to-Wall
Scale Range 0-3 (High score = Establishment is crowded)		

Alcohol Management (Non-weighted)		
Wait to order drinks?	Is there a wait to order drinks, in other words, is it easy to get served?	Yes/No
Drunk patron served?	Is there any drunk patrons being served alcohol?	Yes/No
Hard liquor bottles in reach (bar)?	Are there any bottles of alcohol within patron's reach at the bar?	Yes/No
Bar staff seen drinking alcohol?	Are any employees consuming alcohol while working?	Yes/No
Drinks served in beer bottles?	Are the drinks served in beer bottles (Glass)?	Yes/No
Special promotions & Activities?	Are there currently any special promotions or activities offered inside the bar?	Timed Drink Specials/ Provocative Activities
Scale Range 0-7 (High score = Poor alcohol management)		

Yelp Ratings (Dependent Variable)		
Yelp Ratings obtained from website	According to Yelp.com, what is the yelp score for each respective establishments?	0-5
Scale Range 0-5 (High score = High reviewer ratings)		

APPENDIX B. Table of the Data Collection Instrument for Nightclubs

Security Management Index (Non-weighted)	Description	Value
In and outs allowed?	Are patrons allowed to move in and out of the premises without restriction?	Yes/No
Control of parking	Is there parking staff or roving security patrolling the parking area of the establishment?	Yes/No
Uniformed door staff visible & active?	Is the door staff visible and uniformed?	Yes/No
ID check at the door?	Does door staff check ID at the entrance to the establishment?	Yes/No
ID Authenticity Check?	How does staff check ID authenticity?	Scanner/ Manual/Light
Male pat downs at the door?	Does door staff conduct Male pat downs before entry to establishment?	Yes/No
Female pat downs at the door?	Does door staff conduct Female pat downs before entry to establishment?	Yes/No
Indoor security present/visible?	Is indoor security present or visible inside the nightclub?	Yes/No
Indoor security uniformed?	Is indoor security uniformed and distinguishable?	Yes/No
	Scale Range 0-11 (High score = Weak management presence)	
Design Index (Non-weighted)		
Rear alley/service area accessibility to property	Is the rear alley or service area easily accessible; meaning, are people allowed to freely walk through or across the alley way?	Secure/Could Lock/ Obstructed/ Open
Male Toilet Isolated?	Is the male toilet isolated from the main club area?	Yes/No
Female Toilet Isolated?	Is the female toilet isolated from the main club area?	Yes/No
Can you hear the music outside?	Is the music audible and easily heard from outside of the club?	Yes/No
Is there smoking allowed just outside the door?	Is smoking allowed outside any door leading into the nightclub establishment?	Yes/No
	Scale Range 0-5 (High score = problematic design)	
Crowdedness		
How crowded is the facility?	How do you feel inside the nightclub, comfortable, tight, or wall-to-wall? (Ordinal)	Comfortable/ Tight/ Wall-to-Wall
	Scale Range 0-3 (High score = Establishment is crowded)	
Alcohol Management (Non-weighted)		
Drinks served in beer bottles?	Are the drinks served in beer bottles (Glass)?	Yes/No
Bar staff seen drinking alcohol?	Are any employees consuming alcohol while working?	Yes/No
Drunk patron served?	Are bar staff serving alcohol to drunk patrons?	Yes/No
Hard liquor bottles in reach (bar)?	Are there any bottles of alcohol within patron's reach at the bar?	Yes/No
Identifiable bar staff (i.e. uniform)?	Are the bar staff easily identifiable? (Ex. Uniforms)	Yes/No
Provocative staff attire (bar/wait)?	Is bar staff, waiters, or waitresses wearing provocative attire?	Yes/No
Special promotions & services?	Are there currently any special promotions or services?	Timed Drink Specials and/or General Drink Specials
	Scale Range 0-8 (High score = Poor alcohol management)	
Yelp Ratings (Dependent Variable)		
Yelp Ratings obtained from website	According to Yelp.com, what is the yelp score for each respective establishments?	0-5
	Scale Range 0-5 (High score = High reviewer ratings)	

About the Authors:

Juan Franquez is a Research Assistant with the Center for Criminal Justice Research at California State University, San Bernardino. His research interests focus on crime analysis, with an emphasis in the application of Geographic Information Systems (GIS) technology to identify and describe crime problems. Recent scholarship involves Social Network Analysis (SNA) in the study of illicit gun trade and also the geographic profiling of serial offenders.

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