An Empirical Study of Surveillance Anxiety

Running Title: Surveillance Anxiety

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Abstract

We use the natural lab of music festivals as a way of exploring public safety concerns and attitudes towards surveillance. We argue that festival-goers are more sensitive to surveillance and escalations or introductions of surveillance into formerly unpoliced space than members of the general public for two reasons. First, festivals are liminal spaces that free participants from the constraints of everyday life—social norms and regulations—and changes in security are highly visible due to the liminal nature of the event and due to the rapid introduction between seasons. Second, media coverage of safety issues at festivals (deaths, drugs, terrorist attacks, sexual assault, and petty theft) have potentially made festival-goers more aware of their safety concerns and festival organizers more concerned with introducing or escalating security measures to ensure attendee safety. Thus, we feel the festival is a useful natural lab to examine public safety concerns and how well surveillance addresses those concerns. We ask participants to share their safety concerns and if they have changed, their preferred measures of addressing safety concerns, and if their behavior has changed in response to their concerns. We also ask for their observations on surveillance and security measures, if those change over time, if those address their safety concerns, and if their behavior changes in response to those measures. We found that while there are safety concerns, behavior does not change. Further, we find significant differences among groups (males, females, non-binary) for safety concerns and surveillance observations. Finally, our analysis of agreement on major safety issues and observations and attitudes about surveillance indicates significant differences with more males in congruence but variation in the females on their views. Ultimately, these data uncover important issues about what makes us feel unsafe and we need to feel safe. There is no congruence across demographics on primary safety issues and what makes individuals feel safe. Thus, the policing measures taken in everyday life have a differential negative, neutral, or positive effect depending on the member of society experiencing them.

Keywords: Surveillance, anxiety, surveillance anxiety, security, policing, well-being, festivals, liminality

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There is a natural tension between public safety and public surveillance. This tension arises from the state duty to protect its citizens but comes at the expense of viewing its citizens with suspicion. In essence, the public is charged the collateral of privacy in exchange for safety. But, is public safety delivered? Do people feel safer or are there other, more appropriate interventions. We present the results of a survey designed to elicit affective responses to safety and surveillance as a way of understanding what is gained, if anything, by increased surveillance in response to increased threats to public safety. These data constitute a preliminary empirical study of how well surveillance meets the safety concerns of the public.

Despite much conceptual work surrounding the issue of surveillance anxiety, there are no empirical data assessing whether surveillance induces anxiety. This is a critical gap because younger generations are much more accustomed to surveillance and being observed. Empirical data on surveillance anxiety is needed because such an affective response to environmental conditions can, over time, result in increased stress burden. This burden is not shared across the demographic spectrum nor is the burden of surveillance equally shared across the demographic spectrum. In the social sciences, such a stratified stress burden is often referred to as psycho-social stress due to the influence of socio-cultural hierarchies (economic, ethnic, and other demographics) on the psychological stress burden. Overtime, the psycho-social stress burden activates the biological stress response and larger cumulative loads result in deregulation of the hypothalamic–pituitary–adrenal axis ¹. The long-term outcome is high variation in overall allostatic (biological stress) load. In other word, non-biological stress is embodied and causes differential physical health outcomes such as increased morbidity and higher mortality rates. The embodiment of stress is not equal because the burden of stress is not equally shared across society.

For our survey, we focused on the summer music festival. Festivals serve as a liminal space, a temporary escape from the constraints of everyday life and venue for behavioral experimentation ². This setting is one in which changes in surveillance will be highly visible compared to the slow and gradual expansion of surveillance in public sector—overt versus covert displays of surveillance; the comparative experience between two festivals events where drones and extra security personnel have been introduced is striking ³ and has greater potential to capture primary affective reactions to surveillance. Further, there have been changes in surveillance—the rapid introduction of surveillance into these formerly unpoliced spaces has occurred due to several high-profile incidents such as the Las Vegas Harvest Festival murders, accidental deaths due to drugs (e.g., Coachella and latitude), and increased reporting of sexual assaults and petty theft. Finally, the field setting provides a representative environment ⁴ and a natural, rather than self-selected or convenient sample of research ⁵⁻⁷. Thus, the festival community can serve as a natural lab for capturing the visceral response to ‘being watched’ that becomes lost in the city where surveillance is already routine and escalations of which are not noticed as intensely.

The first major finding is that people do not change their behaviors in the face of either safety concerns or surveillance. The second major finding is that males concur on safety concerns but females and non-binaries do not, within-groups, find agreement on what the major safety concerns are. The third major finding is that females are much more aware of surveillance than males and have very mixed feelings over its effectiveness. We ponder whether the benefits of surveillance and security in reducing crime may bring with it more negative outcomes for the

non-criminal public than previously understood. The public is not best served by trading privacy for the potential of safety.

METHODS

Survey distribution

We advertised the survey in two bouts: one without and with a request for the location participants attended the festival. The inclusion of location data in Wave 2 does not alter the data generated for the research question but does allow a subsample to compare country-based experiences, which might exist due to differing security norms. We expect no differences due to security norms because attendees are already familiar with their own security measures (e.g., the US is used to armed security in public spaces) and changes in surveillance or security presence will be relative to normal experience.

Participant recruitment

Participants were recruited via social media venues (e.g., Twitter, Facebook (Burning Man site), Reddit and SubReddit, efestivals [Glastonbury, General Discussion), university undergraduate and postgraduate students (Roehampton, Manchester), listservs (Digital Geography Research Group, 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. The majority of participants chose male, female, or nonbinary (always singularly or in combination with other boxes, such as trans). Thus, we reduced data to three categories (male, female, and nonbinary) for analytical purposes. For sexual orientation, the options were lesbian, gay, queer, bisexual, heterosexual. The majority of people chose either heterosexual or queer (often in combination with other options). Thus, we reduced data to two categories (queer, non-queer) for analytical purposes. We did not ask participants to identify an ethnicity or race category.

Analysis

All analysis was conducted in R 3.5.1 ⁸ using RStudio 1.1.463 ⁹. We analyzed location and basic demographic responses to questions using nonparametric testing (Welch's t-test, Mann-Whitney U, and multinomial logistic regression) to identify significant subcategorical difference (e.g., location, gender, sexual orientation) that might result in meaningful differences in the festival experience. For independent choice questions (where participants could select any number of answers that reflect their perspective), we used an ANOVA to identify among-group differences and Cronbach's alpha to identify within-group agreement on choices.

Ethical Concerns

We do 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 are available on FigShare (DOI: 10.6084/m9.figshare.7364576) under a CC BY 4.0 license which requires citation.

RESULTS AND DISCUSSION

The results of the survey are found in Supplemental Table 1 and raw data are found at FigShare (DOI). There are four major components to the survey. The first is demographic information including festival attendance. The second is exploring why individuals attend festivals. The third is focused on safety concerns. The fourth is focused on observations of surveillance. We also include questions on behavioral changes relative to safety concerns and surveillance.

Part 1: Demographics

Our final sample of adult festival-goers responding to the survey was 201 but not all individuals responded to all questions (one declined to choose one of the options for sex, for example). Thus, responses to individual questions are reported with the total sample responding to that question. The demographic was well-balanced even if the categories for queer and non-binary were small.

Table 1: Demographic information (n=201)

	18-24	25-34	35-44	45-54	55-64	65+	Total
Female	28	19	13	9	2	1	72
Male	25	33	25	22	13	1	119
Non-binary	4	2	2	1			9
Total	57	54	40	32	15	2	200*
Non-Queer	43	42	31	28	15	2	161
Queer	13	10	9	3			35
Total	56	52	40	31	15	2	196*

*Total n = 196 other non-reported or 'prefer not to say'

Part 2: Festival Attendance

Survey completion criteria included that participants attended at least one festival. The vast majority of our sample (79%) had attended more than two festivals and nearly half (48%) attended more than six festivals. In our sample (n = 193), 77.5% (155 people) had attended the same festivals more than once, whereas only 19% (n = 38) hadn't. Free responses were listed of festivals attended more than once. Of those answering whether they had attended the same festival more than once, (n=193), 80% had. Free responses were listed of festivals attended more than once. Thus, we have a sample of frequent and repeat festival goers who should be representative of a population experiencing changes in festival security measures (even if the demographic is limited).

As noted above, we did not request location of festival attendance in Wave 1; however, most people in Wave 1 attended more than one festival and were asked to state the locations. Thus, we have location data for the majority of people; all responders attended festivals in the UK, US, Europe, and Australia/New Zealand (only one). As individuals are accustomed to normal levels of security in their own countries—e.g., someone from the US is used to armed security already even if a Brit is not—and any escalation of security measures will be in line with current security measures and legal norms per country and will reflect our main line of inquiry which how participants feel about the introduction of security or an escalation of existing/prior security.

Participants were asked rank their reasons for attending festivals, with 1 being most important and 6 being least important. The main reason our participants attend festivals is for the music (Figure 2). In contrast to the literature on festivals ^{2,10}, our participants ranked escapism as low. The responses visualized in Figure 1 are ordered in order of importance. A pairwise Welch test indicated a significant difference between males and females for category A-live performances ($t = 2.897$, $df = 166.49$, $p\text{-value} = 0.004$; 95% Confidence Interval 0.221-1.167). The primary draw of live music for female and non-binary participants was ranked higher than males and non-binary participants ranked non-music performance events more highly than all categories except live music. Females are most consistent in ranking live performances as most important. Males rated escapism (E and F) more highly than female and non-binary participants (who ranked substance indulgence consistently low).

Figure 1: Reasons for attending festivals (A = Live Performances; B =Friends, C = Get away, D = non-performance events, E = Rules-free zone, F= indulge in substances)

Part 3: Safety

In this section, we asked participants about their safety concerns and if they had changed in response to recent acts of violence and abuse at festivals. We also asked participants to determine if their behavior was influenced by their safety concerns.

Participants choose from a list of safety concerns (Q7) and were asked whether these had changed relative to (Q9) to media reports of problems at festivals. Primary concerns were crowd violence and unwanted security with females and non-binary equally reporting concerns about sexual harassment and assault (Figure 2).

Figure 2: Safety concerns

The majority of participants (71%, n=200) reported no change in their concerns in the last five years (Figure 3). Only 3% of the sample reported concerns decreased slightly decrease (0% reported decreased greatly) in the past 5 years which suggests that introduced security measures, if altered, have had no effect on concerns. Despite some descriptive differences, a Kruskal-Wallis chi-square indicated no sex-based differences ($\chi^2=3.037$, $df=2$, $p=0.219$). Roughly 20% felt their concerns had slightly increased in the past 5 years. Our sample is largely UK-based and there have been fewer negative festival reports in the UK compared to the US. The mass shooting at Harvest Festival in the US may have altered US festival goer concerns but the size of the US may mitigate that effect if festival goers felt the event were an isolated and geographically specific action. Acts of gun violence are not a concern for UK festival goers due to differences in gun control but knifing is increasing an issue in the UK and might eventually have some effect on festival-goers feelings about safety.

Figure 3: Changes in safety concerns over the last five years

We asked participants (n=201) to report how they felt about safety (Q10), if they worried about personal safety when considering attending a festival (Figure 4). There are significant differences across categories (Kruskal-Wallis $H=32.332$, $df=2$, $p=0.000$). The non-binary sample is small but the significant difference remains when comparing males and females only ((Kruskal-Wallis $H=6049.5$, $df=1$, $p=0.000$). Most reported no concern (64%). The differences lie in the groups expressing concern. Females reported more concerns than any other group including having major safety concerns prior to attending a festival. This reflects the general observation above that concerns have not changed in the past five years and festival-goers are not really concerned

about personal safety despite some awareness of threats to safety. But, we do note the trend for females is not so clear—this demographic feels vulnerable.

Figure 4: Actual worry in advance of festival attendance

We asked participants one question (Q8) what makes festivals feel safer. Participants (n=199) were varied in their responses (Figure 5) but there was a shared low ranking for over security measures and surveillance. The comments on this question suggest that most felt the only value of security was having someone to report an incident to after the fact rather than having that incident be presented. Some reported feeling threatened by police or private security.

Figure 5: Measures that make festivals feel safer

The final safety question (Q16) is whether participants (n=201) felt their behavior was influenced by safety concerns. The vast majority (83%) have not declined festival attendance due to safety concerns. There are significant differences across categories (Kruskal-Wallis $H=8.55$, $df=2$, $p=0.014$). Females are more varied in their responses and males are more consistent. Non-binary participants opt for either no change or not sure. The non-binary sample is small but the significant difference remains when comparing males and females only (Kruskal-Wallis $H=4975.5$, $df=1$, $p=0.004$).

Part 4: Surveillance

In this section, we asked participants about their observations/awareness of surveillance measures at festivals and to note any changes they observed between seasons, if they were regular attendees. We also asked participants to evaluate if they behaved differently when

surveilled to evaluate the concept of surveillance anxiety, which refers to acute persistent worry and stress experienced by individuals and groups as a result of known or suspected surveillance.

The majority of our sample notice surveillance (64% a bit, 20% a lot). Only 16% reported not observing surveillance measures at a festival. There were no sex-based differences in observations of surveillance (Kruskal-Wallis $H=1.063$, $df=2$, $p=0.588$). More than half the sample (54%) observed an increase in surveillance in the last five years but none noticed a decrease. There were no sex differences (Kruskal-Wallis $H=1.3047$, $df=2$, $p=0.520$). The high visibility of surveillance is a positive result for other questions related to feelings about surveillance.

When asked how people feel about surveillance, we find significant differences between sexes (Figure 6). Women fear physical, in-person authority more so than surveillance, with women (44%) more likely to say that surveillance made them feel safer than men (29%) whereas very few non-binary people reported feeling safer due to surveillance/security. The strongest feeling across categories was the 78% of our sample felt surveillance ‘changed the vibe’ and ‘watched by the man’.

Figure 6: Feelings about surveillance

When asked if more surveillance is needed now than five years ago, there were also distinct differences among sexes (Kruskal-Wallis $H=9.088$, $df=2$, $p=0.010$) with the sharpest distinction between males and females (Kruskal-Wallis $H=5048.5$, $p=0.006$). Non-binary people chose the same or less security needed now as compared to 5 years ago. Women more frequently said that more security was needed now than 5 years ago.

The final question asked participants whether or not their behavior changed as a result of surveillance—the Hawthorne effect of behavioral change under surveillance. Non-binaries were same or less likely to attend if surveillance were to be introduced. There were significant differences in responses (Kruskal-Wallis $H=5.093$, $df=2$, $p=0.078$). Females were more ‘inclined’ to attend responses than either men or non-binary people.

Figure 7: Behavioral changes related to surveillance

CONCLUSION

Our sample of frequent and repeat festival goers should be representative of a population experiencing changes in festival security measures even if sample demographic is limited by the lack of self-reported ethnicity data. We are collecting additional survey data that targets specific festivals in urban and rural areas with different demographic profiles. Our large sample size was able to capture meaningful differences on certain issues surrounding security and surveillance.

Festival attendance shows a clear trend across demographic categories—getting away with friends to see live music. The live music is the primary motivation but there are differences across the spectrum of respondents with females being more consistent as a group in their choices and non-binary rating non-performance events as the second most important reason. In contrast with the literature ^{2,10}, our participants do not report that festivals are an opportunity to get away from rules but males are more inclined to rank escapism as a reason for attending a festival. We suspect that festival-goers assume rules are lax and this has become tacit rather than an explicit reason to attend.

When asked about safety, there were a few key findings worth additional discussion. First, there was a general convergence on concerns about crowd violence more so than external violence, suggesting that acts of terror are not considered a significant threat. Responses and comments from participants suggest that they fear other festival-goers losing control (from drugs and alcohol) or becoming violent more than anything else. Second, females consistently had the most concerns with some females reporting having major concerns prior to attending festivals. Most males reported having no concerns at all about their safety. This is particularly telling in terms of how an urban demographic might have very mixed feelings about safety interventions. The write-in comments suggest that females and non-binary have mixed feelings about security or police because they do not prevent crime. Third, most concerns for females and non-binary were to do with sex-related safety issues, which again was reflected in comments wondering what could be done to prevent (rather than an outlet for report on) those crimes. Fourth and final, the second highest rated concern was unwanted security and that was a consistent response across demographics. Comments suggest that females and non-binary are concerned about security violating their safety. This is particularly worrisome for the urban environment. If the most vulnerable individuals (those reporting more safety concerns) feel that security cannot help and, in some cases, make things worse, what can be done to make individuals feel safe? The measures that consistently made our participants feel safe at festivals were, in fact, not security-based but

community-based—being with friends, presence of health tents for emergency, and citizen security. These sort of non-confrontational or authoritative interventions might be a consideration for creating safe urban spaces. We would point to the success of the UK Good Samaritan pastors night-out survival kits: chocolate, water, condoms, flip-flops, and sundries to aid those who have had too much at the weekend. These sorts of interventions are welcome because they are non-judgmental and have no lingering consequences.

Our sample is very aware of being surveilled with a vast majority of respondents noticing surveillance measures. There were significant differences in the affective response to surveillance in males and females with females feeling safer under surveillance (which is very different than the mixed feelings regarding police and security). Still, across all groups, the major feeling about being surveilled was that it changed the vibe of the festival. So, while females were more likely to report feeling safer under surveillance, they are aware equally aware of the affective change it causes. Despite this, females tended to feel that greater measures needed to be taken to make festivals safer.

Our survey results suggest that festival-goers share a generally negative attitude about security and that surveillance anxiety is not experienced equally across our three categories of respondents: males, females and non-binary. Females appear to have the most mixed and extreme responses to security with some feeling directly physical at threat from security and others feeling safer due to security presence. We suspect this has more to do with the specific concern shared by females regarding sex-related infractions. The non-binary sample was small (n=9) but shares an extreme distrust of forms of surveillance and security. Non-queer males have the fewest safety concerns but are concerned about negative interactions with security. Behaviors appear to be unaffected by safety concerns or surveillance. Despite the generally negative attitude about security and surveillance, most people feel that current levels are acceptable (even if noticeable and increased in the last five years) and security is not a deterrence to attend. Most festival-goers have experienced no change in their personal safety concerns and most do not worry about personal safety prior to attending.

We can conclude that concerns about and desire for security and surveillance are varied depending on the social demographic of the festival-goer. This has significant ramifications for the one-size-fits-all solution presented in urban spaces—increase surveillance and add more security. Our survey demography is limited to the social demographic of gender because we did not collect ethnicity data but, in this social category, there are key differences in feelings about safety concerns and safety interventions. Overall, there is some mistrust of security/police and some wariness of surveillance. There is a general attitude that surveillance alters the feeling of an area and that security/police is not able to prevent the violations to personal safety.

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