



Surveillance, trust, and policing at music festivals

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Key Messages

- Community, not policing, is the primary desired intervention to create safe spaces.
- Females feel less safe than males.
- Surveillance degrades people's experience of public space.

Music festivals are often the highlight of summertime, but they are also spaces increasingly policed for drugs, pickpockets, sexual assault, and terrorist attacks. The pop-up nature of festival spaces creates a tension between organizers ensuring safe environments and festival-goers seeking community and fun. We conducted an online survey of festival-goers to determine their safety concerns and feelings about security measures. The biggest safety concern was authorities, including police, private security, and surveillance. We found significant differences between males and females. Females had more concerns about personal safety and males had negative attitudes about surveillance and security—perhaps reflecting a male privilege. The negative attitude towards surveillance and police was common across demographic groups but stronger in males. A striking finding is that 87% of our participants felt that the ethos of a festival best creates a feeling of safety, while surveillance changes the nature of these public spaces—56% of our respondents felt it creates a bad vibe and 44% said it causes anxiety. We speculate that this sentiment parallels the Defund the Police movement following the Black Lives Matter protests in the United States—community is key to a safe city and surveillance is viewed as creating negative spaces.

Keywords: surveillance, trust, policing, festivals

Surveillance, sentiment de sécurité et maintien de l'ordre dans les festivals de musique

Les festivals de musiques sont souvent les événements marquants de l'été, mais ils sont également des endroits où les policiers interviennent de plus en plus pour prévenir la consommation de drogues, les vols à la tire, les agressions sexuelles, etc. L'atmosphère effervescente des lieux où se déroulent les festivals crée une tension

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entre les organisateurs qui assurent la sécurité et les festivaliers qui cherchent à s'amuser. Nous avons effectué un sondage en ligne auprès de festivaliers pour déterminer leurs impressions à l'égard des mesures de sécurité. La préoccupation la plus importante au sujet de la sécurité est le mode de gestion des autorités, que ce soit la police, les agences privées ou la surveillance à distance. Nous avons constaté des différences importantes entre les genres, les femmes étant plus préoccupées par leur sécurité personnelle alors que les hommes ayant une attitude négative envers la surveillance et la sécurité, reflétant peut-être ici « les privilèges masculins ». Toutefois, l'attitude négative envers la surveillance et la police est fréquente dans l'ensemble des groupes d'âges. En outre, une conclusion étonnante est que 87% des participants à l'enquête estiment que l'éthique festivalière crée davantage un sentiment de sécurité que la surveillance. Plus précisément, 56% de nos répondants jugent que la surveillance crée une mauvaise ambiance et 44% ont affirmé qu'elle cause de l'anxiété. Nous présumons que ce sentiment fait écho au mouvement américain demandant la réduction du financement de la police, lequel a suivi les manifestations sur le thème de « Black Lives Matter ». En conséquence, la collectivité serait essentielle au concept de ville sécuritaire pendant que la surveillance créerait une atmosphère et des lieux négatifs.

Mots clés : surveillance, sentiment de sécurité, maintien de l'ordre, festivals

Introduction

Surveillance is often a cornerstone of security and policing, and is today increasingly provided by digital technologies including police body-cams, CCTVs, cell phone tracking, smart city sensor networks, and home security platforms. According to its promoters, surveillance provides safety. In a 2019 commercial for Ring Video Doorbell Pro, for example, the product is described as allowing you to “start building a safer neighbourhood today.” But we can ask “safer for whom?” In this paper, we examine the degree and conditions under which people turn to surveillance to provide safety, and when surveillance is seen as a help or threat. Specifically, we are interested in whether certain kinds of spaces, not previously subject to surveillance, are perceived as safe, and whether introduced surveillance is understood as securing or threatening those spaces.

Surveillance is necessarily geographical—for example, when it focuses on “certain racialized spaces, [where] the mere presence of blacks is often perceived as abnormal” (Lowe et al. 2017, 35), or where predictive policing (predpol) maps identify future crime hotspots (Jefferson 2017). Recent advances in geolocation tracking via GPS, WiFi, cell site location information (CSLI), and “geofence warrants” have permitted what the US Supreme Court has described as digital geographic invasions into the “privacies of life” (Carpenter v. United States, 585 U.S.____ [2018]).

Over-policing of some communities (including monitoring and searches) is a form of surveillance that has been identified by reports going back four decades as a contributory causal

factor of urban protest and police mistrust. The Lord Scarman Report into the 1981 Brixton Riots (Scarman 1981) in London broke what Stuart Hall later described as the “prevailing law-and-order consensus” (Hall 1999, 189) by locating the cause of unrest in structural economic and social disadvantages rather than criminality and looting. The Macpherson Report investigating the racially motivated murder of Stephen Lawrence (Macpherson 1999) for the first time identified “institutional racism” in the police in the United Kingdom (UK). Finally, a joint investigation by the *Guardian* newspaper and the London School of Economics into the 2011 London protests revealed that many of the protestors felt they were participating in “anti-police” riots (Lewis et al. 2011). The investigation found that 85% of those interviewed said that policing was an important factor in causing the riots, rather than, as was widely reported at the time, the riots being caused by criminal elements and organized gangs.

As criminology scholars have recently argued, public perceptions (which Yesberg and Bradford [2019] term “affect”) are correlated with trust of the police. They point out that affect shapes people's views of the police, but in turn affective responses are “shaped, in part, by trust” (Yesberg and Bradford 2019, 1060). Thus trust and affect are correlated.

Although public confidence in the police is a matter of longstanding study (and statutory regulation), such as the Public Attitude Survey (PAS) first conducted in 1983, the particular ramifications of how trust is related to perceived “over-policing” remains unclear. Over-policing is a concept we use here to describe

situations where the public feel the police are not the optimal service provider for either security or safety. Research in this area shows that trust and confidence is not just a single dimension. Jackson and Bradford (2010) for example, distinguish between trust in police effectiveness, fairness, and shared values, with fairness as the major driver.

The Black Lives Matter (BLM) movements, which started after the shooting death of Trayvon Martin and his shooter's acquittal in 2013, has experienced a huge resurgence. In 2020, it expanded globally after the deaths of George Floyd, Breonna Taylor, and Rayshard Brooks. The protests sought an end to surveillant over-policing via police reform or abolition, as well as an end to racial discrimination. Nevertheless, during these and other protests, police used facial recognition technology to identify potential suspects—itsself one of the forms of over-policing in dispute. Research carried out on the Chicago Police Department indicates that these surveillant technologies can entrench, rather than make fairer, racialized policing (Jefferson 2017). Jefferson notes that spaces can readily slide between being made surveillant, correctional, and carceral, and this slippage between a space of increased attention and a space of emergent criminality is exemplified in the way that Ring front doorbell camera footage has reportedly been shared with hundreds of local police departments (Haskins 2019). According to the Electronic Frontier Foundation, a digital advocacy group based in the United States (US), the Los Angeles police department specifically requested Ring footage of Black-led protests against police violence in 2020 (Guariglia and Maass 2021).

A key measure of the efficacy of surveillant policing is whether minorities encounter the criminal justice system (CJS) at proportional rates. Data collected as part of the UK's Race Disparity Audit on stop and search reveal that Black people are ten times more likely than whites to be stopped and searched, and Black people were three times as likely to be arrested as whites (Race Disparity Unit 2020). UK law (Section 163 of the 1988 *Road Traffic Act*) also permits police to make traffic stops without justification or reason—something they do about 5.5 million times a year and is a practice which disproportionality targets minorities (StopWatch/Liberty 2017). Furthermore, the vast majority (93%) of UK police officers are white, despite the goal of achieving police forces that

“look like the community” they serve. In Canada, data from Statistics Canada reveal that visible minorities are underrepresented, making up just 8% of officers in 2019, but are over 22% of the population according to the 2016 Census (Conor et al. 2020).

The 2017 Lammy Review in the UK, which investigated Black, Asian, and Minority Ethnic (BAME) experience in the criminal justice system, noted “[p]olicing has ... [an] important legacy for the rest of the CJS: it affects how people view ‘the system’ as a whole. Grievances over policing tactics, particularly the disproportionate use of Stop and Search, drain trust in the CJS in BAME communities” (Lammy Review 2017, 17).

Research which adopts the “fragile communities” (FC) approach of understanding communities as comprising a basket of barriers including health, education, mindsets, employment, and criminal justice, has also suggested that there may be a geographic component to distrust. In one survey which examined communities across the US, distrust of the police was highest in Chicago (at 51%). Additionally, the survey found that perceptions of unfair treatment by the police varied geographically: 38% of predominantly white FC in Appalachia felt unfairly treated, compared with 45% in Birmingham, AL and Fresno, CA, and 60% in Chicago (Center for Advancing Opportunity and Gallup 2019). However, more data are needed on the relative causal roles of race and the geographies of urban context.

In structuring this study, we distinguish between safety and security. “Security” refers to security infrastructure, whether it be surveillance technologies, or elements of state or private authority such as the police or festival security guards. “Safety” is the degree of threat or injury that exists or is felt by an individual or a group. By making such a distinction we get a better understanding of the possible relations between policing (surveillant security) and trust. For example, it permits us to understand that increased security may lead to decreased safety, or safety for some but not others. Further, security is often structured as oppositional and positioned as threatened (e.g., geopolitical or immigration security threats). By adopting threat postures that are mitigated via security, we argue that not only is surveillance “naturalized” as a solution, it is also necessarily divisive and

normalizing. By contrast, safety includes the important component of feeling safe and care for or from others, and although feelings can be mistaken or manipulated (e.g., a fear-mongering political campaign), feeling less safe is an indicator of degraded well-being that can be physically measured via elevated levels of anxiety or bodily stress.

In making this distinction, we concur with Leszczynski's (2019) argument that geolocation (and thus geolocational surveillance) structures intensities of "platform affects" (see also Ash 2015). Of her five such affects, in this paper we are particularly interested in "affects of trust" because this construct allows us to understand geolocational surveillance as not only platform technology, capital flow, or network, but also as "orientations through which individuals and collectives become attuned, predisposed, and/or incentivized towards using, contributing to, remaining within, and/or returning to platforms" (Leszczynski 2019, 208).

Despite work on resistance to surveillance in general (Minton 2013), and the experience of minority youth under conditions of proactive policing (Brunson and Miller 2006), we still lack data on what it feels like to be targeted by surveillance, the degree to which it induces anxiety and stress, and if there are significant differences based on age, socio-economic status, ethnicity, gender, or sexual orientation. As detailed in Browne (2015), there is a long history of the tracking of Blackness and Black bodies via branding and biometrics, or the measurement of "parts and pieces and performances of the human body, to function as identification" (Browne 2015, 91). Such branding includes wounds and marks on enslaved people, which, via "racialized surveillance" (Browne 2015, 91), rendered people as property during slavery. Browne argues that Silicon Valley technologies—especially biometrics such as face recognition—are today's descendants of branding, especially where certain bodies are seen as being "out of place" (2015, 109). Mapping and geography's own history of "race mapping" (Winlow 2013, 2020) is relevant here because although there is no biological basis for race, biometrics is a "return to the body" in place, particularly the problematic of the intersectional Black and gendered body (Buolamwini and Gebru 2018).

Stress from lived experience is a critical issue for public health because affective responses to surveillance and security contribute to individual well-being. Specifically, stress (induced by anxiety or fear) is embodied. Termed "allostatic load" (McEwen and Stellar 1993), the embodiment of stress starts early in childhood and is associated with greater sensitivity to later life stresses (Young et al. 2019), which increases risk of chronic disease (Schulkin et al. 1998). The stress burden is not equally shared across the demographic spectrum and results in health disparities stemming from early life and chronic stress (McEwen and Stellar 1993), and can, in adulthood, contribute to social ills such as the harassment of women in public spaces, or the discrimination of minorities. There is emerging evidence that subjective social status (SSS) is linked to stress; lower SSS is associated with higher levels of fear (measurable via saliva cortisol levels) following a stressor (Rahal et al. 2020).

Because communities vary geographically, racism via "group differentiated vulnerability," as abolitionist scholar Ruth Wilson Gilmore puts it (2007, 28), to surveillance imposes disproportionate burdens on people of colour, women, and the LGBTQA+ community. Racialized surveillance such as aggressive policing, stop and search, predictive policing, facial recognition, and "e-carceration" are inherently spatial, creating barriers, geofences, hotspots, and other geographies of social control (Kitchin 2014; Lowe et al. 2017).

These demographic differences in stress response are mirrored by demographic differences in attitudes towards surveillance. Studies on social media usage suggest younger generations are much more accustomed to social surveillance via social media, which is reflected in generational differences in attitudes about rights to privacy and the engagement of privacy-protective behaviours when using social media (Kezer et al. 2016). Whether these differences in privacy acculturation are carried over into the urban surveillance arena is unknown. Further, females are more likely to be negatively affected by social surveillance and experience more instances of body shame (and ensuing body surveillance) than males (Salomon and Brown 2019). A recent study of 6,595 adolescents found that social media use was associated with increased risk of mental health problems

(Riehm et al. 2019). A Pew Internet Survey about social media found that among teenagers, girls used social media more intensively than boys, with 50% of girls being near-constant users compared to 39% of boys (Pew Research Center 2018). Yet there are nuances here. For transgender and non-binary people, social media can be an outlet to affirm their identity and widen their support. In one study of 25 transgender youth, social media provided emotional, appraisal, and informational support (Selkie et al. 2019). The study found that social media can also be the site of transphobic cyberbullying and harassment (e.g., so-called trans-exclusionary radical feminists or TERFs) by cisgender peers, with all participants in the study reporting seeing negative transgender content and 1 in 4 reporting harassment. Thus, if surveillance (either remote or in person) can induce anxiety and stress which lead to variable health outcomes, the concern that surveillance is inequitably experienced and differentially responded to indicates that “equitable” measures of surveillance (i.e., equally distributed across neighbourhoods) are not sufficient and may even add to existing health disparities.

In our study, we were interested in reactions to the deployment of security measures across an urban space such as those often proposed for smart city urban regeneration. Because urban surveillance measures are slowly and subtly rolled out, they are often unnoticed. In contrast, summer music festivals experience rapid step-change each season, in response to the previous season’s safety and security threats (e.g., drug deaths, crowd violence, pickpockets, knife/gun attacks). Rapid changes in music festival security and surveillance are highly noticeable to festival-goers who tend to treat festivals as liminal spaces, areas separate and outside daily life with different rules (Kim and Jamal 2007; Szmigin et al. 2017).

Festivals have attracted increased attention in recent years as the subject of research, especially assessments of economic and tourism impact, and because of the damage they may incur on the ecological system. Festivals can also be big business, with one UK estimate indicating that they brought in over £1.7 billion in music tourism in 2014 (Mulville et al. 2017). As these authors point out, a big point of attraction to music festivals, and why people pay to attend them, is the atmosphere they aim to engender—the vibe or *communitas* (common purpose) of the space. According to a

recent UNESCO report, however, there is a research gap on festivals in terms of their cultural and political dimensions (UNESCO 2015). The sense of *communitas* or common purpose that the liminal space of the festival aims for assumes that power relations of wider society can be dropped or transcended. As Platt and Finkel (2020) document, societal power relations are more likely to be reinforced than dismantled. Yet geographical work on festivals has been inconsistent, treating them as liminal, public, for-profit, and sites for consumption of culture and “alternative” experiences. Where McDowell and Crooke (2019) argue that a Burning Man festival in the segregated city of Derry/Londonderry was able to create a new liminal shared space, Finkel and Platt (2020) argue that it is no longer possible to simply argue that festivals are pure spaces of alterity. Speaking specifically of urban festivals, they warn that they cannot be understood as an interruption of the “mundanity of everyday life of urban citizens” but in a “complex and uneasy tension” (Finkel and Platt 2020, 2). Similarly, Grabher (2020, 3) found that the UK’s first Pride Parade and Party during the UK City of Culture in 2017, aimed for a transgressive space, but that there simultaneously were “exclusionary restrictions” and “disciplining practices.” Differential experiences between gender and sexuality, then, continue to mark the festival experience, a point we examined in our own study.

Drawing on these insights, our research is situated in the context of rapid uptake of surveillance in music festivals and how this is understood and experienced as spaces of surveillance that remain deeply connected to societal power relations.

Methods

Research design

We used a web-based survey of festival-goers to capture preliminary data on public safety concerns, reactions to security and surveillance, and perceptions of how well safety interventions meet festival-goer safety needs. Survey responses were collected in two waves between September 20, 2018 and October 19, 2019. Our data constitute a preliminary empirical study of how well surveillance (including private security and policing)

meets the safety concerns of the public. Changes in surveillance in this context will be highly visible compared to the slow and gradual expansion of surveillance in the public sector, such as the progressive introduction of sensors in smart cities. As Winton (2018) notes, the comparative experience between two festival events after drones and extra security personnel have been introduced is very striking. Festivals also use covert surveillance, and therefore our study first asks respondents to state how noticeable changes in surveillance have been.

The rapid introduction or escalation of surveillance into festivals has occurred in the context of several high-profile incidents. In October 2017, a gunman opened fire on the Las Vegas Route 91 Harvest Festival, killing 51 people and injuring over 800. A widely reported June 2018 Yougov survey in the UK revealed that 43% of females have experienced unwanted sexual behaviour at festivals, but that fewer than 2% were reported (Snapes 2018). In Canada, accusations and arrests for sexual assault have proliferated, leading to the creation in 2017 of Project Soundcheck, which aims at reducing such assaults, not primarily through increased security surveillance, but rather through raising awareness and engaging bystander intervention (i.e., peer-to-peer support, which we discuss further below). In response, festivals have gone through a step-change in levels of surveillance. In 2018, Coachella began surveillance of the festival perimeter using drones (Winton 2018). Festivals and other large public gatherings have also been sites for the testing of face recognition technologies (BBC 2015). Finally, the field setting provides a representative environment (List 2007) and a natural, rather than self-selected or convenient, sample of research (Arnett 2008; Henrich et al. 2010; Smith and Little 2018).

Survey distribution

We advertised the survey in two waves: one without and one with a request for the location where participants attended the festival. Wave 1 ran from September 20, 2018 to November 6, 2019 (n = 189 responses). Wave 2 ran from November 7, 2018 to October 19, 2019 (n = 27). Wave 1 asked participants which festivals they attended more than once, but not the country of festival attendance, which we added in Wave 2. Most of our

respondents had festival experience in North America, the UK, Europe, New Zealand, and Australia. While there are different safety issues and security norms across countries, individuals attending those festivals were largely locally-based and presumably already accustomed to the levels of security considered normal in their own countries. We assume that observations of and reactions to safety concerns and security measures (and their escalation) will be relative to that prior experience.

Participant recruitment

Participants were recruited via social media venues (e.g., Twitter, Facebook [Burning Man site], Reddit, efestivals [Glastonbury], university classrooms [Roehampton, Manchester], listservs [Digital Geography Research Group UK, Critical Geography, Digital Geography Specialty Group USA]), and professional organizations (Royal Geographical Society/Institute of British Geographers).

Survey demographic data coding

We reduced responses to demographic questions regarding gender and sexual orientation to summary categories for multivariate statistical analysis. For gender, the choices were “male,” “female,” “non-binary,” “trans,” “intersex,” and “prefer not to say” (participants could select more than one category). Most participants identified only as male or female but ten also chose non-binary. Two individuals identified as trans and intersex, respectively. The pooled non-binary gender sample was too small for analytical reliability, but we did not want to lose these individuals in our study. We chose, therefore, to include anyone who selected both female and non-binary as female and anyone who selected male and non-binary as male (n = 5). We include these five individuals based on their sex-based affiliation and have kept the label male and female rather than imposing a gender category of “men” or “women” on them (labels we did not offer in our survey).

For sexual orientation, the options were “lesbian,” “gay,” “queer,” “bisexual,” and “heterosexual.” Most people chose either heterosexual or queer (often in combination with other options). We created an umbrella category of “LGBQA+” to increase the sample size for individuals not identifying as heterosexual, but in this group we included anyone that identified as heterosexual

and some other sexual orientation (usually bisexual). The LGBQA+ sample was about 25% that of the heterosexual sample.

We did not ask participants to identify an ethnicity or race category.

Analysis

Survey data were exported into Excel, then read into the R 3.5.3 environment (R Development Core Team 2008) via RStudio 1.1.463 (Rstudio 2015) using *readxl* (Wickham and Bryan 2019), and then manipulated using *dplyr* (Wickham et al. 2018). Cleaned data were read into R version 4.0.3 (R Development Core Team 2008) via RStudio 1.3.1073 (Rstudio 2015) using *readxl* (Wickham and Bryan 2019) for analysis. Data were summarized using *broom* (Robinson et al. 2020). *PerformanceAnalytics* was used to test the correlation between the variables Age and Experience (Peterson and Carl 2020). Bayesian multilevel modelling for ordinal data was conducted using *bmrs* (Bürkner 2017, 2018). Logistic regression for binary data was conducted using R *glm* (due to unbalanced sample sizes). Figures were generated using *ggplot2* (Wickham 2016) and *ggpubr* (Kasambara 2020)—individual data points were jittered to visualize the whole sample with linear regressions drawn in black lines surrounded by confidence bands (using the loess smoothing function) in grey. Marginal effects from glms were extracted using *ggeffects* (Lüdtcke 2018) and scaled to 100% on the y-axis using *scales* (Wickham and Siedel 2020). To aid those with colour-vision problems, the *viridis* colour palette was used.

Ethical considerations

We did not collect any personal identifying information such as emails or names. As such, all data are fully anonymized and cannot be linked to an individual. All responses from individuals under the age of 18 ($n=2$) were excluded from analysis.

Data sharing

Raw data and scripts are available at <https://github.com/kchoover14/surveillance-police-trust-festivals> under a CC BY 4.0 license which requires citation.

Results

Survey demographics

Our final sample of adult festival-goers responding to the survey included 216 participants. Table 1 provides a breakdown of each demographic factor, the sample for the levels within the factor, and the total factor sample. Sample sizes vary by factor because not all participants chose to answer all demographic questions.

Exploratory analysis

Because participants might attend more festivals with age, we used base R stats to test the association between Age and Experience ($\tau=0.291$; z -value = 4.7; p -value = <0.0001). For model parsimony, we then used Experience because it provides knowledge about a situation that might alter one's behaviour and feelings.

General safety concerns

We asked participants if they were concerned about their personal safety at festivals or if they had experienced changes in concerns over personal safety at festivals in the last five years. There were significant differences with experience, but none for changes in safety concerns during the last five years. Specifically, variation in experience level exhibited declining concerns with experience

Table 1
Sample demographic information.

Factor	Levels	n	Total n
Age	18–24	70	216
	25–35	57	
	35+	89	
Gender	Female	80	216
	Male	124	
	Non-binary	12	
Sex	Female	84	209
	Male	125	
Sexual orientation	Heterosexual	171	214
	LGBQA+	43	
Festival experience	Less (1–2)	47	213
	Moderate (3–5)	68	
	Most (6+)	98	

Note: "Non-binary" is an umbrella term for intersex, trans, and non-binary. Intersex and trans samples were small, but individuals in those categories also chose non-binary.

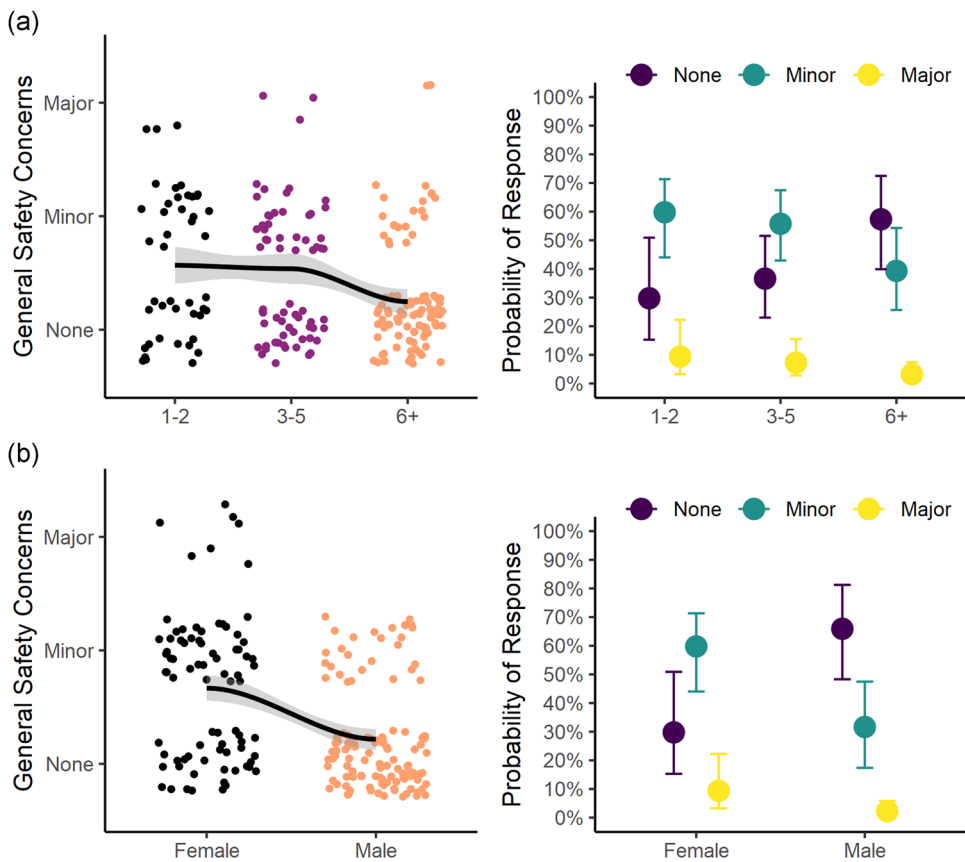


Figure 1 General safety concerns: each panel contains jittered plots of raw data and model marginal effects plots for the probability of choosing a specific response. (A) General safety concerns by experience level; (B) General safety concerns by sex.

(Figure 1A), with probabilities of having no concerns increasing from 30% to 60% (the inverse for having minor concerns). Likewise, the probability of having no concerns increased from 30% in females to 60% in males (the inverse for having minor concerns). Very few people had major concerns, but these tended to be either female or less experienced festival-goers. See Table 2 for significant estimates and confidence intervals, Supplementary Table S1 for full model results, and Supplementary Figures S1 - S2 for model fit plots.

Specific safety concerns

Following these general safety concerns, we asked participants what specific safety concerns they had

(see Table 2). The most selected specific concern was unwanted security, chosen by 46% of participants. Terrorism and physical assault were the least commonly chosen specific concerns, but these choices varied demographically, as did the selection of police, sexual assault (which includes sexual harassment), and crowd violence (Table 2). Physical assault concerns decrease with experience (Figure 2A), with a greater decline after 1-2 festivals. The same pattern exists for crowd violence, but with a greater decline after 3-5 festivals (Figure 2B). The probability of female concern (50%) about crowd violence is twice that of males (25%) (Table 2C). Likewise, females are almost three times more likely than males to be concerned about sexual safety (Figure 2D). Females (Figure 2E) and LGBTQA+ (Figure 2F) are twice as

Table 2

Model results: safety concerns, safety measures, and feelings had multiple boxes that each participant could choose.

		Term	Est	Err	CI-2.5%	CI-97.5%
General safety concerns						
Personal safety		Experience.L	-0.82	0.29	-1.37	-0.23
Specific safety concerns	% Chose¹	Male	-1.51	0.34	-2.18	-0.85
Physical	23%	Experience.L	-0.61	0.30	-1.21	-0.01
Terrorism	23%	Male	-1.12	0.37	-1.86	-0.41
Terrorism		LGBQA+	0.88	0.42	0.05	1.69
Police	30%					
Sexual	33%	Male	-2.09	0.36	-2.81	-1.40
Crowd violence	37%	Male	-0.90	0.32	-1.53	-0.28
Crowd violence		Experience.L	-0.61	0.28	-1.17	-0.06
Unwanted security	46%					
Safety measures						
Private security	19%					
Surveillance	21%	Male	-0.96	0.36	-1.68	-0.26
Police	25%	Male	-0.68	0.35	-1.37	-0.01
Citizen security	41%	Experience.L	-0.39	0.27	-0.92	0.14
Location	43%					
Friends	61%	Male	-0.75	0.32	-1.38	-0.13
Health tents	62%					
Ethos/vibe	87%					
Feelings						
Watched	24%					
At risk	27%					
Indifferent	30%					
Safe	34%	Male	-0.66	0.32	-1.29	-0.03
		Experience.L	-0.60	0.28	-1.15	-0.06
Anxious	44%					
Changes vibe	56%	Experience.L	0.59	0.28	0.05	1.15
		LGBQA+	1.20	0.44	0.37	2.12
Surveillance						
Notice changes in surveillance		Experience.L	0.62	0.28	0.09	1.18
Need more/less surveillance		Male	-0.86	0.33	-1.51	-0.24
Surveillance/inclined		Experience.L	-0.61	0.27	-1.14	-0.07
Unsafe/declined		Male	-1.21	0.45	-2.11	-0.32

¹% Chose: total percent of the sample that chose that box.

likely to be concerned about terrorism as males and heterosexuals (Figure 2E), respectively—we are unsure if this reflects an LGBQA+ concern about being targeted for the sexual orientation or acts of terrorism. See Table 2 for significant estimates and confidence intervals, Supplementary Table S1 for full model results, and Supplementary Figures S3–S8 for model fit plots.

Some participants indicated that none of the provided options matched their concerns. We also solicited write-in comments and received responses from 41 participants (22 female, 18 male, 1 non-binary). Common concerns were theft and

drunken misbehaviour, and a few comments ($n = 9$) indicated that security or police abuse of power were worrisome. For example, one comment referred to “personally owned drones or those owned by festival organizers flying overhead and filming the crowd without permission or notification.”

Safety measures

We asked participants what safety measures they prefer at a festival (see Table 2). Notably, participants do not feel safer in the presence of formal security measures (private, surveillance, police)—even citizen security was selected by only 41% of

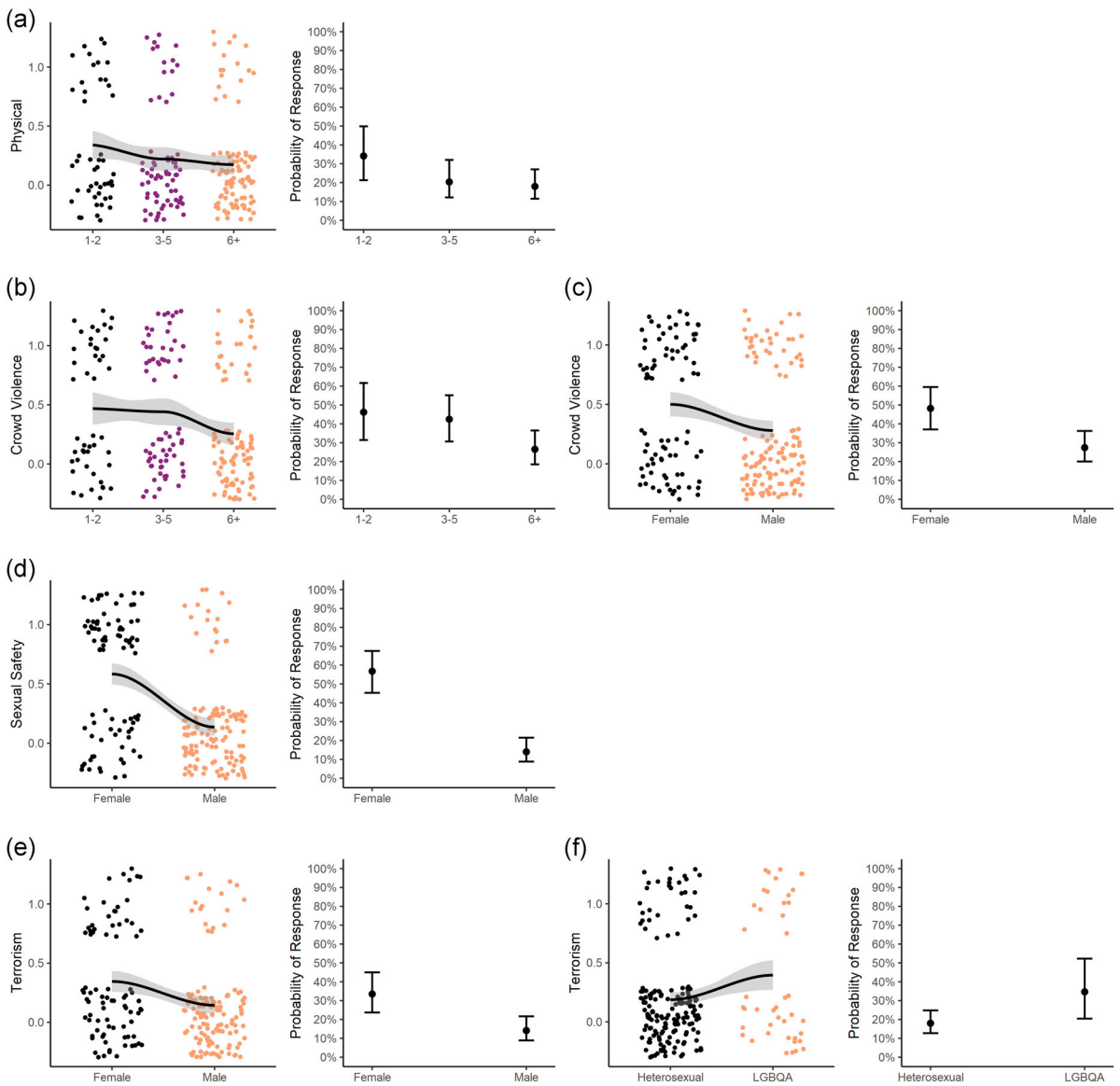


Figure 2 Specific safety concerns: each panel contains jittered plots of raw data and model marginal effects plots for the probability of choosing a specific response. (A) Physical safety concerns by experience; (B) Crowd violence concerns by experience; (C) Crowd violence concerns by sex; (D) Sexual safety concerns by sex; (E) Terrorism concerns by sex; (F) Terrorism concerns by sexual orientation.

the sample as a preferred safety measure. Most participants (87%) felt the ethos, rules, or the general vibe of the festival was the best assurance of safety—going with friends and having health tents were also popular choices. Males were almost 50% less likely to view police (Figure 3A) or

surveillance (Figure 3B) as safety measures compared to females. Less experienced festival-goers were slightly more likely to view citizen security as a positive safety measure (Figure 3C). Females were 70% more likely to find safety with friends compared to 50% in males. See Table 2 for significant

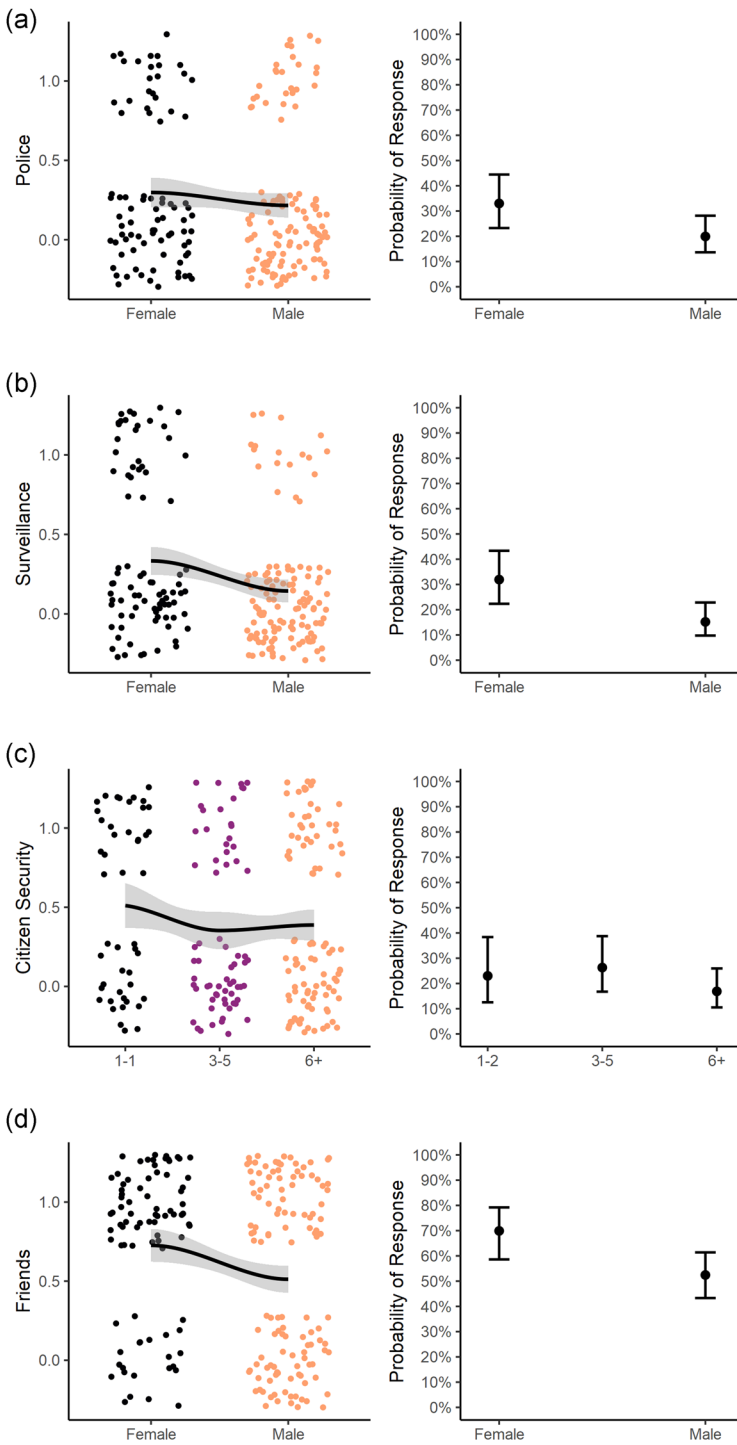


Figure 3 Safety measures: each panel contains jittered plots of raw data and model marginal effects plots for the probability of choosing a specific response. (A) Police safety measures by sex; (B) Surveillance safety measures by sex; (C) Citizen security safety measures by experience; (D) Friends safety measure by sex.

estimates and confidence intervals, Supplementary Table S1 for full model results, and Supplementary Figures S9–S16 for model fit plots.

The only people to provide write-in comments in this section of the survey were females ($n=12$), three of whom felt directly threatened by authority-based safety measures and three of whom suggested other measures to reduce harm. One raised the point that security personnel are paid to be there and are “entitled” and “have a status/a power over you,” but peer volunteers are there altruistically and “make me feel safer as I feel like they want to actually be there to help.” This last comment underscores the validity of the approach of Canada’s Project Soundcheck, which aims to reduce violence by empowering bystanders to engage (a peer solution), rather than providing top-down surveillance.

Feelings about surveillance

We asked participants what feelings they associated with surveillance (see Table 2). The strongest association with surveillance was that it changed the vibe of the festival (56%), with anxiety about surveillance being a close second at 44%. Females are almost twice as likely to feel safe in the

presence of surveillance than males (Figure 4A), while the association between safety and surveillance drops from 50% to 30% for those attending 1–2 and 6+ festivals respectively, which could be interpreted as either realizing the surveillance does not make a difference or that it is not viewed as safe (Figure 4B). There is an 80% probability of LGBQA+ participants feeling that surveillance changes the festival vibe compared to only 50% in heterosexuals (Figure 4C). There is an increase in the “changed vibe” feeling after the first 1–2 festivals, from about 40% to 60% probability of feeling this way about surveillance (Figure 4D). See Table 2 for significant estimates and confidence intervals, Supplementary Table S1 for full model results, and Supplementary Figures S17–S22 for model fit plots.

Surveillance

We asked three additional questions about surveillance (see Table 2). Those who notice surveillance “a lot” have overwhelmingly noticed an increase in surveillance recently (79%), compared to 55% of people who notice it “a bit” and only 15% of those who do not notice it ($\tau = 3.77$, $z = 5.7$, $p < 0.001$). Noticing changes in surveillance is linearly associated with increasing experience, with the most

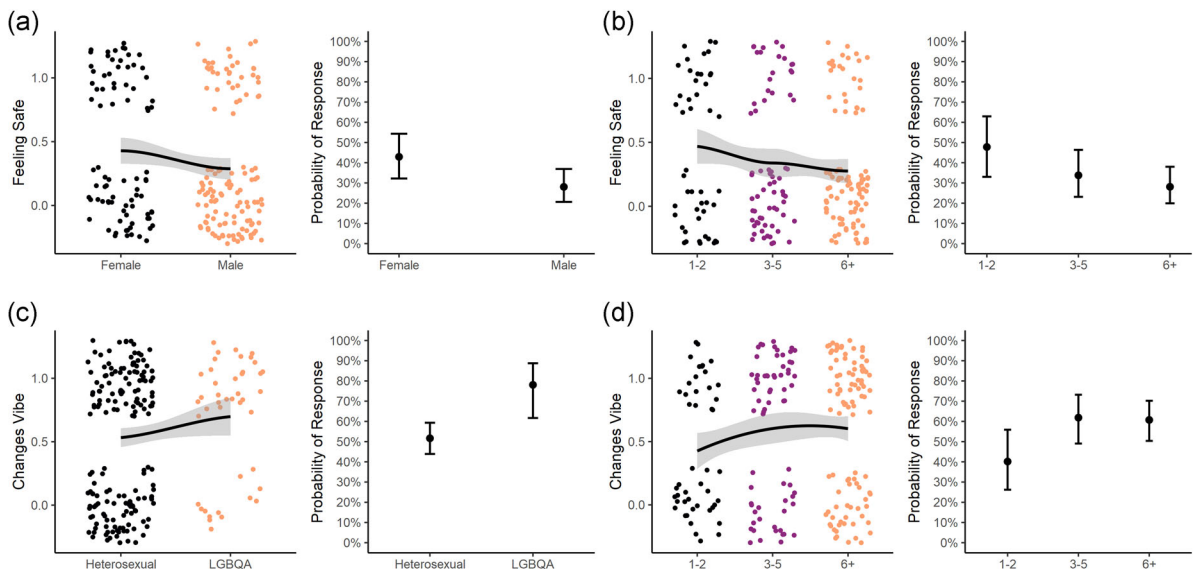


Figure 4 Feelings about surveillance: each panel contains jittered plots of raw data and model marginal effects plots for the probability of choosing a specific response. (A) Feeling safe by sex; (B) Feeling safe by experience; (C) Changes vibe by sexual orientation; (D) Changes vibe by experience.

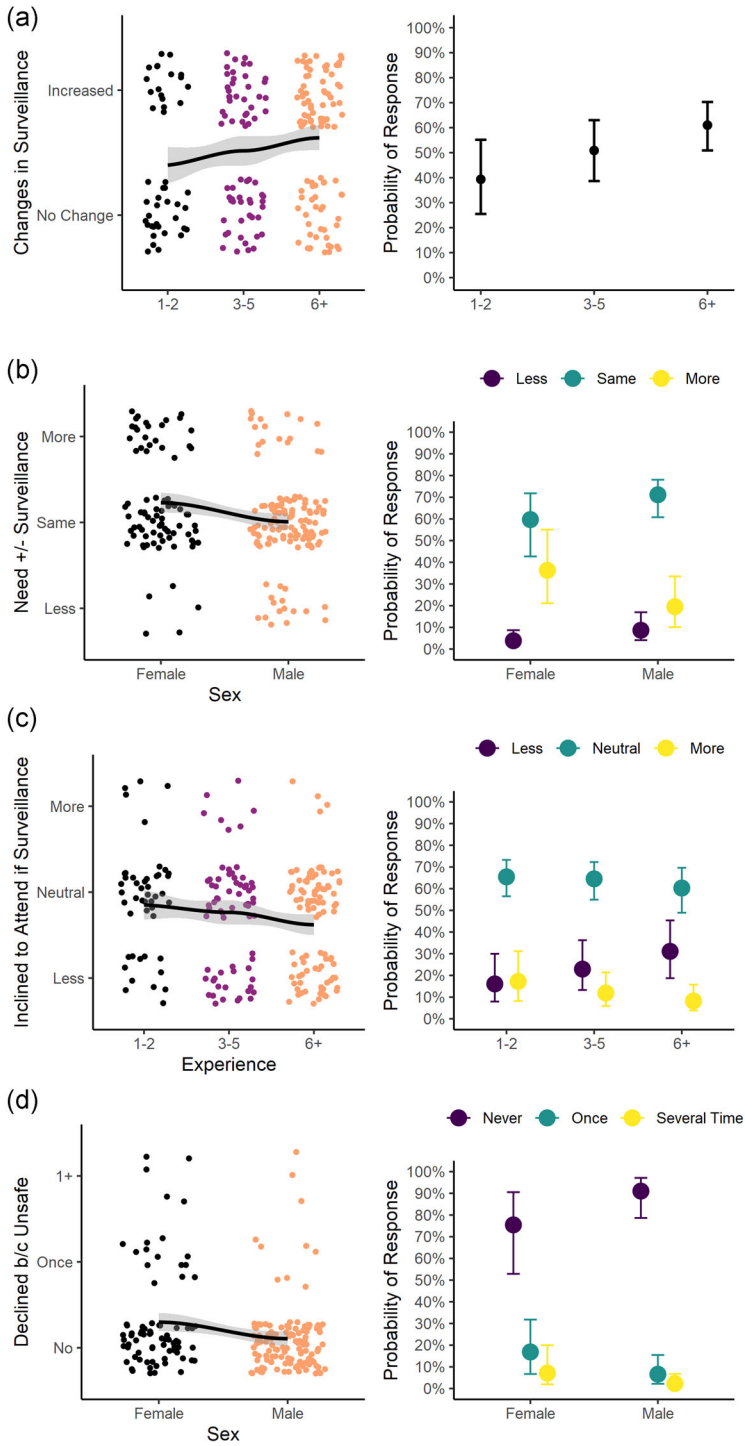


Figure 5 Surveillance: each panel contains jittered plots of raw data and model marginal effects plots for the probability of choosing a specific response. (A) Noticing changes in surveillance by experience; (B) Need for changes in surveillance by sex; (C) Positive motivation to attend a festival relative to surveillance by experience; (D) Negative motivation to attend a festival due to feeling unsafe by sex.

experienced 20% more likely to notice changes than the least experienced (Figure 5A). Females are twice as likely as males to feel the need for more surveillance, but males are slightly more likely to feel there is a need for more surveillance than less (Figure 5B). We had two final questions about behaviour relative to surveillance measures. While most people exhibit neutral behaviours about festival attendance, there are some demographic differences in those who exhibited behavioural responses to surveillance. First, more experienced festival-goers are increasingly unlikely to attend a festival if surveillance is introduced, increasing from 15% in the least experienced to 35% in the most experienced, with the inverse trend for more likely to attend (Figure 5C). Second, females are more likely to decline attending a festival due to feeling unsafe than males (Figure 5D). See Table 2 for significant estimates and confidence intervals, Supplementary Table S1 for full model results, and Supplementary Figures S23–S27 for model fit plots.

Discussion and conclusion

The analysis of our empirical survey data of summer music festival attendees identified the affective response of festival-goers to new forms of surveillance and monitoring, and contextualized how policing and safety/security are viewed compared to community and peer solutions. Our study was limited to analysis of sex-based data due to small sample sizes for non-binary, trans, and intersex participants. In retrospect and going forward, we will use a different set of terms for gender: “trans woman,” “trans man,” “cis woman,” “cis man,” “non-binary/gender queer.” We also will ask if participants are comfortable with the binary terms “man” and “woman” to ensure our labels reflect the wishes of participants. Our sample of LGBTQA+ was about 25% the size of that for heterosexuals, which is an unbalanced design but left us with a sample large enough to analyze. A future study might specifically target festivals that attract a wide range of genders and sexual orientations and actively recruit responses from under-represented minority groups in order to evaluate if there are any trends in these demographics relative to what we report here.

We found that females are more likely than males to be concerned about safety and interested in a

variety of safety measures. Females are also more likely to change their behaviour in response to feeling unsafe or safe—but most festival-goers generally are not likely to change their behaviour. The write-in comments suggest that females are as concerned about security personnel possibly perpetuating assault as they are about other festival-goers doing so. Females do not feel as safe as males, but their higher positive attitudes towards security may reflect the fact that security personnel provide an official outlet for reporting (if not preventing) an incident. We wonder if these sex-based differences point to a male privilege (likely cis-gendered men, since only one male also selected non-binary) of being less concerned about safety in public spaces. Indeed, when there are sex differences regarding security measures, males tend to have a negative response to the presence of security, which might suggest they view those measures as a disruption to privilege. Females think about their safety and their actions and sources of harm and protection (even relative to safety interventions such as security and police), while males enjoy the privilege of feeling safe.

Do these findings mean that people, when aware of and disapproving of surveillance, will change their behaviour to avoid it? Our data predict that most people are not likely to change their behaviours but, when they do, females are more likely to than males, despite the stronger male bias against authority. We asked this question because of the supposed “Hawthorne effect” (Landsberger 1958), which states that when people know they are being observed, they will change their behaviour (e.g., when CCTVs are clearly marked, crime will decrease in that area). Although the effect is now thought to be overstated (McCambridge et al. 2014), the “preventative” discourse of surveillance remains a key selling point for smart city and security technologies such as the idea of Ring Video Doorbell “making a safer neighbourhood.” However, it is perhaps more germane that if unwanted surveillance takes place, people will protest it rather than change their behaviours, especially when it is perceived as unjust as post-protest analyses have suggested (Lammy Review 2017).

Experience also plays a significant factor in feelings of safety and interest in safety measures. Less experienced festival-goers are more concerned about safety and more positively inclined

towards safety measures, but there is variation in the level of experience relative to the concern or measure at hand. As noted above, most festival-goers generally are not likely to change their behaviour but if they do, the least experienced festival-goers are more likely to change their behaviour than those with more experience. We are unsure if the changes that come with experience suggest that concerns about safety are assuaged and thus interest in safety measures is reduced—or if safety measures become less desirable because they feel personal safety is not a concern.

A third and final global conclusion is the complexity of feelings about specific safety concerns, measures that promote safety, and feelings about surveillance generally. There is a consistent negative orientation towards security, police, and surveillance and this negative view does not have much demographic variation in experience, sex, or sexual orientation—46% of participants felt safety concerns over unwanted security, only 19% felt private security was a positive safety measure (21% surveillance, 25% police), and 44% of participants reported anxiety over surveillance. The most favoured response to safety at festivals was the general vibe or ethos or rules associated with a particular festival. For smart cities, the implication is that cities may need less authoritative enforcement (such as policing and surveillance) and more community building—this is something already noted in the BLM and Defund the Police movements. Likewise, many reports of and investigations following urban riots and protests indicate this is not a surprising finding—but it adds to concern about the effectiveness of surveillance in creating the intended feeling of public safety. Our results indicate that surveillance and security measures have a disruptive impact on how people feel in public spaces and that strong communities make for safe and more positive spaces.

In this light, we find a parallel in the recent overview of the “broken windows” theory of community policing that made the case that whether it works is *not* the central question (Meares 2015). Rather, the ways that surveillance is carried out on the ground—and the fact that broken windows policing can provide a “covert curriculum” of lessons learned about police incivility, bias, and discrimination—may work to degrade trust. Further, a recent large-scale study of

hundreds of policing conversations revealed a strong duality in attitudes to police presence or lack of presence (Prowse et al. 2019). The duality lay in community members feeling that the police were everywhere in everyday life, but nowhere when assistance was required. Although this study appeared after our data were collected, it affords a similar view of the state “from below” via 800 transcribed conversations in 12 neighbourhoods in 5 cities. As with our own study, they found that continual policing and security surveillance was unwelcome.

Finally, we identify the need for more clarity and research on three key issues: the way females feel about being in public spaces, how experience alters perspective on safety and authority measures, and the missing data (from our study) on ethnic and racial demographic differences.

In our study, females exhibited the most varied responses. They have a greater number of safety concerns, which suggests they feel they are vulnerable to attack at festivals; their write-in comments suggest their primary concern is sexual aggression. Females have very mixed views on security with some writing that they feel more at threat by security and some feeling security provides an opportunity to report assault (but *not* prevent it). This finding is one that matches the superficially contradictory “distorted responsiveness” of Prowse et al. (2019), where police are both all-too-present and not present enough. Some of this contradiction is mitigated if we draw on the distinction between security surveillance and safety. Females generally feel that the presence of *security* allows a reporting outlet for offences, but do not feel it increases their *safety* (protection from harm). Nevertheless, females feel that security surveillance changes the vibe of the festival. The write-in comments suggest that females want to be free from the threat of assault but do not feel that is possible. We speculate that this attitude reflects the larger vulnerability of females in global societies where the behaviour of males (as offenders and potential threats to safety) is not policed, but the behaviour of females (as victims whose behaviour “caused” the assault) is scrutinized—in these societies, females are not permitted freedom of expression and movement without fear of retribution from males. This finding reflects some of the difficulties of *communitas* discussed above, namely that while festivals may aim for liminality,

achieving it remains something of a privilege (in this case for males, but not females). It is not likely that relations of power in society can (entirely) be left behind in festival events, although as Platt and Finkel (2020) point out, this remains an under-researched question.

We are unclear how experience changes views on security, surveillance, and police. A future study might ask participants to comment specifically on their first festival compared to their most recent one and if their experience helps them to feel safer. Because there is a negative attitude towards authority-based measures with more experience, we suspect the answer is more complex than prior experience informing current attitudes and behaviours.

Our study did not collect ethnicity data so we suspect that a sample with a clearly varied demographic profile would exhibit different trends. Specifically, we believe that, when compared to the feelings of white males, the feelings of Black males (particularly) and people of colour (generally) will be very different about surveillance, private security, and police due to the targeting of these populations in western countries. In addition, our sample sizes for queer and non-binary festival-goers were small and these participants were varied in their responses, more so than other categories. A larger sample size may better capture the true consensus in these communities or reveal true variation in feelings about surveillance. Finally, individuals at the intersection of demographic factors would reveal more, in a larger sample, about which predictor effects are stronger than others or if interactions between predictors are significant (e.g., someone who is male and queer might have significant concerns over safety but someone who is male and not queer might not).

Our findings have significant ramifications for one-size-fits-all solutions currently in deployment in urban spaces. Specifically, our research shows that increased surveillance and security, even if well-intentioned, do not meet citizen's safety concerns and may well have the opposite effect of making people feel less safe. Our participants exhibited a clear preference for peer-to-peer safety measures, not only because they were felt to work more effectively, but also because they were less likely to be a threat than authoritative forms of policing.

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SUPPORTING INFORMATION

Additional supporting information may be found online in the Supporting Information section at the end of the article.