Alcohol Consumption in Live Music Venues

Literature review and analysis of preliminary data from a pilot study
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Cover: Emma Swift performing at The Union Hotel, Newtown.

Image: Ryan Kitching
Overview

Summary statement
This paper presents analysis of preliminary data from an independent pilot study funded by the City of Sydney on rates of alcohol consumption in live music venues.

The pilot study was designed to develop a potential methodology for future research. It was therefore limited in scale and scope, and its findings are not conclusive.

Analysis of preliminary data indicates a possible link between live music and lower overall alcohol consumption by patrons in licensed premises, however this possible link needs to be tested further.

The pilot study principally recommends further research with a larger sample. This would be useful in further examining alcohol consumption trends in live music venues and in developing responses to state and national government policy.

This paper is intended as a starting point for further research and discussions between government, industry and community groups. The City of Sydney works hard to develop robust policy that supports our community, local businesses, live music and our night-time economy. We hope this paper prompts further discussion and research on alcohol consumption, live music programming and government regulations.

Purpose
As part of its 2014 City of Sydney Live Music and Performance Action Plan the City is undertaking research into alcohol consumption and behaviour patterns at live music and performance venues in the local area.

This paper aims to:
- discuss some of the available literature in this subject area
- outline the methodology and limitations of an initial pilot study
- provide analysis of the preliminary data collected
- stimulate discussion with industry, government and researchers about existing research not identified in the literature review as well as the nature and direction of future research

Due to significant limitations associated with the scope and scale of the pilot study undertaken, this paper does not present conclusive evidence on the effect of live music programming on alcohol consumption in live music venues. As such, this paper and the results it contains cannot be used as a basis for policy reform or advocacy.

About the study
In 2015 the City engaged research and consultancy firm Urbis to test ways to assess the impact of live music on alcohol consumption using alcohol sales data and audience intercept surveys. The pilot study was independent and confidential. The City received only aggregated, de-identified data.

The questions the study sought to answer were:
1. Does live music programming have an effect on the amount of alcohol consumed in licensed premises?
2. How do patterns of alcohol consumption within live music venues vary by time (i.e. pre-performance, during performance, post-performance)?

3. How can the impact of live music on alcohol consumption be tested further?

**Analysis of preliminary data**

The study was limited due to a range of factors including sample size of venues and events, timing and duration, limited non-live music and non-ticketed events, low frequency sales data and sensitivity of the data. This means that no conclusive findings can be made regarding the impact of live music on alcohol consumption.

However, the pilot study affirmed several factors that have been identified in other research as influencing alcohol consumption trends in live music venues. These factors include live music performance, patron age, venue layout, crowd size, familiarity with or comfort in a venue and the level of awareness or engagement with the band/artist. Subject to the identification of partners and funding, these merit further investigation.

The pilot suggested that there may be a link between live music and reduced alcohol consumption. It found lower rates of alcohol consumption during live music events compared to non-live music events, and on the night of a live music performance, lower rates during the performance than before, after and between sets. Note that inferential statistical tests were not undertaken.

Principally, the study provides useful guidance for future research and insight into audience perceptions and motivations.

**Remaining questions**

While the above is valuable in guiding future research, a number of key research questions remain unanswered. These include:

- Irrespective of alcohol consumption rates, is there significantly less anti-social behaviour in live music venues compared to non-live-music venues?
- Is there a difference in the level of alcohol consumption between attendees at live music venues, and patrons at non-live-music venues?
- Do patterns of alcohol consumption and anti-social behaviour within live music venues vary according to seasons, day of week, time of day, or geographic location?
- What is the effect of ticketing of live music events on rates of alcohol consumption and anti-social behaviour?
- How does programming affect relative risk of anti-social behaviour in live music venues?

**Future research recommendations**

The pilot study identified a potential link between live music and lowered rates of alcohol consumption. For conclusive evidence of this, a larger sample of live music events would have to be surveyed, or a different methodology involving controlled environments tested.

The mixed method approach undertaken in this pilot study could be used over a larger sample of venues to provide more robust data. The main limiting factor of this methodology is the limited frequency, and variable quality, of point of sale data.
available from venues-however-implementing a similar methodology over a larger sample size could yield sufficient results to support policy review and reform.

Any expanded research project would need to be undertaken across multiple jurisdictions—potentially nationally—and coordinated by a research team independent of both industry and regulatory interests. Given the likely need to recruit a significant quantity of live music venues willing and able to provide robust alcohol sales data, this may prove challenging.

The scope of the pilot study did not include analysis of anti-social behaviour. The City considers this to be an integral part of achieving a robust policy position regarding the effect of live music on alcohol consumption within live music venues. This research should be undertaken in tandem with, or in parallel to, the next phase of research into rates of alcohol consumption.

**Next steps**

The City will use these preliminary results to stimulate discussion with industry, government and researchers, with the aim of identifying parties able to undertake, participate in or contribute to future research.

Organisations interested in being briefed on the outcomes of the pilot study, discussing potential future research, providing feedback on this paper and pilot study or making the City aware of research not cited here can contact:

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Policy context

Introduction
In April 2014 the City of Sydney Council unanimously adopted the City of Sydney Live Music and Performance Action Plan 2014-2019. While produced primarily as part of the City’s cultural policy function out of recognition of live music and performance’s inherent cultural value, the City also recognises the broad economic and social value of live music and performance. Additionally, there are a range of policy and regulatory areas that the City is responsible for that affect live music and performance, such as development assessment, building regulation and strategic land use planning.

Given this broad policy profile, the City’s work to support live music and performance is closely related to a variety of strategic and policy documents, such as:

- Creative City: Cultural Policy and Action Plan
- OPEN Sydney: Future directions for Sydney at night
- Economic Development Strategy
- A City for All: Towards a socially just and resilient Sydney
- Central Sydney Planning Strategy
- Sydney Development Control Plan 2012
- Sydney Local Environmental Plan 2012
- Tourism Action Plan
- Compliance Policy and Guidelines
- Busking Policy and Guidelines

Live music and performance
The Live Music and Performance Action Plan focuses on four closely interrelated but essentially separate policy areas: development controls and noise, liquor licensing, building standards and construction codes and audience and sector development.

In Australia, liquor licensing plays a significant role in enabling or inhibiting programming live music in licensed venues. Most live music and performance venues could not exist without revenue from the sale of food and beverage. They rely heavily on alcohol sales as a primary source of income, as the net income derived from ticket sales will in most cases be significantly less than the income derived from the bar or kitchen.¹ As such, most live music and performance venues rely on a number of income streams that together attract sufficient patron numbers and revenue to sustain the business. Significant costs or ‘red tape’ requirements associated with any one of these streams has the capacity to reduce its appeal to business owners.

In addition, in almost all cases, live music venues have existed outside the established systems by which government grant funding is made available to support other forms of cultural activity and infrastructure.

Liquor licensing
In NSW it is broadly understood that liquor policy and regulation is the responsibility of the NSW Government. As noted above, however, liquor policy has significant and ¹ APRA AMCOS (2011) The Economic Contribution of Venue-based Live Music in Australia
deeply rooted interdependencies with other non-cultural policy and regulatory areas such as:

- trade and investment
- environmental planning
- public health
- building and construction
- transport
- events and tourism
- regional development

Like most of these policy areas, responsibility for regulating the venues that produce or sell liquor is shared between or across levels of government. For example, in order for a venue to be given a liquor licence by the NSW Government, they must first seek planning consent from a local council.

Given live music's dependency on alcohol revenue and the complex interrelationships between government policy and regulatory areas, it is common for decisions made by government to have significant impacts on live music and performance and by extension the cultural life of a city and its night time economy.

This has been most recently seen in the NSW Government’s suite of measures introduced through the Liquor Amendment Bill 2013 (commonly known as the ‘lock outs’). While designed to curb alcohol related violence, the impacts of the measures on the city’s live music and performance sector have been confirmed by independent review.² Lock outs specifically (no entry to the venue after a certain time, but alcohol service continues) cause significant challenges for live music venues not because live music is programmed up until closing, but because when ‘feature programming’ occurs (i.e. activity which attracts patrons and is the focus of their attention while at the venue), less money is generally made over the bar, and tickets will not usually make up the shortfall. As such, venues rely on the time period between when the feature programming concludes and the venue closes to make back revenue lost earlier in the evening. In order to avoid having to recoup this revenue by maximising the amount of alcohol sold to a captive audience, a key aspect of this is allowing patrons to replenish through a free flow of patrons in and out of the venue. Essentially, what the regulatory intervention seeks to curb (migration of patrons between venues and replenishment of patrons) is a key aspect what makes the business model viable.³

Similarly, the removal of a significant proportion of live music programming from a precinct in a short time period (whether as a result of regulatory intervention or market-based factors) will rarely result in similarly paced growth elsewhere in a metropolitan area. This is largely due to the time and investment required to develop the audience and business behaviours that produce organically developed cultural precincts. While government can play a role in supporting this process through targeted investment and a limited range of policy levers, it is generally agreed that meaningful cultural development in an urban context is led by industry or sub-cultural groups and influenced by a range of market based factors such as access to affordable space, transport and suitable demographics.

As part of the action plan, the City has committed to a range of actions designed to reduce costs and red tape associated with liquor licensing of live music venues. This includes undertaking research into the relationship between alcohol consumption, anti-social behaviour and live music and performance. The purpose of this commitment was for the City to contribute to the growing body of evidence

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surrounding rates of alcohol consumption in live music venues, with the aim of informing the City's own policy development as well as advocacy to the NSW Government in support of live music venues.
Literature Review

A preliminary literature review was undertaken to inform the development and refinement of the pilot study methodology, analysis of data and completion of this paper. Reporting of research outcomes in the literature review does not reflect the City of Sydney’s position or confirmation of the research’s veracity. Indeed, there are numerous instances of conflicting assertions across studies.

While there has been research into these areas, research focused on outdoor events or drug use outside of alcohol consumption was not included in the literature review due to the pilot study’s specific focus on alcohol consumption in licensed venues.

Factors that influence alcohol consumption

There is extensive national and international research evidence regarding the social, environmental and physical factors that influence alcohol consumption in licensed venues. Much of this research has focused on late night economies, conflict and anti-social behaviours and management and regulatory responses. The studies generally consider a range of night time venues where music is often utilised as part the business model. Despite the growing prominence of this research area, and while the studies often note differing characteristics between forms of entertainment – such as recorded vs. live music or between genres – there is little to no research that quantitatively explores the influence of live music on alcohol consumption.

There are a variety of factors that affect alcohol consumption in licensed venues. These include:

- the nature of venues including size and layout
- concentration of venues
- availability of food
- density of crowds
- patron profile
- price of drinks
- disinterest
- variety of social scenes and types of entertainment
- different times of day and night
- music genre
- music volume and tempo.

In research for the City of Sydney, Hadfield described variations in drinking patterns within an area in the same city. Variations may be influenced by the variability of social scenes, different attractions, different audiences, and different choices of substances consumed.4

The price of alcohol can have a significant impact on consumption in licensed venues, in particular venues which provide promotions or discounts on alcohol have observed increased consumption compared to venues which offer higher price points.5 It has also been suggested that high prices may result in pre-loading before attending events or premises.6

Density of licensed venues may influence amounts of alcohol consumed and alcohol related incidents. “The ‘bunching’ of bars, pubs and nightclubs, in particular, within a small geographical area has been linked to the promotion of heavy sessional drinking, and is associated with alcohol-related injuries, violence, and other short-term consequences related to concentrated drinking during discrete occasions”.7

Hadfield also identifies size and design of licensed premises as being associated with rates of alcohol related harm, with nightclubs and taverns/bars high risk venues. This is the case particularly with large venues.8

Availability of food has been linked to lower levels of intoxication and lower numbers of alcohol related incidents.9

Levels of comfort, adequate seating and overcrowding also affect levels of alcohol consumption.10

Hughes et al reported a range of factors associated with higher levels of alcohol consumption and harm include poor ventilation, poor cleanliness, crowding, noise, low lighting, high temperature, and poor maintenance and décor.11 This study suggested that social factors – such as a permissive atmosphere, drinks promotions and boredom – also influenced higher levels of consumption.12

A recent study undertaken by Fox and commissioned by industry considered the social factors influencing alcohol consumption and noted the disinhibiting effects of alcohol, the practice of celebratory drinking, use of alcohol in a ritualistic manner13 and the desire for social acceptance and being part of a group.14

A range of studies have focused on the impact of patron profile (in particular age, gender and ethnicity) on drinking patterns and alcohol consumption. It is widely accepted that younger males are more likely to drink to excess, resulting in higher rates of health and anti-social behaviour issues in that demographic group. It is also widely understood that various venues are focused on attracting a certain clientele through their design, environment, activities, promotions or the type of entertainment provided.15 Anecdotal evidence suggests a conscious policy in many licensed venues aiming for a mix of 60% female and 40% male patrons as the best ratio for avoiding alcohol fuelled anti-social behaviour.16

Evidence suggests that trading in the early hours of the morning also results in increased alcohol consumption and related harms.17 The above cited industry funded study of Australian and New Zealand night time economies proposed common patron profiles during three distinct time variations:

- from 8.30pm to 11.00pm – people who go out for a meal or drinks, followed by another activity such as a show, a movie or a live music event
- from 11.00pm to 3.00am – a younger crowd of heavier drinkers, many of whom started drinking before going out and some who are drug users

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7 Hadfield, P. 2011 Night-time Economy Management: International Research and Practice, p 20
8 Ibid p21
12 Ibid p41
14 Ibid p20, 23

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From 3.30am to 6.00am – clubbers, many of whom may be poly-substance users.\textsuperscript{18}

Fox further notes that the design of drinking environments can influence levels of intoxication and anti-social behaviour.\textsuperscript{19}

**Effect of music on alcohol consumption**

It is broadly accepted that the presence of music has an effect on alcohol consumption. Most research has focused on the effect of music on alcohol consumption through quasi-experimental lab-bar studies,\textsuperscript{20} observational studies or qualitative research involving industry participants, such as musicians. Little research has been undertaken specifically around the impact of live music on alcohol consumption and general behaviour.\textsuperscript{21}

There are a range of contradictory studies suggesting different effects of music on alcohol consumption in relation to a range of variables such as genre,\textsuperscript{22} sound level\textsuperscript{23} and tempo.\textsuperscript{24}

An expansive literature review into environmental factors affecting alcohol consumption undertaken by Hughes et al identified that loud music had been linked to faster increased intoxication in Canada, faster drinking speed in the Netherlands and greater alcohol consumption France, but to lower levels of over serving in Sweden.\textsuperscript{25}

Research conducted by Homel, Tomsen and Thomenny suggest that entertained crowds are less hostile and drink more slowly.\textsuperscript{26} In contrast, research focused on music in Glaswegian pubs and clubs performed by Forsyth and Cloonan found that certain music and related entertainments “seemed to encourage drinking and could even act as catalysts for disorder.”\textsuperscript{27}

Forsyth and Cloonan focused on recorded background music, music played by DJs and karaoke specifically in pubs in Glasgow. Other factors may have influenced behaviour at these venues including size, with a number of venues in the study described as “super pubs”. In addition Forsyth and Cloonan note “here popular music was being used as part of a wider marketing strategy, rather than as a focus in and of itself.” They found alcohol related disturbances particularly related to disputes around karaoke and dance floor disputes.

There is evidence to suggest that entertainers – whether musicians, DJs or other performing artists – themselves play a significant and under-researched role in rates of alcohol consumption. In particular, their ability to retain patrons of a certain type, or discourage patrons outside the venue’s target demographic.\textsuperscript{28} More specifically, a

\begin{thebibliography}{99}
\bibitem{18}Fox, Dr A. (2015) *Understanding behaviour in the Australian and New Zealand night-time economies: An anthropological study*, p 18. Lion.
\bibitem{19}Fox, Dr A. (2015) *Understanding behaviour in the Australian and New Zealand night-time economies: An anthropological study*, p74. Lion.
\bibitem{20}J. Lennox & A. Forsyth, (2015) *Assessing the role that entertainers play in alcohol marketing and the maintenance of good order within on-trade licensed premises* p12
\bibitem{21}University of Tasmania (2015) *The Economic and Cultural Value of Live Music in Australia*, p12. Live Music Office, City of Sydney, South Australian Government, City of Melbourne
\bibitem{22}Engels, R.C., Poelen E.A, Spijkerman R, Ter Bogt, T (2012) *The effects of music genre on young people's alcohol consumption: an experimental observational study*
\bibitem{25}Hughes et al, p40
\bibitem{27}Forsyth, A and Cloonan, M (2008) *Alco-Pop? The Use of Popular Music in Glasgow Pubs*, Popular Music and Society
\bibitem{28}Lennox A & Forsyth A, (2015) *Assessing the role that entertainers play in alcohol marketing and the maintenance of good order within on-trade licensed premises*
\end{thebibliography}
range of actions and techniques have been cited as able to be employed by musicians to influence the amount and type of alcohol being consumed, including:

- directly telling patrons to go to the bar\(^{29}\)
- modelling behaviour by drinking on-stage themselves\(^{30}\)
- playing particular types of music or tempos\(^{31}\)
- including sufficiently regular and long breaks between songs or sets and including less attention-focusing material in their set\(^{32}\)

Qualitative research with entertainers communicates that while it is very rare for there to be a complete lack of alcohol in venues, it was not in the interests of performers to promote excessive alcohol consumption, and that the optimum situation for them involved a moderate amount of alcohol being consumed, something deemed most achievable at more expensive, entertainment-focused venues.\(^{33}\)

Carter and Muller, in the University of Tasmania’s 2014 research into the economic and cultural value of live music identify that, while evidence of negative health outcomes directly attributable to live music attendance were absent from their research, in undertaking it they noted an anecdotal correlation between live music and excess alcohol consumption, tobacco, illicit drug use and exposure to noise, however cautioning that the extent to which these are causal or population attributable risks is not known, and an important possible direction for the future research.\(^{34}\) Other research suggests that this may relate to exposure to licensed environments, paired with a culture of acceptance and expectation around music industry lifestyles.\(^{35}\)

A study undertaken by Stafford, Fernandes and Agobiani\(^{36}\) found music affected peoples’ perceptions of taste with alcoholic drinks tasting sweeter for those listening to music and decreasing peoples’ ability to judge the alcoholic strength of a drink.

**Effect of music types on alcohol consumption**

Research has demonstrated links between alcohol consumption and types of music played. For example classical music played in restaurants has been shown to increase monetary spending on food and drinks by price; drinking songs tend to increase the amount of time spent in the bar and the amount of money spent.\(^{37}\)

Geugen et al found that music at high volumes increases the amount of alcohol consumed and fast tempo music decreases the time taken to consume a glass of alcohol. Possible reasons suggested for this were: the “arousal hypothesis” that higher sound levels led to higher arousal resulting in faster, higher levels of alcohol consumption; and the suggestion that loud music may inhibit social interaction thus increasing the focus on drinking.\(^{38}\) It was also suggested that loud music may create frustration for customers attempting to be served increasing the potential for

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\(^{29}\) Lennox A & Forsyth A. (2015) Assessing the role that entertainers play in alcohol marketing and the maintenance of good order within on-trade licensed premises p 39
\(^{30}\) Ibid p 41
\(^{31}\) Ibid p 40
\(^{32}\) Ibid p 40
\(^{33}\) Ibid p 60
\(^{34}\) University of Tasmania (2015) The Economic and Cultural Value of Live Music in Australia, p12. Live Music Office, City of Sydney, South Australian Government, City of Melbourne p37
\(^{35}\) Lennox A & Forsyth A. (2015) Assessing the role that entertainers play in alcohol marketing and the maintenance of good order within on-trade licensed premises
conflict. However, it is noted that these studies have been undertaken where the primary activity is alcohol consumption and loud music is recorded rather than live. Homel and Tomsen noted that music of a poor quality, when played loud can increase alcohol consumption and associated incidents.


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Pilot study: alcohol consumption

Introduction
In 2015 the City developed a research brief to undertake a pilot study considering rates of alcohol consumption in live music venues. The brief was put out to quote and awarded to Urbis. To stimulate discussion with potential future partners in an expanded research project, this paper describes the research methodology and aggregated data from that study.

To protect commercial in confidence information Urbis ensured that all alcohol sales data reported could not be linked to specific venues. The City received only de-identified and aggregated data. Raw identifiable data associated with the study was destroyed upon completion of the study, in accordance with the contract between the City of Sydney and Urbis.

The research questions that the study sought to answer were:

1. Does live music programming have an effect on the amount of alcohol consumed in licensed premises?
2. How do patterns of alcohol consumption within live music venues vary by time (i.e. pre-performance, during performance, post-performance)?
3. How can the impact of live music on alcohol consumption be tested further?

Methodology

| Stage One: Project Inception and Planning | • Inception meeting  
<table>
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| Stage Two: Research and Fieldwork planning | • Literature review  
|                                        | • Define study parameters  
|                                        | • Venue engagement  
|                                        | • Fieldwork management plan  
|                                        | • Safe Work Plan |
| Stage Three: Fieldwork | • Pilot survey  
| | • Data collection:  
| | • Venue POS data  
| | • Intercept surveys  
| | • Observation surveys  
| | • Post fieldwork briefing |
| Stage Four: Analysis | • Review of patterns for key indicators  
| | • Recommendations for further research |
| Stage Five: Reporting | • Draft report  
| | • Final report |
Key details of the pilot study methodology

In a study to determine the impact of one factor (live music) on another factor (alcohol consumption) it is important to ensure all other factors that can influence the relationship are controlled for. One of the key factors which can influence this relationship is the venue itself. This can impact on the type of live music performance, the profile of patrons, and the environment for alcohol consumption. As such, the proposed methodology aimed to collect data at all venues twice, once during a live music event, and once during a non-live music event. It was hoped this would control for a range of venue based factors, with the non-live music event acting as a baseline from which the data collected during a live music event could be compared against.

After the study was initiated, constraints regarding the participation of venues emerged. A number of the venues specialised solely in live music performances and did not offer events without live music, meaning that baseline data of a comparative non-live music event was impossible to collect.

The study was adapted to expand the research focus to alcohol consumption at live music events comparing consumption before, during (including set breaks) and after music performance. As such it was not possible to record both a live music, and non-live music, event in the same venue. This is a limiting factor to this study.

Parameters for participating venues include:

- small to medium sized (100-700 capacity) venues
- a range of contemporary music genres including rock, soul/funk, folk, indie, heavy metal, hip hop, jazz, blues, punk and electronic
- Both ticketed and non-ticketed events (it was not possible to gain an even distribution of ticketed and non-ticketed events)

In total eight venues agreed to participate and 18 events were studied.

Fieldwork was undertaken by teams of two researchers. All researchers were fully briefed and trained prior to undertaking fieldwork.

Each fieldwork event was scheduled to last for 5 hours, commencing 1 hour before the live music performance and finishing 1 hour after the end of the set. This was to provide before and after set comparison points. This was not possible in all circumstances due to opening and closing times for the venue.

A pilot was conducted at one event prior to full roll out to test the fieldwork process and materials. The data from this venue are included in the overall study as only minor amendments to fieldwork materials were required.

Point of sale (POS) data was requested from venue management. Venues provided POS data on the number of alcoholic drinks sold in at least 30 minute intervals for the duration of the fieldwork visit. The quality, level of detail, and frequency of data varied greatly by venue. To protect the identities of the venues, no identifying details are reported and all data was aggregated.

The observation survey and intercept surveys were undertaken by the fieldwork surveyors. The observation survey was collected every 15 minutes and included data on:

- number of patrons
- live music set times
- number of people queuing at the bar
- ratio of people seating vs standing
number of bar staff
- estimated gender split
- patron activity

A patron intercept survey was undertaken with patrons at the venue before and after the live music event. Intercept surveys were voluntary and no identifying details were collected.

**Study limitations**

There are a large number of factors which can influence alcohol consumption in licensed premises. It would require significant resources and timeframes, beyond the scope of the pilot study, to control for all such factors. While the pilot study has aimed to control for these factors as much as possible by visiting all venues twice, there remains a number of factors which could not be controlled for.

The following limitations are likely to have influenced data arising from the study. The City has released this paper as a means of stimulating discussion regarding future research. To achieve meaningful and usable results, any future research would need to address the limitations outlined below.

**Nature of the pilot study**

This pilot study was designed to be small-scale and conducted within a limited timeframe. The pilot study research brief sought exploratory research to consider the potential impact of live music on alcohol consumption and behaviours. The research aimed to assess available data and patron behaviours in a small number of venues with the principal purpose of delivering preliminary data and informing the development of a research methodology for subsequent, broader application. The research provides a snapshot of activity from participating venues. It does not represent a large scale study of live music venues across Sydney.

**Sample size**

In total, eight live music venues agreed to take part in the pilot study, and 18 events were surveyed. This sample size is not significant enough to draw robust, statistically significant conclusions from. Inferential significance testing was not undertaken.

**Timing**

While most events started and finished at similar times (e.g. 19:00 start, midnight finish), this was not the case with all events, with some starting earlier, and others finishing later. The impact of time of the day on the rate of alcohol consumption was not considered in this study.

**Day of the week**

Events occurred across a number of days. It is anticipated that the day of the week may have an impact on alcohol consumption rates, with consumption higher on a weekend (e.g. Friday or Saturday) compared to a week day (Tuesday or Thursday). The impact of the day of the week on alcohol consumption has not been assessed in this pilot study.

**Seasonal variation**

The fieldwork was spread across a four month period, including events during the summer holiday period (December). It is anticipated that rates of alcohol
consumption may be influenced by such seasonal factors. This pilot study has not assessed the impact of seasonal variation on alcohol consumption rates.

**Non-live music baseline events**

As discussed above, it was not possible to observe a baseline, non-live music event at each venue.

**Non-ticketed events**

Only two non-ticketed live music events were included in the fieldwork. It is possible that audiences who have paid for a ticket are more likely to be engaged in the performance, and therefore potentially drink less, compared to non-ticketed events. This pilot study has not assessed the impact of ticketed vs non-ticketed events on alcohol consumption.

**Impact of genre, ancillary activities and type of venue upon alcohol consumption and behaviour**

The research literature has suggested that musical genre, ancillary activities and the type and size of a venue may be factors that influence alcohol consumption and behaviour. While data has been recorded on these factors, it has not been possible within the scope of this research to consider the impact of these additional factors.

**Sales data**

Sales data was used to assess the rate of sale of alcohol pre, during and post a live music performance. Importantly, sales data does not reflect the alcoholic volume of drinks sold, and may include drinks of different size and strength. In addition, sales data was provided in aggregated form, in 30 minute intervals for the bar in the performance space, and only reflects purchases of alcohol at the bar in question. Sales data does not reflect revenue from ancillary activities (such as dining or other entertainment) elsewhere in the venue. This data should therefore not be assumed to reflect venue revenue. Sales data also does not allow for price of alcoholic drinks to be taken into account in sales rates or total sales. This may have a large impact on sales. Finally this reports alcohol sales, not consumption, and assumes drinks purchased were consumed in the venue by patrons.

**Sensitivity of data**

Due to limited sample size for some study elements (e.g. alcohol consumption analysis using point of sale data), the data and analysis presented in this report is sensitive to minor variations which could significantly change analysis of the data. Research involving a larger sample of venues over an extended period of time would yield more sales data and enable more extensive analysis and statistical testing.

**Overview of participating venues**

In total, data was collected for eight venues and 18 events including:

- 14 live music events
- 4 non-live music events.

Venues of various types where included in the study – including larger clubs with mainly standing capacity, seated venues with dinner service, smaller independent live music venues, community clubs, pubs and bars supporting local artists.
Capacity of venues ranged from small venues of 50 to 70 patrons, to larger clubs with up to 700 patrons.

Most events (7) were recorded in January 2016, five were recorded in February 2016, and four were recorded in December 2015. The summer holiday season may have had an impact on the rate of alcohol consumption compared to other times of the year.

Of the 18 events recorded, 15 were observed over the weekend (nine on a Friday, four on a Saturday, and two on a Sunday). The remaining three events occurred on a weekday.

Start times for fieldwork varied, with the earliest visits commencing at 17:00, for a non-live music event, and the earliest live performance event commencing at 20:15, with three events starting at this time.

The latest fieldwork finished was 01:45, and the latest a live music performance finished was midnight, with two events finishing at this time.

Most events (12) were ticketed events, with event prices ranging from $60 per ticket (five events) to $10.

A wide range of contemporary music genres were included in survey events, including rock, soul/funk, folk, indie, heavy metal, hip hop, jazz, blues, punk and electronic.

This pilot study cannot account for variations associated with the time of year, weekly variations, of ticketed vs non-ticketed events.
Preliminary Data

The following section presents the aggregated average data for all venues and all events surveyed as part of the pilot study. This section focuses on the analysis of key indicators to provide insight into potential trends of alcohol consumption and the impact of live music.

Aggregating data in this way allows comparison between common indicators including the number of alcoholic drinks consumed per patron across all events, and allows analysis of the impact of live music on these indicators for all venues. It does not attempt to compare different venues with each other.

Aggregating data in such a way can exacerbate issues associated with data sensitivity, and may allow outlier data to skew results. As the City is not reporting data from individual venues or events, caution must be taken in reviewing the data presented. Further research with a larger sample of test venues would mitigate this sensitivity.

Preliminary data: live music vs non-live music events

Figure 4 presents the average number of alcoholic drinks sold per person over a 30 minute period for all venues, and compares this to events when live music was programmed, and when it was not.

Across all venues (eight venues) and events (18 events), the average number of alcoholic drinks sold was 0.61 drinks per person per 30 minutes. This equates to over one drink (1.22) per person per hour.

For those events (14 events) when live music was programmed (including before, after and during the performance), the average number of alcoholic drinks sold was 0.54 drinks per person per 30 minutes, which equates to just over one drink (1.08) per person per hour. In comparison, the average for events (4 events41) when no live music was programmed was much higher, at a rate of 0.96 drinks per person per 30 minutes, equivalent to close to two drinks (1.92) per person per hour.

While this suggests that the average number of alcoholic drinks per person was lower for events where live music was programmed (compared to venues where no live music was programmed), there are a number of factors to be considered. They include:

• this is based on a larger sample of live music events (14) compared to non-live music events (four)

41 This includes data from the DJ lounge recorded during Event A
• the non-live music events were recorded at only four venues, compared to eight venues which only had live music events.

Preliminary data: during live music vs no live music

Figure 5 presents the average number of alcoholic drinks sold per person over a 30 minute period when live music was being performed (i.e. when a band/act was playing) compared to all other times during the evening (i.e. when live music was not being performed). These figures do not include events for which no live music was programmed\(^\text{42}\).

During a live music performance the average number of alcoholic drinks sold was 0.49 drinks per person per 30 minutes, equivalent to less than one drink (0.98) per person per hour. When live music was not being performed (i.e. before, during a break, or after a performance), the number of drinks sold increased to 0.58 drinks per person per 30 minutes (equivalent to 1.16 per person per hour).

FIGURE 5 – AVERAGE ALCOHOL SALES PER PERSON PER 30 MINUTES – DURING LIVE MUSIC PERFORMANCE VS NO LIVE MUSIC PLAYING

This suggests that on the night of a live music event, the average number of alcoholic drinks sold per person was lower when live music was being performed compared to other times. This finding is supported by the literature review which suggests the potential for live music performance to lower patrons’ consumption of alcohol.

A detailed analysis of this relationship is limited due to the low frequency of POS data available from venues. Sales data does not align with set times for live music. For example, a performance may have commenced at 21:15, however sales data was only available at 21:00 or 21:30. Higher frequency sales data would allow further in-depth analysis into the impact of live music on alcohol sales rates.

Preliminary data: before, during and after live music performance

Figure 6 represents the rate of alcoholic drink sales recorded before, after, and during a break in live music performance. These figures do not include events for which no live music was programmed.

This indicates that for live music events, the highest rate of alcoholic drinks consumed occurred before the performance commenced, at 0.61 drinks per person per 30 minutes. For events when a break in live music was recorded, and for those events which continued serving alcohol following the end of the live music performance, the rate of alcohol sales per person per 30 minutes was similar (0.51 and 0.54 drinks per person per 30 minutes respectively).

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\(^{42}\) Event J, L, N and O
This suggests that during a live music event, the rate of alcohol consumption is lowest while the band/artist is playing and highest before the event as people are arriving. Again this is supported by the literature review and observations made during the fieldwork.

However, a comprehensive comparison between different times of the event must consider:

- some venues closed immediately after the performance
- some events did not include a break in live music performance
- the frequency of POS data does not allow for a full analysis of the impact of set performance times on rate of alcohol sales
- the duration of the before, during, break and after live music periods differs considerably between venues.

A larger sample of venues and events is required to confirm if this trend is significant.

**Patron intercept survey**

This section presents data derived from an the intercept survey with patrons in live music venues.

**Preliminary data analysis**

In total 212 people took part in the intercept survey, with a relatively even distribution of respondents across all venues and events.

While surveyors attempted to interview a broad cross section of the patron profile within each venue, no conclusions can be drawn on the representativeness of this sample due to the number of patrons across all events.

While the average age of respondents was 36 years, the largest proportion of respondents were from age groups either side of this average, with a high proportion of respondents from younger (21% 25-29 years, 18% 20-24 years) and older (16% 50-59 years) age groups.

- Over half of all respondents were female (53%).
- Most (81%) were employed either full or part time, and 12% were students.
- Most (78%) respondents were at the event with friends or a partner.
- Most (70%) were there with 1 or 2 other people.
- Respondents were highly engaged in the live music event:
  - 62% had been to the live music venue before
  - 75% had come to the venue for the primary reason of seeing the live music act
66% knew of the band/artist they were seeing, and over half (55%) were fans of the act. Most respondents (92%) attend live music events at least once a year, with over half (55%) attending live music monthly or weekly.

This level of engagement and interest in live music suggests that the primary reason for people to attend live music venues is to see the performance, rather than to drink or socialise. This may have an impact on the level of alcohol consumption, as drinking is not a primary reason for attendance. Further research is required into patron drivers in non-live music venues.

Overall, respondents were generally entertained by the live music performance and comfortable within the live music venue:

- Discounting patrons who were surveyed before the performance, 80% of respondents rated the act they had seen as good. This may be due to the large proportion of respondents who were fans of the acts (55%)
- 85% of respondents thought the quality of the venue was good
- 80% of respondents felt the level of comfort in the venue was good.

As indicated in the literature review, research suggests that the level of comfort in a venue (e.g. temperature, crowding, noise etc.), and quality of the entertainment can have an impact on the level of alcohol consumed. Future research may seek to further assess venue ratings from patrons before and after events.

While the primary reason for visiting the venue was to see live music, most respondents intended to drink alcohol as part of their evening:

- 82% of respondents had an alcoholic drink at the venue
- just under half of these respondents had an alcoholic drink before coming to the venue
- 76% of respondents indicated that they did not intend to continue drinking after leaving the venue
- 73% of respondents who intended to drink, thought they would consume between 2-5 drinks during the whole evening.

Analysis of Australian Institute of Health and Welfare (AIHW) data undertaken by the National Centre of Education and Training on Addiction identifies that on a single occasion of drinking, the majority of Australians (59%) usually consume 4 or less standard drinks. A single occasion of drinking is defined as ‘any time a person consumes one or more drinks containing alcohol, and during this period of time their blood alcohol concentration (BAC) does not return to zero’. This includes drinking at home, which the AIHW identifies as the primary venue (80%) for drinking by Australian adults.

Research undertaken by Miller et al into drinking undertaken in Australian night-time entertainment precincts identified a median of 7 standard drinks had been consumed by participants when surveyed (a median of 4 hours into their evening). In this study 39 per cent of participants identified ‘socialising with friends/family’ as their

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primary motivation for going out, with 3 per cent of participants involved in the study identifying ‘see band/DJ/performance’ and 2 per cent identifying ‘dancing’.

Within the pilot study commissioned by the City, to provide a median number of drinks that patrons expected to consume across their evening, researchers used responses to the intercept survey question “Overall, how many drinks do you think you will have this evening?” This question provided response categories. For the purpose of converting categorical variables to a numeric, and to identify the most conservative result, the assumption was made that each response represented the highest number of drinks possible within its category, as follows:

- None = 0 drinks (1 respondent)
- 2-3 drinks = 3 drinks (10 respondents)
- 4-5 drinks = 5 drinks (79 respondents)
- 6-10 drinks = 10 drinks (49 respondents)
- More than 10 drinks = 11 drinks (13 respondents)
- Can’t say, refused and no response = not counted

From this process, the median number of drinks that participants expected to consume across their evening was 3.

This suggests that the majority of live music audiences surveyed for this research were likely to consume less than the median of standard drinks consumed by patrons at other types of venues in night-time entertainment precincts. Further, that live music venue patrons’ alcohol consumption is broadly in line with the national average of standard drinks consumed in one sitting reported by the AIHW. However, the limitations of the pilot, especially the inability to discern alcoholic content from POS data, mean that these observations cannot be generalised. Future research should attempt to address these limitations.

Over two fifths (42%) of respondents thought that live music either makes people drink less or has no impact on alcohol consumption. The main reason provided by respondents was that patrons are being entertained and are focused on the performance rather than consuming alcohol.

One quarter (23%) of respondents suggested that live music may make people drink more as people want to relax, unwind, and to enhance the experience of watching the performance.

The vast majority of respondents (89%) suggested that live music has a positive impact on the culture and character of the night time economy. Positive impacts identified ranged from social, personal, cultural, economic and environmental. Typical responses included the ability of live music to bring people together, provide a unique and appealing entertainment, and contribute to the vibrancy and safety of the night time economy.

Summary

This paper presents analysis of preliminary data from an independent pilot study funded by the City of Sydney on rates of alcohol consumption in live music venues. While analysis of the data does not allow for a conclusive result due to a range of significant limitations, the data indicates a possible link between live music and lower overall alcohol consumption by patrons in licensed premises.
Future research into the topic should be undertaken with a focus on addressing the limitations of the pilot and incorporating additional quantitative research into rates of anti-social behaviour.

The City is interested in fostering further discussion on this subject and will use these preliminary results to stimulate discussion with industry, government and researchers. The intent of this discussion will be to identify what the appropriate next steps for research are, as well as what parties able to undertake, participate in or contribute to future research.
Appendix A - detailed survey data

The following section presents a breakdown of responses to the intercept survey questionnaire.

A total of 212\(^{46}\) people were interviewed across all venues and event.

**Have you been to this venue before?**

Most respondents (62\%) had been to the venue before.

![Pie chart showing 62\% Yes and 38\% No](chart.png)

**What is the main reason you came here tonight?**

Three quarters (75\%) of respondents said that the main reason for visiting the venue was to see live music.

![Bar chart showing reasons for visiting](chart.png)

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\(^{46}\) Not all (212) participants answered every question in the survey. Some skipped due to question logic, and others refused to answer. Hence, base numbers differ for each question.
Do you know of the band/artist you are seeing tonight?

Two thirds (66%) of respondents were either a fan or knew of the band/artist they were seeing.

One quarter (25%) did not know the band/artist.

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How often do you go out to watch Live Music?

Most respondents (92%) said that they attend live music events at least once a year.

More than half (55%) watch live music on a monthly or weekly basis.

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Overall how would you rate the quality of the live music performance tonight?

Close to two thirds of respondents (64%) did not answer this question because they were surveyed before the live music act.

Of those, who did respond, four fifths (80%) rated the performance as good, with none rating the performance as poor.

It is anticipated that this high rating may be due to the high proportion of respondents who were fans of the acts they were seeing (55%).

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Overall how would you rate the quality of the venue?
Less than a third (32%) of the respondents did not answer this question because they had just arrived and had never been to the venue.

Out of the respondents who did answer this question, 85% thought the venue was good and 13% thought it was average.

Overall how would you rate your comfort in the venue tonight?

Almost one quarter (24%) of respondents did not answer this question because it was their first time at the venue.

Out of the people who answered this question, 80% think the comfort of the venue is good and 17% think it is average.

How did you get here tonight?

Two fifths (40%) of respondents had come to the venue by foot, followed by one third (35%) by private car.

How do you intend to get home?
By comparison, when asked about returning home, a similar proportion of respondents indicated they intended to get home by private car (35%).

A smaller proportion suggested they would get home on foot (33%), rail (23%) or taxi (17%).

![Percentage of respondents by mode of transport](chart)

**Have you had an alcoholic drink tonight?**

Most of the survey participants (82%) had had an alcoholic drink.

![Alcoholic drink consumption](chart)

**If No, why you have not had an alcoholic drink tonight?**

Of those who had not had an alcoholic drink that night, 46% said that it was due to personal preferences.

Close to a quarter (24%) did not specify a reason.

Slightly more than one fifth (22%) said they were driving a vehicle.

**If yes, did you have an alcoholic drink before coming here tonight?**

Of those who said they were drinking, about half (51%) said they had not had an alcoholic drink before arriving at the venue/event.
If yes, how many alcoholic drinks have you had before arriving?

Of those who said that they had an alcoholic drink before arriving, close to half (49%) said that they had had between 2 and 3 drinks before arriving and 18% said they had had four or more.

Where did you have a drink?

Over half (53%) of those who had had a drink before the venue had done so in a local venue

Over one quarter (28%) had had a drink at home.

Have you had an alcoholic drink at the venue tonight?

Most respondents (86%) who were drinking had already had an alcoholic drink at the venue.
If yes, how many (alcoholic drinks) have you had?
Half (51%) of the respondents to this question said they had only had one drink at the venue.
Slightly less than two fifths (39%) of respondents had had between two and three drinks.

Do you intend to go out drinking after?
More than three quarters (76%) of respondents to this question said they were not intending to go drinking after leaving the venue.

Where do you intend to go drinking?
Of those who intended to go out drinking after (n=26) half (50%) intended to go to another local venue.
Overall, how many alcoholic drinks do you think you will have in total this evening?

Almost half (45%) of the respondents to this question said they were intending to have two to three drinks that night.

How much have you spent on alcohol tonight?

On third (34%) of respondents had spent less than $20, however this may be a high proportion due to people only just arriving at the venue. A similar proportion (34%) of respondents had spent over $41 on alcohol. However, some respondents replied to this question as how much they intended to spend, rather than how much they had already spent on alcohol.

Have you taken any other recreational substances this evening?

Out of the 211 people who responded to this question, 96% said they had not taken any recreational substances different from alcohol.
Who are you here with tonight?
Out of the 212 people who took the survey, 46% said they were at the venue/event with friends, 32% with their partner and 15% with family.

How many people are you with?
Most (70%) of respondents to the survey said they were at the event with one or two people.

How old are you?
More than half (53%) of respondents were between 20 and 34 years of age
More than one fifth (21%) of the respondents were aged over 50.
What is your gender?
More than half (53%) of respondents were female.

Employment status
Most (85%) of the respondents were employed (either full or part time) at the time of the survey.
In your opinion, what impact does live music have on alcohol consumption?

Respondents were asked, in their opinion, what impact live music had on the amount of alcohol people drink. This was an open ended question and respondents were asked to write down their response.

Analysis of the open ended questions indicates that:

- Over two fifths (42%) of respondents suggested the Live Music either makes people drink less (23%) or had no impact on alcohol consumption (19%)
- Over one third (38%) of respondents thought that live music would make people drink more alcohol.

Most respondents who thought that live music makes people drink more suggested that this was due to the desire to drink while watching music, to relax, unwind and enhance the experience of watching live music. Selected comments include:

- “It helps to get you in the vibe”
- “I guess more if it means they stay at a venue for longer, but less than simply going to a bar to only drink.”
- “More, depending on venue and genre. I usually don’t drink much if at all”
- “If the concert its good I think people would drink more”
- “Probably drink more than they would on an evening at home, but less than if they went out to pubs/clubs with mates.”
- “I like to drink on a night out and I like to make a night of live music, ipso facto I drink when I see live music, but definitely more during the intermissions”

Most respondents who thought that live music makes people drink less suggested that this was due to people being entertained and focused on the performance, rather than consuming alcohol. Selected comments include:

- “People drink less while they are watching live music as they are not as focused on drinking as they are on seeing the bands.”
- “I think people drink less - they have something else to focus on.”
- “People drink less if they are really enjoying the music. I would drink less as compared to a night out at a club/listening to a DJ”
- “Less, people who are out to see a live performance generally see the live music as the sole purpose of their night so they will drink less than a person who is going out specifically to drink”
- “People definitely drink less when there is live music. If there is no live music drinking and talking are the focus of the night but when there is live music, the music becomes the focus and drinking takes a back seat.”
Typical comments from people who thought that live music had no impact on alcohol consumption include:

- “I don't think live music impacts the amount people drink at all.”
- “For me personally it has no impact, I come for the music.”
- “I think the person would probably be drinking regardless. Live music doesn’t affect my consumption.”
- “No, love the music don’t have to drink to enjoy”
- “Nah good music is good without alcohol. But booze makes **** music better”

What impact does live music have on the culture or character of the night time economy?

Respondents were asked, in their opinion, what impact did live music have on the culture, or character of the night time economy, or on patrons’ behaviour. This was an open ended question and respondents were asked to write down their response.

Analysis of the open ended questions indicates that:

- The vast majority of respondents (89%) suggested that live music has an overall positive impact on the night time economy
- Fewer than one in twelve respondents suggested they could not say
- One respondent, suggested that live music may have a negative impact. This comment related to people getting in the way while dancing.

Selected comments from respondents include:

- “Better for the economy, brings people out into the area, music creates good vibes and positive atmosphere”
- “Enormous positive impact because music touches all of us and it’s an expression of a craft. The enjoyment of a person's ability. It’s a form of communication.”
- “Gives the city a living/vibrant feel.”
- “I believe there are less fights and brawls when people are out listening to the music/ bands they love....”
- “I think having live music is so integral to the makeup of a city. I feel like Social media has enabled a lot of venues to push what they have going on which is amazing for boosting and continuing to develop our reputation as a cultural city. I don’t believe live music breeds the same type of antisocial behaviour as other types of activities do (i.e. clubbing)”
"I think live music greatly enhances Sydney’s cultural life, and wish there were more opportunities available to see bands."

"It dramatically increases the cultural quality of the night time economy, but also promotes a community around music."

"It encourages social interaction which is really positive. Mostly it encourages a social intercourse – people talk and interact. Encourages people to relax."

"Positive thing – because it’s culture. [The] music scene [is] seen as dying but people are still working really hard in the industry. It’s an art form. It’s really positive."