



BANKWEST CURTIN ECONOMICS CENTRE

CREATIVITY AT THE CROSSROADS?

The creative industries in Western Australia

Focus on Industry Series, No. 6
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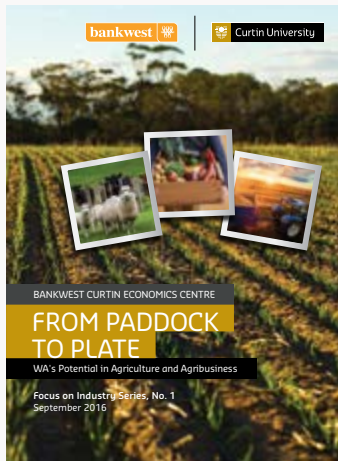
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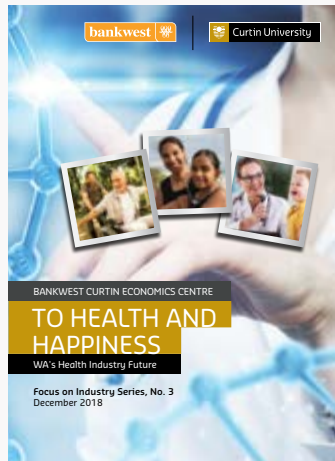
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BCEC REPORT SERIES

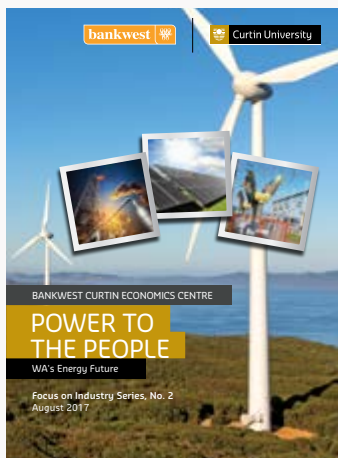
2016



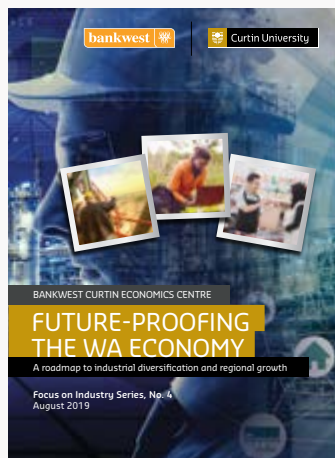
2017



2018



2019



2020



FOREWORD



The Bankwest Curtin Economics Centre's *Focus on Industry* report series provides in-depth, empirical analyses and evidence on industry sectors and issues of importance to Western Australia. For the most part, these have been compiled against the backdrop of a thriving, commodity-based WA economy, and a common theme has been to identify diversification opportunities and to contemplate 'life after the boom'.

Some of those same considerations shaped the decision to focus on the creative industries. Global and national economic trends reveal that creativity and innovation are at the heart of competitive advantage in leading economies and organisations. The emerging economic order is restructuring around the need to cultivate and capture the rewards from creative workers.

The creative industries do offer growing opportunities for diversification, and it is timely to consider how WA is positioned as a creative economy. However, there is also a more direct motivation for considering the creative industries, and that is the very significant effect that cultural and artistic production has on our quality and way of life.

Art and culture contribute to and enrich our everyday lives. From the music we hear, to the movies we watch, to the game we just downloaded. Live events and festivals bring our communities together. Artistic and cultural expression originating from local communities establishes, perpetuates and unpacks our unique sense of who we are as Western Australians. It enables us to learn about, embrace and celebrate the States' rich diversity of Indigenous cultures.

The onset of COVID-19 laid bare the vulnerability of this vibrant sector – while essential to our everyday lives, many were overlooked for support in the original 'gig' economy. What happened to our artists: did they barely survive or did they in fact thrive?

Creativity at the crossroads? Creative Industries in WA is the sixth report in our *Focus on Industry* series. With the boundaries of the sector defying definition by standard statistical collections, our analysis has taken a more conceptual view of what are broadly termed 'creative industries' and 'creative workers', covering the more traditional arts through to newly emerging creative activities, such as digital design and software development for gaming.

This report explores the contributions that the creative industries sector makes to WA's economy and society, and the strengths, opportunities and challenges faced by creative entrepreneurs and workers in this State.

Through the report, we aim to stimulate discussion and policy recommendations on how best to position WA as a creative economy, and to promote an environment for the creative industries to flourish to the benefit of all West Australians.

A stylized, handwritten signature in black ink, likely belonging to Professor Alan Duncan.

Professor Alan Duncan
Director, Bankwest Curtin Economics Centre
Curtin Business School, Curtin University

EXECUTIVE SUMMARY

The creative enterprises and creative workers represent a resource with great potential for diversifying and growing the Western Australian economy, and simultaneously enhancing the quality of life of Western Australians. Creativity is increasingly recognised as a critical factor of production in the emerging 'knowledge economy'. While the boundaries of the creative sector are hard to define, by any measure chosen, evidence points to employment in creative work in Australia growing at around twice the pace of overall employment growth, in line with long-term international trends.

Recognition of the importance of creativity and innovation has engendered a broader notion of creative industries beyond 'traditional' arts and culture. Advances in information and communications technology (ICT) have radically transformed the nature of creative production and consumption, generating new genres such as gaming, and ICT-based work has been a major driver of growth in the creative industries. At the national level, however, employment in the traditional arts is also growing rapidly.

As a creative economy, WA lags well behind the rest of the country, and particularly the three most populous states. Trends in data up until the 2016 census suggest that, if anything, WA has been slipping further behind. This applies almost across all sectors within the creative industries. The relatively small industry of jewellery and silverware manufacturing is the one notable exception in which WA has relatively high output.

In contrast, Western Australians are enthusiastic consumers of the arts and culture, and on par with other Australians in terms of active participation. Western Australians highly perceive that engagement as providing significant personal and social value. Empirical analysis finds attendance at performing arts events is associated with better mental and physical health, and this is mediated through a greater sense of social and community connectedness.

In WA, the wealthy, young and more educated are more likely to engage in arts and culture, with cinemas and live music the most common formats. Women are more likely to attend cultural venues, such as museums and art galleries, but there is little difference in attendance rates by gender for live performance events. Within the metropolitan area, the major barrier to attending arts and cultural events is ticket prices. Attendance rates are much lower in the regions, where accessibility is the key barrier.

COVID-19 has had a major impact on artists and audiences, most notably for live performances. However, WA has weathered the pandemic far better than the eastern states, and some local performers have adapted to travel restrictions across the country by engaging more with local communities in metropolitan Perth and across the state's regional centres.

We argue that a confluence of these factors places creative industries in WA at a significant crossroads, with future development paths that could head in a number of directions: fundamental global economic restructuring favouring creative input; an economy lagging in terms of creative industry production, but with strong consumer preferences; and navigating the challenges and opportunities created by the COVID-19 pandemic.

We identify at least three areas of strategic potential for the creative industries in WA: art and culture based on the Aboriginal cultures whose traditional lands cover the state; an expansion of creative activity and innovation that capitalises on emerging digital technologies; and the music industry, based on past successes and evidence of creative hubs within the Perth metropolitan area, notably around Fremantle.

Key Insights

The changing face of the creative economy

Creativity and innovation have become increasingly important as factors of production in advanced economies.

The creative industry workforce has expanded from a focus on creative workers in the arts and cultural sector to a broader group of 'creative industries', incorporating workers with creative roles in design, marketing and the digital economy.

Jobs related to newspaper publishing and physical printing are disappearing rapidly, while jobs relating to publishing in digital forms are growing rapidly, including internet publishing and broadcasting and software publishing.

In WA, in terms of the number of jobs among creative occupations, the largest increases between 2006 and 2016 were in the marketing domain (by over 4,000), followed by ICT and design (around 1,500 each). The number of people working in art and cultural occupations increased by just 670.

Western Australia's creative workforce lags behind other states

In Australia, employment in creative jobs grew at twice the rate of total employment in the last decade. In contrast, the share of employment in creative industries in WA has remained relatively static.

According to the latest ABS Census, around 23,700 persons in Western Australia were employed in industries classified as creative industries, equivalent to 2.5 per cent of total employment. This compares to a share of 3.8 per cent nationally. There were 26,800 persons employed in creative occupations in WA; a 3.2 per cent share of the total workforce compared to 4.6 per cent nationally.

Jewellery and silverware manufacturing has a higher than typical employment share in WA, at 1.6 times the national share. Music and other sound recording activities, and creative and performing arts, are among those creative industries in WA with employment shares roughly on par with that for Australia as a whole. However, the general finding for WA is of a lower than average share of employment in all but a handful of industries.

Geography is important for creative workers

The most populous states of NSW and Victoria have the highest share of employment in the creative industries, although there is also a concentration in the ACT. This primacy is being reinforced, as NSW and Victoria have also experienced the highest growth rates among the states in creative jobs between 2006 and 2016, with creative industries in Queensland also growing rapidly.

Jobs in the creative industries are concentrated within and around capital city CBDs. Accordingly, creative workers are concentrated in the major capitals in terms of where they live. Those in the more traditional arts and cultural sectors are slightly more geographically dispersed.

The creative workforce is highly educated, but it can be a tough gig

In WA, 56 per cent of workers in creative occupations hold a university degree or higher qualification, double the proportion for the overall workforce.

On other characteristics, workers in the more traditional artistic and cultural sectors and jobs are distinctly different to those in marketing, design and ICT jobs. Only the arts and cultural workers fit the creative stereotype of the low-income, self-employed or underemployed worker, who persists because of the intrinsic value they derive from their work.

There are opportunities in artistic and cultural work based on Indigenous cultures

A relatively high proportion of Indigenous Western Australians work in the arts and cultural occupations, and specifically as visual arts and crafts professionals; artistic directors, and media producers and presenters; and actors, dancers and other entertainers.

Creative industries with a relatively high share of Indigenous workers include those related to creative and performing arts, motion picture and video production and radio broadcasting.

Coupled with the known benefits to Indigenous peoples of engagement with their traditional cultures, and strong alignment with regional tourism, art and culture based around Indigenous culture offer promising opportunities for economic development opportunities in regional and remote WA.

Fremantle as a potential creative hub

The creative industries are highly integrated across all sectors of the economy, rather than being highly reliant on particular industries as suppliers or customers.

Analyses of regional comparative advantage and industry linkages confirm that the major capital cities are the epicentres for creative production.

When we look across the range of activities within the creative industries, the wider Fremantle region stands out as having a well-integrated economy for supporting those activities, including for music, performing arts, music recording and publishing, and performing arts operations.

Attendance in art and cultural activities

Art and cultural activities are highly sought after by Western Australians, as depicted by higher attendance rates than the national average over the years.

There is a strong income gradient in attendance at arts and cultural events. The cost of tickets is ranked as the greatest impediment for arts consumption across all age groups in WA. People from wealthier households are more likely to attend art and cultural events or institutions than those from lower-income households.

With the exception of First Nations arts or festivals, attendance declines with remoteness. Residents in remote areas are mostly impacted by the distance to attend the arts and cultural events.

Value and benefit of the arts

Western Australians attend culture and the arts events mainly for entertainment, socialising and connecting with community. They perceive and value a range of benefits to themselves and, just as importantly, to the wider community. People from lower income households value the community benefits more so than those from high income households.

If all Western Australians increased their frequency of attending performing arts, modeling results suggest 92,000 additional Western Australians would report good general health rather than poor health.

Attendance at performing arts is significantly associated with better mental health. Engagement in arts and culture is linked to better health outcomes by providing social support, connection with community and enhancing life satisfaction.

Optimism about the future of arts and culture in WA

While many in the arts and culture sector were negatively impacted by COVID-19, the sector has fared better in WA than most states. Border restrictions necessarily affected the livelihoods of many in the performing arts sector, but also created opportunities for local artists to engage with Western Australian communities.

Despite the devastating effects of COVID-19 on the arts and culture sector, audience optimism has remained high in WA. The majority of participants of the COVID-19 Audience Outlook Survey run by the

Australia Council for the Arts anticipate that their future engagement in arts and culture activities will be at least at the same level as before the pandemic.

More than four out of five respondents believe that vaccination efforts will be successful enough to allow for the resumption of normal activities within a year.

Funding and policy directions

Investment in WA's creative industries should be informed by a broad strategy that encompasses traditional arts and culture, performing, written and visual arts, and digital content. A thriving creative industries sector also offers huge potential to drive innovation across the state's wider industry landscape.

Investment in WA's creative industries provides opportunities for increased economic value, and will contribute to the economic diversification of the state. However, investment decisions should also be motivated by the positive social benefits that the creative sector can offer, its scope to improve the quality of life of Western Australians, along with the complementarity with the tourism sector.

In recent years, the WA government's spending on culture on the arts has been above the national average on a per capital basis. However, artists and cultural workers and organisations face a lack of funding certainty.

Affordability and accessibility should be a priority for policy and program funding, particularly accessibility in regional and remote areas.

Key Findings

Production: the nature of creative output in the Western Australian economy

The Creative Industries in Western Australia

- Our estimates suggest that WA's creative industries generate gross economic value of between \$5.8 billion and \$7.3 billion.
- Only 2.5% of WA's workers are employed in the creative industries sector, compared to a national share of 3.8%.
- Jewellery and silverware manufacturing in WA employs workers at 1.6 times the national share.
- Jobs in the creative industries in Australia grew by 27.8% between 2006 and 2016, compared to overall jobs growth of 17.4%.
- Computer system design and related services accounted for over half of the growth in the creative industries, expanding by 57,000 jobs nationally over the last decade.
- Nationally, there has been a marked shift from print to digital platforms as mediums for accessing creative output.
- Creatively intensive industries have seen above average rates of employment growth - professional photographic services leading with an 83% increase.

Creative workers in Western Australia

- Nationally, employment in creative occupations grew at almost twice the pace of overall employment growth.
- Employment growth in creative occupations exceeded employment growth in creative industries, suggesting creative workers are becoming embedded across a wider range of industries.

- Each of the main sub-groups of creative occupations – arts and cultural workers, marketing workers, design workers and ICT workers – had a markedly lower share of total employment in WA relative to Australia overall.
- Employment of visual arts and crafts professionals has fallen sharply possibly reflecting a shift to digital mediums.
- The greatest increases in the absolute number of jobs for WA's creative occupations from 2006 to 2016 was for the marketing subgroup, which increased by 4,240 people, with the lowest increase in people in art and culture of 670 persons.
- In Perth, the most geographically concentrated sub-group of the creative occupations is ICT. Marketing workers are the most geographically spread.
- Despite the notion that ICT workers can work remotely, this sub-group is strongly clustered around cities' CBDs with an almost negligible representation of workers elsewhere.
- In WA, workers in the creative occupations are twice as likely to hold a university degree or higher qualification than all employed workers.
- ICT has the smallest proportion of women, at less than 20%, compared to other sub-groups which have an almost equal distribution between men and women.
- Over a third of art and cultural workers are self-employed, compared to the WA norm of less than 10%.
- Indigenous art and culture emerges as one area of comparative advantage for WA's creative industries.
- Changes in employment by occupation between 2006 and 2016 has strongly favoured demand for skills in the field of health, IT and education. There is evidence of widespread growing demand for skills related to creative production.
- The narrative of changing skills demand driven by the evolving 'future of work' would be more appropriately applied to the concept of the creative industries than to STEM.
- In 2016, unemployment and underutilisation rates were higher than average in the creative industries, and notably in the creative and performing arts.
- Motion picture and sound recording activities have the highest ratio of secondary job holders, close to 43%.
- The average annual incomes of workers in the traditional arts industries is around \$20,000 below the population average.
- Hourly rates in the creative arts are similar to the average for all industries.
- The income gap between men and women seems to be negligible in the more traditional arts industries.
- As is typically the case across industries, the wage gap in the creative industries is larger in industries with higher wages.

Creative industries and smart specialisation

- The smart specialisation approach identifies the priorities for regional development.
- Perth has on average 1.6 times as many workers in the creative arts industry as the average of Australia, but this is relatively low for a major capital.
- Fremantle stands out in WA as having high rates of employment across the range of creative arts industries.
- Jewellery manufacturing has a higher concentration of employment in WA relative the national average than any other creative industry.
- The creative arts are well integrated across all sectors of the economy.
- Outside of metropolitan Perth, the Mid West and Bunbury are the only regions with existing industrial structures that are relatively conducive to development in the creative arts sector, when compared to Australia's overall industrial structure.

The consumption of creativity

Attendance and participation in arts and cultural events

- Around eight in ten West Australians attend at least one cultural venue or event each year, with two thirds attending live events.
- Attendance rates at arts and cultural events are higher in Western Australia than the national average.
- Women are more likely than men to attend arts and cultural events.
- Attendance rates at live events is highest among young West Australians, and declines steadily with age.

- A quarter of women and three in ten men attend First Nations arts and cultural events each year.
- Western Australia ranks fifth among other jurisdictions in terms of participation in cultural activities.
- Ticket costs, distance and accessibility are the main reasons for not attending arts and cultural events, with women more likely to face constraints than men.
- The cost of tickets ranks first as a constraint for attending arts and culture event across all age groups.

The value and impact of attending arts and cultural activities

- Western Australians increasingly value the role of arts and culture in their lives and in their communities.
- The community value of arts and culture is highest for low-income households in Western Australia.
- The value of arts and culture to West Australians, and their willingness to pay, has increased over time.
- The majority of Western Australians report that arts and culture has a large impact on their health and wellbeing, creative thinking, and ability to express themselves.

The impact of arts and culture on health and wellbeing

- Attendance at performing arts and heritage is positively associated with better physical and mental health.
- Connection with community and life satisfaction are the main channels through which engagement in arts and culture is linked to better health outcomes.

The impact of COVID-19 and the changing nature of arts and culture

- COVID-19 inflicted substantial negative demand shocks as a result of stringent restrictions and lockdowns in Western Australia.
- Although the impact of COVID-19 has affected all states and territories, Western Australia's arts and culture industry has fared better than other jurisdictions (before July 2021) except the Northern Territory.
- The trends in the recovery of attendance rates sharply reversed in July 2021 following the four-day lockdown (29th June to 3rd July) imposed in Perth and Peel.
- Despite the unprecedented negative effects of COVID-19 on arts and culture, audience optimism remains high. The proportion of respondents who are eager to go out to arts and cultural events immediately or as soon as it is permitted increased from 25% in May 2020 to 80% in March 2021, albeit with a modest decline in July 2021.
- About 80% of past attendants expect to spend at least an equal level of their expenditures on arts and culture as before the crises.
- More than 95% of participants in the recent phase of the COVID-19 Audience Outlook Survey expect their attendance to be the same as before the COVID-19 crisis.
- More than 85% of the COVID-19 Audience Outlook Survey participants are confident that the vaccination effort will be successful enough to allow for the resumption of normal activities within a year from now.

Funding and policy directions

- In recent years, WA government funding in culture and the arts has been higher than the national average on a per capital basis.
- Among the four sub-groups, we find only art and culture workers fit the stereotype round the creative workers.
- The focus needs to be on the importance of culture and the arts in enhancing the quality of life for Western Australians, the complementarity between culture and the arts and the tourism sector, and the flow on effects on the ability of the State to attract and retain highly skilled labour.
- The pronounced income gradients in Western Australians' attendance at events highlights the importance of accessibility in any policy and funding support.
- Uncertainty and variability in funding is a significant constraint for artists and arts organisations in WA.
- Two areas of strategic potential for the creative industries in WA are: art and culture based on the Aboriginal cultures whose traditional lands cover the State; and the music industry, based on past successes and evidence of creative hubs within the Perth metropolitan area, notably around Fremantle.
- We believe here is a strong social-benefit case for greater and more stable support for the arts and culture, both in terms of consumption and production.

"FOR MANY, A
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INTRODUCTION

WHY THE CREATIVE INDUSTRIES?

For many, a vibrant cultural and arts sector is a hallmark of an advanced and sophisticated society, an intrinsic element of 'the good life'. When we look across countries, people from wealthier countries typically have higher rates of participation in the arts and in cultural activities. When we look across individuals within countries, participation in and expenditure on arts and cultural activities increases with income (Seaman 2006). Thus, in general, people seek to engage more in the arts and culture as their economic constraints are relaxed and their options in life expand, whether that engagement is in the act of production or in consumption and leisure pursuits.

In addition to satisfying our personal desires for artistic and cultural pursuits there is evidence to suggest investment in art and culture creates wider societal benefits, such as through a more compassionate, connected and critical thinking society. This can be critical to a city or region's ability to attract skilled labour and is central to the tourism industry. The arts, culture, and heritage create and help to sustain and reinforce national and local community identities and connectedness.

Most of us can quite readily identify with a set of activities and institutions that constitute what might be thought of as 'traditional' culture and arts: literature, theatre, opera, ballet, cinema, museums, art galleries, concerts and so on. Equally, we can envisage the set of artistic and creative workers associated with that sector including writers, actors, dancers and other performing artists, artistic directors, cinematographers, curators and so on. The information communications technology (ICT) revolution that commenced in the second half of the 20th Century has fundamentally reshaped consumption and production of the arts and culture, rendering those conceptual boundaries of the sector and its associated workers obsolete for

many purposes, and blurring the distinction between producer and consumer. Out of this transition has arisen a much broader range of artistic and cultural outlets and economic sectors with an insatiable demand for content and innovation, loosely termed 'the creative industries' (Hartley 2005). These include designers, traditional and new forms of media broadcasting and publishing, software development and gaming.

One constant throughout this transformation from the old to the new is the centrality of creativity and innovation as the source of value added and as the key attribute of workers. Creativity is increasingly recognised as a critical source of competitiveness in the knowledge intensive economy and a key driver of economic growth (MCMSWG 2018). Late in the last century, official reports of governments around the developed world started observing that value added and employment in the creative industries were growing much faster than overall growth, in some cases twice as fast, fuelled by rapid ICT development and adaption.

Fast forward to more recent times, we find in this report that growth in the creative industries in Australia continued to outstrip overall economic growth, at least until COVID-19 hit. In the decade to 2016, employment in the creative industries grew at least one-and-a-half times faster than total employment in Australia. While impetus from ICT contributed to this growth, it is not simply a story of a digital revolution of arts and culture. Above average growth is also observed for creative employment in the domains of design and marketing, and in a number of more 'traditional' artistic occupations and sectors, such as performing arts operations, film production and creative artists, musicians, writers and performers. One notable sector in decline is print-based publishing of newspapers, magazines and books and associated journalism.

This report presents an analysis of the creative industries in WA with a view to providing evidence relevant to key strategic questions for the sector and related policy. Is WA well positioned as a creative economy, or does more need to be done to ensure we are not left uncompetitive in these fast growing activities? As a society, are we investing adequately in the arts and culture and in promoting our creative potential? To address these questions the report looks at both the production and consumption of creative output in WA, albeit acknowledging that for some emerging creative activities the distinction between producer and consumer is becoming increasingly blurred.

We argue that WA is at a crossroads. Western Australians are strong consumers of the arts and culture, as measured by attendance, but not so active when it comes to actually participating. More significantly, we lag well behind the rest of the nation in terms of creative output. That applies almost across the spectrum of creative industries and occupations. Pre-COVID, the best available data suggests we were slipping further behind, with the more populous states of New South Wales and Victoria dominating creative production, with Queensland emerging strongly in the areas of performing arts and film and music production and recording. At the same time, there have been enough outstanding home-grown success stories, from performing artists to ICT start-ups, to demonstrate this need not be the case. The critical role of networks in creative production suggests that, once lost, a competitive edge is hard to regain. There is a need to ensure areas of creative strength have the right foundations to flourish. Perversely, the State's COVID-19 induced insulation may have provided a boost to a range of locally based creative activities.

There are many challenges and policy issues associated with fostering a

creative economy able to seize emerging opportunities and meet changing consumer demands. Some of these have been contested in well-worn debates that have long bedevilled the sector, such as the precarious nature of employment for many artistic and performing workers and the best approaches to funding the arts. Others are new challenges, like the devastating impact of COVID-19 on the arts and cultural sector and adjusting to new trends. Still more are unique to WA, including its isolation, regional dispersion and positioning within a primary resource-driven economy.

The following section provides some context around the concept of the creative industries and associated issues, including definitional matters. The middle sections, and main body of the report, look first at the production of creative output in WA and then at consumption, including estimates of the impact on engaging in culture and the arts on people's wellbeing. The final section reflects on the state of WA's creative industries with some insights to inform policy and strategic direction.

The creative industries is an umbrella term encompassing a rich tapestry of commercial and non-commercial activities and creative genres. Western Australia has many prominent arts and cultural institutions and organisations, including museums, opera, ballet, theatre, a strong Aboriginal arts sector, extensive local community arts organisations and much more. While each could warrant their own specific analysis, by necessity this report focusses on aggregated data to cast light on the broader picture and policy issues noted above.

We would, however, like to acknowledge the many stakeholders and representative organisations who provided their time and insights in the preparation of *Creativity at the Crossroads*?

THE CONTEXT

According to Howkins (2005), the concept of the creative industry originated in Australia in the early 1990s, but was thrust into the limelight in the late 1990's by the UK Department of Culture, Media and Sport's (DCMS) development of a Creative Industries Unit and Taskforce. Howkins argues DCMS were somewhat biased in their definition of what constitutes a creative industry so as to highlight the importance of their own portfolio of responsibility of culture and media, and omitting, for example, science. Since then, an extensive portion of the literature on the social and economic contribution of the creative industries has been devoted to issues of how to define the sector (see, for example, Bakhshi, Freeman and Higgs 2012; DCMS 1998; Higgs and Cunningham 2007; Meeting of Cultural Ministers Statistics Working Group (MCMSWG) 2018). The MCMSWG (2018) note the terms 'cultural' and 'creative' tend to be incorrectly used interchangeably. While all industries draw upon creativity of their workforce, Jones, Lorenzen and Sapsed (2015: 3) see the defining characteristic of creative industries as being '... organized principally to take advantage of and capture the market value of human creativity'.

In this report we avoid the temptation to dwell on definitional issues or to revisit those debates. For the purposes of measurement and analysis, deciding upon a definition almost invariably requires some trade-off between the optimal dimensions and boundaries that would, in theory, delineate the desired 'creativity' space, and what is actually available in terms of statistical collections and classifications. We take a pragmatic approach of adopting the best approximations for dimensions of such industries, occupations and engagement in creativity given the data available for each specific line of analysis and accordingly draw upon a wide range of data and statistics.

In terms of the production side, the most common approach to measuring employment and output in the creative industries follows 'the trident', based on three types of workers:

- Specialist workers – workers that have creative occupations and work in creative industries;
- Support workers – workers in non-creative occupations but who work in a creative industry;
- Embedded workers – workers who have creative occupations in non-creative industries.

This approach was used in the Australian Bureau of Statistics' (ABS) development of the, now discontinued, experimental 'cultural and creative activity' satellite accounts (ABS 2014). While industries can then be assessed as creative based on their proportion of specialist versus support workers ('creative intensity'), this still requires decisions on which occupations are classed as creative and the intensity cusp to qualify as creative. However, the concept of the 'embedded worker' has gained considerable traction. On the consumption side, available data focusses very much on culture and the arts, variously encompassing actual participation in activities and/or attendance.

The key motivation to grouping together a diverse range of occupations and industries, is that creativity and innovation are seen as the critical drivers of growth and competitiveness in an increasingly knowledge-intensive economy. On this point, the voracity of decisions around the fringes of what constitutes the creativity industries seems of little consequence. Whether we define creative industries in terms of employment by industry or

employment by occupation, it is clear that creative worker jobs are growing rapidly for Australia – at about twice the rate of other jobs. Moreover, this does appear to be part of a fundamental, long run economic transformation of economic production, not a new phenomenon. Reports of the creative industries growing at least twice the rate of overall growth abounded 20 years ago for Australia, the UK, Europe and globally (see contributions in Hartley, 2005).

With the output in the digital economy welcomed into the fold of creative industries, much of this transformation and growth can be attributed to this sector, but that is far from the full story. We find that employment in a number of the traditional art and cultural industries grew well above overall employment for Australia, including those relating to the performing arts and motion picture and video production. Jones *et al.* (2015: 5-7) suggest creative products can be classified along two dimensions. One is the 'semiotic code', which might be called 'style' in the visual arts or 'genre' in the worlds of film and literature. The second is the materials or mediums that artists and creators work with or through, such as paint, musical instruments, screen and digital forms. Change occurs through the mixing and matching of these, as well as the creation of new semiotic codes and mediums, of which advances in information and communications technology has been an important driver. The demise of hardcopy printing and newspaper publishing, which we observe across Australia, is the salient example of a switch in materials, and the emergence of gaming as an example of both new genres and mediums (see Box 1).

Not everybody embraces the expanding remit of creative industry policy beyond the traditional arts and culture. Haseman laments 'Art leads the way to social

enlightenment and personal fulfilment and stands at sharp odds with ... a hierarchy of desires best activated by "the entertainment gene"' (2005: 160). This invokes long-standing debates around 'high art' versus popular entertainment, and the role of art, culture and their associated institutions in expressing and preserving cultural identities versus commercialism. The problem with this, is the absence of any objectively grounded authority to judge in advance which emerging genres and mediums will promote or fail to promote enlightenment and personal fulfilment, or for which sections of the population such an authority might speak. Many once have placed The Rolling Stones and Andy Warhol on the lower 'commercial entertainment' rungs of that hierarchy (and many may still do).

This public good and intrinsic value of the traditional arts has been the foundation of arguments for public funding and support for the arts and culture. Policymakers and society will continue to grapple with these issues as new forms arise. In the context of a widening concept of the creative industries that is likely to increasingly morph away from traditional arts and culture.

Available statistical collections, though far from perfect, enable us to quantify the benefits associated with an expanded notion of the creative industries on the production side, namely the creation of jobs, income, and exports. In contrast, statistics on the effects of consumption, such as attendance at events or active participation in creative activities, remains focussed on the more 'traditional' arts and culture.

"THIS SECTION ANALYSES
THE ROLE THAT THE
CREATIVE INDUSTRIES
PLAY IN THE WESTERN
AUSTRALIAN ECONOMY,
HOW THIS HAS
CHANGED OVER RECENT
YEARS, AND PROVIDES
COMPARISONS TO
OTHER STATES AND
TERRITORIES AND TO
THE NATION AS
A WHOLE."



PRODUCTION: THE NATURE OF CREATIVE OUTPUT IN THE WESTERN AUSTRALIAN ECONOMY

Our estimates suggest that WA's creative industries generate gross economic value of between \$5.8 billion and \$7.3 billion.

INTRODUCTION

This section analyses the role that the creative industries play in the WA economy, how this has changed over recent years, and provides comparisons to other states and territories and to the nation as a whole. The analysis focuses on employment in creative activities, following two main approaches:

- Analysing data on employment by industry, based on a concordance of existing industry classifications to those considered 'creative industries';
- Analysing data on employment by occupation, based on a concordance of existing occupational classifications to those considered 'creative workers'.

The two approaches offer complementary insights. Even in industry sectors classified as creative, only a minority of workers are in roles that are generally considered to be 'creative'. Industry based analysis therefore offers only a rough approximation of the level and types of creative activities in the economy, and associated trends. Occupational data offers a more accurate impression of the creative workforce. However, the demand for labour is what economists refer to as 'derived demand', meaning derived from the demand for goods and services produced by industry.

Occupational data provides a better picture of what creative work is actually being done in the economy. Industry data provide a better picture of why that work is being undertaken. Further, the industry categories by which direct estimates of the value of economic output are available, such as the state accounts of income and expenditure, do not allow a reasonable approximation to the creative industries as conceptualised in this report. The detailed industry categories for which employment data are available offer a better fit to the creative industries.

Estimating the value of output generated by the creative industries is not a focus of this report, for a number of reasons. Such estimates of economic value often vary substantially depending on the methodologies and assumptions used, and the presumed scope of the creative sector. There is also a tendency for the economic value proposition to influence policies and strategies in a way that neglects the broader contributions that the creative industries sector make not just to the WA economy, but to the quality and richness of our lives, and to societal health and wellbeing.

That said, the *Focus on Industry* reports do always generate interest in the 'economic importance' of the sector under the spotlight. In a recent 'economic snapshot' of the creative industries in WA, Smithies and Bailey (2019) estimated that in 2018-19 the creative industries generated \$3.3 billion in value added to the WA economy, \$175.9 million in exports and employed 53,000 people.

By simply apportioning WA's gross value added by employment, our estimates in the following section suggest output of between \$5.8 billion and \$7.3 billion, based respectively on employment in creative industries (29,060 persons) and employment in creative occupations (36,800 persons).

These figures are likely to be over-estimates to the extent that creative work is less capital intensive than average, and particularly when compared to mining. Based on data from 2014 and 2015, Powell *et al.* (2016) estimated that WA's contemporary music industry generates \$655 million dollars each year in revenue, \$330 million in value added and more than 2,900 jobs. They argue these figures under-estimate the total economic impact, due to the large proportion of industry participants for whom activity related to contemporary music is not their main job.

The level of detail required to adequately map industry and occupational classifications to the creative sector means that the ABS's 5-yearly census is the only viable source of data to support analyses at the state and territory level. With data for the 2021 census not due for release until 2022, the most recent census for which data is available is 2016. While that is somewhat dated, the fact that this data is unaffected by COVID-19 is a bonus, given our interest in longer term, structural economic change. As the census covers the entire population, reliable estimates of employment can be obtained at more detailed classification levels than is possible using sample-based surveys. The census also provides counts of employment by consistent classifications over time, and we focus primarily on trends over the 10 years from 2006 to 2016.

It is important to note that the census data on employment by industry and occupation is based on individuals' reported main job held during the week prior to the census, defined as 'the job in which the person usually works the most hours'. This definition will exclude workers who engage in creative work as a secondary job, or who do so on an unpaid basis. This is likely to apply to many people participating in the music, performing and visual arts industry sectors, but it is difficult to gauge the exact extent.

Throsby and Petetskaya's (2017) survey of professional workers in artistic occupations found those artists spent on average 38 per cent of their working time (including paid work, voluntary work and study) on their principal artistic occupation. Fourteen percent of their time was spent on paid work that was unrelated to their art, and this was as high as 28 per cent for artists who were just starting out. On average, they worked 8 hours per week in a paid occupation that was not related to the arts (Throsby and Petetskaya 2017: 64-65). Potentially, creative work will be a secondary job for a substantial proportion of these artistic workers, but even Throsby and Petetskaya's (2017) detailed work does not provide data to enable a direct estimate of that proportion, and hence the degree of underestimation of creative work.

Only 2.5% of WA's workers are employed in the creative industries sector, compared to a national share of 3.8%.

THE CREATIVE INDUSTRIES IN WESTERN AUSTRALIA

Higgs and Cunningham (2007) assessed the intensity of creative employment within existing Australian Bureau of Statistics (ABS) industry classifications to derive a set of industries categorised as 'creative industries', along with the measures of creative intensity. The intensity measure relates to the estimated proportion of workers within the industry that are employed in creative jobs, and this classification has been used in a number of studies for the cultural industries in Australia, including Smithies and Bailey's (2019) economic snapshot for WA. Higgs and Lennon (2014) updated the list of industries identified as creative, building on a methodology developed by the UK National Endowment for Education, Science, Technology and the Arts (NESTA, see Bakhshi, Freeman and Higgs 2012), and adapted to reflect more recent Australian census data on the occupational profile of employment within industries.

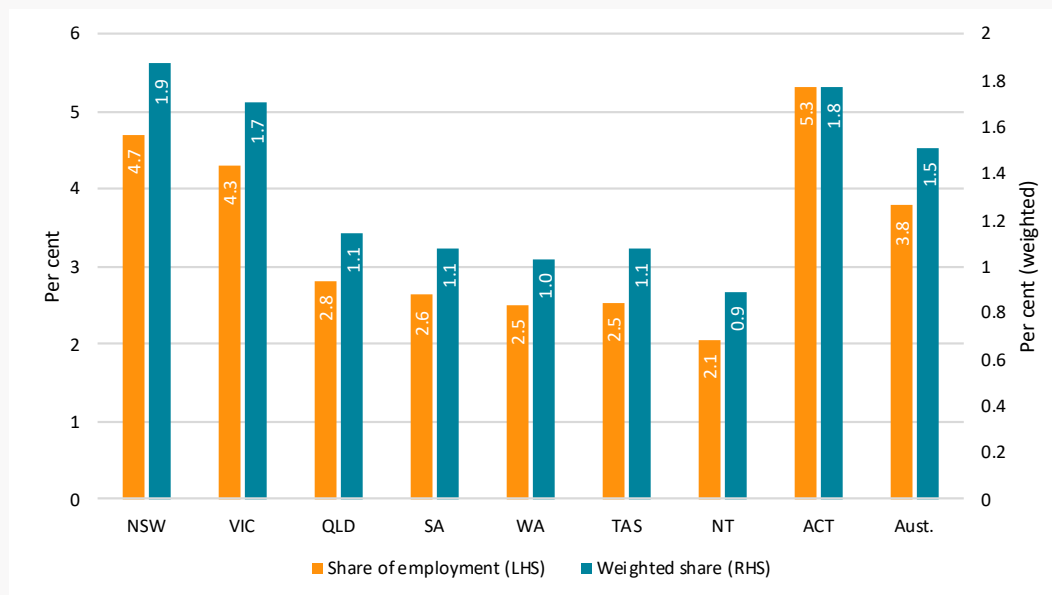
The industry analysis in this section adopts Higgs and Lennon's (2014) classification of creative industries (see Appendix 1). This comprises 35 industry classes, with professional photographic services (78%) and creative artists, musicians, writers and

performers (76%) being the industry sectors with the highest proportion of employment in creative occupations according to the most recent ABS Census. Music and other sound recording activities is the sector with the lowest proportion of creative workers (16%) to still be classified as a creative industry.

Following this classification, Figure 1 shows the proportion of workers employed in the creative industries as a proportion of total employment. The shares are presented based on both the raw number of workers within the creative industries, and adjusted to account for the creative intensity of each industry. Western Australia had a very low proportion of its workforce employed in creative industries. With just 2.5 per cent of workers employed in the creative industries, compared to 3.8 per cent nationally, WA placed equal second lowest across all states and territories along with Tasmania, and above the Northern Territory (2.1 per cent). Much the same pattern of state comparisons is obtained if those employment numbers are weighted by each industry's measure of intensity of creative employment.

FIGURE 1

Creative industries' share of total employment by state/territory



Source: Bankwest Curtin Economics Centre | Authors' calculations based on ABS Census 2016.

Western Australia's low share of employment relative to the national average applies across almost all the individual categories within the creative industries grouping, and is particularly pronounced in the various industries related to motion pictures and videos (production, post-production services) and in software

publishing and computer system design and related services. These latter two industries are key sectors for the game development industry, which is capturing increasing attention as an emerging creative industry, but again one which has established itself primarily in the eastern states, rather than WA.

Box 1: Gaming

The ICT revolution is greatly expanding the scope of how creative work is applied, transformed and consumed. Ever since thinking about the role and economic importance of the arts and culture shifted to emphasise the underlying traits of creativity and innovation as being integral to competitiveness and productivity growth, and the notion of a broader concept of the creative industries found favour, ICT-based activity has been a major driver of reported creative industry growth. In Australia, the ICT sub-group of occupations represented almost one-quarter of total creative workers in 2016 and accounted for nearly one-third of all growth in employment in creative occupations between 2006 and 2016. The development of computer or video-games is perhaps the posterchild example of the marriage between ICT and artistic and creative work.

A feature of the gaming development industry has been its mobilisation of consumers (players) in the incorporation of user preferences to refine products and to drive innovation. Herz (2005) identifies the game *Doom*, released in 1993, as the first to tap into the creativity of its user-base, and taking the further step of going open source a few years later: "In business terms, massively multiplayer innovation blurs the boundary between producer and consumer ..." (2005: 332). Incorporating user feedback, and finding innovative ways to repackage it as content, is now a regular feature in entertainment, online publishing and marketing.

Worldwide, it has been estimated that there were 2.6 billion gamers and the industry generated revenue of US\$135 billion in 2019, eclipsing the combined revenue of the global film and music industries.^a In a 2014 international survey of developers, almost half identified as being independent (Crogan 2018: 674). The innovation of developers offers much more than new gaming experiences. Submissions to a Parliamentary Inquiry on the future of Australia's gaming industry emphasised potential applications of what are termed 'serious games', such as for education purposes, rehabilitation for stroke patients or to learn to use artificial limbs, and critical response training (Senate Standing Committee on Environment and Communications 2016, ch. 2). Writing in 2005, Jenkins (p. 312) suggested "One could make the case that games have been to the PC what NASA was to the mainframe – the thing that pushes forward innovation and experimentation." That innovation is now being harnessed in the development of applications on a range of mobile devices extending well beyond the PC.

The Interactive Games and Entertainment Association (IGEA) estimate that, in 2019-20, Australian game development studios employed 1,245 persons full-time and generated income of \$185 million of which 87 per cent came from overseas.^b The Association believe gaming has the potential to become a \$1 billion industry with the right policy settings (IGEA 2020). Overseas, the industry has been promoted through the creation of hubs, or 'communities of practice'. As with previous creative artists, these pose a risk of exploitation of workers who are strongly motivated by the intrinsic value of their work and self-actualisation, and sometimes the lure of stardom by creating the next Angry Birds (Crogan 2018: 679-680).

The Western Australian Government has offered support for the development of game development in this state, most recently by way of a fund administered by Screenwest. However, IGEA estimates that just 2 per cent of game development studios and 1 per cent of full-time employees in Australia were based in WA in 2019, with Victoria the prominent location for developers.

a. <https://www.morganstanley.com.au/ideas/the-global-gaming-industry>;

b. <https://igea.net/wp-content/uploads/2021/01/AGD-2020-Infographic-2pp-SQUARE-1.pdf>.

Figure 2 shows how WA's employment shares in creative industries compare with national shares. Industries are listed in descending order of their creative intensity. Industry classes with employment share ratios of greater than 1 indicate that WA has a higher share of employment in that creative industry than the national average.

Jewellery and silverware manufacturing stands out as having a notably higher than typical employment share in WA, at 1.6 times the national share. Music and other sound recording activities, and creative and performing arts, are among those creative industries in WA with employment shares roughly on par with that for Australia as a whole. However, the general finding

for WA is of a lower than average share of employment in all but a handful of industries.

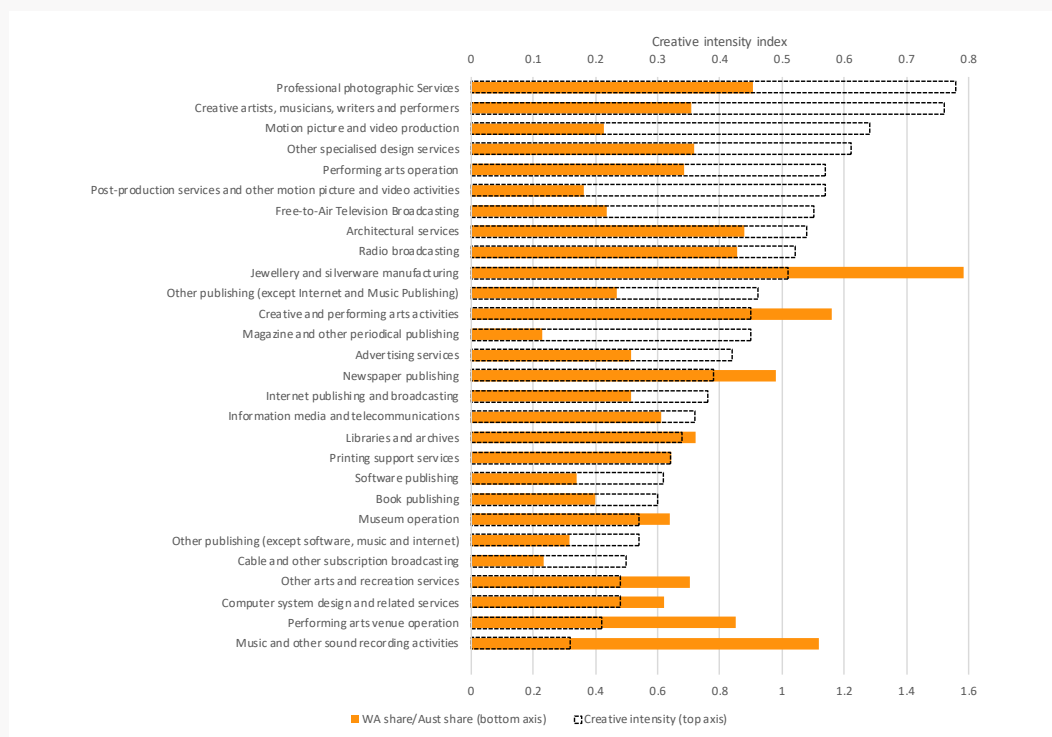
WA's relative employment shares in creative industries follow no particular pattern related to their creative intensities.

Among other jurisdictions (not shown), NSW has particularly high employment shares in a range of creative industries, including television and cable broadcasting, motion picture and video production, internet publishing and broadcasting and magazine and other periodical publishing. The ACT stands out for employment in libraries and archiving and in museums.

In the past recent years, attendance rates in Western Australia is higher than the national average.

FIGURE 2

WA share of employment relative to Australian average for the creative industries



Notes: A WA share/Australia share ratio of 1 indicates parity with the national average, ratios above (below) 1 indicate a higher (lower) share of employment in WA compared to Australia.

Source: Bankwest Curtin Economics Centre | Authors' calculations based on ABS Census 2016.

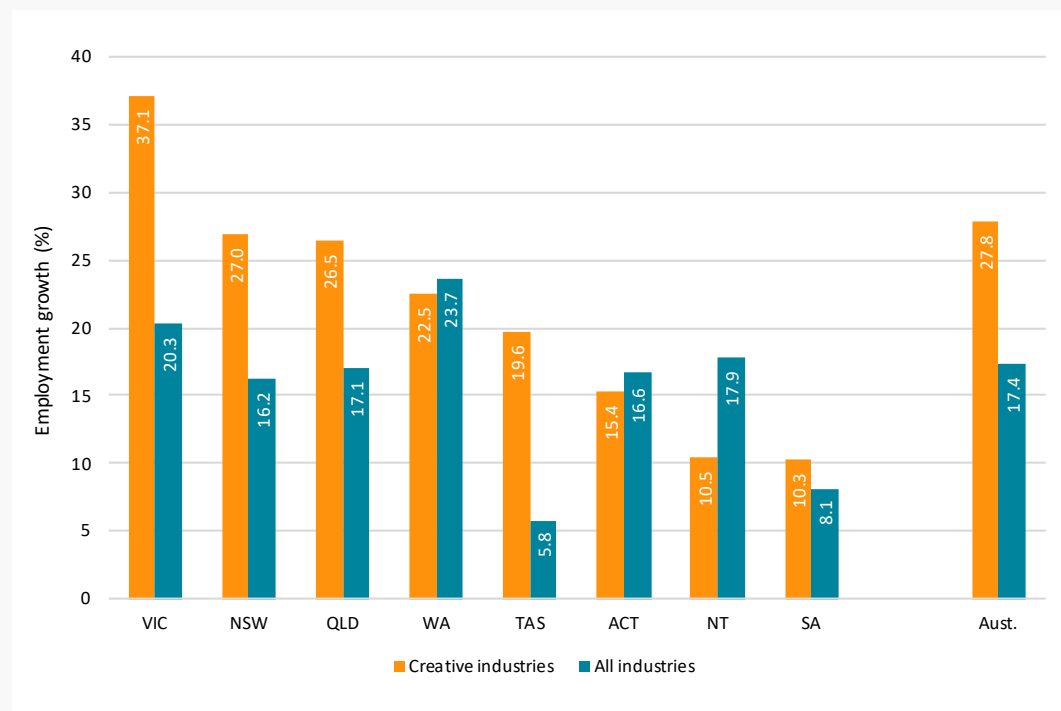
Jobs in the creative industries in Australia grew by 27.8% between 2006 and 2016, compared to overall jobs growth of 17.4%.

The importance of creative industries in Australia's emerging economic landscape can be seen in the rate of jobs growth over the last decade. From the 2006 census to the 2016 census, the number of jobs in the creative industries in Australia grew by 27.8 per cent, a full 10 percentage points higher than the rate of overall jobs growth (17.4

per cent), or by more than one-and-a-half times as fast. This contrasts with WA, where jobs growth in the creative industries (22.5 per cent) was marginally lower than overall growth (23.7 per cent), and hence WA saw a decline in the share of employment in the creative industries over the 10 years.

FIGURE 3

Employment growth in creative industries and all industries: by state and territory, 2006-2016



Source: Bankwest Curtin Economics Centre | Authors' calculations based on ABS Census 2006 and 2016.

A closer inspection of employment growth within individual industries reveals some pronounced trends and contrasting fortunes at the national level. The traditional publishing sectors of newspapers, magazines, periodicals, books and printing services saw a substantial rationalisation of employment between 2006 and 2016.

Jobs in newspaper publishing, in particular, saw a dramatic decline, falling by over 11,000 (or 42.2 per cent) over those 10 years. In contrast, jobs in sectors engaged in publishing in digital forms grew rapidly, including internet publishing and broadcasting (up by 83 per cent) and software publishing (74 per cent).

The creative industry showing the largest increase in the number of workers was computer system design and related services, expanding by 57,000 jobs nationally, or 54 per cent. This in fact accounted for over half of the jobs growth in the creative industries. While that industry has a relatively low intensity of creative workers, at 0.24, even allowing for this the sector generated the largest contribution to the national creative workforce.

However, many of the sectors more commonly identified with creative workers also expanded strongly in Australia between 2006 and 2016. These included creative artists, musicians, writers and performers (up by 6,300 jobs, or 44 per cent), professional photographic services (3,900 jobs, 55 per cent), motion picture and video production (2,600 jobs, 35 per cent), performing arts operations (1,800 jobs, 41 per cent). Architectural services and advertising services also grew faster than overall employment, with an additional 9,100 and 5,800 jobs, respectively.

Hence, the picture we see for the creative industries at a national level is one of a marked shift from print to digital platforms as mediums for accessing creative output; strong growth of creativity within the digital space, but also with the 'traditional' creative activities expanding alongside this technology driven restructuring. Potentially this underestimates the growing importance of creativity as a factor of production, to the extent that other industries are also increasing their employment of creative workers. The analysis below based on employment by occupation suggests this may well be the case.

The broad picture of evolution applies for the creative sector in WA. Physical publishing, notably newspaper publishing has declined markedly while the fastest growing industry among those classified as a creative industry was internet publishing and broadcasting, albeit from a low base. As with the national economy, increased employment in computer system design and related services provided the bulk of increase employment in creative industries in terms of absolute numbers, with significant contributions from architectural services and other specialist design services.

Despite employment in the creative industries shrinking as a proportion of total employment in WA, most of the more creative intensive industries in WA also saw above average rates of employment growth. This includes professional photographic services (83 per cent increase in employment from 2006 to 2016); creative artists, musicians, writers and performers (39 per cent); motion picture and video production (50 per cent) and post-production services (67 per cent), all expanding at well above overall employment growth for WA (23.7 per cent).

Computer system design and related services accounted for over half of the growth in the creative industries, expanding by 57,000 jobs nationally over the last decade.

Nationally, there has been a marked shift from print to digital platforms as mediums for accessing creative output.

Creatively intensive industries have seen above average rates of employment growth - professional photographic services leading with an 83% increase.

Nationally, employment in creative occupations grew at almost twice the pace of overall employment growth.

Employment growth in creative occupations exceeded employment growth in creative industries, suggesting creative workers are becoming embedded across a wider range of industries.

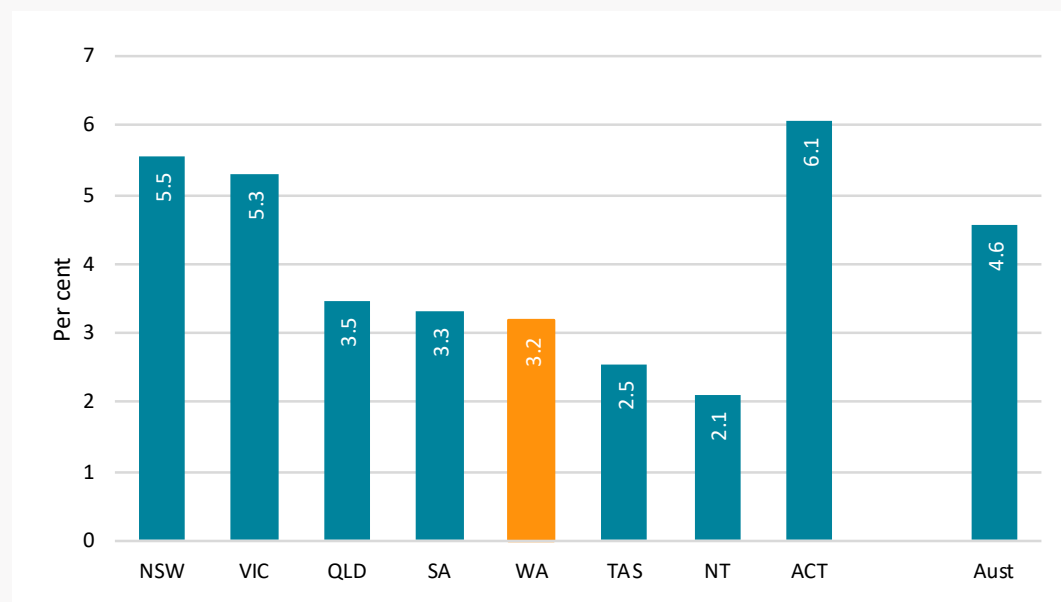
CREATIVE WORKERS IN WESTERN AUSTRALIA

For this latest *Focus on Industry* report, we developed a set of occupations considered to represent creative workers (see Appendix 2). Although this inevitably involves some discretionary inclusions and exclusions, the occupational data confirms WA's relatively low share of creative employment compared

to the wider Australian economy, with 36,800 workers. As shown in Figure 4, the selected 'creative' occupations comprised 3.2 per cent of total employment in WA, compared to 4.6 per cent for Australia. Only Tasmania and the Northern Territory had lower shares than WA.

FIGURE 4

Creative occupations' share of total employment: states and territories



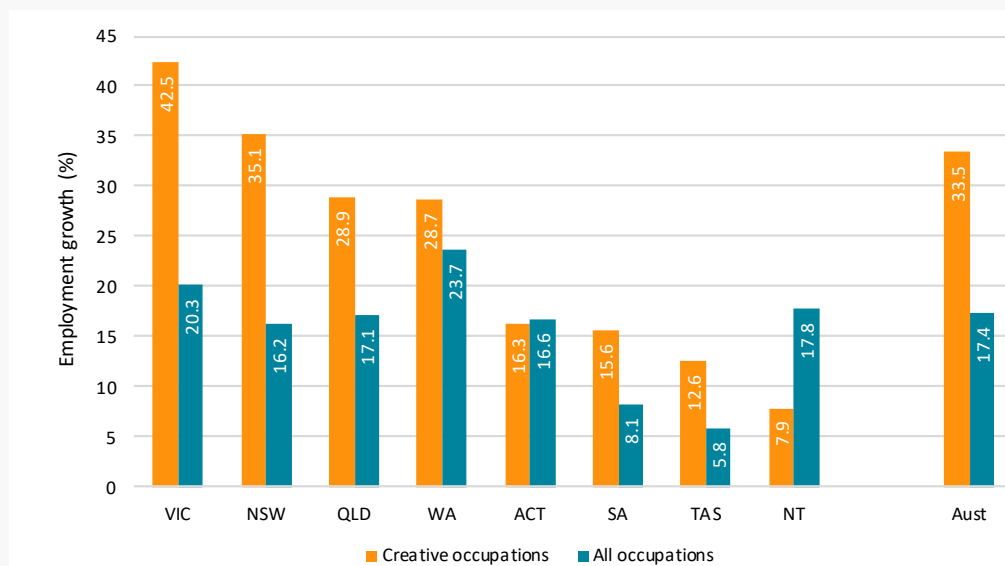
Source: Bankwest Curtin Economics Centre | Authors' calculations based on ABS Census 2016.

Nationally, employment in those creative occupations grew by 33.5 per cent from 2006 to 2016, almost twice the pace of overall employment growth of 17.4 per cent, providing further evidence of a structural economic change favouring creativity as a factor of production. This differential was particularly driven by higher growth in the creative occupations in NSW, VIC and QLD. The fact that the rate of employment growth in creative *occupations* was higher than

the rate of growth in creative industries between 2006 and 2016 suggests that creative workers are becoming embedded across a wider range of industries. This also holds for WA, but to a much lesser degree. While employment in creative *industries* grew more slowly than overall employment in WA, employment in creative occupations grew more quickly from 2006 to 2016 (28.7 per cent compared to 23.7 per cent).

FIGURE 5

Employment growth in creative occupations and all occupations, WA and Australia, 2006-2016



Source: Bankwest Curtin Economics Centre | Authors' calculations based on ABS Census 2006 and 2016.

The selected creative occupations can be readily classified into four further sub groups of workers (see Appendix 2):

- Arts and cultural workers – these include the occupations that might be considered the more traditional creative workers, such as actors, dancers, musicians, photographers, film and stage directors and producers, writers, and journalists;
- Marketing workers– covering advertising, marketing and public relations professionals;
- Design workers – including building and landscape architects, interior designers, fashion and jewellery, graphic designers and illustrators;
- Information and communications technology (ICT) workers – including systems analysts, multimedia specialists, web developers and software and applications developers.

By this classification, there were 6,840 persons employed as art and cultural workers in WA as of the 2016 census.

Slightly more people were employed in the design (7,770) and ICT (7,210) creative occupations. The marketing occupations represented the largest sub-group, employing 14,980 persons in 2016. Each of these occupational subgroups had a substantially lower share of total employment in WA relative to Australia overall, and ranged from 40 per cent lower for the ICT creative occupations to between 25-30 percent lower for the other three sub-groups.

At the national level, the fastest growing creative occupations were in the marketing, design and ICT groups. As shown in Figure 6, growth in occupations in the ICT grouping contributed substantially to the above-average growth in creative occupations, followed by marketing. In WA, it was occupations in the marketing group followed by ICT that grew most rapidly in the 10 years to 2016. For both WA and Australia, employment in the culture and arts sub group was lower than overall employment growth.

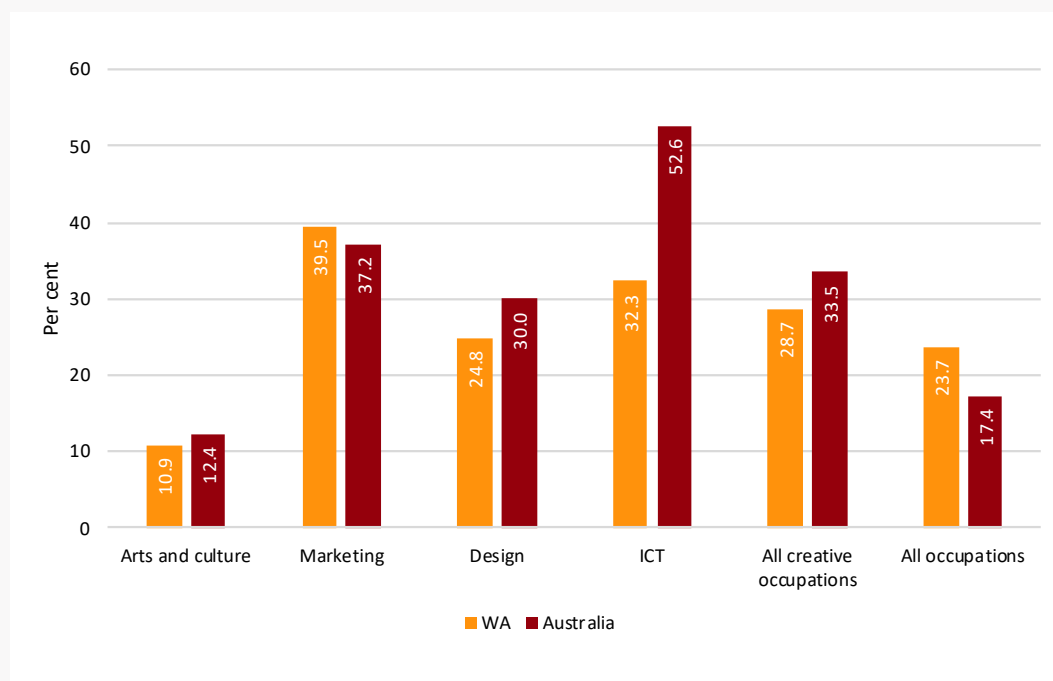
Each of the main sub-groups of creative occupations – arts and cultural workers, marketing workers, design workers and ICT workers – had a markedly lower share of total employment in WA relative to Australia overall.

Employment of visual arts and crafts professionals has fallen sharply possibly reflecting a shift to digital mediums.

The greatest increases in the absolute number of jobs for WA's creative occupations from 2006 to 2016 was for the marketing subgroup, which increased by 4,240 people, with the lowest increase in people in art and culture of 670 persons.

FIGURE 6

Employment growth in creative occupations by key sub groups, WA and Australia, 2006-2016



Source: Bankwest Curtin Economics Centre | Authors' calculations based on ABS Census 2006 and 2016

Despite this a number of individual occupations within the arts and culture sub-group did also grow rapidly. For WA, this included photographers (employment up by 73.9 per cent); actors, dancers and other entertainers (38.5 per cent); and film, television, radio and stage directors (30.5 per cent), although these are from a low base in terms of the number of workers. For both WA and Australia, employment in the occupational category of visual arts and crafts professionals fell sharply over the 10 years to 2016, possibly reflecting a shift to digital mediums. Visual arts and crafts professionals includes painters, potter and ceramic artists and sculptors.

In terms of the absolute number of jobs, as opposed to growth rates, the greatest increases for WA from 2006 to 2016 were for occupations in the marketing subgroup, in which the number of employed persons increased by 4,240, followed by ICT (1,760 persons) and design (1,544 persons). The number of people working in art and culture occupations increased by just 670. Individual occupations to expand substantially were advertising, public relations and sales managers (up by 2,270 workers), advertising and marketing professionals (1,820 workers) and software and applications programmers (up by 1,090 workers).

Where is creative industries employment located?

Based on census data on employment by place of work, the geographical distribution of jobs in the different arts industries changes significantly from one category to another (see Figure 7 to Figure 10). As one can expect most of the employment in the creative occupations is concentrated in the main capital cities, with Sydney and Melbourne leading the pack.

The traditional arts occupations such as actors, dancers and music professionals are spread throughout the city and in regional areas, but the most significant concentrations remain in the CBDs (Figure 7). Some remote areas, such as Alice Springs and the Kimberley have a significant proportion of artists relative to their overall population, and so too the South West and the Albany regions in WA to some extent. In the former regions, Aboriginal painters are quite likely boosting the numbers in this category in particular.

The significant number of workers in regional areas is interesting, especially as WA seeks to diversify its economy in places where mining industries are seen as the only option. The arts industry emerges as an interesting opportunity in these areas. In Perth, the CBD displays the largest concentration of employment in traditional arts, with Fremantle a close second followed by Cottesloe – Claremont and the city of Stirling.

In Figure 8, we observe a similar distribution for creative design jobs such as architects, urban planners as well as fashion and jewellery designers. Melbourne is without any doubt the mecca for this activity, with a stronghold all around the metropolitan area and important numbers as far as the Heathcote SA3 region. This phenomenon is not particular to Melbourne with Brisbane and Sydney recording similar trends.

In Brisbane, areas such as the Gold Coast and all the way up to Noosa have a significant share of designers in their workforce, so do Wollongong and Newcastle close to Sydney. In WA, the South West and Great Southern region also record higher than average numbers in this category relative to their population. It seems that designers are more mobile than most of the arts professionals and can find employment in peripheral regions not that far from city centres and close to tourist regions.

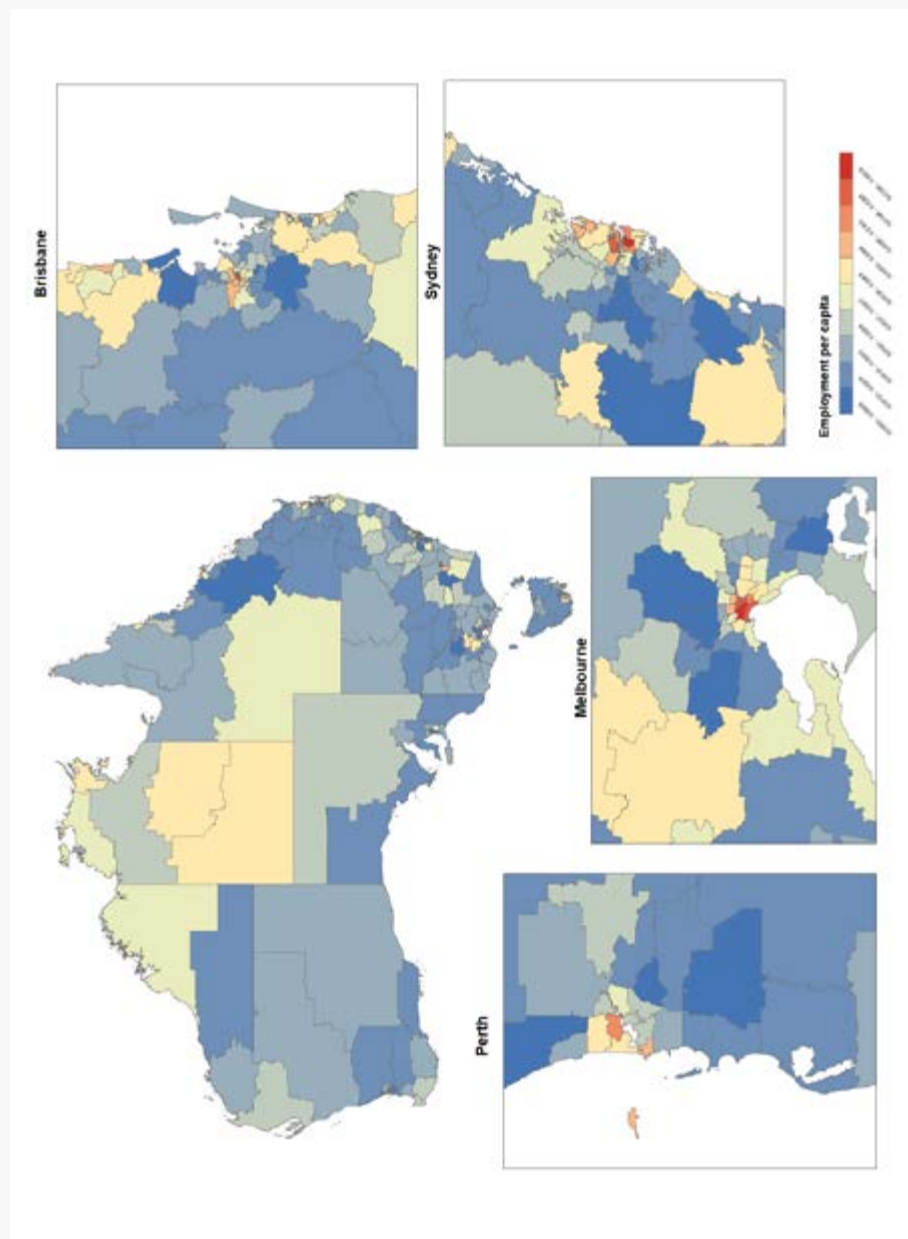
The most geographically concentrated sub-group of the creative occupations seems to be ICT, strongly clustered around the cities' CBDs, with an almost negligible representation of workers elsewhere (Figure 9). This is one of the professions that could more easily work remotely, but companies seem to stick to the central location possibly due to positive externalities when located in the core of the business districts.

Lastly, marketing jobs (Figure 10) seem to take the middle ground, with concentration around the city CBDs, but also slightly spread to the suburbs of metropolitan areas. Brisbane has an increasing number of workers in marketing, again spreading north and south of Brisbane and as far to the west as Toowoomba, which seems to be a dynamic location in this sector. Interestingly, in Perth, the marketing workers are the most geographically spread among the creative sub-groups. Outside the CBD, suburbs such as Belmont-Victoria Park and Canning have significant numbers of people in creative marketing occupations. Even more peripheral suburbs to the CBD, such as Cockburn and the Swan Valley, also have significant numbers of workers in this occupation relative to their population.

Employment in the creative occupations is concentrated in the main capital cities, with Sydney and Melbourne leading the way.

In Perth, the most geographically concentrated creative occupation is ICT. Marketing workers are the most geographically dispersed.

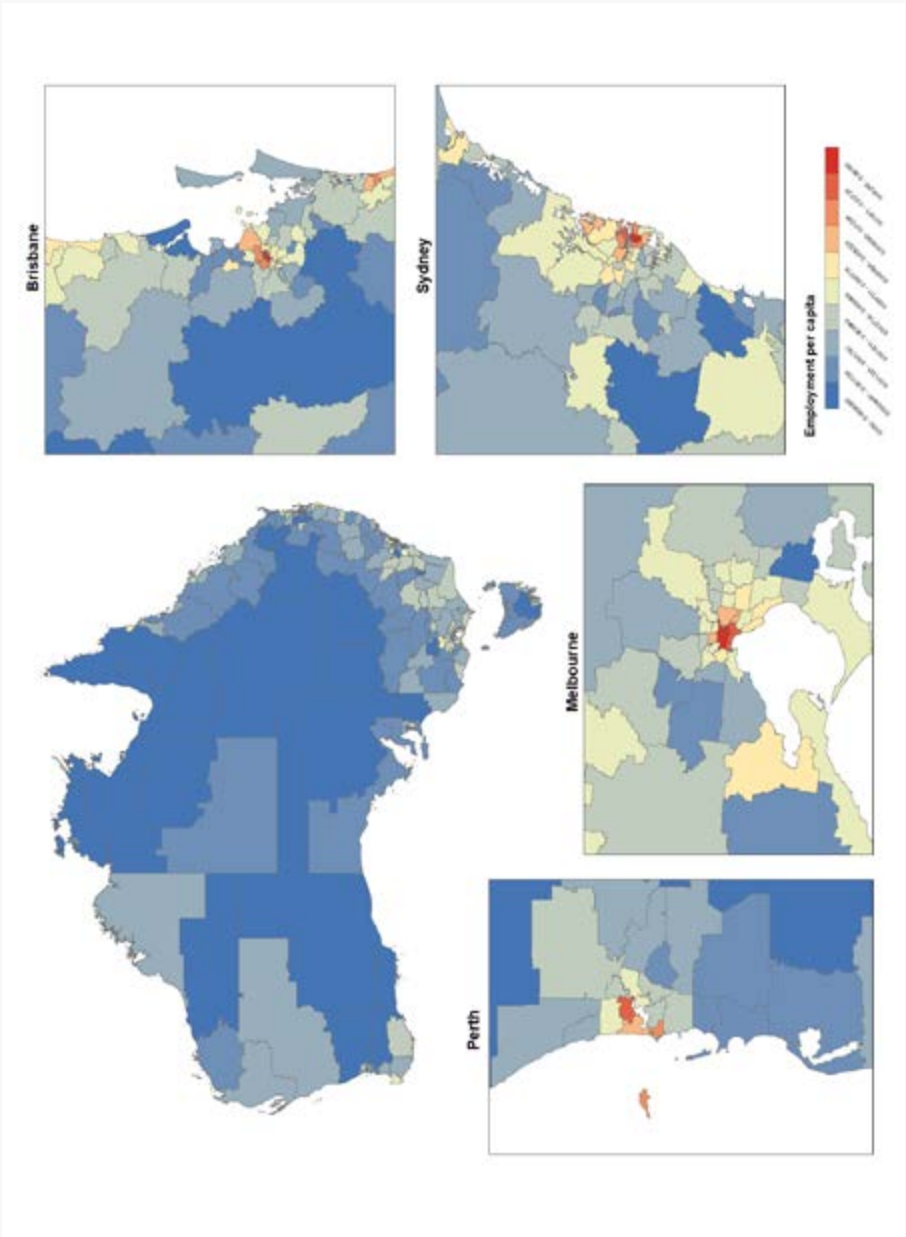
FIGURE 7
Employment per capita in traditional arts and cultural occupations by SA3, Australia and major cities



Source: Bankwest Curtin Economics Centre | Authors' calculations based on ABS Census 2016.

FIGURE 8

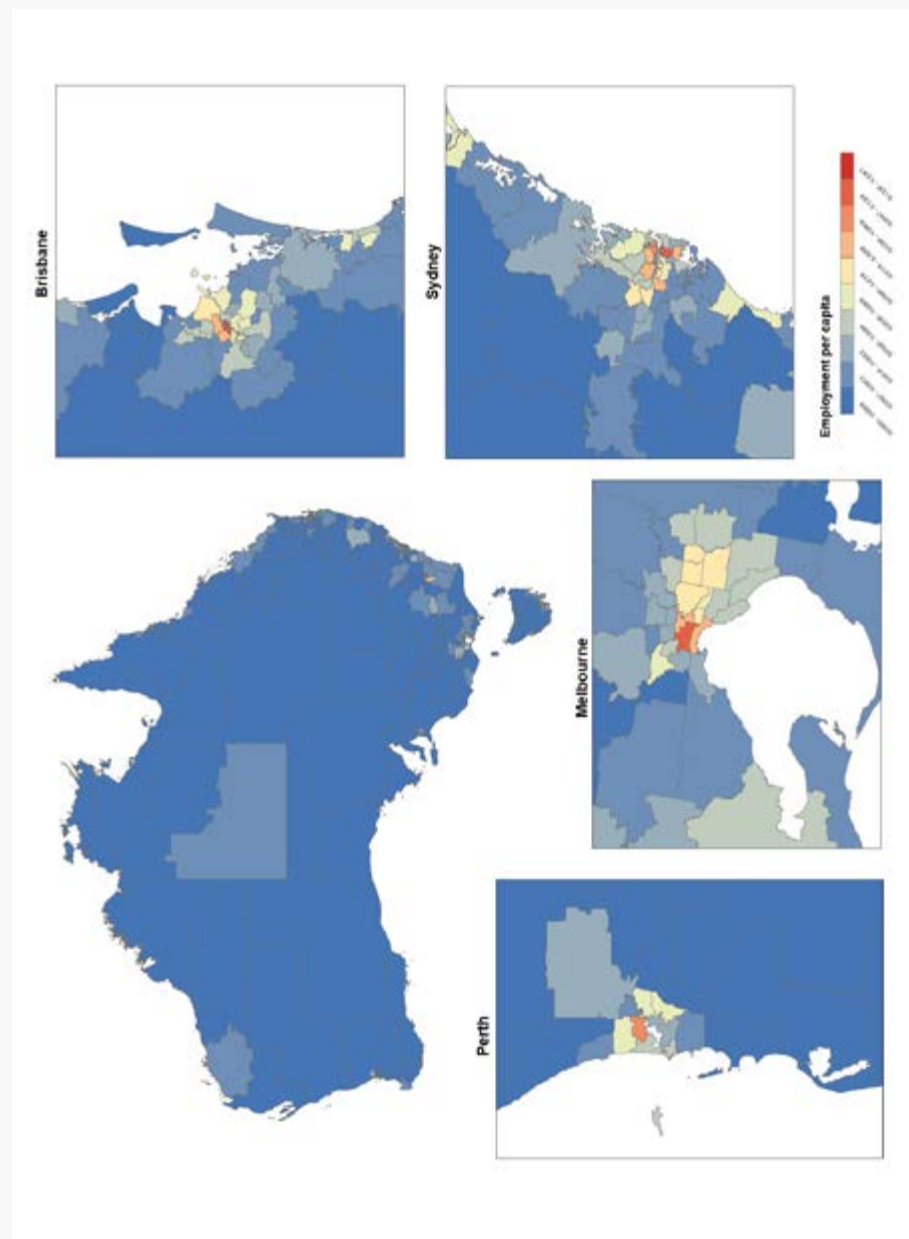
Employment per capita in design occupations by SA3, Australia and major cities



Source: Bankwest Curtin Economics Centre | Authors' calculations based on ABS Census 2016.

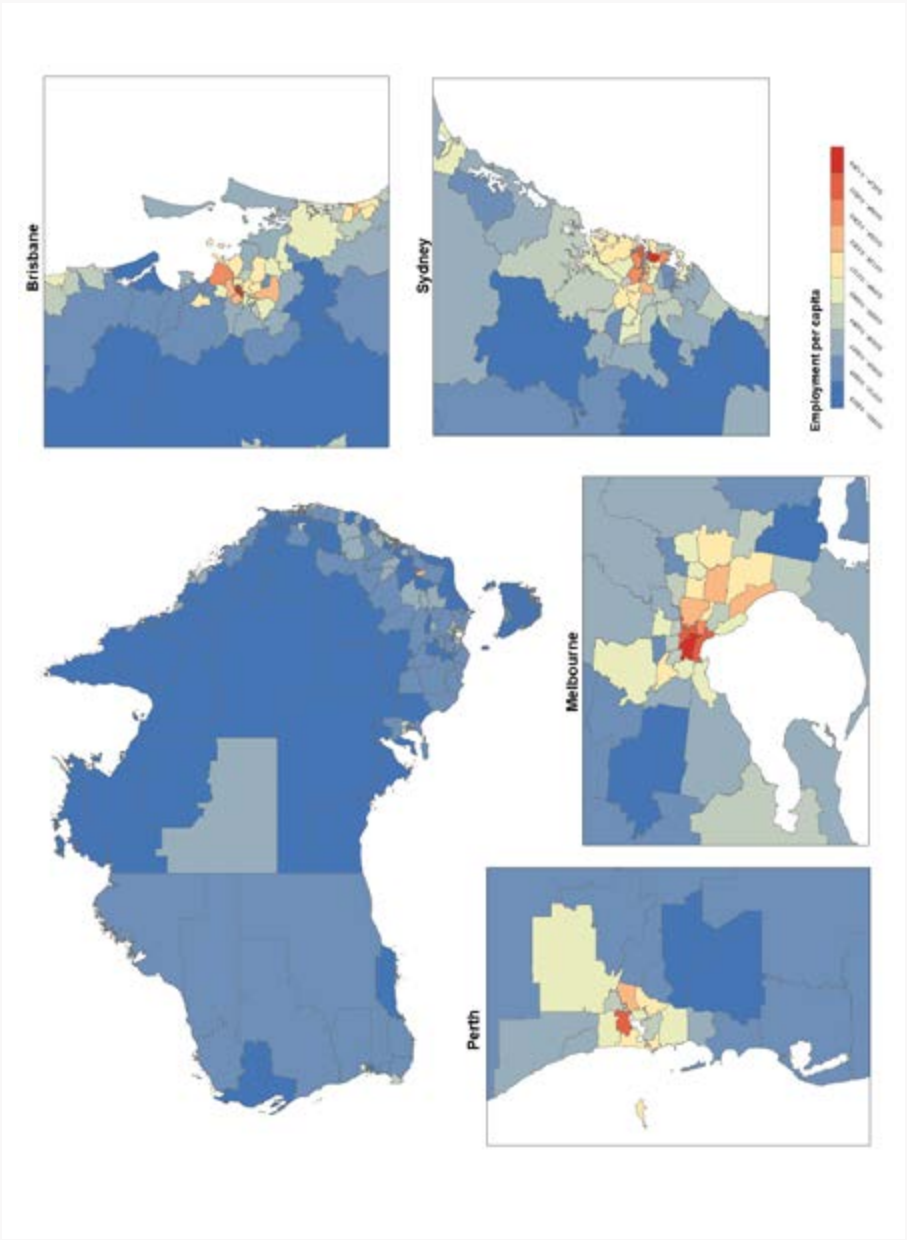
Despite the notion that ICT workers can work remotely, this sub-group is strongly clustered around cities' CBDs with an almost negligible representation of workers elsewhere.

FIGURE 9
Employment per capita in ICT occupations by SA3, Australia and major cities



Source: Bankwest Curtin Economics Centre | Authors' calculations based on ABS Census 2016.

FIGURE 10
Employment per capita in marketing occupations by SA3, Australia and major cities



Source: Bankwest Curtin Economics Centre | Authors' calculations based on ABS Census 2016.

In WA, workers in the creative occupations are twice as likely to hold a university degree or higher qualification than all employed workers.

The creative workforce characteristics

Table 1 presents selected characteristics of the creative workforce in WA. This is based on 2016 occupational data since, as noted, this provides a more concise approximation of people working in creative roles. Even for industries within the 'creative industries' grouping, creative workers are in the minority.

Some particularly distinctive features of WA's creative workers relative to WA's overall

workforce are that they are highly educated, more likely to be self-employed, middle-aged, and to work part-time; and less likely to identify as of Aboriginal or Torres Strait Islander descent. Workers in the creative occupations are twice as likely to hold a university degree or higher qualification than employed workers in WA in total (55.7 per cent versus 27.5 per cent). They are also twice as likely to work as an owner manager of an enterprise with no employees.

TABLE 1

Worker characteristics: creative occupations and all occupations, WA 2016

	Age						Employment status			
	Female	<30	<30-49	50 and over	Indig	Has university degree	Part-time	Employee	Owner manager	No employees
Art and culture	54.5%	23.1%	45.3%	31.3%	1.9%	50.1%	46.0%	55.2%	4.4%	36.3%
Marketing	47.5%	17.6%	58.9%	23.4%	0.5%	49.0%	17.3%	84.1%	6.8%	7.3%
Design	50.3%	23.0%	54.9%	22.2%	0.3%	58.2%	28.6%	64.9%	9.2%	23.9%
ICT	18.8%	14.1%	68.5%	17.5%	0.2%	72.3%	12.8%	87.1%	2.6%	9.3%
All creative occupations	43.8%	19.1%	57.4%	23.5%	0.7%	55.7%	24.1%	75.3%	6.0%	16.6%
All WA occupations	46.5%	25.5%	45.1%	29.4%	1.6%	27.5%	32.5%	83.7%	5.8%	7.9%

Source: Bankwest Curtin Economics Centre | Authors' calculations based on ABS Census 2016.

The high proportion of creative workers with university level qualifications applies across all the four sub-groups of creative workers, but is particularly pronounced in ICT. On other characteristics there is considerable variation within the sub-groups of creative workers. A relatively high proportion of marketing, design and ICT creative workers are aged 30 to 49, with commensurately lower proportions of workers in the younger and older age groups. The ICT creative occupations are starkly male dominated, with women making up less than one in five workers in those occupations in 2016.

The art and cultural workers are distinctive on a number of dimensions. The art and cultural occupations are relatively female dominated and have a similar age profile to the wider workforce. It is the only one of the four sub-groups in which part-time work is unusually prevalent, with almost one in two workers working on a part-time basis. A high proportion of art and cultural workers (36.3 per cent) and design workers (23.9 per cent) work for themselves and do not have employees, compared to the WA norm (7.9 per cent). In contrast, the proportion of marketing and ICT workers who are employees is in line with the State average. There is a relatively high representation of Aboriginal and Torres Strait Islander workers in art and culture, while Indigenous representation is very low in the design and ICT occupations. Hence, Indigenous art and culture emerges as one area of comparative advantage for WA's creative industries, as well as for the state's Aboriginal and Torres Strait Islander population, as explored further in Box 2.

Throsby and Petetskaya (2017) undertook a survey of 823 artists currently working or seeking to work as professional artists

in one of eight occupations: writers, visual artists, craft practitioners, actors and directors, dancers and choreographers, musicians and singers, composers, songwriters and arrangers, and community cultural development artists. Those results supplement our data, since we have been restricted to identifying creative workers on the basis of their main occupation, whereas Throsby and Petetskaya's survey included artists irrespective of whether that job was their primary or a secondary job. Throsby and Petetskaya find that professional artists typically spend only around one-quarter of their time on arts related work, and the most common form of arts related work is teaching. Around four in five are estimated to be self-employed or freelance in their principal artistic work, and half report utilising their artistic skills in industries outside of the arts.

In the Household, Income and Labour Dynamics in Australia Survey (HILDA), workers are asked to rate their satisfaction with a range of aspects of their jobs. The available occupational data does not allow delineation of creative workers as defined here, but it is possible to separately identify the broad group of arts and media professionals. Australian data pooled from 2001 to 2019 show that arts and media professionals have the same overall level of job satisfaction as other workers, but there is a pronounced pattern in line with stereotypes of artistic workers. They are strongly dissatisfied with their pay and job security, but highly satisfied with 'the work itself (what you do)', relative to other workers.

ICT has the smallest proportion of women, at less than 20%, compared to other sub-groups which have an almost equal distribution between men and women.

Over a third of art and cultural workers are self-employed, compared to the WA norm of less than 10%.

Indigenous art and culture emerges as one area of comparative advantage for WA's creative industries.

Box 2: The Indigenous arts and cultural sector in WA

BCEC's report, *Future-proofing the WA economy*, highlighted cultural tourism as an industry offering growth and diversification opportunities for the state. Here, we find that art and culture is the only sub-group of the creative occupations with a higher proportion of Aboriginal and Torres Strait Islander workers (1.9 per cent) than their overall representation in the State's workforce (1.6 per cent). The next highest is the marketing sub-group, at just 0.5 per cent. Individual art and cultural occupations with high Indigenous representation include visual arts and crafts professionals (6.0 per cent); artistic directors, and media producers and presenters (4.9 per cent); and actors, dancers and other entertainers (3.6 per cent) and film, television, radio and stage directors (3.1 per cent).

Creative industries with a high share of Indigenous employment in WA similarly include those related to creative and performing arts, motion picture and video production and radio broadcasting, and these have generated celebrated successes such as *Bran Nue Dae* in film and the music of the Pigram Brothers. According to the WA Chamber of Arts and Culture (2020), 61 per cent of national Aboriginal art sector sales are generated in WA. The traditional lands of Indigenous peoples host a range of significant cultural festivals each year and the State is home to numerous Indigenous theatre, dance and other arts groups.^a

Thus, arts and culture aligned with Aboriginal culture stands out as a rare and notable area of strength for WA within the creative industries. This is not to downplay that Indigenous artists also excel in many genres, and Bracknell (2019) notes that using labels such as 'Indigenous music' risks pigeonholing artists, and Indigenous musicians have adopted popular music genres such as country, folk or rock to suit their own agenda (Stubington 2007).

For many, however, their art is strongly grounded in expression of their sense of Indigenous identity and spiritual connections, including to country.^b There are compelling, strategic reasons for WA to build on this area of comparative advantage in the creative industries. One is the close alignment with tourism and the potential for enhancing their cultural experience of visitors to the state and between regions. There is strong evidence that Indigenous people's sense of identity and engagement with their traditional culture enhances their well-being and other outcomes (Dockery 2021, 2012). Indigenous themed public art can be a powerful tool for reconciliation and contribute to an enhanced sense of mutual belonging and understanding among people of different backgrounds (Malone 2007, McHenry 2011).

Art centres in remote communities play multidimensional roles as agents of economic, social and cultural development. Throsby and Petetskaya (2016) identify significant sentiment within the Kimberley communities of untapped potential for art and cultural tourism to contribute to economic development. Further, many Indigenous artists face significant barriers to pursuing an arts career. Most work part-time and are reliant on supplementary sources of income and their opportunities contingent on particular art centres (Woodhead and Acker 2015).

a. <https://www.waitoc.com/>; b. <https://www.noongarculture.org.au/art/>.

Skills demand and occupational growth

In previous research, BCEC developed a methodology for assessing the changing demand for skills associated with the changing occupation structure of employment in the economy. Also based on 2006 and 2016 census data, the approach develops a measure of the intensity with which skills in different fields are used in each occupation at the ANZSCO minor-group or '3-digit' level (97 different occupations). Full details of the methodology and results for Australia can be found in Dockery, Phillimore and Bawa (2021). The fields of skill are classified according to the Australian Standard Classification of Education, and include the field of creative arts, as can be seen in the row headings of Table 2. Briefly, the intensity of skill use in an occupation is measured by the proportion of workers with their highest post-school qualification in that field, weighted by the level of qualification. So, a worker with a post-graduate degree in the field of, say, health, is given a higher weighting than a person holding a bachelor's degree in health, who in turn attracts a higher weight than a worker with a diploma, and so on. The weights are based on the average wage premium associated with each level of qualification across the Australian population.¹

Dockery *et al.* (2021) show these measures of skill intensity by occupation to be highly stable over time, allowing changing demand for skills to be imputed from changes in employment by occupation.

Importantly, the estimates are not affected by the number of people actually gaining qualifications in different fields or at higher levels (eg. credentialism), but are driven only by the change in employment by occupation. Following this approach Table 2 shows the estimates of changing skills demand by field of education from 2006 to 2016 for WA and Australia. These estimates indicate that changes in employment in both WA and in Australia in the 10 years to 2016 have strongly favoured demand for skills in the field of health. In Australia, information technology (IT) was the second strongest area of growth, while for WA education placed second, with IT third.

Demand for skills in the field of creative arts is estimated to have grown at below the overall rate of growth in demand for skills in WA (23.1 per cent versus 27.5 per cent) and for Australia as a whole (19.8 per cent versus 21.5 per cent), but this applies to most fields given the very strong growth in demand for health and IT skills. Demand for skills in the field of society and culture, which is also likely to be required for many creative jobs, is estimated to have grown very strongly. With IT skills also underpinning many of the emerging creative industries and occupations, there is evidence of widespread growing demand for skills related to creative production.

Changes in employment by occupation between 2006 and 2016 has strongly favoured demand for skills in the field of health, IT and education. There is evidence of widespread growing demand for skills related to creative production.

¹ Standardised relative to a bachelor's degree, the weights are: 1.129 for a post-graduate degree; 1.048 graduate diploma; 1.000 bachelor's degree; 0.829 Advanced diploma or diploma; 0.722 Certificate Level III/IV; and zero for lower level skills or no post-school qualifications.

TABLE 2

Change in skill requirements by field of education: 2006-2016
(employed persons weighted by skill level)

(a) Western Australia

Field of Education	Skill-weighted employment			
	2006	2016	Change	Per cent growth
Natural & Physical Sciences	20,445	25,539	5,095	25.0
Information Technology	16,846	21,552	4,706	27.9
Engineering & Related Technologies	91,761	116,288	24,526	26.7
Architecture and Building	34,192	41,320	7,128	20.8
Agriculture, Environmental & Related	13,752	15,518	1,766	12.8
Health	53,390	76,646	23,256	43.6
Education	45,042	58,638	13,596	30.2
Management and Commerce	114,326	139,559	25,233	22.1
Society and Culture	60,908	81,092	20,184	33.1
Creative Arts	20,737	25,529	4,791	23.1
Food, Hospitality & Personal Services	23,948	29,976	6,029	25.2
All fields	497,353	633,673	136,320	27.4

(b) Australia

Field of Education	Skill-weighted employment			
	2006	2016	Change	Per cent growth
Natural & Physical Sciences	187,185	227,356	40,170	22.0
Information Technology	192,774	250,410	57,635	29.9
Engineering & Related Technologies	801,573	908,026	106,453	13.3
Architecture and Building	305,585	355,667	50,082	16.4
Agriculture, Environmental & Related	124,467	135,889	11,422	9.2
Health	536,504	728,926	192,422	35.9
Education	449,246	558,434	109,188	24.3
Management and Commerce	1,173,464	1,379,822	206,358	17.6
Society and Culture	629,419	812,242	182,823	29.0
Creative Arts	218,086	261,311	43,225	19.8
Food, Hospitality & Personal Services	238,497	280,543	42,045	17.6
All fields	4,856,800	5,898,623	1,041,823	21.5

Source: Bankwest Curtin Economics Centre | Panel (a) based Authors' calculations based on ABS Census 2006 and 2016; Panel (b) from Dockery *et al.* (2012).

There has been a concerted push to increase education and training in the science, technology, engineering and mathematics (STEM) fields, driven by arguments that STEM skills are key to innovation, competitiveness and productivity, and that the 'jobs of the future' will increasingly require workers to have these skills (see Dockery *et al.* 2021 for a review). However, if we aggregate the core fields of education included in definitions of STEM (natural and physical sciences, IT and engineering and related technologies) the evidence suggests that the nature of employment in Australia is shifting to favour skills in the creative arts more so than in the much-vaunted STEM fields. In the decade to 2016, we estimate that the changing occupational landscape increased demand for STEM skills in Australia by 17.3 per cent, compared to 19.8 per cent for the creative arts, and well below the rate of growth for skills in society and culture of 29 per cent. A different picture emerges in WA, where soaring mining activity has added to demand for skills in the STEM fields of natural and physical sciences and engineering and related technologies. In this state, we

estimate that the change in employment by occupation from 2006 to 2016 increased the demand for STEM skills by 26.6 per cent, higher than the estimated growth for skills in the creative arts but less than for skills in society and culture.

Further, Commonwealth government projections of employment by occupation out to 2024 suggest demand for skills in the fields of the creative arts and society and culture will increase more rapidly than the demand for STEM skills in the coming years in Australia (Dockery *et al.* 2021, 91). Additional analyses shows that this also applies to WA. Health and IT are expected to continue to be areas of strong skills demand in the immediate future. Given the strong intersection between IT and our industry-based and occupation-based definitions of creative work, this empirical evidence suggests the narrative of changing skills demand driven by the evolving 'future of work' would be more appropriately applied to the concept of the creative industries than to STEM.

The narrative of changing skills demand driven by the evolving 'future of work' would be more appropriately applied to the concept of the creative industries than to STEM.

Unemployment and underutilisation rates were higher than average in the creative industries, and notably in the creative and performing arts.

JOB CHARACTERISTICS OF CREATIVE INDUSTRIES IN AUSTRALIA

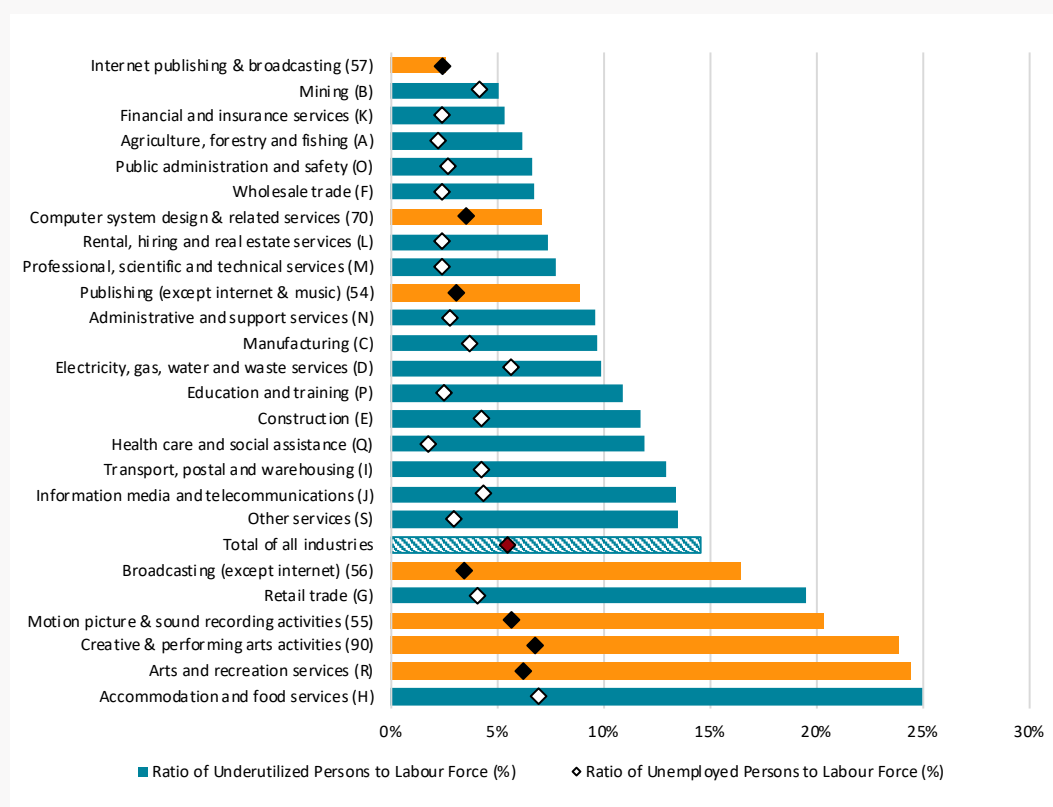
This section provides fine-level details on the relative characteristics of jobs within the creative industries compared to other industries. Because of the degree of disaggregation, data for all of Australia are used to enable more robust comparisons between industry categories.

Underutilisation and multiple jobs

The funding model of the arts industry has led to very particular employment characteristics of the workforce. As we have seen in Table 1, the traditional arts occupation has a significant proportion of part-time workers and own contractors, which contributes to precarious conditions in the workforce.

FIGURE 11

Unemployment and Underutilisation by selected industries, Australia, 2017-18



Source: Bankwest Curtin Economics Centre | Authors' calculations based on ABS data, Jobs in Australia, 2017-18.

Of particular concern are the rates of underutilisation of some sectors of the arts industry. Unemployment (based on industry of last job) is one to two percentage points higher than the average of all industries, especially for workers in the creative and performing arts activities (7 per cent), which constitute the 'traditional' arts employment category. On the other side of the spectrum, publishing and broadcasting have some of the lowest unemployment rates, as small as 2-3 per cent.

The same polarisation can be observed in rates of underutilisation. Internet publishing and broadcasting has one of the lowest underutilisation rates, with only 3 per cent of the labour force in this industry looking for longer hours of work or occupying a job that requires lower levels of skill. Workers in computer system design and in the industry category of publishing (other than internet and music) also have well below average underutilisation rates, only 7 per cent and 9 per cent respectively.

However, once again, workers in the 'traditional' arts sectors such as the motion picture, sound recording and creative and performing arts activities have strikingly high rates compared to other industries, between 20-24 per cent. Overall, in the arts and recreation division, one out of four people would like to work more hours than they do now or are overqualified for the type of job they have.

This underutilisation in the sector has led to an increasing number of secondary job holders in the industry, who look for work elsewhere to be able to maintain their living standards. Figure 12 shows the ratio of second jobholders to first jobholders for different industry divisions and arts groups.

A look at the creative industries (in orange bars) show that the creative arts sector has some of the highest secondary job rates of all industries. Over 43 per cent of people hold a secondary job in the motion picture and sound recording activities relative to the number of first job holders in this sector. This percentage declines to 39 per cent for broadcasting (except internet), 36 per cent for the arts and recreation division and between 33-35 per cent to the internet publishing and broadcasting, general publishing and the creative and performing arts activities. This compares to 30 per cent on average of all industries.

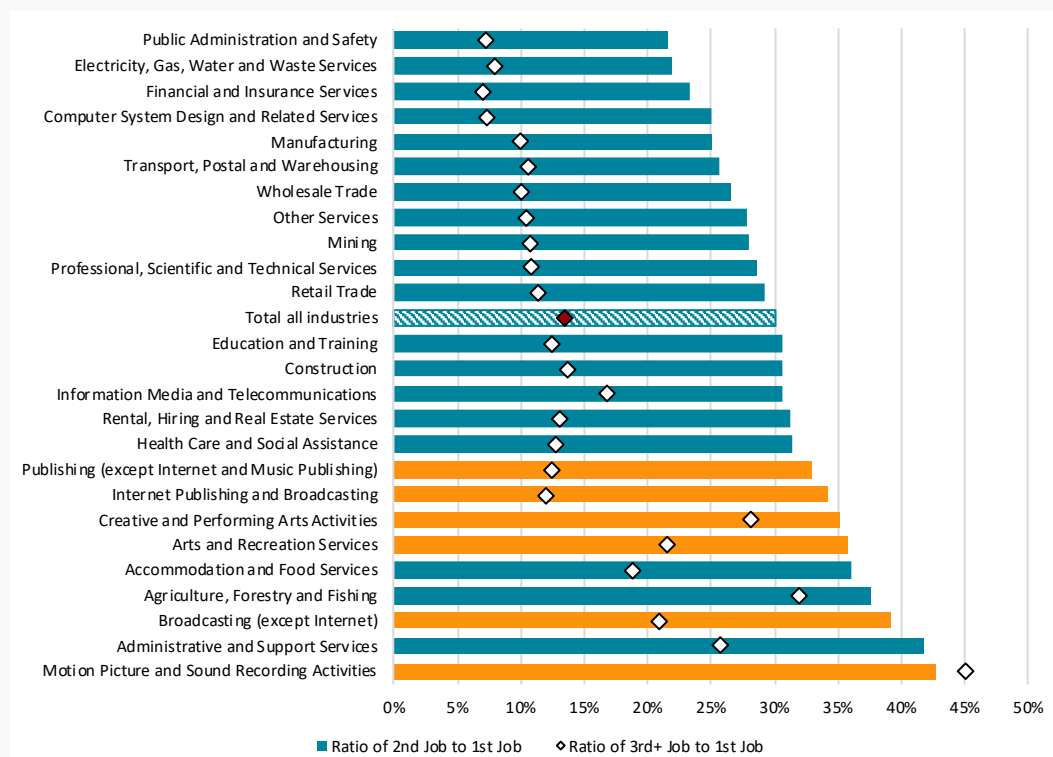
Motion picture and sound recording activities have the highest ratio of secondary job holders, close to 43%.

The average annual incomes of workers in the traditional arts industries is around \$20,000 below the population average.

Hourly rates in the creative arts are similar to the average for all industries.

FIGURE 12

Multiple job holders by selected industries, Australia, 2017-18



Source: Bankwest Curtin Economics Centre | Authors' calculations based on ABS data, Jobs in Australia, 2017-18.

Income and pay gap

Another important side of precarious employment comes from differences in earnings. Figure 13 shows the annual income and hourly pay rate of different industry divisions and arts groups. On one side, computer system design services has the second highest annual income after mining, on average \$120,000. Publishing and information media and telecommunications are also at the top end of the distribution, only around \$10,000 per annum short of the computer system design's income. All of the above groups also have similar hourly income, close to \$65 per hour.

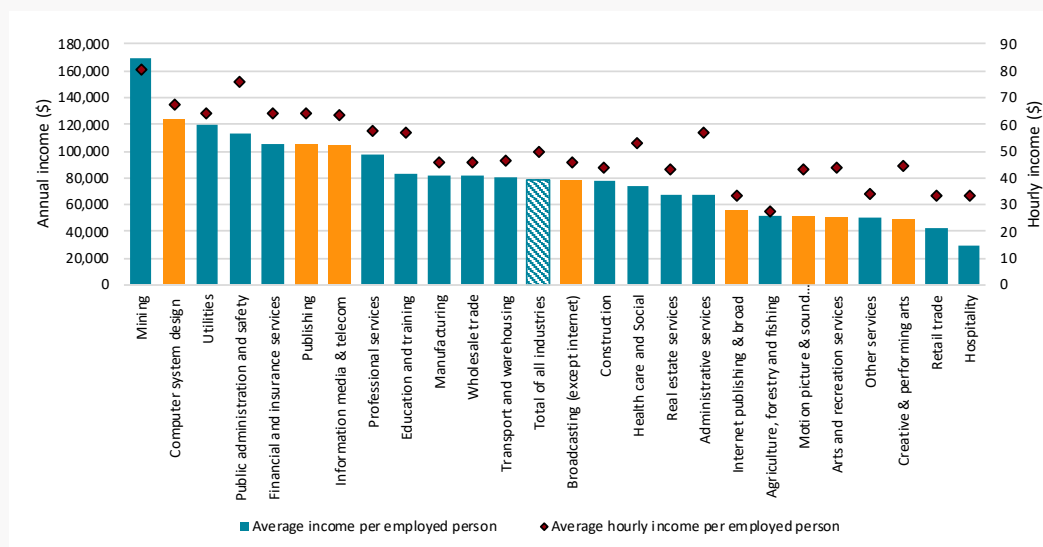
On the other side, traditional arts industries such as creative and performing arts, motion

picture and sound activities and internet publishing and broadcasting are on the lowest tail of the distribution, with income lower than \$55,000 per year. That is more than \$20,000 below the population average. Only workers in retail trade and hospitality have lower annual incomes.

Furthermore, hourly rates are also lower than average, close to the \$45 mark. Even though the difference in hourly rates is not as significant, it does show that contrary to what some people think, workers in the art industry do not work few hours with high wages per hour. In fact, hourly rates are quite similar to that of the overall population. This means that, in general, the workforce in the art industry has among the lowest labour incomes of all.

FIGURE 13

Income and per hour wages by selected industries, Australia, 2017-18



Source: Bankwest Curtin Economics Centre | Authors' calculations based on ABS data, Jobs in Australia, 2017-18.

A deeper look at the distribution of wages reveals some interesting differences by gender. The top left panel of Figure 14 shows the overall distribution of annual labour income between men and women in Australia. We observe that the distribution is skewed to the left for women, which means that on average, there is a higher proportion of women with lower wages than men and a lower proportion of female high income earners. This difference is even more pronounced in the high income industries such as mining, where there is close to a 10 percentage point difference between genders.

However, we do not necessarily observe the same trend in all of the creative industry sectors. In particular, the more traditional arts sectors of motion picture, sound recording and creative and performing arts have a significant proportion of workers at the bottom of the wage distribution, as is reflected by an overall low income in the sector. But the income gap between men and women seems to be negligible. There

is indeed a slightly higher proportion of women earning low wages but the overall spread is quite similar.

Having said that, other types of creative art workers such as those in broadcasting, publishing and computer system design seem to follow a similar progression in the income distribution as the average of Australian industries. They all peak at around \$80,000 per year for both genders but on the left side of the peak there is a higher proportion of women relative to men and a lower proportion in the right hand side. This shows that women in these occupations have significantly lower annual incomes compared to men.

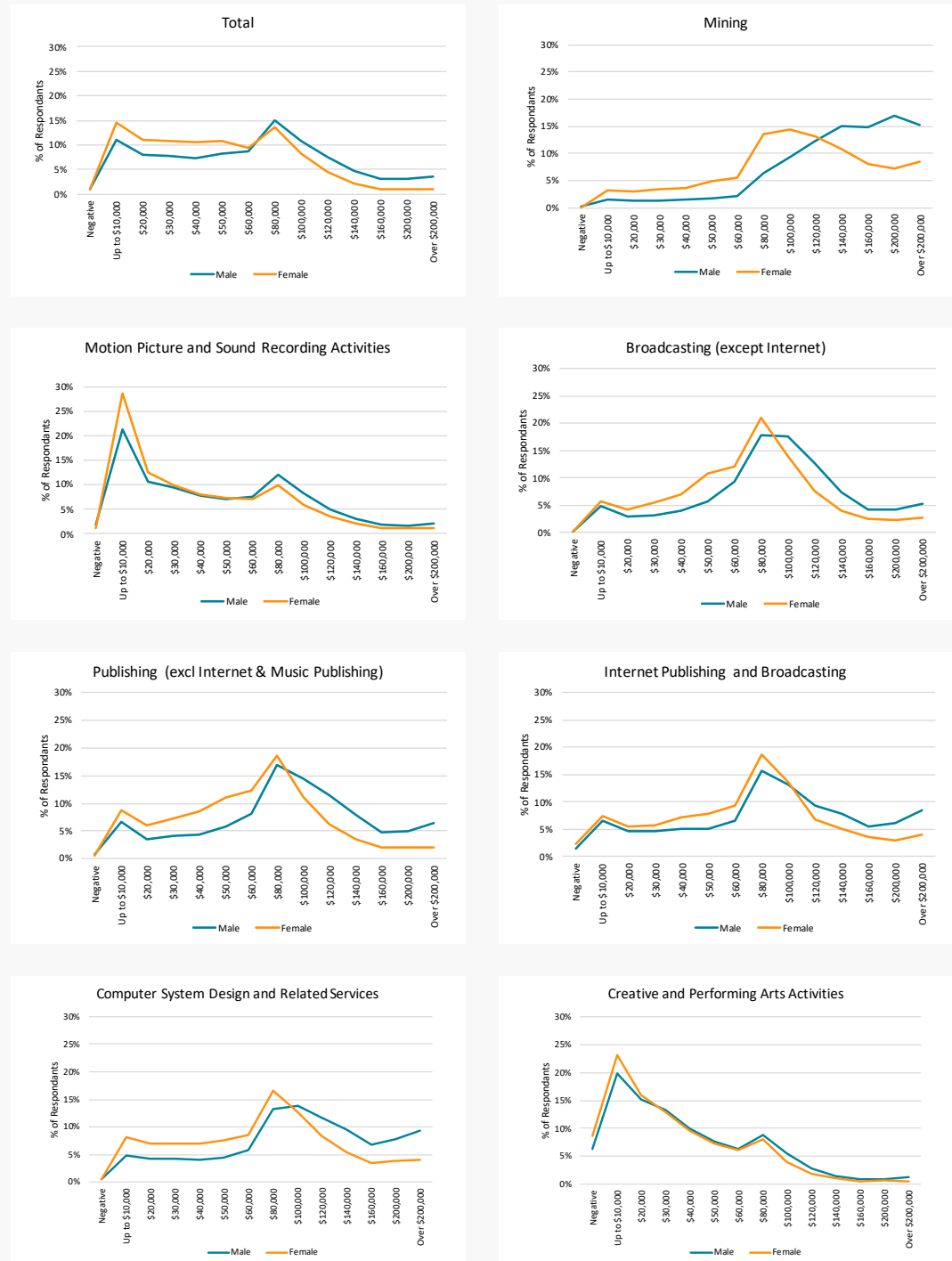
These results corroborate wage gap trends already observed in other industries. In sectors where wages are on average low, the wage gap between men and women is low as well. However, in industries where wages are on average high the gender wage gap is elevated. This also seems to be true for the creative arts groups.

The income gap between men and women seems to be negligible in the more traditional arts industries.

As is typically the case across industries, the wage gap in the creative industries is larger in industries with higher wages.

FIGURE 14

Gender wage gap (annual incomes) by selected industries, Australia, 2017-18



Source: Bankwest Curtin Economics Centre | Authors' calculations based on ABS data, Jobs in Australia, 2017-18.

CREATIVE INDUSTRIES AND SMART SPECIALISATION

One of the main policy directions from the WA government is the 'Diversify WA' economic development framework. This strategy aims to decrease the WA economy's reliance on the mining sector.

The smart specialisation approach identifies priorities for regional development. It takes into account what a region is good at and the diversity of its industry portfolio to investigate what are the optimal options for diversification. This is the analysis that we will undertake in the following section. For more details about this framework and methodology, please refer to Future-Proofing the WA economy (Bond-Smith *et al.*, 2019).

Relative Comparative Advantage

The analysis above suggests the traditional art and cultural sector presents, especially in regional areas where a high proportion of the workforce is located.

To analyse this industry in more depth, Figure 15 shows the relative comparative advantage (RCA) of the aggregated creative arts industry as per the Queensland University of Technology (QUT) classification (Higgs and Lennon 2014, see appendix 1). The RCA measures show how strongly an industry is represented in a region's workforce and is an indication of whether the region specialises in that activity. The RCA indicates how prolific an industry in a given region is. The advantage of the RCA is that it could signal the maturity or the stage of development of an industry for a given locality. Our analysis reveals comparative advantages by comparing the industrial portfolios of regions across Australia.

As expected, for the creative industries, the metropolitan CBD's lead the pack on this front, with Sydney and Melbourne having the

highest RCA. Sydney's RCA extends all the way through the harbour up to the coastline and eastern suburbs. Brisbane has a RCA in the creative industries in the CBD, but also in pockets around Noosa and in the Gold Coast hinterland SA3.

In WA, other than in the Perth region, there is a small relative comparative advantage in the Kimberley as well as in the South West region. Some of this advantage may come from Indigenous artists in the north as well as a significant pockets of art designers and 'traditional' creative workers in the South West.

Perth on the other hand, also has a RCA in the CBD, however this is not as pronounced as in Melbourne, Sydney, Brisbane or even Canberra. Perth's RCA is around 1.6 which means that Perth has on average 1.6 times as many workers in the creative arts industry as the average of Australia, taking into account population size. If we look at the individual creative art industry categories² (see Table 3) for Perth, jewellery manufacturing has the highest RCA, close to 6. This is by far the highest RCA in WA of any creative art industry. However, other regions such as Belmont-Victoria Park (4.3), the South West (2.6) and the Kimberley (1.8) also have RCAs well above average in jewellery manufacturing.

As we have observed in the employment figures, Perth city also holds a significant relative advantage in design (1.8), with architects, urban planners and computer system designers concentrated around the business district, suggesting positive externalities associated with a high concentration of these workers in the area.

The smart specialisation approach identifies priorities for regional development.

² For an in-depth description of all the industry groups included in the broader creative art categories, see Appendix 1.

Jewellery
manufacturing has
the highest RCA
in WA of any
creative industry.

Box 3: The WA music scene

In 2014 and 2015, Western Australian Music (WAM) estimated that the total economic impact of contemporary music in WA amounted to \$655 million in revenue, \$330 million in value add, employment as a main job for 2,933 persons and wages and salaries that equated to \$149 million. Although, due to underreporting, these significant impacts are an underestimation of the true value of contemporary music to WA (Powell *et al.* 2016). Western Australian contemporary music is also praised for its unique and diverse sound (Stratton 2008), over the decades it has produced both nationally and internationally recognised acts such as Eskimo Joe, Little Birdy, Gyroscopic (nationally) and Tame Impala and San Cisco (internationally).

As per many successful industries, the WA music scene faces its own challenges, such as its geographical location. The WA music scene is largely defined by the music scene in Perth, as the capital, and with regional towns significantly underdeveloped and posing high costs (Ballico and Bennett 2010). Perth, however, is considered to be on the periphery of the music industry market, principally located over east. Coupled with the geographical isolation of Perth, this has been favourable for the local scene because it has forced the industry to invest in its local talent and networks, resulting in its self-sustenance. Although, some artists have viewed this isolation as a barrier when trying to reach a wider audience due to the costly investments associated with travelling over east (Ballico 2013).

In order for musicians to develop their craft, their career and enhance their skills, it is imperative for them to have live performances (Ballico 2011). The lack of regional touring in WA, due to the high costs alongside the lack of funding for regional tours, (Ballico and Bennett 2010) has caused the WA live music industry to be largely Perth based. Creative hotspots have been identified in Fremantle and inner city Perth (Ballico 2011). Fremantle has produced various unique acts and artists, where acts have had the opportunity to practice in isolation, giving rise to new innovative and interesting ideas that have spurred development when compared to counterparts in other states (Hearn *et al.* 2020).

The pandemic has been the downfall for many live performances globally and nationally, however it has been beneficial for some local bands and musicians in WA, given that they have had to fill in the gaps left behind by the cessation of national and international tours.^a Andrew Ryan, managing director of Mojos, has observed that “There’s still no national or international acts, so it’s been actually positive as a breeding ground [for talent]”.

Although Perth can lay claim to a proven and successful track record in developing local artists, the music scene in Australia, let alone Perth seems to not satiate artists’ appetite and resultantly most internationally recognised artists are not based in Australia, choosing to move abroad in order to “make it big”. This has been a trend over decades, with WA and Australia producing talented musicians whilst at the same time watching them leave the state or country and rise to even more prominence after so doing.

Those who choose not to leave Australia rely heavily on international touring, which has been affected by COVID-19 restrictions. In 2021, the Australian government announced the Sounds Australia Export Stimulus (SAES) Package of \$1.2 million that would aid Australian artists and crew to return to international performances and add to the music export industry. This package will aid in various areas such as costs associated with visas, international flights and freight, travel for managers and hotel quarantine for activities taking place from 1 October 2021 and onwards.^b

a. <https://www.abc.net.au/news/2021-01-24/wa-live-music-scene-boosted-during-covid-19-pandemic/13085590>;

b. <https://www.arts.gov.au/departamental-news/international-boost-australian-music>.

The operation side of the creative industry is almost entirely located in the CBD, with museums and libraries being quite predominant in the area. Only Fremantle has a significant comparative advantage in operation services in WA (2.3), again due to the concentration of museums and heritage sites.

North of the CBD, the city of Stirling also shows interesting relative comparative advantages. Stirling has the highest RCA of the literature and print industry of all WA. For every person that works in this industry in Australia, Stirling has three and a half times more. This is due to the concentration of newspapers such as the West Australian, among others operating close to Osborne Park. TV and radio professionals along with internet publishing and broadcasting also have RCAs higher than two in the City of Stirling.

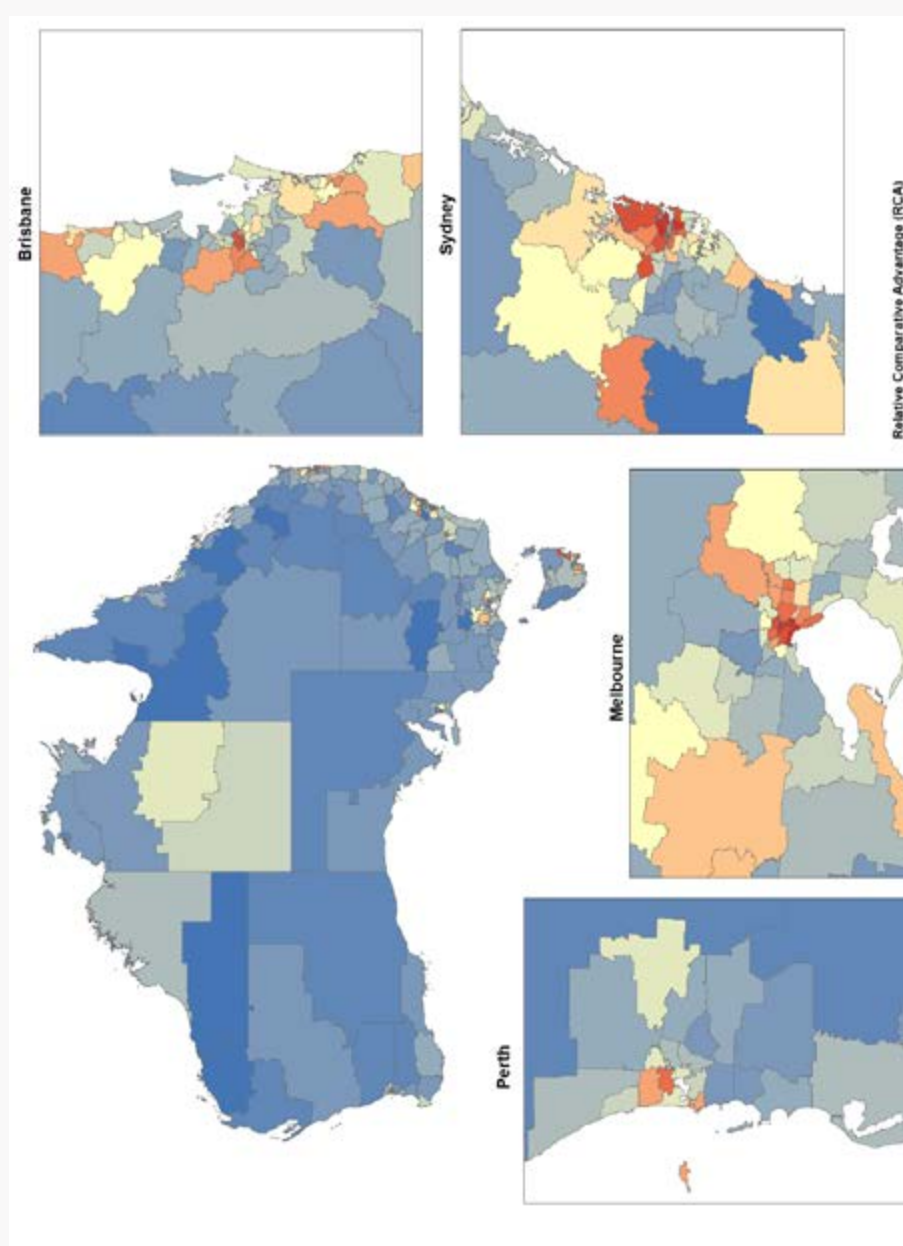
After the Perth CBD, Fremantle has the second highest RCA numbers in WA, but contrary to Perth, the types of creative industries are more evenly spread. Overall, for each Australian worker in the movies, music, and traditional artists (i.e. performing artists such as dancers, painters, photographers, etc.) there is at least two in Fremantle. In fact, Fremantle, has the highest RCA of traditional artists of all the state (2.3). It is worth noting that musical performers are included in the artists' category and not in the music group, which relates to music publishing and recording. The available data make impossible to differentiate between types of performers.

The areas of RCA for traditional arts are spread over several pockets: the South West region (1.3) and the Kimberley (1.4) in regional areas, and Mundaring (1.7) and Bayswater (1.9) close to the metropolitan area. This is quite interesting for the diversification strategy of WA, suggesting potential for developing alternative employment opportunities to mining, especially in the Kimberley region. Furthermore, as noted in Box 2, there is evidence of substantial economic development opportunities in Aboriginal communities linked to art and culture. The painting and sculpture industry is quite established but other forms such dance and music could develop further to offer other paths of employment in Aboriginal communities.

The music industry is well-established in WA (See Box 3). This can be seen in the high RCA of this industry in the Perth metropolitan area. In short proximity of the CBD, Bayswater-Bassendean has the highest RCA of the industry, close to 4. Followed by Melville (3.1), Perth CBD (2.6), Fremantle (2.6) and Stirling (1.9). This geographical spread suggests that people working in the music business are quite likely to work from home. Therefore, all the peripheral areas to the main events venues (CBD and Fremantle) with relatively affordable housing prices are favoured by musicians and the industry workers.

Fremantle has the second highest relative comparative advantage figures in WA.

FIGURE 15
Creative industries' relative comparative advantage by SA3, Australia and major cities, 2016



Source: Bankwest Curtin Economics Centre | Authors' calculations based on ABS Census 2016.

TABLE 3

Relative comparative advantage by creative industry, WA, 2016

	Jewellery	Literature and print	Movies	Music	TV and Radio	Internet	Design	Traditional Artists	Operations
Perth City	5.6	0.9	0.7	2.9	1.0	1.1	1.8	1.6	1.0
Stirling	0.6	3.5	0.8	1.9	2.6	2.2	0.8	0.3	1.0
Fremantle	0.4	1.1	2.1	2.7	0.2	-	0.8	2.3	2.3
Bayswater - Bassendean	0.4	0.3	0.5	4.1	0.1	-	0.6	0.4	1.9
Melville	0.9	0.6	0.4	3.1	0.1	0.6	0.6	0.2	0.8
Belmont - Victoria Park	4.4	0.4	0.2	0.4	0.2	-	0.5	0.6	0.6
Augusta - Margaret River - Busselton	2.6	0.5	0.3	-	0.2	-	0.4	1.0	1.3
Kimberley	1.9	0.3	0.2	-	1.3	-	0.2	0.8	1.5
Cottesloe - Claremont	0.7	0.4	0.5	-	0.1	1.5	0.7	0.6	1.0
Mandurah	1.5	1.1	-	-	0.5	0.5	0.3	0.6	0.8
Joondalup	0.7	0.5	0.5	0.8	0.2	0.5	0.5	0.5	0.9
Rockingham	1.0	0.5	0.3	-	0.1	1.7	0.3	0.2	0.6
South Perth	1.0	0.4	0.3	-	0.6	-	0.8	0.3	1.0
Armadale	0.8	0.6	0.2	-	0.1	1.1	0.3	0.3	0.8
Mundaring	-	0.6	0.3	-	0.1	-	0.6	0.4	1.7
Wanneroo	0.9	0.2	0.2	-	0.1	0.6	0.4	0.4	0.7
Albany	0.6	0.7	0.2	-	0.4	-	0.3	1.0	0.6
Gosnells	0.6	0.1	0.3	1.3	0.1	-	0.3	0.3	0.6
Swan	0.4	0.3	0.1	0.9	0.2	-	0.4	0.4	0.6
Bunbury	0.3	0.6	0.5	-	0.7	-	0.2	0.6	0.4
Cockburn	-	0.2	0.4	0.6	0.1	0.6	0.3	0.3	0.7
Canning	0.4	0.3	0.1	0.4	0.1	-	0.5	0.9	0.3
Goldfields	0.4	0.3	0.8	-	0.2	-	0.1	0.5	0.3
Kalamunda	-	0.5	-	-	0.3	-	0.4	0.3	1.0
Mid West	0.7	0.2	0.1	-	0.1	-	0.2	0.6	0.4
Manjimup	-	0.7	-	-	-	-	0.1	0.5	0.7
Wheat Belt - North	-	0.2	0.1	-	0.1	0.6	0.1	0.4	0.3
Kwinana	-	-	-	-	0.1	-	0.2	1.1	0.6
Esperance	-	0.4	-	-	0.2	-	0.2	0.4	0.6
Wheat Belt - South	-	0.1	-	-	0.2	-	0.1	0.5	0.2
Gascoyne	-	-	-	-	-	-	0.2	0.4	0.4
Serpentine - Jarrahdale	-	-	-	-	0.3	-	0.3	0.3	-
West Pilbara	-	0.1	0.1	-	0.1	-	0.1	0.3	0.1
East Pilbara	-	0.1	-	-	0.1	-	0.0	0.1	0.2

Source: Bankwest Curtin Economics Centre | Authors' calculations based on ABS Census 2016.

Related Industries

The setup of any new industry involves risk, but risk can be minimised by building on WA's existing capabilities. To do so, we need to know what opportunities are most feasible given the current capabilities of our regions. The concept of relatedness helps us to do that by revealing the closest related industries or technologies to existing comparative advantages. Relatedness shows how closely two industries are linked to one another, in terms of their tendency to be geographically co-located across all of Australia. In order to better understand this

concept, we can imagine an industry such as sheep farming. In close proximity to places where sheep farming is developed, we find other industries related to agriculture, such as fertilizers, textile manufacturing and manure composting. We can assume that if we often find these industries close to each other, they are likely to be related.

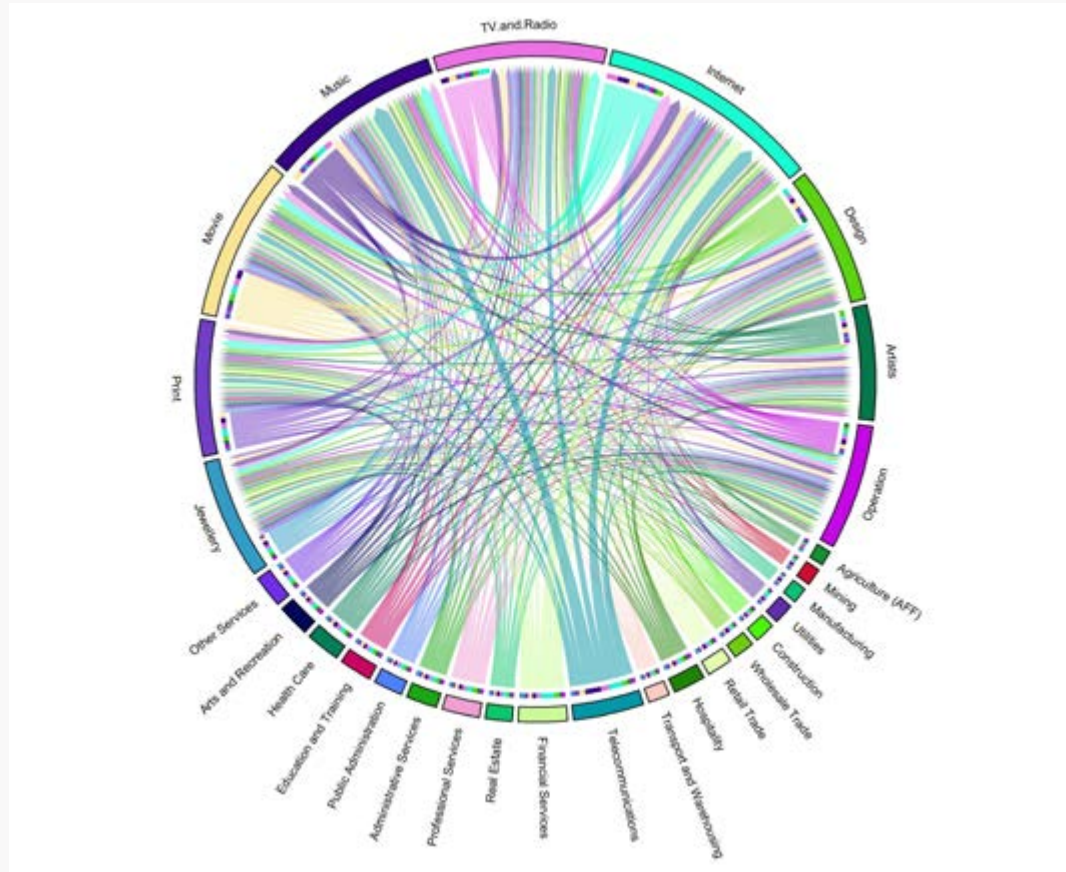
Figure 16 illustrates the most important related industries to the creative arts. Interestingly, the creative arts categories do not seem to exhibit any particular strong relationships, but rather a quite even spread of linkages across a well-diversified set of related industries.

The creative arts are well integrated across all sectors of the economy.

The creative industry sectors are significantly related to health care services.

FIGURE 16

Related industries to creative arts, Australia, 2016



Source: Bankwest Curtin Economics Centre | Authors' calculations based on ABS Census 2016.

Nevertheless, information media and telecommunications, as well as financial and insurance services have slightly stronger relationships compared to other industries. Both of them are highly related to internet publishing and broadcasting and the former is also significantly linked to the music industry. Within the creative industries, relationships between the different categories can be seen, but are generally quite weak, with the internet category having the strongest relationship to other creative sectors.

Overall, this means that the creative arts are well integrated across all sectors of the economy, with their growth fortunes likely

to have modest repercussions across other industries in the country.

These findings are confirmed by the relatedness data presented in Table 4, where we observe quite small numbers for the top ten related industries (0-100). Among them, we observe some clear patterns. First, all of the creative industries are significantly and consistently related to each other. Second, most of the creative industry sectors are related to health care services and to library and information services. Lastly, there is also a significant link between some of these industries and the auxiliary financial and insurance services.

TABLE 4**Top ten related industries to the creative arts categories, Australia, 2016**

Related industries	Jewellery	Related industries	Artists
Personal Care Services nfd	10.14	Private Households Employing Staff	4.04
Pipeline and Other Transport nfd	7.57	Library and Other Information Services nfd	2.83
Agriculture Forestry and Fishing Support Services nfd	7.27	Other Health Care Services nfd	2.73
Auxiliary Finance and Insurance Services nfd	6.54	Private Households Employing Staff	2.49
Other Repair and Maintenance nfd	5.24	Design	2.28
Other Personal Services nfd	4.63	Movie	2.25
Floriculture Production Under Cover	4.21	Management Advice and Related Consulting Services	2.12
Fish Trawling Seining and Netting	3.76	Market Research and Statistical Services	2.00
Textile Clothing and Footwear Wholesaling nfd	3.56	Music Publishing	2.00
Other Information Services	3.56	Cafes and Restaurants	1.84

Related industries	Movies	Related industries	Music
Library and Other Information Services nfd	7.42	Library and Other Information Services nfd	40.07
Other Health Care Services nfd	7.16	Other Health Care Services nfd	19.31
Music Publishing	4.80	Personal Care Services nfd	16.52
Personal Care Services nfd	4.59	Music Publishing	16.48
Motion Picture and Video Distribution	4.33	Motion Picture and Video Distribution	6.45
Internet	3.40	Beverage Manufacturing nfd	6.28
Music	3.38	Reproduction of Recorded Media	5.28
Private Households Employing Staff	3.24	Other Basic Polymer Manufacturing	5.10
TV and Radio	3.12	Clothing Footwear and Personal Accessory Retail	4.75
Design	2.50	Photographic Optical and Ophthalmic Equipment Manufacturing	4.75

Related industries	TV & Radio	Related industries	Internet
Library and Other Information Services nfd	10.14	Other Health Care Services nfd	25.60
Other Health Care Services nfd	7.57	Personal Care Services nfd	21.90
Other Information Services	7.27	Music Publishing	15.61
Other Personal Services nfd	6.54	Other Information Services	15.37
Music Publishing	5.24	Auxiliary Finance and Insurance Services nfd	14.13
Internet	4.63	Health and General Insurance nfd	12.98
Other Transport nec	4.21	Insurance and Superannuation Funds nfd	10.83
Personal Care Services nfd	3.76	Motion Picture and Video Distribution	8.55
Motion Picture and Video Distribution	3.56	Gambling Activities nfd	8.44
Other Administrative Services nfd	3.56	Data Processing Web Hosting and Electronic Information Storage Services nfd	8.23

Related industries	Design	Related industries	Literature & Print
Legal and Accounting Services nfd	3.60	Library and Other Information Services nfd	5.95
Library and Other Information Services nfd	3.30	Other Health Care Services nfd	5.74
Music Publishing	3.29	Music Publishing	3.50
Domestic Government Representation	3.26	Internet	3.19
Other Health Care Services nfd	3.18	Pipeline and Other Transport nfd	2.75
Private Households Employing Staff	2.91	Agriculture Forestry and Fishing Support Services nfd	2.64
Management Advice and Related Consulting Services	2.86	Other Information Services	2.59
Auxiliary Finance and Insurance Services nfd	2.85	Personal Care Services nfd	2.46
Other Personal Services nfd	2.79	Motion Picture and Video Distribution	2.28
Other Auxiliary Finance and Investment Services	2.79	Health and General Insurance nfd	2.25

Source: Bankwest Curtin Economics Centre | Authors' calculations based on ABS Census 2016.

The Mid West and the Bunbury area are the only WA regions with a higher than average relatedness density of the creative arts industries.

If we have a detailed look at the traditional artist industry, we can confirm the consistency of our results. The strongest relationship is with private households employing staff, as people employing photographers, music bands and other artists for weddings and birthdays, is a main source of employment for traditional artists. Also, cafes and restaurants serve the same role by employing artists for their venues. Design and movies are the other categories of creative arts showing significant relatedness. Management advice is also related to this category, artists' managers are an integral part of this industry. Finally, we can see how market research and statistical services are related to artists, possibly through the advertisement and designers side of the arts industry.

Relatedness Density

The RCA and industry relatedness allow us to find the relatedness density of the different regions. The relatedness density for one sector informs us how many of that sector's related industries are already present in the region (such as its typical suppliers and customers) and would therefore allow for further development or start-ups in that sector. Hence, the relatedness density captures the capabilities of a given industry to develop in a particular location.

The concept of relatedness density is important, as it provides a guide to which industries a region can target for development - ones that relate to existing sectors but are not yet established locally. This will decrease the risk of diversification by building on current strengths. It is a more 'organic' growth rather than imposing a given industry in a random locality.

If we follow from our previous example of sheep farming, the relatedness methodology 'revealed' that this industry was related to grain growers, fertilizers, textile manufacturing and manure compost. For the sake of this example, let's assume that only these industries are related to sheep farming. If a region has all of these

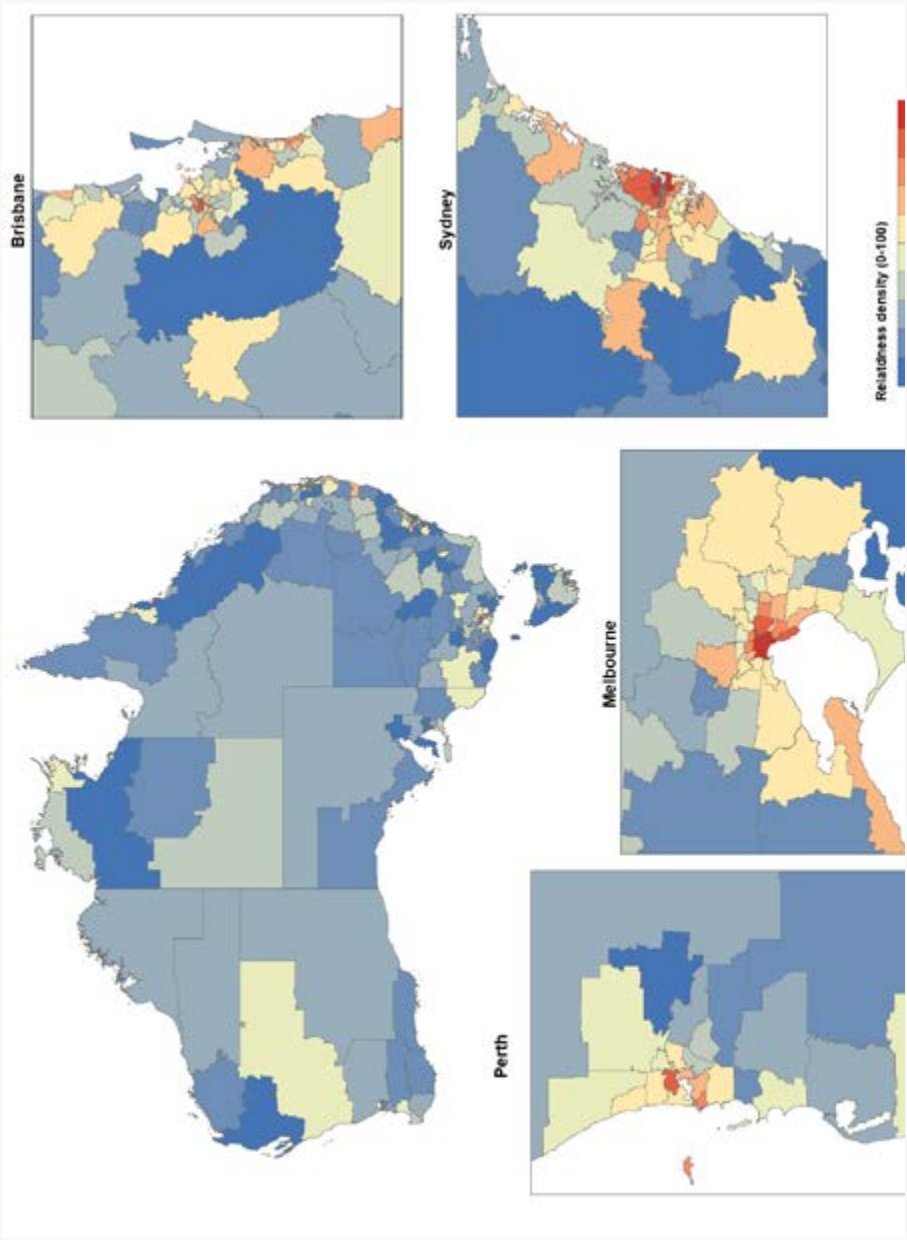
industries well developed locally then the relatedness density index will equal 100 per cent. If the region only has fertilizers and textile manufacturing as established industries, the locality only has half of the capabilities of sheep farming, therefore the relatedness index would equal 50 per cent.

Figure 17 and Table 5 show the relatedness density Australia wide and in WA, respectively for the creative industries. The relatedness density in Australia is significant in cities' CBDs, as we could expect, and in particular for Sydney and Melbourne. In these two cities, the relatedness density spreads quite evenly as you go further from the CBD, especially in the east side of Melbourne and close to the harbor and coastline of Sydney up to Newcastle. In Brisbane, on the other hand, there are four main areas where the relatedness density of the creative arts industry is important. Brisbane CBD, the Noosa area to the north and Gold Coast, the Richmond Valley-Coastal SA3s to the South and finally Darling Downs to the west.

A look at WA reveals some interesting patterns in the regional areas. Notably, the Mid West and the Bunbury region are the only areas with a relatively non-negligible relatedness density (RD) of the creative arts industries. The rest of the regions have an almost non-existent capability in this sector. Even when we look at Perth metropolitan area, there are some bright spots in the Perth CBD and in Fremantle, but the RD in the surrounding areas remains quite low, especially when we compare it to other metropolitan areas such as Melbourne, Sydney and Brisbane.

This shows us that the creative arts is not a strength in WA and capabilities in this sector are relatively low. If the state wants to foster this industry, it would have to invest heavily in it, as it is quite unlikely that the creative arts would organically develop further to provide the state with a significant advantage. These investments should be targeted to create a critical mass in the creative arts that would allow it to reach a point where it would develop organically on its own.

FIGURE 17
Relatedness density by SA3, Australia and major cities, 2016



Source: Bankwest Curtin Economics Centre | Authors' calculations based on ABS Census 2016.

The CBD has 25%
of the capabilities
in design.

If we look at the WA regions in more depth and the relatedness densities by individual type of creative art category, we observe that the values of relatedness density are also relatively low compared to other industries. The greener the shading, the higher the capabilities and the industry connections already present in the region. Overall, Perth city has the highest relatedness density in almost all categories. The CBD has a stronghold in design (25), only South Perth returns significant numbers (18) in this category.

The CBD has also the highest relatedness density in the operations category, with 18 per cent of the capability already present

in the area. Second to Perth, Fremantle, Rockingham and Albany also have some capability in this area. The presence of museums and libraries are mainly responsible for this result.

In most of the regions, the relatedness density for the traditional artist category is almost non-existent, indicating an absence of associated industries. Only Fremantle, Claremont-Cottesloe and South Perth have some capabilities in industries related to the traditional arts, still it means that these regions have around one tenth or less of the industries related to traditional arts.

TABLE 5

Relatedness density by SA3 and creative industries, WA, 2016

	Jewellery	Literature and print	Movies	Music	TV and Radio	Internet	Design	Traditional Artists	Operations
Perth City	14.6	21.4	17.2	10.9	24.1	21.7	25.0	-	18.8
Fremantle	10.4	7.1	13.8	13.0	12.1	14.2	6.8	11.1	12.5
South Perth	8.3	-	6.9	4.4	6.9	11.7	18.2	11.1	6.3
Cockburn	14.6	21.4	3.5	12.0	5.2	11.7	2.3	-	-
Stirling	6.3	14.3	10.3	13.0	6.9	10.8	4.6	-	-
Melville	8.3	7.1	17.2	7.6	6.9	7.5	6.8	-	-
Mid West	12.5	7.1	6.9	8.7	6.9	9.2	2.3	-	6.3
Joondalup	10.4	7.1	13.8	4.4	5.2	9.2	2.3	-	6.3
Swan	8.3	7.1	-	17.4	3.5	9.2	4.6	-	6.3
Cottesloe - Claremont	6.3	-	10.3	5.4	5.2	8.3	9.1	11.1	-
Rockingham	8.3	7.1	3.5	5.4	5.2	5.0	2.3	-	12.5
Bunbury	8.3	7.1	-	7.6	5.2	6.7	4.6	-	6.3
Canning	8.3	-	3.5	16.3	5.2	7.5	4.6	-	-
Belmont - Victoria Park	6.3	-	6.9	9.8	5.2	8.3	-	-	6.3
Wanneroo	8.3	-	3.5	13.0	1.7	5.8	2.3	-	6.3
Bayswater - Bassendean	8.3	-	3.5	8.7	5.2	9.2	-	-	-
Augusta - Margaret River - Busselton	6.3	-	3.5	7.6	1.7	5.8	-	-	6.3
Gosnells	6.3	-	-	7.6	1.7	5.8	-	-	6.3
Albany	6.3	-	-	4.4	-	4.2	-	-	12.5
Goldfields	8.3	7.1	3.5	2.2	1.7	1.7	-	-	-
Mandurah	4.2	7.1	3.5	-	1.7	0.8	-	-	6.3
Manjimup	4.2	7.1	-	1.1	1.7	2.5	-	-	6.3
Kimberley	8.3	-	-	4.4	-	8.3	-	-	-
Kalamunda	4.2	-	-	2.2	1.7	6.7	2.3	-	-
Esperance	6.3	-	-	5.4	1.7	2.5	-	-	-
Serpentine - Jarrahdale	2.1	-	-	2.2	1.7	2.5	-	-	6.3
East Pilbara	4.2	-	-	2.2	1.7	5.0	-	-	-
West Pilbara	2.1	-	-	4.4	-	4.2	2.3	-	-
Gascoyne	-	-	-	1.1	-	1.7	2.3	-	6.3
Armadale	2.1	-	-	1.1	-	0.8	-	-	6.3
Mundaring	4.2	-	-	2.2	1.7	1.7	-	-	-
Kwinana	4.2	-	-	2.2	-	3.3	-	-	-
Wheat Belt - North	2.1	-	-	1.1	1.7	4.2	-	-	-
Wheat Belt - South	2.1	-	-	1.1	-	-	-	-	-

Source: Bankwest Curtin Economics Centre | Authors' calculations based on ABS Census 2016.

On the other side of the spectrum, almost all regions in WA have, to some extent, capability in Jewellery manufacturing, with the Perth CBD, Cockburn and the Mid West leading the pack. All these regions have around 15 per cent of capabilities.

Music and internet publishing and broadcasting, and to a lesser extent movies, all have capabilities in most of WA regions. The former confirms the comparative advantage that the state has in the music business.

Region wise, apart from the CBD, Fremantle has the highest overall related density on average for all creative arts categories, followed by Melville, Stirling, Cottesloe-Claremont and Joondalup.

These results highlight the challenges of developing a coherent plan to develop the art industry in WA. There is limited existing capability in the sector, and if WA wishes to develop the art industry, the investment required is likely to be significant. The importance of hubs and networks in the creative arts indicates the importance of establishing a critical mass in the arts workforce to then facilitate endogenous growth in this industry in the future.

A coherent plan that takes into account the regions' capabilities in the arts industry should be developed.

EFFECT OF COVID-19

The reliance of a number of sectors within the creative industries on live performance, in-person patronage and tourism leaves them amongst the most vulnerable of industries to the impacts of COVID-19, including musicians and other performers, museums, art galleries and other cultural venues, as well Indigenous arts and cultural enterprises in remote communities. The next chapter provides details on the marked drop-off in audience engagement in arts and cultural activities associated with lockdowns and other measures taken to suppress the virus and to keep it out of WA. On the positive side, WA has fared better than other states and territories in terms of maintaining audiences. Our analysis suggests audiences are relatively optimistic about returning to business as usual and border closures have created opportunities for local artists in the absence of interstate and international performers.

From a survey conducted at the end of March 2020, the ABS reported that less than half of businesses in arts and recreations services in Australia were even operating (ABS 2020). In a survey of Australian musicians undertaken in June and July of 2020, three-quarters reported a loss of between 75-100 per cent of their artistic income due to COVID-19 (Crosby and McKenzie 2021). Almost half reported receiving support through the Commonwealth Government's JobKeeper program in 2019-20, and there was a substantial increase in the proportion reporting that they relied on a spouse or partner's income to support their creative work. However, Crosby and McKenzie find little evidence that receipt of income support improved longer-term sentiment regarding future opportunities in the industry. Interestingly, many of the musicians reported turning to online strategies in

response to COVID-19, both to replace live performance income and to develop new collaborations, but Crosby and McKenzie find little evidence that these had been effective.

An ongoing survey, 'I Lost My Gig', initiated in March 2020 by the Australian Festivals Association and the Australian Music Industry Network, claimed to have identified around 33,000 cancelled gigs in July and August of 2021, with associated lost incomes of \$95 million. Worryingly, in the February 2021 survey, 55 per cent of music, creative and live entertainment workers reported considering a change to a career in a different industry.³ Desart's tracking of data from regional and remote art centres found that, in the second half of 2020, average sales had fallen by 8.2 per cent, the number of artists active at each centre by 15.2 per cent, the number of artworks produced by 27.2 per cent and the number of artworks sold by 20.3 per cent, relative to the same period in 2019 (Desart 2021).

In July of 2020, the Chamber of Arts and Culture reported that COVID-19 had led to the cancellation of over 450 events in WA, affecting around 900,000 attendances. Significant impacts on film and television production in WA have also been reported (Chamber of Arts and Culture 2020). From that time on, it would be fair to say WA has so far weathered the storm far better than had been feared at that time. Only around 3 per cent of cancelled shows identified in the 'I Lost My Gig' survey were estimated to be lost from WA, with some local musicians experiencing increased demand, and others noting benefits from increased online downloads while still being able to perform live.⁴ Desart's estimates indicate that average art centre sales marginally increased in WA in the second half of

³ ilostmygig.net.au

⁴ <https://www.abc.net.au/news/2021-01-24/wa-live-music-scene-boosted-during-covid-19-pandemic/13085590>

2020 relative to the same period in 2019, however, the number of active artists and artworks produced per art centre did decline dramatically.

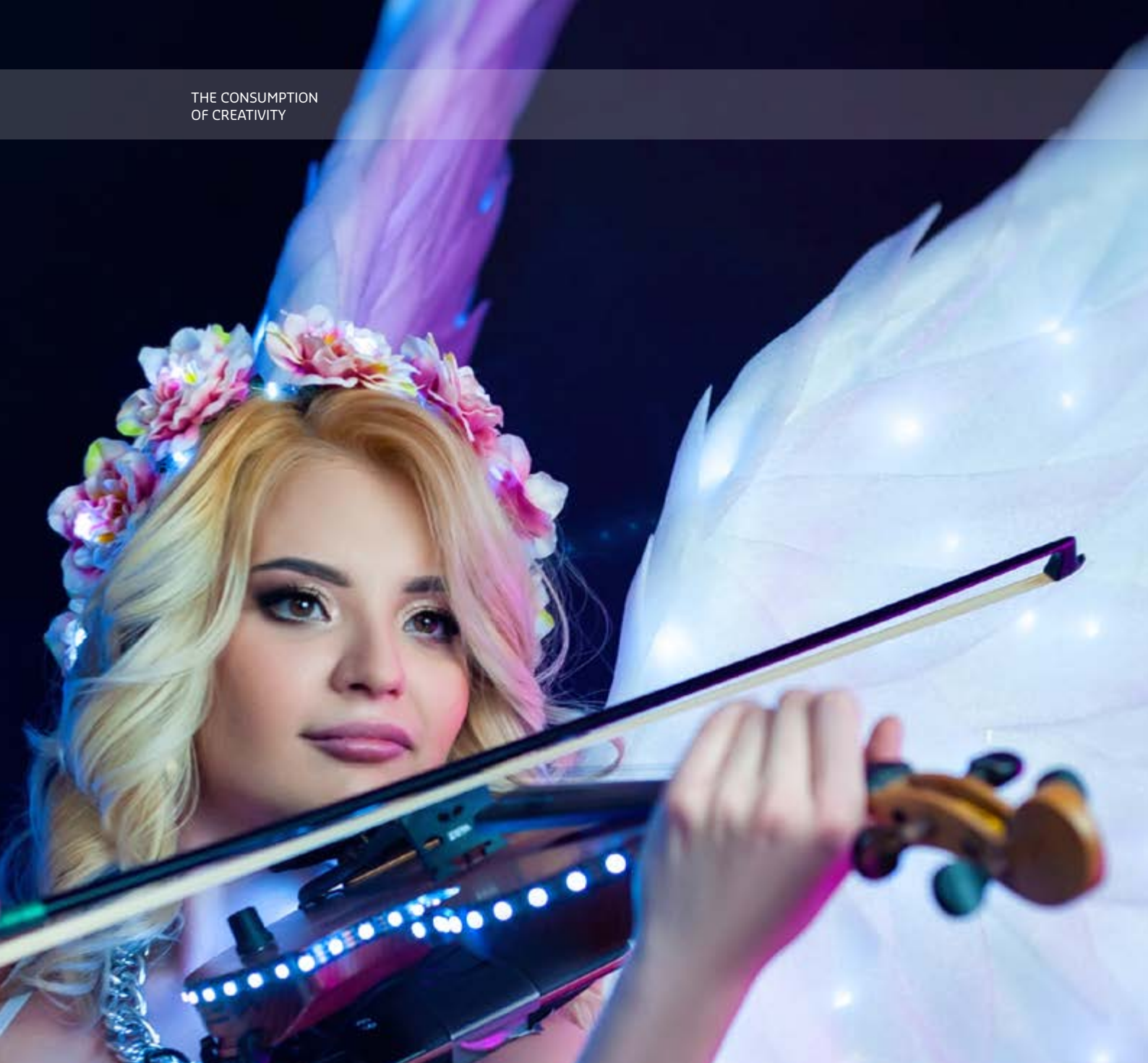
The Western Australian State Government responded in October 2020 with a 'risk sharing' program, *Getting the Show Back on the Road*, to support performing arts and live music events for up to 75 per cent of income lost due to COVID-19, capped at \$150,000. In the August 2021 budget, this was broadened to include tourism events and regional agricultural shows. At the time, the program had contributed \$5.3 million to impacted events.⁵

It will be some time before we know the full impact of the pandemic on the creative industries. It can be expected that other creative sectors, such as marketing, design, publishing and broadcasting, will not have been as vulnerable as the arts and cultural sector. The release of 2021 census data (in 2022) will provide a timely and detailed snapshot of short-term impacts, such as loss of hours and income. The greater, and longer-term concern is whether these short-term effects contribute to workers permanently leaving creative roles and stifling the growth trajectory of the creative industries in WA.

⁵ <https://www.mediastatements.wa.gov.au/Pages/McGowan/2021/08/Broadened-program-supports-more-live-ticketed-events-in-WA.aspx>

"IN THIS SECTION WE
TURN OUR FOCUS
FROM CREATIVE
PRODUCTION TO THE
**CONSUMPTION OF
CREATIVE OUTPUT,**
WITH A FOCUS ON
THE ARTS AND
CULTURE."





THE CONSUMPTION OF CREATIVITY

INTRODUCTION

Evidence presented in the previous section suggests that while creative outputs are becoming an increasingly integral component of economic production in WA and in Australia, WA lags behind the rest of the country in creative production. In this section we turn our focus from creative production to the consumption of creative output, with a focus on the arts and culture. By consumption we include attendance at art and cultural events as well as participation in artistic and cultural activities. While the arts and culture sector represent only a relatively minor component of output from the more broadly-defined creative industries, in the vicinity of one-fifth, they have a much more prominent role in terms of final consumption. Much of the output from the marketing, design and ICT sectors is in the form of intermediate inputs. Of course, these too have significant and important direct effects on the wellbeing of consumers. For example, think of the value of design in significant heritage buildings and precincts, such as the Boola Bardip museum and of newer venues such as Optus Stadium, or the layout of the many websites we all frequently visit. However, the direct effects of this 'consumption' are not readily assessable.

Arts and culture have a unique and central place in the life and wellbeing of West Australians. Notably, WA, and Australia as a nation, is home to the world's oldest living cultures with a breadth of diversity. The recent decades have seen a rapid change in the arts and culture sector driven by creativity and innovation that has a significant implication for the development,

health and wellbeing of communities and individuals. Some recent studies suggest that engagement with arts and culture plays a pivotal role in influencing the health and wellbeing of communities and individuals in Australia (see, for example, A New Approach 2019). The results of the 2019 National Arts Participation Survey show that 65 per cent of Western Australians attended live events in arts and culture activities in 2019, just before the onset of the COVID-19 pandemic. Attendance and participation in arts and cultural events has gained policy makers' attention, given its significant implications for the health and wellbeing of Western Australians, in addition to its significant contribution to the economy.

The results of the ABS 2020 General Social Survey (GSS) show that the average overall life satisfaction of Australians has decreased from 7.6 in 2014 to 7.2 in 2020 where 59 per cent experienced at least one personal stressor in the last 12 months before the survey. Life satisfaction captures the state of subjective wellbeing, measured in a scale from 0 to 10, where 0 means 'not at all satisfied' and 10 means 'completely satisfied'. Already a prevalent issue in WA and nationally, mental health concerns are being exacerbated by the pandemic. According to the Australian Government Department of Health, about 50 per cent of Australian adults will face mental health illness in the course of their life, causing 3,000 deaths each year, where the main cause of death is suicide and resulting in a \$220 billion annual costs to the economy.⁶

⁶ <https://www.health.gov.au/health-topics/mental-health-and-suicide-prevention>.

The literature on arts and culture suggests that attendance or participation in arts and cultural events has a positive impact on economic, social and health outcomes. Specifically, artistic and cultural activities promote social capital by providing the opportunity for interactions that are key to building networks and social relationships. Beyond facilitating connections of people with similar interests, these activities also provide a perfect platform for unifying and promoting interactions of people with different interests and cultural backgrounds. Recent studies suggest engagement in performing arts and culture has significant health benefits. McCrary *et al.* (2021) show that participation in performing arts is associated with positive health benefits across the entire age spectrum, from children to older adults. Along these lines, several studies suggest attendance and participation in arts and culture leads to improved mental health outcomes (Jensen and Bonde, 2018; Wang *et al.*, 2020). Other related studies suggest that participation in arts and cultural events have specific health benefits, such as reduced depression and anxiety (Sumner *et al.*, 2021), improved physical health and mental health (Cohen *et al.*, 2006; Sheppard and Broughton, 2020; Wang *et al.*, 2020). A comprehensive review of international evidence on the role of arts and culture in improving health and wellbeing can be found in World Health Organization (2019).

Much of the literature related to arts and creative industries in WA focuses on the economic contribution of the

sector, including gross value added and employment (see, for example, Smithies and Bailey 2019; Powell *et al.* 2016). Despite the growing importance of the issue of health and wellbeing and the importance of arts and culture, there is limited systematic literature that examines the role of arts and culture on the health and wellbeing of Western Australians. This chapter aims to fill this important gap in the literature. Evidence based measures of the value and benefits of arts and culture activities have important implications for the design of policies and funding schemes affecting the performing arts and creative industries. In addition to examining the role that arts and culture play in promoting the health and wellbeing of individuals and communities, this chapter makes a key contribution to the literature by identifying some of the mechanisms that link arts and culture with health and wellbeing. It also examines the level of attendance and participation in arts and culture activities and the constraints that prevent people from engaging in these activities. In addition, this chapter investigates the potential future impacts of the COVID-19 pandemic and the changing nature of the arts and culture sector.

Data for this study are sourced from different national and state-level surveys, including the National Arts Participation Survey of the Australian Council for the Arts, the Cultural Activities Survey of the ABS, the COVID-19 Audience Outlook Monitor Survey, the Arts and Culture Monitor Survey and the Household, Income and Labour Dynamics in Australia (HILDA) survey.

About 83%
of Western
Australians have
attended at least
one cultural venue
or event in a year.

ATTENDANCE AND PARTICIPATION IN ARTS AND CULTURAL EVENTS

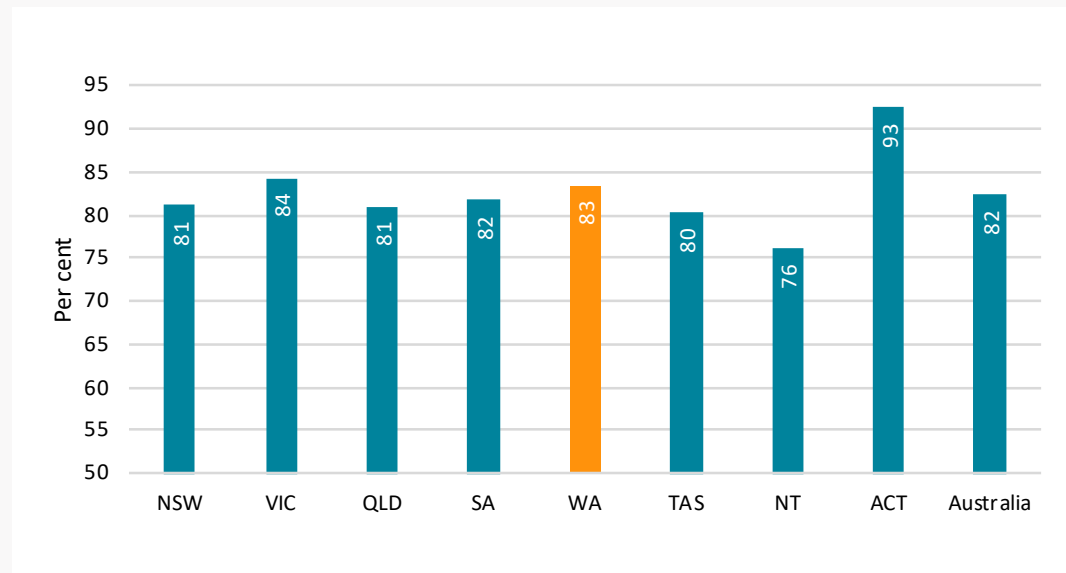
Attendance at arts and cultural events

It is widely recognised that arts contribute to a meaningful life by influencing ways of thinking and creativity. In line with this, arts and culture have become part of the day-to-day life of Australians. Figure 18 shows the rate of attendance at arts and cultural activities in Australian states and territories based on the results from the 2017-18 ABS

survey *Participation in Selected Cultural Activities*. As can be seen in the Figure, 82 per cent of Australians aged 15 and above attended at least one cultural venue or event in a year. State-wise comparison of the attendance rates shows that WA is ranked third, with an 83 per cent attendance rate, next to the ACT (93 per cent) and VIC (84 per cent).

FIGURE 18

Proportion of people who attended at least one cultural venue or event, 2017-18



Source: Bankwest Curtin Economics Centre | Authors' calculations based on ABS Cultural Activities Survey, 2017-18.

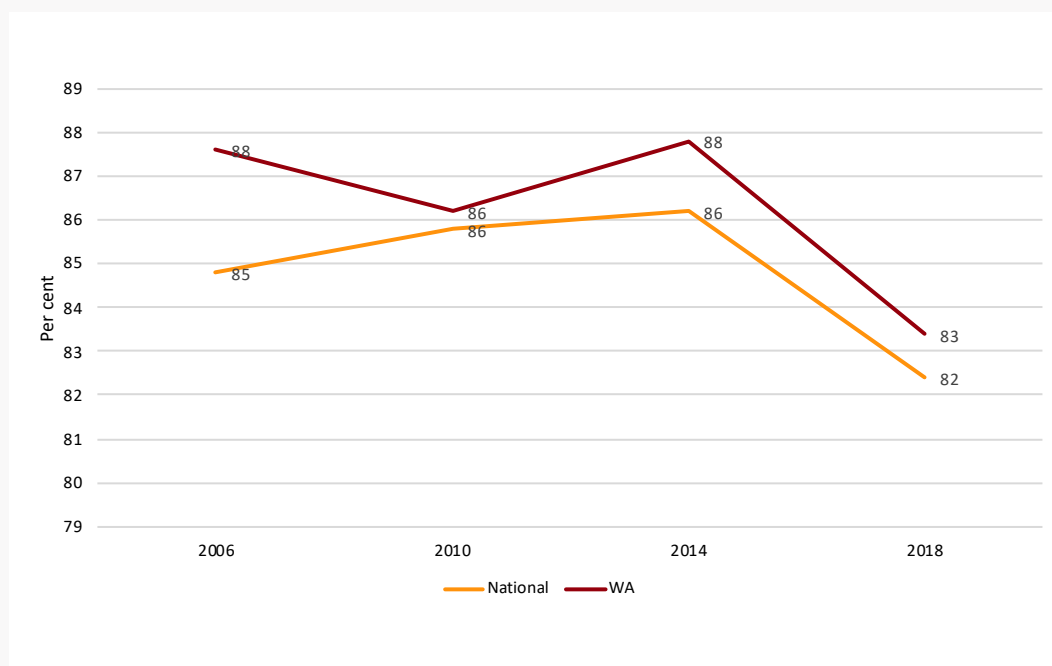
A closer look at the historical data reveals that Western Australians have consistently had relatively high rates of attendance in arts and cultural activities in the last several years. As can be seen in Figure 19, the proportion of Western Australians who

attended arts and cultural services at least once in the year before the survey was higher than the national average for each survey conducted in the period from 2006 to 2018.

In recent years, attendance rates in Western Australia have been higher than the national average.

FIGURE 19

Historical rates of attendance at cultural events and venues



Source: Bankwest Curtin Economics Centre | Authors' calculations based on ABS (2019, cat no. 4114.0).

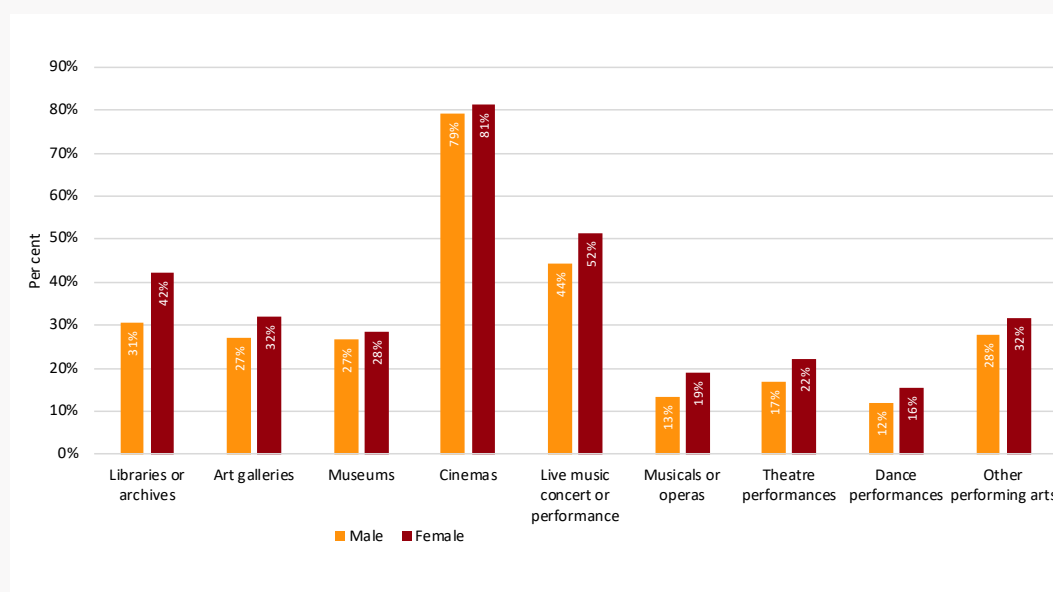
Women are likely to attend arts and cultural events more than men.

Understanding consumption choices and patterns in arts and cultural services is important for policymakers and participants in the arts and culture industry. The proportion of women who attended at least one cultural event or venue in 2018 was slightly higher than the attendance rate of men at the state level (86 per cent versus 81 per cent), as well as at the national level (85 per cent versus 80 per cent). While the choice of leisure activities by Western Australians varies greatly, the most common types of arts and cultural activities include attending cinemas, live music and dance performances (Figure 20). Heritage activities, including visiting art galleries, museums, and libraries or archives are also popular forms of participation. The highest

attendance rate was recorded for cinemas, with approximately 81 per cent of women and 79 per cent of men attending in the 12 months before the survey. This accounts for about a third of the total attendance of arts and cultural events in 2017-18. In regard to attendance at museums, note that these data were collected prior to the opening of the newly established Boola Bardip museum on November 21, 2020, and in fact the previous WA Museum was closed for the redevelopment of the new museum during the survey reference period. Hence, the figures are likely to under-estimate museum attendance in WA. Boola Bardip accommodated 250,000 visitors in two months from the opening date.

FIGURE 20

Attendance of arts and culture activities by type of cultural events, WA, 2017-18



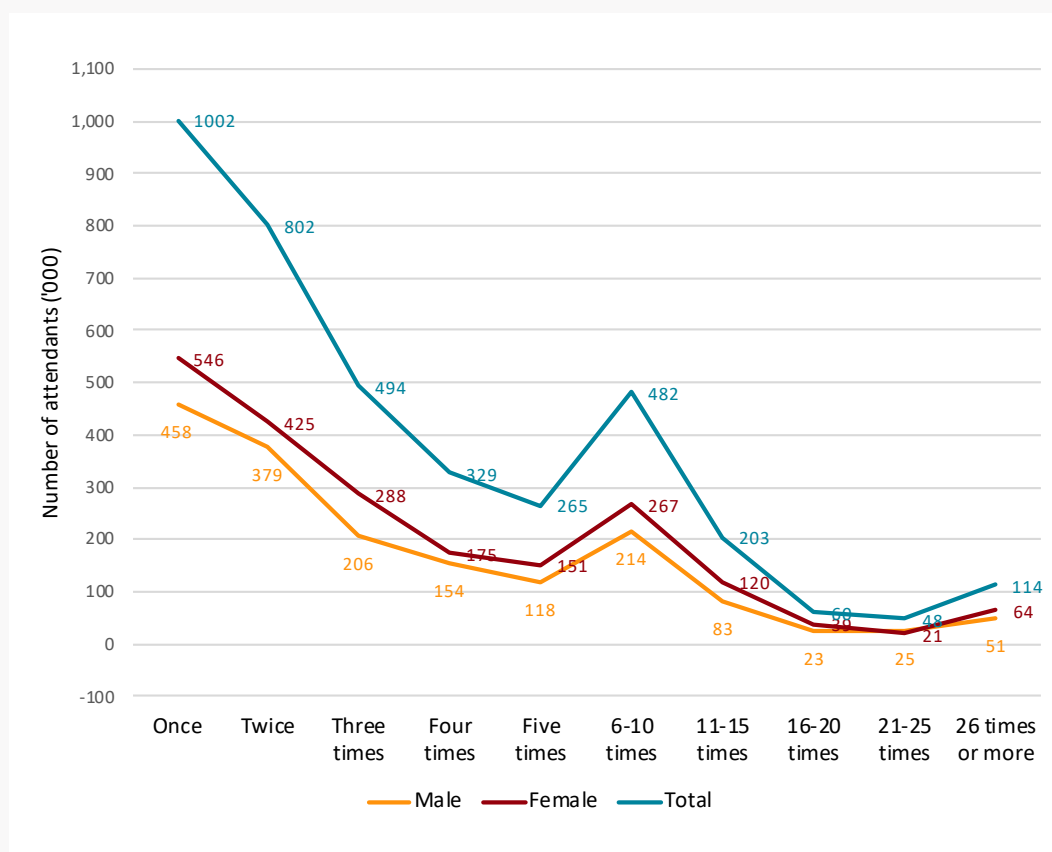
Source: Bankwest Curtin Economics Centre | Authors' calculations based on ABS Cultural Activities Survey, 2017-18.

The previous data are based on whether people did or did not attend a cultural venue or event at some time during the year, but not how often they attended. Figure 21 provides an overview of the frequency of attendance at arts and cultural activities by Western Australians aged 15 and over. The most common frequency of attendance at cultural events and activities is once or

twice in a year. About 1 million people in WA attended arts and cultural activities at least once in 2017-18. Although the number of both male and female attendants fall at higher frequencies, the number of female attendants is consistently higher than that of male attendants over the entire range of frequencies.

FIGURE 21

Number of times attended selected cultural activities, 2017-18



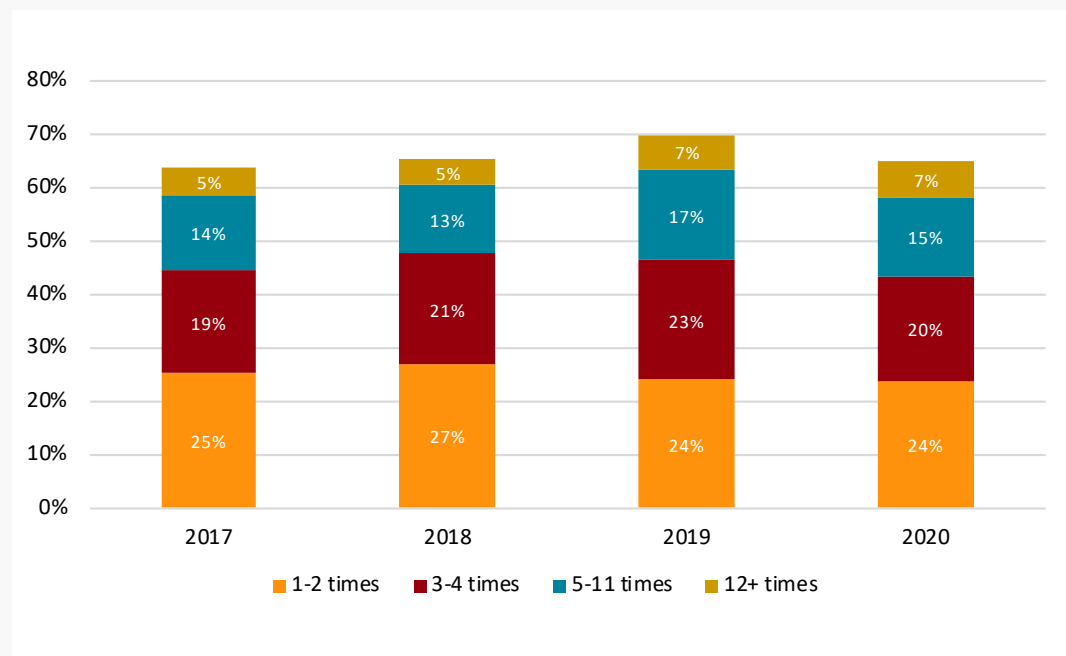
Source: Bankwest Curtin Economics Centre | Authors' calculations based on ABS Cultural Activities Survey, 2017-18.

The information in Figure 21 is consistent with more recent data from the Arts and Culture Monitor Survey, independent research commissioned annually by the Western Australian Government Department of Local Government, Sport and Cultural Industries (DLGSC). As can be seen in Figure

22, the highest proportion of attendance and participation in arts and cultural activities is once or twice in the past three months. Looking at the time series trend, the level of attendance and participation by frequency remains relatively steady from 2017 to 2020.

FIGURE 22

Frequency of attendance and participation in arts and cultural activities in past 3 months, Western Australia



Source: Bankwest Curtin Economics Centre | Authors' calculations based on DLGSC's Arts and Culture Monitor Survey.

Frequency of attendance or participation by education and income level

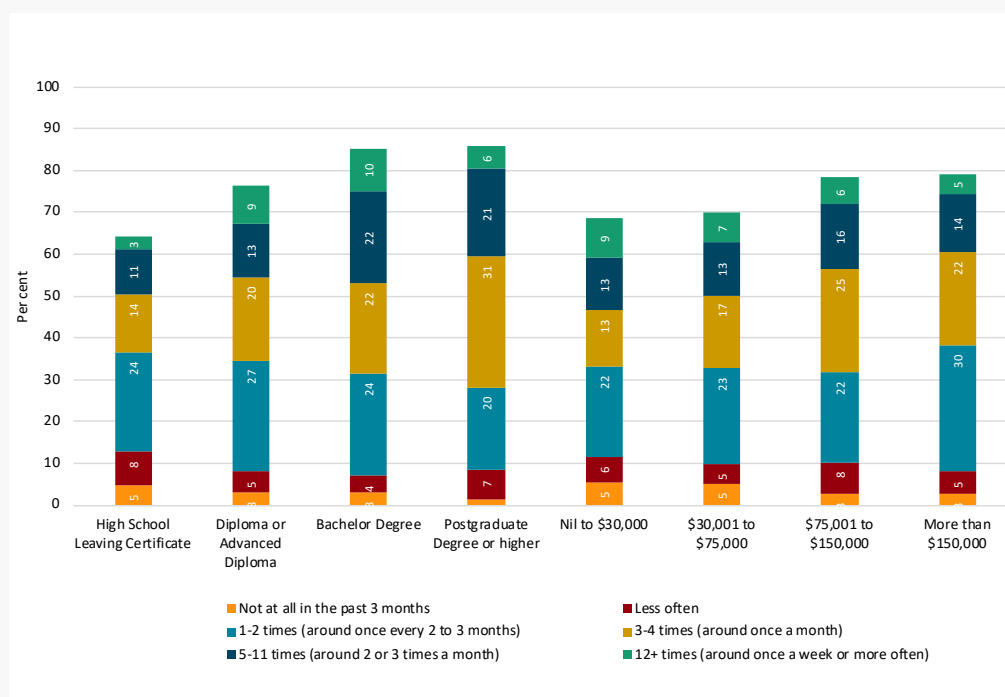
Education and income play an important role in explaining the variance in the frequency of attendance and participation, as evident in Figure 23, which shows reported frequency of attendance and participation in the past three months. The proportion of audiences that attended or participated only once or twice in the past three months generally decreases with education. On the other hand, the proportion of attendance or participation with higher frequency increases with the level of education. For example, the proportion of

audiences with a high school education that attended or participated five to eleven times in the previous three months is only 11 per cent. This figure doubles for audiences with a bachelor's degree. The frequency of attendance or participation by income level yields mixed results. An increase in household income of up to \$150,000 seems to increase the likelihood of attendance and participation at arts and cultural activities by up to five to eleven times in a quarter. However, for income above \$150,000, the highest frequency of attendance and participation is once or twice per three months.

More educated people attend arts and cultural events more frequently.

FIGURE 23

Frequency of attendance at arts and cultural events in past three months, by education and income level, WA, 2020



Source: Bankwest Curtin Economics Centre | Authors' calculations based on DLGSC's Arts and Culture Monitor Survey.

64% of men and
65% of Women
attended live
events in 2019.

Live Events

Attendance at live events is one of the most common avenues for Australians to engage in arts and cultural activities. In 2018, the live performance industry in Australian capital cities and regional centres attracted audiences of more than 26 million people, generating \$2.2 billion in entry fees and ticket sales.⁷ The industry share of ticket revenues for WA was 6.8 per cent.

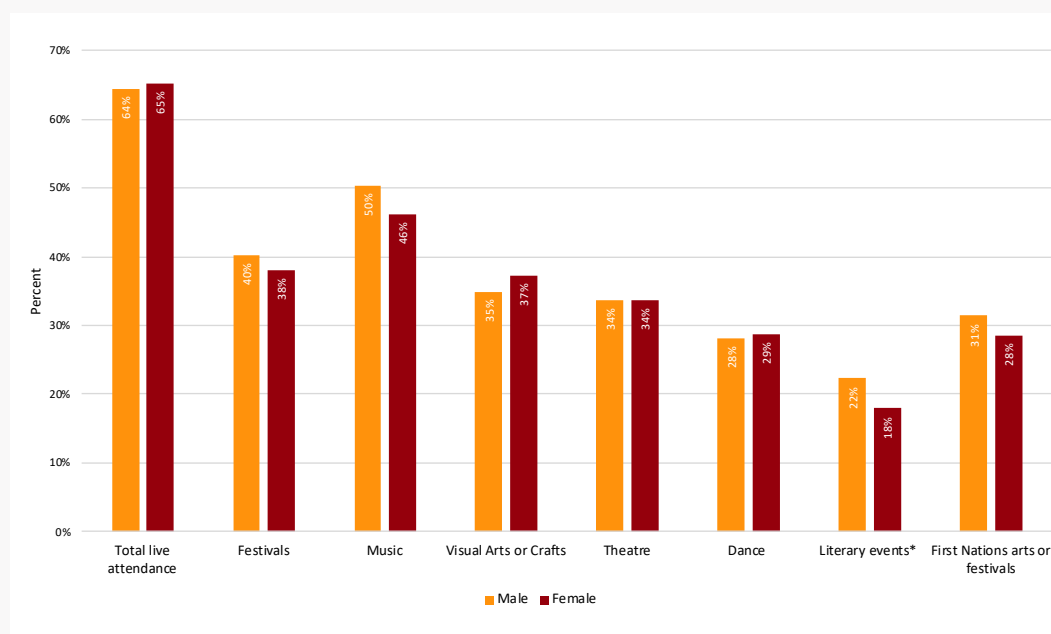
According to the National Arts Participation Survey, the attendance rate at live events of arts and culture by Western Australians in 2019, just before the onset of the COVID-19 pandemic, was 65 per cent. As can be seen in Figure 24, there are only minor differences in male and female attendance rates. The significant rate of in-person

attendance at arts and cultural activities is an important factor that brings Western Australians together and provides an opportunity for promoting interactions and creating social relationships that may have a significant implication on health and wellbeing.

The common forms of live events in WA include festivals, music, visual arts and crafts, theatre, dance and First Nations arts. Participation rates are highest for live music, with half of men and 46 per cent of women attending a live music event before the onset of the COVID-19 pandemic. The lowest participation rate is recorded for literary events, followed by dance performances.

FIGURE 24

Attendance at live arts and cultural events by gender and art form, WA, 2019



Notes: * Literary events include First Nations Storytelling.

Source: Bankwest Curtin Economics Centre | Authors' calculations based on the Australia Council for the Arts: The National Arts Participation Survey.

⁷ EY (2019), 2018 Ticket Attendance and Revenue Report, Report for Live Performance Australia. Accessed from <http://reports.liveperformance.com.au/pdf/2018/LPA-Ticket-survey-2018.pdf>.

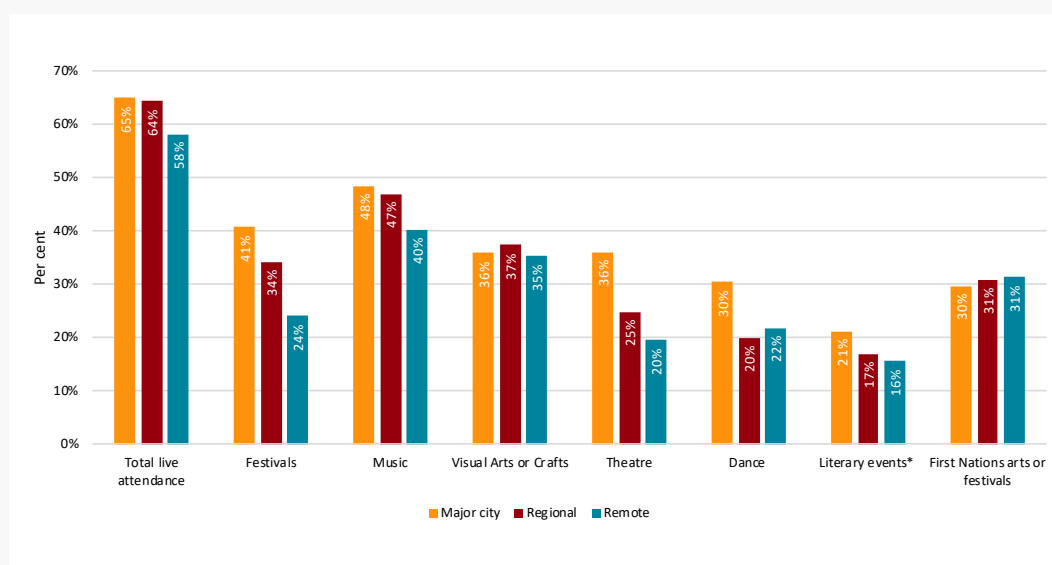
There are significant variations in the attendance rates by residents' geographical area. Figure 25 shows that the total live attendance in major cities in 2019 was 65 per cent, which is similar to the regional rate of attendance (64 per cent) but significantly

higher than the rate of attendance in remote areas (58 per cent). The attendance rate is highest in major cities for most art forms. The notable exception is for First Nations arts and festivals.

The overall attendance rate of residents in remote areas is lagging behind.

FIGURE 25

Live attendance by geographic area, WA, 2019



Source: Bankwest Curtin Economics Centre | Authors' calculations based on the Australia Council for the Arts: The National Arts Participation Survey.

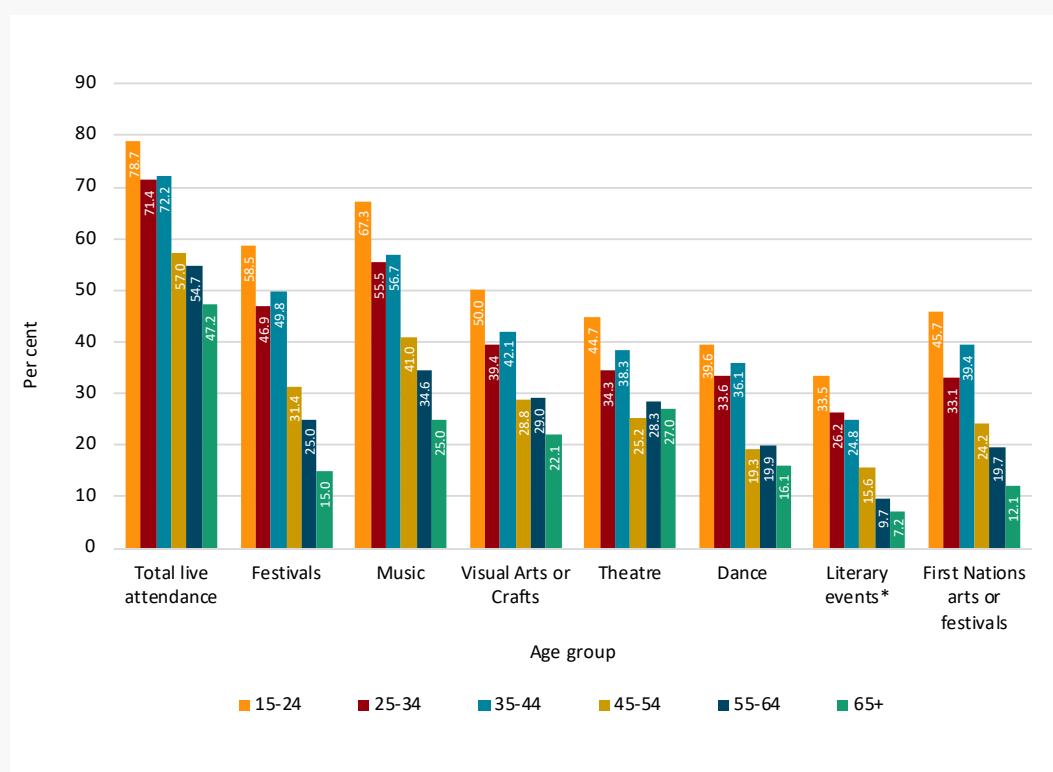
Across all forms, attendance rates at live events is highest among young West Australians (aged 15-24 years) and decline steadily with age.

Figure 26 provides an overview of live event attendances by age and art form. The striking feature is that young Western Australians are engaged in live events more than any other age group. As can be seen from Figure 26, 79 per cent of Western Australians aged between 15 and 24 years attended at least one cultural event in 2019, and attendance rates decrease with

age. For young people (15 to 24 age group) participation rates are highest for live music (67 per cent), festivals (58 per cent) and visual arts or crafts (50 per cent). There is a noticeable decline in participation after 44 years of age. However, there is a notable exception with respect to events associated with First Nations arts or culture.

FIGURE 26

Live attendance by age group and art form, WA, 2019



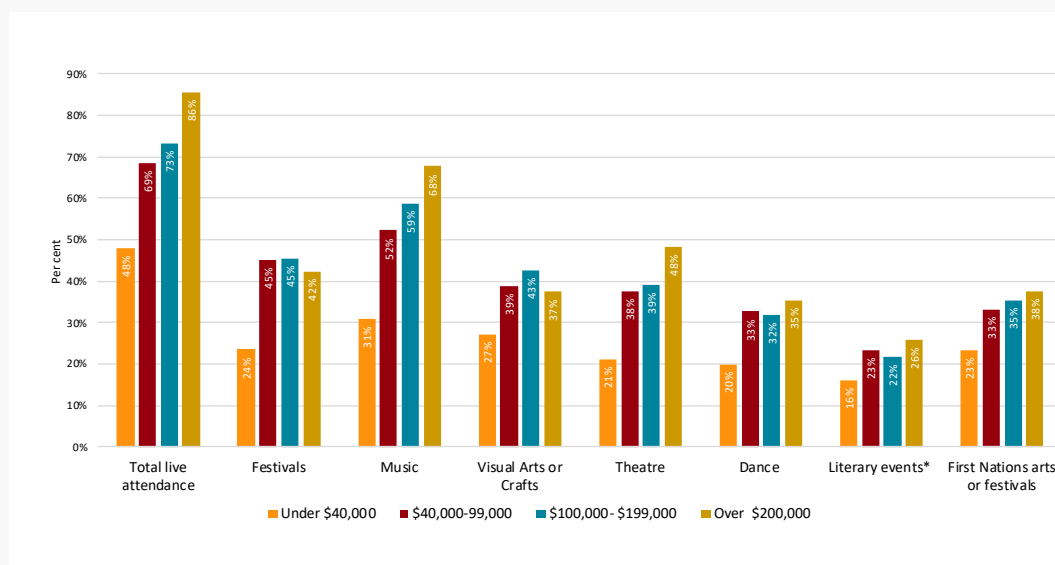
Source: Bankwest Curtin Economics Centre | Authors' calculations based on the Australia Council for the Arts: The National Arts Participation Survey.

A further analysis of variance of live event attendance by income level reveals that the attendance rate varies across income levels by household. Figure 27 clearly shows that the live event attendance rate in general is highest for high-income individuals

(with annual gross household income of \$100,000 and above) in nearly all forms of live performances. Attendance rates are markedly lower for all forms of live events among people living with annual household incomes under \$40,000.

FIGURE 27

Live attendance by income level and art form, WA, 2019



Source: Bankwest Curtin Economics Centre | Authors' calculations based on the Australia Council for the Arts: The National Arts Participation Survey.

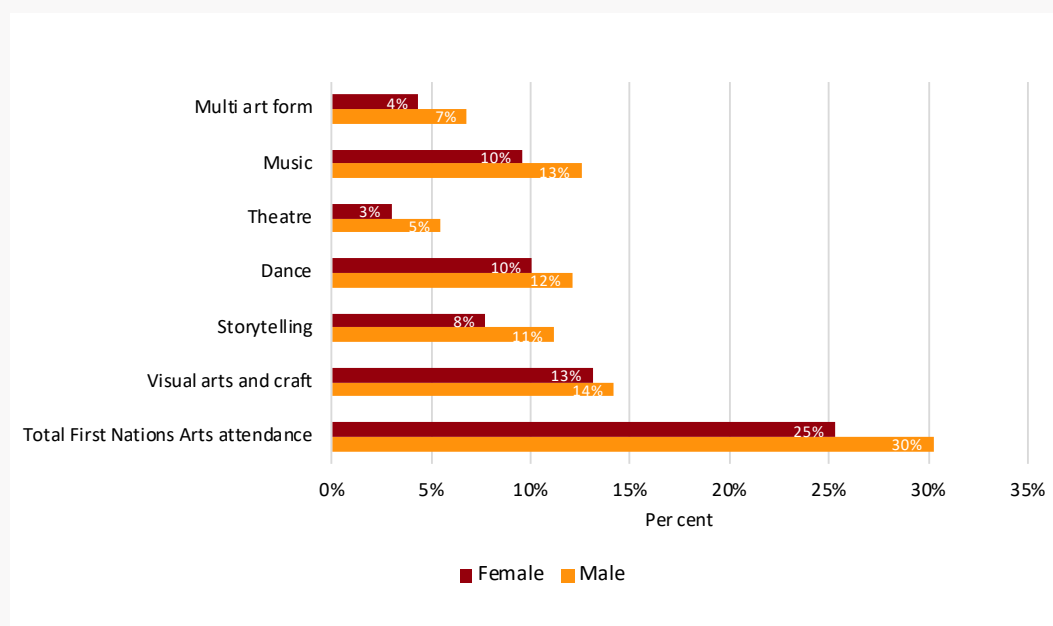
30% of men and
25% of women
attended First
Nations arts and
cultural events
in 2019.

A distinctive feature of the arts and culture in WA is the prominent role of First Nations' arts. In the National Arts Participation Survey, this category encompasses Aboriginal and Torres Strait Islander arts and cultural activities including classical, traditional and contemporary practices and all new forms of cultural expressions. Respondents were asked whether they have attended or seen any Aboriginal and/or Torres Strait Islander arts or cultural activities in the 12 months before the survey. As shown in Figure 25, attendance

at First Nations arts rivals the other major categories of art and cultural participation, particularly in more remote areas of the state. Figure 28 shows the total First Nations arts attendance rate in 2019 was 28 per cent. The proportion of men who attended First Nations arts was 30 per cent, while only a quarter of women attended those events. Visual arts and crafts are the most popular forms of First Nations arts attended, followed by music, dance and storytelling.

FIGURE 28

First Nations arts attendance by gender and art form, WA, 2019



Source: Bankwest Curtin Economics Centre | Authors' calculations based on the Australia Council for the Arts: The National Arts Participation Survey.

Participation in arts and culture

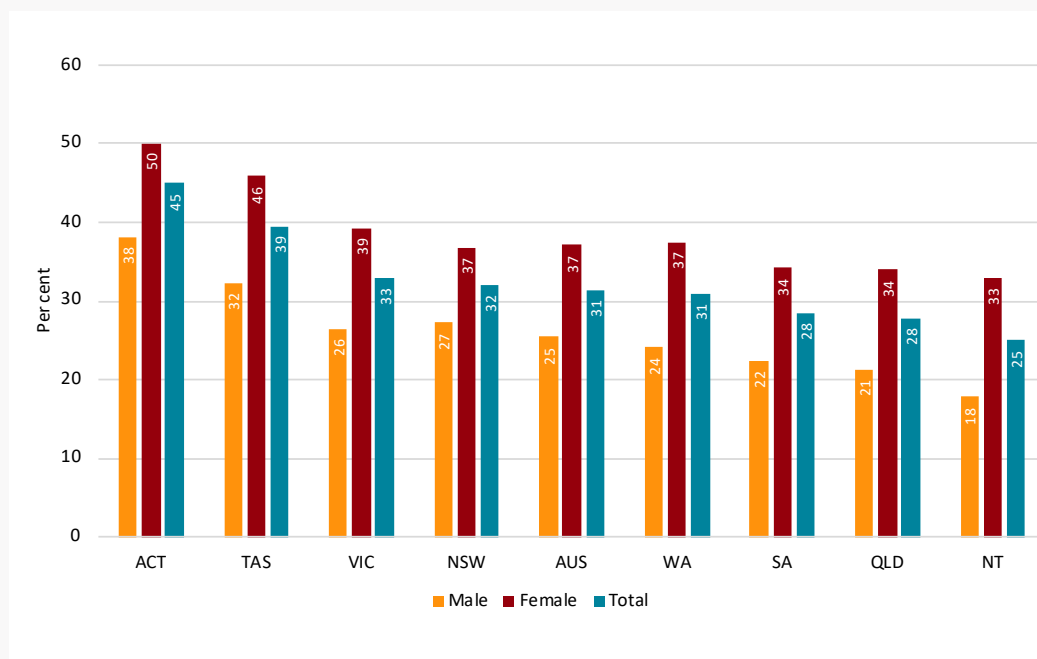
The previous section examines arts engagement in the form of attendance at arts and cultural activities, such as attending live events, museums and other cultural activities. This section examines participation in the arts and culture, where participants are directly involved in the artistic or cultural activity. Specifically, creative participation includes a wide range of creative activities including visual arts and crafts such as artistic photography, music, creative writing, dance, theatre,

visual arts and crafts.⁸ The results of the 2017-18 ABS survey of cultural activities shows WA ranked fifth among other Australian states and territories in the rate of participation in cultural events. It stands roughly at the average national rate of participation. About 31 per cent of Western Australians participated in arts and cultural activities, in line with the national average (Figure 29). Interestingly women's participation rate is significantly higher than men's participation rate in all jurisdictions. The ACT ranks first in the rate of participation in selected cultural events.

Western Australia ranks fifth among other jurisdictions in terms of participation in cultural activities. Women's participation rate in arts and culture is higher than men's participation rate in all jurisdictions.

FIGURE 29

Participation in selected cultural activities, 2017-18



Source: Bankwest Curtin Economics Centre | Authors' calculations based on ABS Cultural Activities Survey, 2017-18.

⁸ The data on participation in the ABS survey includes participation on a paid or unpaid basis, and hence includes professional artists and performers. Around 10 per cent of respondents in the survey reported receiving payment for their participation.

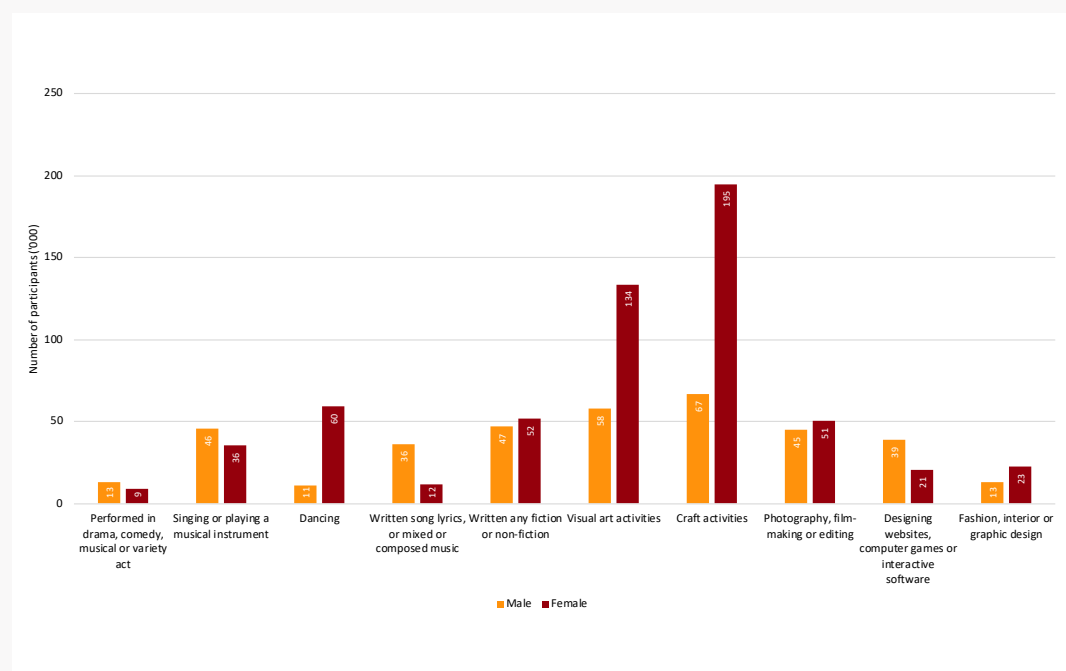
Craft and visual art activities are the most common art forms where women participated the most.

Figure 30 presents the number of people participating in arts and culture by the type of cultural activities undertaken in the last 12 weeks prior to the survey. Craft activities are the most common, followed by visual arts activities. Figure 30 shows

that 262,000 people, 195,000 women and 67,000 men, participated in craft activities in 2018. The lowest participation rate is in drama, comedy and musical performances as well as fashion and graphic design activities.

FIGURE 30

Type of cultural activities undertaken, WA, 2017-18, WA, 2019



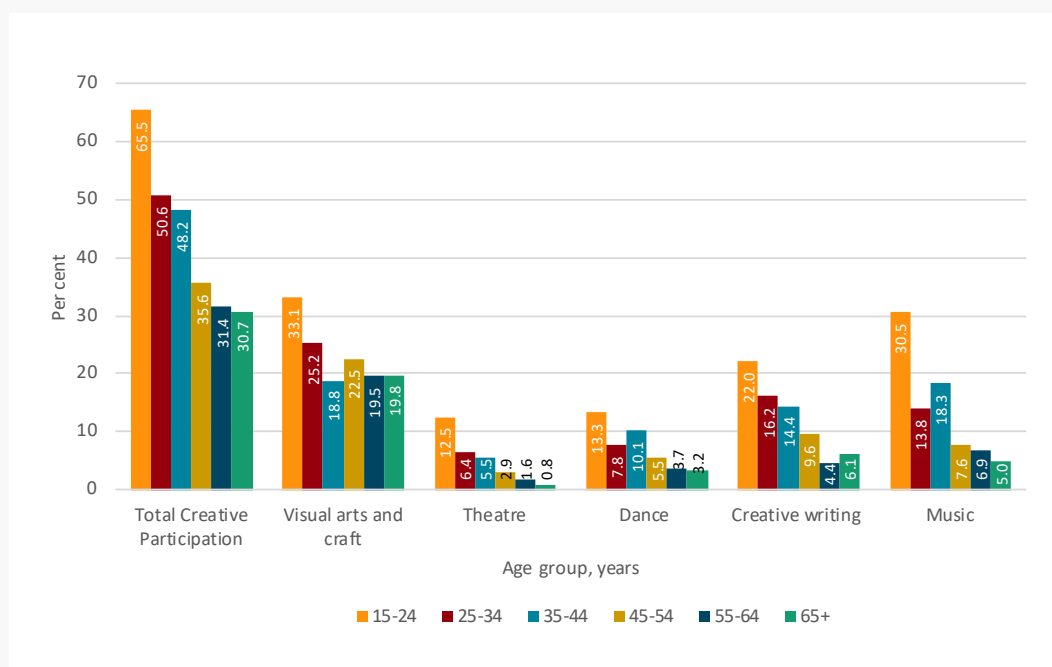
Source: Bankwest Curtin Economics Centre | Authors' calculations based on ABS Cultural Activities Survey, 2017-18.

More recent data from the National Arts Participation Survey for 2019 confirm the higher rate of participation by women, particularly in visual arts and crafts. Based on data from that survey, Figure 31 clearly shows that creative participation decreases with age in all forms of arts except for visual

arts and craft. The creative participation rate is the highest in the visual arts and crafts activities across all age groups, ranging from 33 per cent in the young age bracket to 20 per cent in the upper age group.

FIGURE 31

Creative participation by age and art form



Notes: Creative activities in visual arts and crafts includes painting, photography, light art, digital art, street art, crafts, woodwork, textiles. Creative art participation related to theatre includes acting, circus, or being part of a production whereas creative. Creative activities in dance and music include classical, contemporary and organised social dance, playing an instrument, singing, mixing, composing or writing music whereas creative arts writing comprises of activities such as poetry or other literature.

Source: Bankwest Curtin Economics Centre | Authors' calculations based on the Australia Council for the Arts: The National Arts Participation Survey.

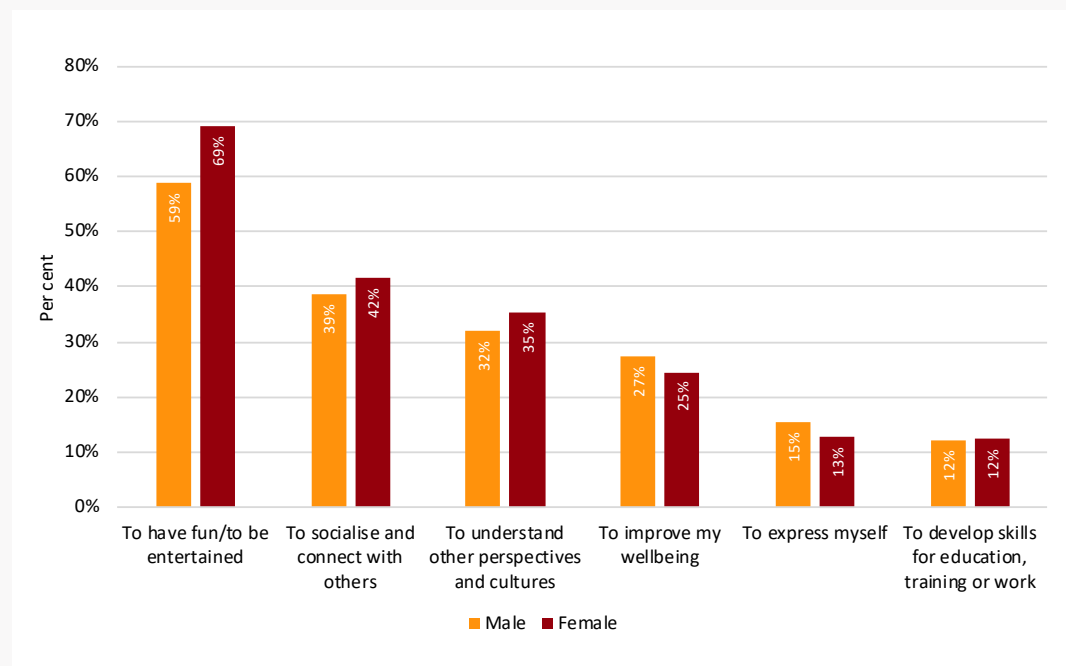
The reasons for attending and participating in arts and culture

Why are Western Australians attending and participating in arts and cultural activities? The answers to this question have important implications for policymakers and service providers in the arts and creative industries, given that one of the challenges

for policymakers is measuring the value provided by arts and culture. Figure 32 provides an overview of the breakdown of the statistics by gender on the main reason for attending arts events and festivals, for those who had participated, based on results from the National Arts Participation Survey.

FIGURE 32

Reasons for live attendance by art form, WA, 2019



Source: Bankwest Curtin Economics Centre | Authors' calculations based on the Australia Council for the Arts: The National Arts Participation Survey.

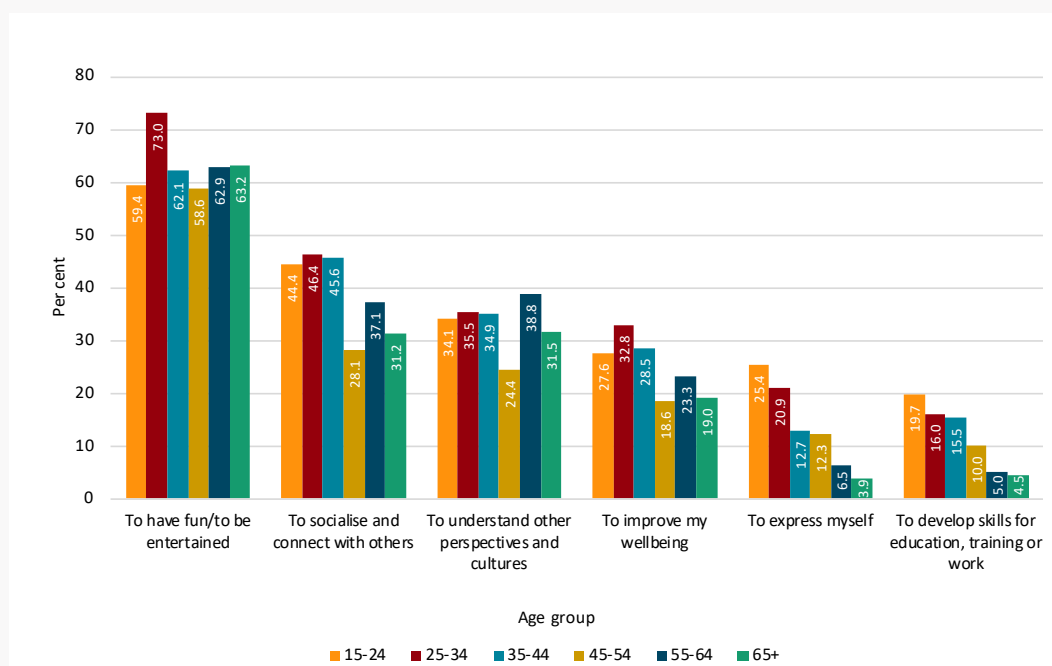
The most common reason for attending arts events and festivals by Western Australians is for fun and entertainment, followed by socialisation and connecting with others. The proportion reporting fun and entertainment as their main reason for attending is 64 per cent. The results are very similar for men and women. For example, the proportion of female respondents who reported attending arts events and festivals to improve their wellbeing is 25 per cent, and the corresponding figure is 27 per cent for male respondents. The key reasons provided by respondents could potentially provide important insights into the mechanisms through which engaging in arts and cultural activities is linked to better

health and wellbeing. A formal and rigorous examination of this mechanism is presented in the following section.

The reasons provided for attending arts and cultural activities are consistent across different age groups. As can be seen in Figure 33, having fun and entertainment is the single most dominant reason for attending arts and cultural activities across all age groups, followed by socialising and connecting with others, for most age groups. Understanding other perspectives/cultures and improving wellbeing are consistently ranked third and fourth, respectively.

FIGURE 33

Proportion of attendants by age group and reasons for attendance



Source: Bankwest Curtin Economics Centre | Authors' calculations based on the Australia Council for the Arts: The National Arts Participation Survey.

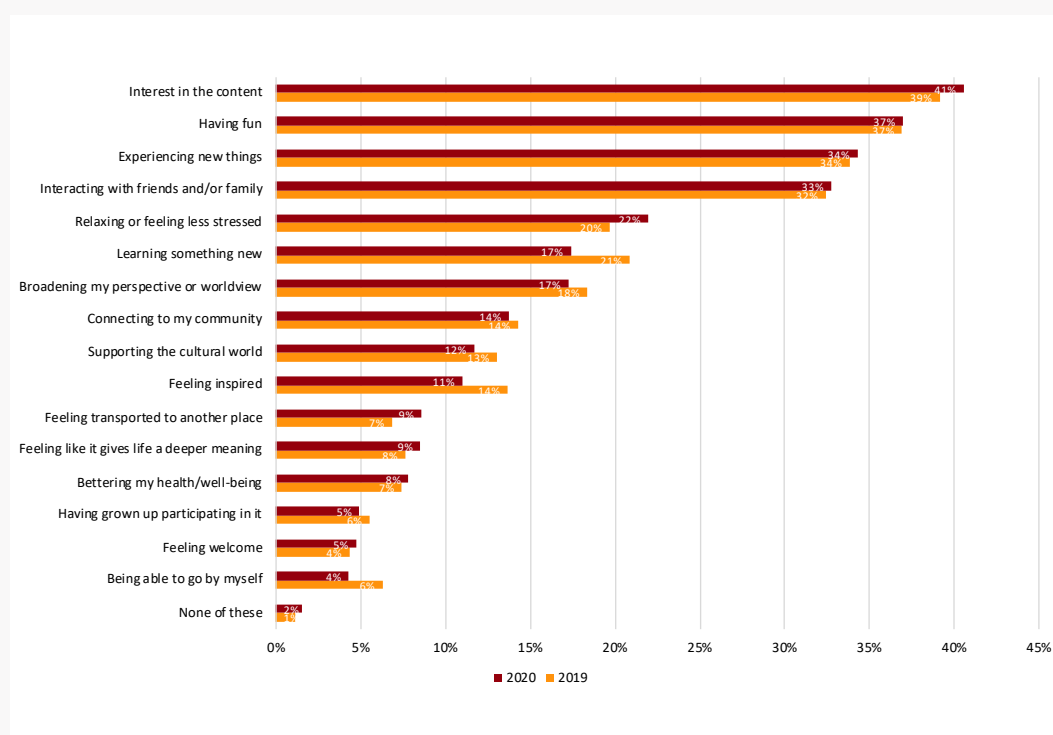
The top four reasons for attending arts include, interest in the content, having fun, experiencing new things and interacting with friends and/or family.

The DLGSC's Arts and Culture Monitor Survey offers more options of answers for motivations to attend and participate in arts and cultural activities. The results are comparable with the findings from the National Arts Participation Survey. For example, Figure 34 shows that having fun was the second top reason for participating in arts and cultural activities in 2019 and 2020, next to interest in the content. The top four motivating factors for participating in arts and cultural activities includes interest in the content, having fun, experiencing new things and interacting

with friends and/or family. An important feature of the Arts and Culture Monitor Survey is that the information elicited from the responses of survey participants can be useful benchmarks for assessing the value of arts and culture in line with the Public Value Measurement Framework (PVMF). As per the PVMF, the values from arts and culture can be classified as intrinsic value, instrumental value and institutional value. For example, motivation based on interest in content can be indicative of the intrinsic value of arts and culture, whereas bettering health is indicative of instrumental value.

FIGURE 34

Motivations for participating arts and cultural activities



Source: Bankwest Curtin Economics Centre | Authors' calculations based on DLGSC's Arts and Culture Monitor Survey.

Constraints on attending arts and cultural activities

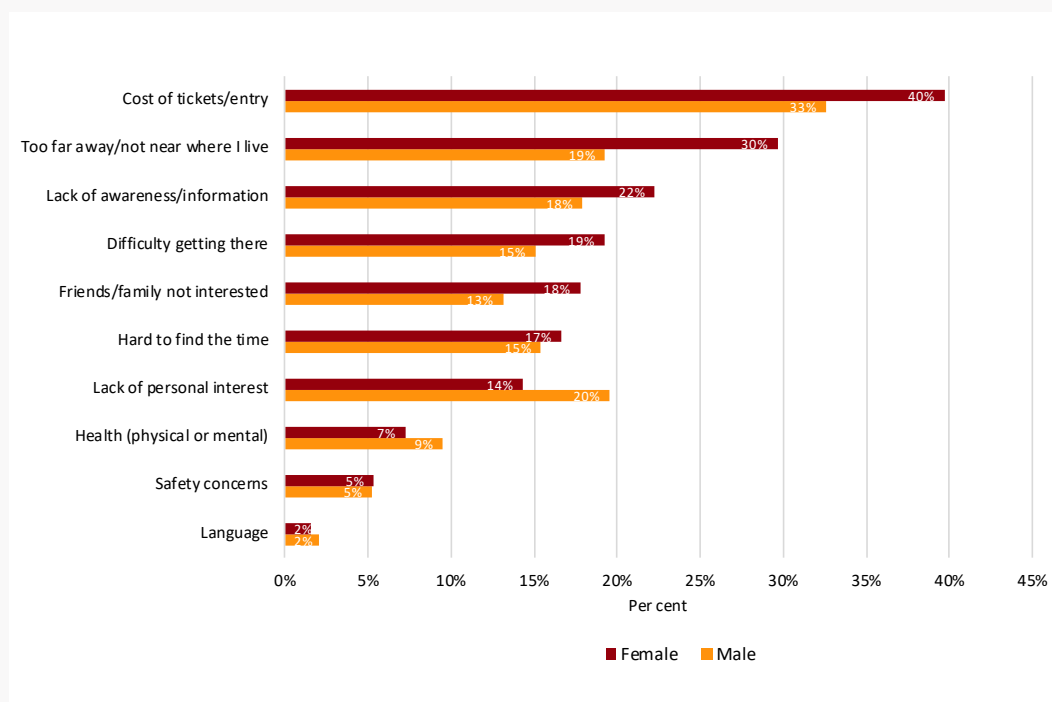
While there is wide recognition of the value provided by the arts and culture to Western Australians, there are obstacles that prevent many people from realising these benefits. The top reasons provided by men and women for not attending arts and cultural events are cost of tickets/admission fees and distance from place of residence. Specifically, 40 per cent of women and 33 per cent of men reported that the cost of tickets or admission fees are the main barrier to attending arts and

cultural activities (Figure 35). Distance from area of residence and difficulty of access combined represents the second top reason for not being able to attend arts and cultural events for both women and men. Lack of information and awareness is also a significant inhibiting factor. For most categories, the percentage of women reporting that reason for not being able to attend arts is higher than for men, suggesting that women face more significant barriers to attending arts and culture than men. A lack of personal interest is a notable exception.

The top reasons for not attending arts and cultural events include cost of tickets and distance/ accessibility. A higher percentage of women tend to face constraints than men.

FIGURE 35

Main constraints to attending arts and cultural events by gender, 2019



Source: Bankwest Curtin Economics Centre | Authors' calculations based on the Australia Council for the Arts: The National Arts Participation Survey.

The cost of tickets is ranked first as a constraint for attending arts across all age groups.

Looking at the constraints by age group, Table 6 clearly shows that the cost of tickets or admission fees is the single largest reason for not attending arts and cultural events across all age groups. The proportion of respondents that were not able to attend arts and culture events in 2019 due to the cost of tickets ranges from 31 per cent in the age group 15 to 24 to 45 per cent in the

age group of 65 years and over. It is perhaps surprising that the challenge of the cost of tickets becomes more severe with age. Distance of cultural venues from the place where the respondents live is the second most common reason for not attending arts and culture services. The importance of time constraints falls off noticeably after age 64, while health constraints increase with age.

TABLE 6
Constraints on art and culture attendance by age group, WA, 2019

Reason	Age groups					
	15-24	25-34	35-44	45-54	55-64	65+
Cost of tickets/entry	31%	37%	30%	35%	40%	45%
Too far away/not near where I live	18%	25%	24%	25%	27%	29%
Difficulty getting there	22%	15%	14%	10%	18%	24%
Lack of awareness/information	22%	25%	20%	18%	20%	14%
Lack of personal interest	15%	14%	17%	16%	23%	20%
Hard to find the time	15%	24%	21%	11%	13%	7%
Friends/family not interested	19%	16%	13%	14%	16%	13%
Health (physical or mental)	8%	4%	7%	11%	10%	13%
Safety concerns	5%	6%	3%	6%	4%	8%

Source: Bankwest Curtin Economics Centre | Authors' calculations based on the Australia Council for the Arts: The National Arts Participation Survey.

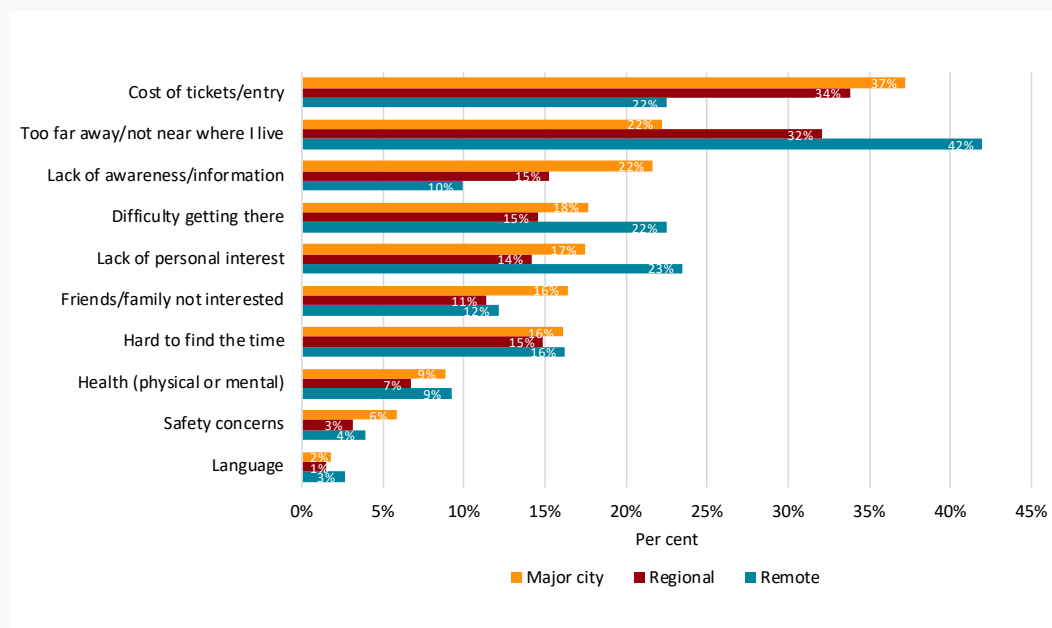
The factors that prevent people from consuming arts and cultural services may differ by geographic area of residence. To design effective and inclusive policies, it is important to understand the different challenges faced by the arts audience according to the area of residence. Examining the reasons for not attending arts and cultural events by geographic area reveals quite diverse and interesting results (Figure 36). For example, a large proportion of respondents in major cities (37 per cent) and regional towns (34 per cent) report

that the cost of tickets is the top reason that hinders them from attending cultural events, whereas only 22 per cent of the respondents in remote areas reported the cost of tickets as a barrier to attending arts. In contrast, a significant percentage of respondents in remote areas (42 per cent) reported that distance from where they live is the single largest reason for not attending arts and culture activities and only 22 per cent of respondents from major city areas reported distance as a factor for not attending art and cultural events.

For residents in remote areas, distance is the major obstacle to attending arts.

FIGURE 36

Main constraints of attending arts and cultural events by area of residence, WA, 2019



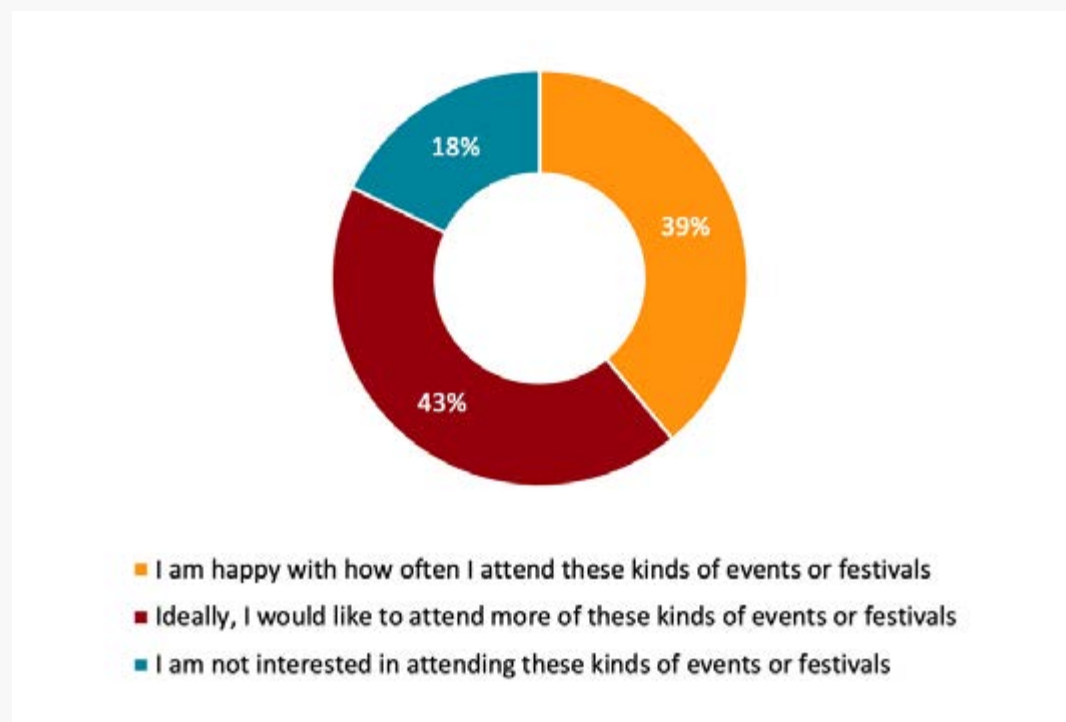
Source: Bankwest Curtin Economics Centre | Authors' calculations based on the Australia Council for the Arts: The National Arts Participation Survey.

Figure 37 provides another piece of evidence on the desired level of attendance relative to the current level of engagement with arts and culture. The largest proportion of survey respondents (43 per cent) indicated that they would like to attend more cultural

events, whereas 39 per cent reported being happy with their current consumption of arts and culture. This suggests that there is significant demand for arts and cultural services that is not met due to the one or more of the constraints discussed above.

FIGURE 37

Perceptions on the level of desired attendance, WA, 2019



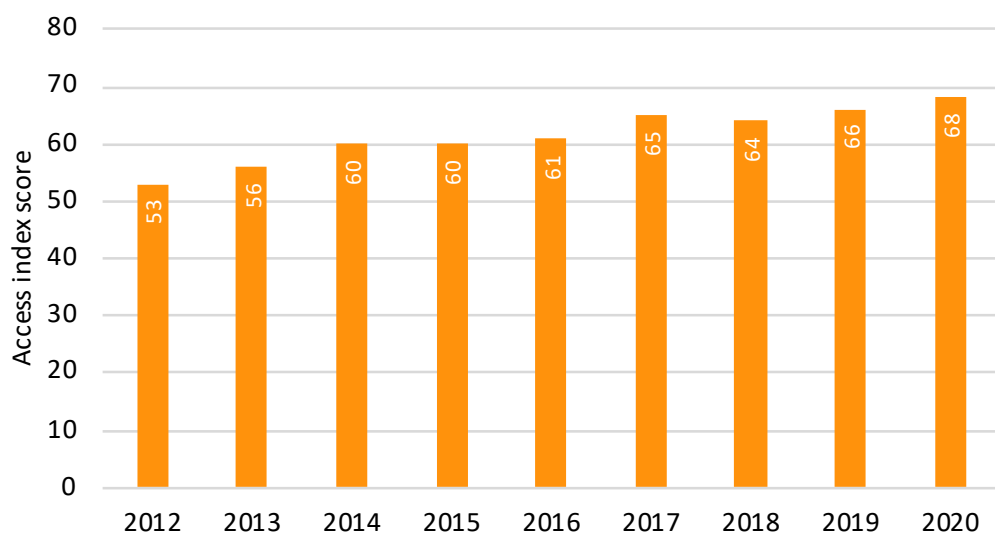
Source: Bankwest Curtin Economics Centre | Authors' calculations based on the Australia Council for the Arts: The National Arts Participation Survey.

Despite the constraints, the index score of access to participate in arts and cultural activities has been continuously increasing in recent years (Figure 38). The value of the index to access increases from 53 in 2012 to 68 in 2020. The index is constructed based on the responses from survey participants to the question “How easy is it for you to access or participate in arts and cultural

activities in WA?”. The responses include: “not easy at all”, 2, 3, 4 and “very easy”. Index values of 0, 25, 50, 75 and 100 are assigned to the responses, respectively. Then, the index score is calculated by multiplying the percentage of responses in each item by the index factor and summing the index value across each category.

FIGURE 38

Index of access to participate in arts and culture, WA



Source: Bankwest Curtin Economics Centre | Authors' calculations based on DLGSC's Arts and Culture Monitor Survey.

Western
Australians
increasingly value
the role of arts and
culture in their
lives and in their
communities.

THE VALUE AND IMPACT OF ATTENDING ARTS AND CULTURAL ACTIVITIES

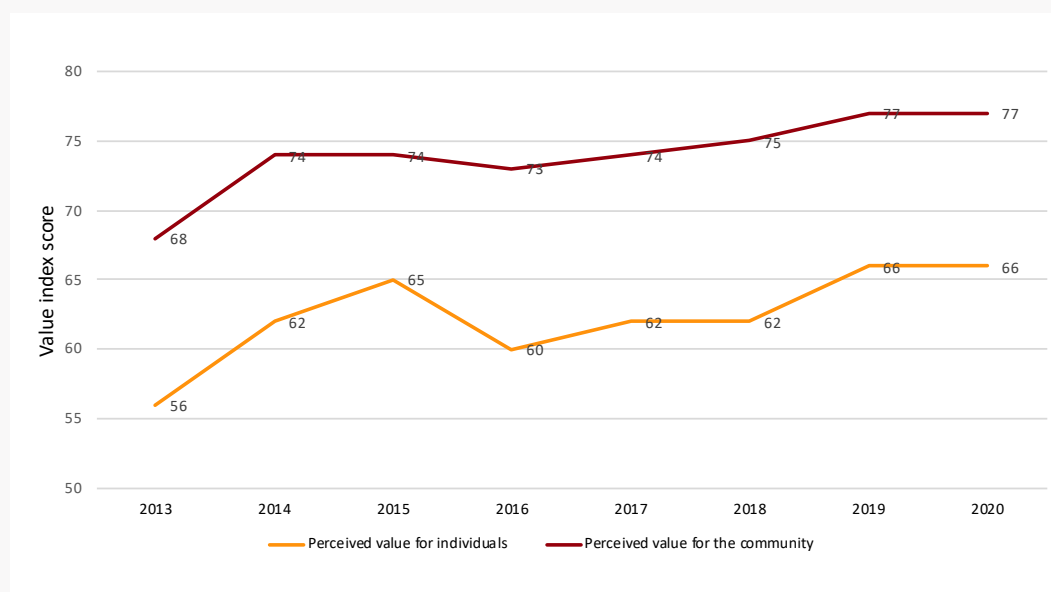
One of the challenges of assessing the contribution of arts and culture is the difficulty in measuring the value obtained from the role of attending arts and culture in people's lives and communities. However, this quantum is of paramount importance to debates surrounding funding for the arts. This section provides some descriptive analysis on the value and impact of arts and culture based on data from the National Arts Participation Survey and the Arts and Culture Monitor Survey. We then present a rigorous empirical estimation and mediation analysis based on unit record data from the HILDA survey.

One measure of the value of arts and culture to the community is the value index score constructed by DLGSC, based on the information provided by the respondents in the Arts and Culture Monitor Survey. In this survey, respondents have been asked to rate

how valuable the role of arts and culture was in their life and in the community, and choose an option from a five point scale where 1 is "no value at all" and 5 is "very valuable". The value index score is then calculated by multiplying the percentage of responses in each item by an index factor and summing the index value across each category. In this particular case, the index values corresponding to the response categories in increasing order are 0, 25, 50, 75 and 100. The historical trend of the value index score presented in Figure 39 suggests Western Australians are placing increasing value on the role of arts and culture in their lives and communities. Specifically, the value index score that captures the perceived value of arts and culture to the respondents' lives increased from 56 in 2013 to 66 in 2020. Similarly, the value index for community increases from 68 in 2013 to 77 in 2020.

FIGURE 39

Perceived values of arts and culture for Western Australian individuals and communities



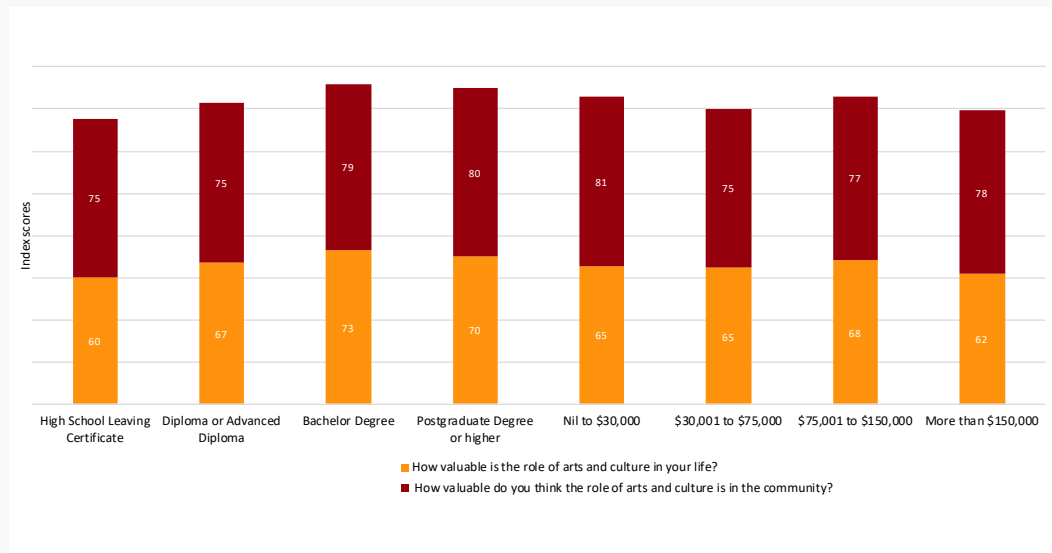
Source: DLGSC, Arts and Culture Monitor Survey.

Figure 40 shows the breakdown of the results by income level and education. The Figure shows that the role that arts and culture plays in the lives and communities of Western Australians increases with education level. For example, the value index for arts and culture for people with a high school education is 60, whereas the value

for individuals with a bachelor's degree is 73. The results with income yield mixed results. While the value of arts and culture to the individual's life remains steady across the income levels, the community value is highest for people from low-income households (81 per cent).

FIGURE 40

Perceived values of arts and culture by education and income levels, WA, 2020



Source: Bankwest Curtin Economics Centre | Authors' calculations based on DLGSC's Arts and Culture Monitor Survey.

The value attributed to the role of arts and culture in the individual lives of Western Australians increases with the level of education, but the community value is highest for low-income households.

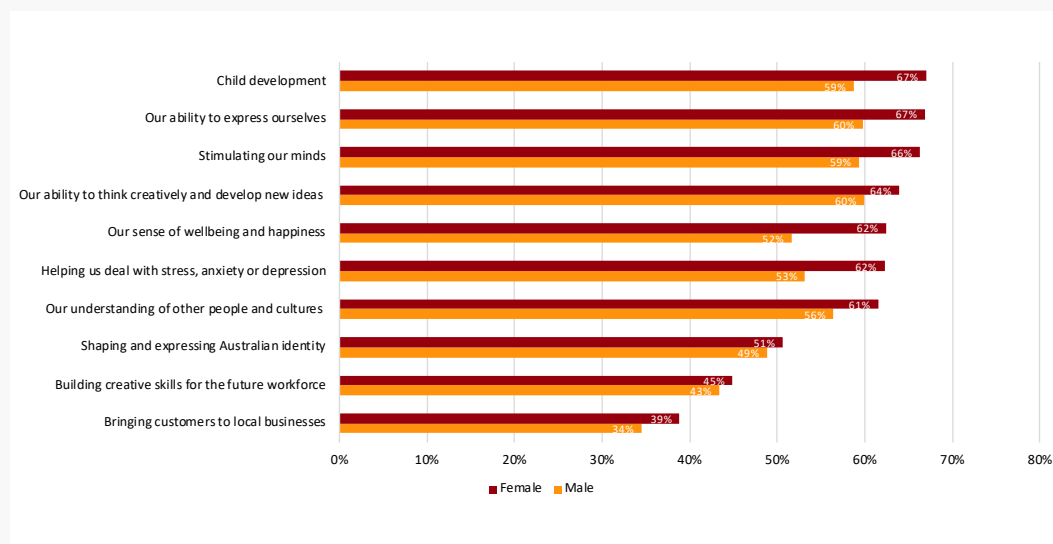
The majority of Western Australians who attend events report that the arts and culture have 'big' or 'very big' impacts on each of the following aspects of their lives: child development, the ability to express oneself, stimulating minds, creative thinking and health and wellbeing.

How do the arts and culture influence individuals' lives and the community? Comparable and interesting results on the value of arts and culture emerge from the National Arts Participation Survey. Respondents who attended arts and cultural events have been asked to indicate what impact arts and culture had on various aspects of their lives, by choosing between the responses of 'very big', 'big', 'some impact', 'not much impact' and 'no impact at all'. Figure 41 shows the proportion who reported the impacts were either 'big' or 'very big' for each domain, with fostering child development, promoting the ability to express oneself and stimulating minds and creativity attracting the highest proportion of respondents indicating a large impact. A significant proportion of respondents also indicate that arts play a central role

in improving their health and wellbeing, helping them deal with stress, anxiety or depression and promoting a sense of wellbeing and happiness. As shown in Figure 41, a significant proportion of Western Australians believe that engagement with arts has a big or very big impact on reducing stress, anxiety or depression. The importance of arts and culture services in combating stress, anxiety or depression is significantly higher for women (62 per cent) compared to that of men (53 per cent). Further, 52 per cent of men and 62 per cent of women believe that arts and culture has a big or very big impact on promoting sense of wellbeing and happiness, while 66 per cent of women and 59 per cent of men, believe arts play a key role in stimulating their mind.

FIGURE 41

Proportion of respondents who agree that arts have big or very big impacts on their health and wellbeing, WA, 2019



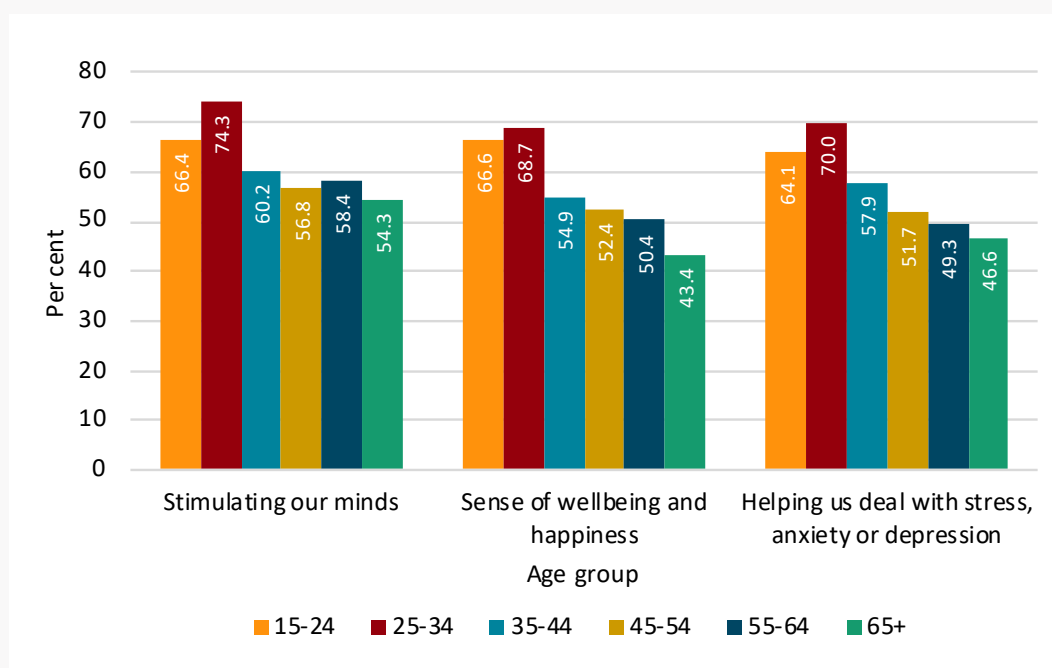
Source: Bankwest Curtin Economics Centre | Authors' calculations based on the National Arts Participation Survey.

Does the impact of arts and cultural services vary with age? Two observations are worth noting from Figure 42 on the impacts of arts and cultural activities on health and wellbeing of Western Australians by age groups. First, the impact is stronger on attendants aged below 35 years old. The percentage of respondents who believe that arts has a big or very big impact on their health and wellbeing is the highest in the age group of 25 to 34 years old. For this group, the proportion of people who reported that arts have a big or very big impact

on their life is 74 per cent for stimulating minds, 70 per cent for dealing with anxiety or stress and 69 per cent for sense of wellbeing and happiness. Second, the impact on mind stimulation is rated highest by all age groups. Although there is a decline in the proportion of people who agree that arts has a big or very big impact on their life, it remains a significant factor under all dimensions and age groups. The mind-stimulating effect of arts becomes relatively more important for older age groups.

FIGURE 42

Proportion of respondents by age group who agree that arts have big or very big impacts on their health and wellbeing



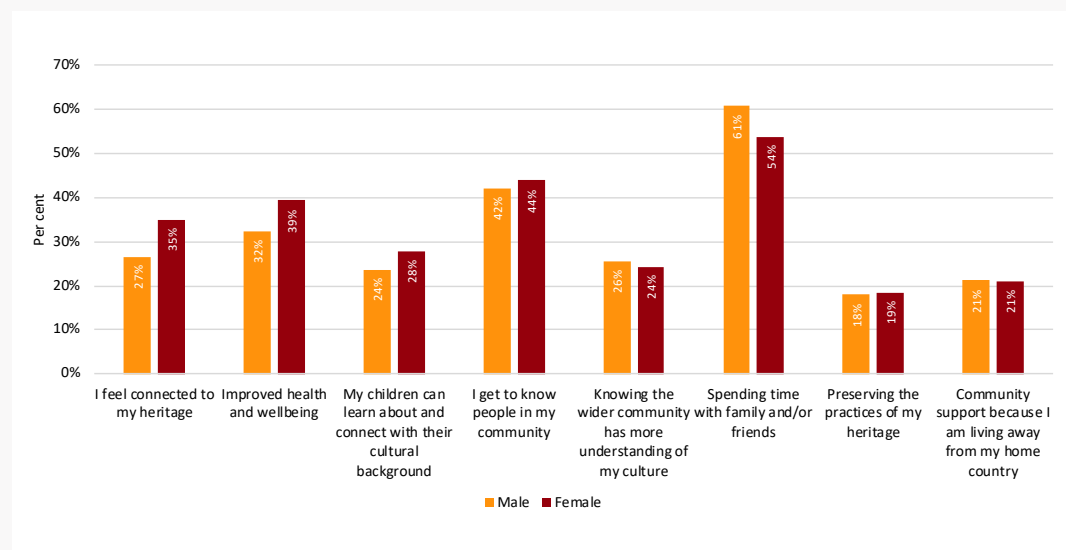
Source: Bankwest Curtin Economics Centre | Authors' calculations based on the Australia Council for the Arts: The National Arts Participation Survey.

The value of arts and culture in the lives of individuals and communities can be reflected in many ways. As can be seen in Figure 43, results from the National Arts Participation Survey show that the top three reported values Western Australians derive

from attending festival relating to their own culture are spending time with family/friends (58 per cent), getting to know other people in the community (43 per cent) and improve health and wellbeing (35 per cent).

FIGURE 43

Perceptions of the values derived from attending festivals relating to their own culture, WA, 2019



Notes: Festivals include music, visual arts, performing arts (e.g., theatre or dance) festivals or fairs.

Source: Bankwest Curtin Economics Centre | Authors' calculations based on the National Arts Participation Survey

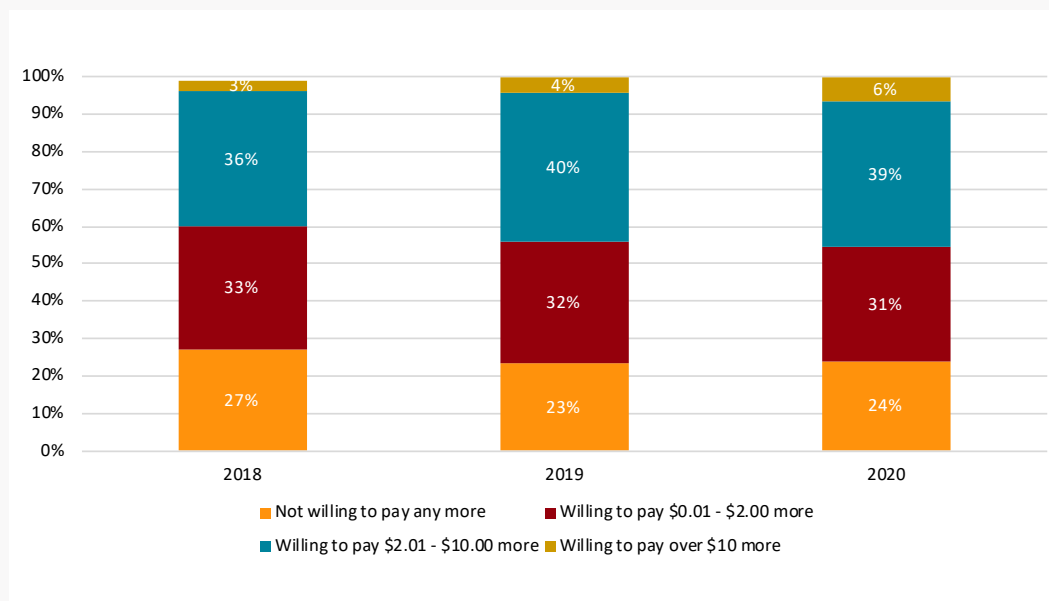
An important and popular method of nonmarket valuation of public goods is the willingness to pay (WTP) approach. Respondents in the Arts and Culture Monitor Survey have been asked about how much more would they be willing to pay per week, if anything, to expand provision of or increase access to arts and culture in WA. As a baseline, respondents are informed that approximately \$2.21 per person per week is allocated by the Western Australian Government for arts and cultural activities, services and facilities in WA.⁹ Figure 44 shows that the majority of Western

Australians are willing to pay between \$2 and \$10 more per week to increase the provision of arts and cultural activities, services and facilities. The proportion of respondents willing to pay more than \$2 more per week increased from 39 per cent in 2018 to 45 per cent in 2020 whereas the proportion of respondents not willing to pay any more decreased from 27 per cent to 24 per cent in the same period. This suggests that the values that Western Australians attribute to arts and culture has become more important over time.

The willingness to pay (WTP) per week for arts and culture has increased over time, suggesting that Western Australians increasingly value arts.

FIGURE 44

Western Australians' willingness to pay more per week



Source: Bankwest Curtin Economics Centre | Authors' calculations based on DLGSC's Arts and Culture Monitor Survey.

⁹ Total Western Australian Government funding of \$114.91 per person per year towards Arts and Cultural activities as reported in the Meeting of Cultural Ministers Statistic Working Group, Cultural Funding by Government Survey 2017-18. Population data from ABS Cat. 3101.0 - Australian Demographic Statistics, Jun 2016: www.abs.gov.au/ausstats/abs@.nsf/mf/3101.0.

THE IMPACT OF ARTS AND CULTURE ON HEALTH AND WELLBEING

This section empirically investigates the role of arts and culture on health and wellbeing of Australians and Western Australians. In addition, it examines the potential mechanisms through which the effects of engagement with the arts and culture are transmitted to health and wellbeing using a mediation analysis. To do so, the study utilises unit record data from two waves of the HILDA survey.¹⁰ The HILDA survey is a longitudinal study of Australian households and individuals conducted by Melbourne Institute on behalf of the Department of Social Services which provides the funding. The survey captures various economic and social aspects of the lives and family dynamics of Australians, such as income, labour and subjective wellbeing. It is important to note that the data used in this analysis was collected prior to the COVID-19 pandemic.

Conceptual mechanism

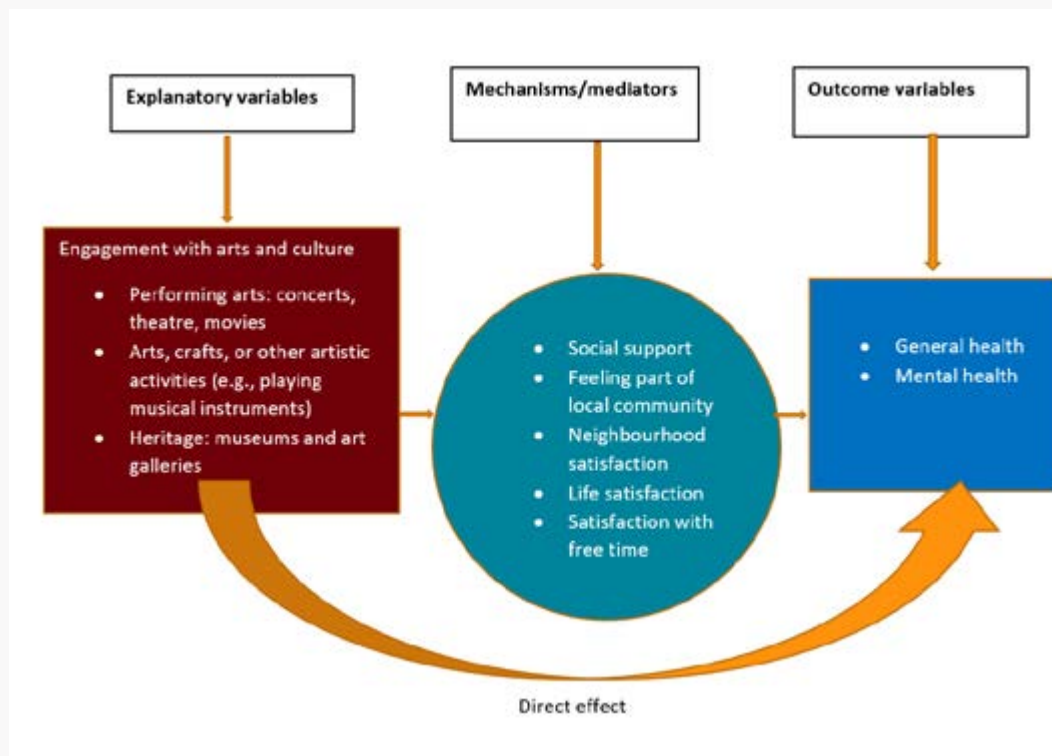
While there are several studies on the role of arts and culture on health and wellbeing at the international level, there is a lack of consensus with regard to measuring the benefits and quantifying the impacts. More importantly, no existing study has examined the mechanisms that link arts and culture with health and wellbeing using rigorous models to provide data-driven evidence. Identifying the main mechanisms through which engagement

with arts and culture affects health and wellbeing is crucial to drawing appropriate policy implications. This study makes key contributions to the literature and looks to inform policy using internationally accepted and widely recognized measures of public health indicators from the HILDA survey data. It also examines the main mechanisms that link arts and culture with wellbeing and health using structural equation modelling to identify the mechanisms and decompose the direct and indirect effects of arts and culture on health and wellbeing. Figure 45 provides the framework for the mediation analysis where the direct and indirect effects of engagement in arts and culture are captured. The key idea is that, in addition to the direct impacts, arts and culture can influence health and wellbeing indirectly through their positive effects on the various measures of social capital and subjective wellbeing. This framework is consistent with the results from the analysis of the descriptive statistics based on the ABS survey and National Arts Participation Survey data discussed in the previous sections. Detailed description of the main variables of interest are provided below.

¹⁰ The HILDA survey has information on attendance and participation in arts and cultural events in wave 12 and wave 16 only. Accordingly, the sample for this study is restricted by the data availability.

FIGURE 45

Empirical framework



Source: Bankwest Curtin Economics Centre.

Data**Outcome variables**

Following the literature on health and wellbeing, two outcome variables related to health and wellbeing are considered. The first outcome variable is a measure of general health, which is a sub-scale of the Short-Form 36 (SF-36) general health survey. The SF-36 is a clinically validated and internationally recognised measure of health status of individuals. The general health sub-scale is constructed from a five-item health survey that captures information on self-assessed health based on respondents' perception of their health given on ordinal scales, such as

'excellent', 'very good', 'good', 'fair', and 'poor'. In addition, the HILDA survey collects information on general health using an additional series of questions such as 'I get sick a little easier than other people' or 'I am as healthy as anybody I know' and the responses are coded numerically from 1 for 'definitely true' to 5 for 'definitely false'. The composite measure of general health is then transformed to a 0 to 100 scale where a higher score means a better general health.

The second outcome variable is a measure of mental health derived from a five-item Mental Health Inventory (MHI-5) scale, which is a subscale of the SF-36 measure of functional health and wellbeing.

Specifically, it is constructed from the information provided by survey participants from a series of questions, including how often over the preceding four weeks they have: (1) been nervous; (2) felt so down in the dumps, such that nothing could cheer them up; (3) felt calm and peaceful; (4) felt down; and (5) been happy. The responses are recorded on an ordinal scale of 1 for 'all of the time' to 6 for 'none of the time'. Responses to items (3) and (5) are reverse coded to ensure that all items correspond to better mental health. The measure of mental health is transformed into a 0 to 100 scale by summing scores across each item, subtracting 5 and dividing by 25, following Ware *et al.* (2000). A higher mental health index on the scale indicates better mental health. This measure of mental health is commonly adopted in the health economics literature (see, for example, Miranti and Li, 2020 and Awaworyi Churchill *et al.*, 2021).

Explanatory variables

The explanatory variables include the rate of attendance of arts and cultural events. HILDA provides data on engagement with arts and culture based on the respondents' response to the question "Thinking about the past 12 months, how often do you do the following activities?". The first activity is related to performing arts, including movies, concerts, the theatre or other performing arts events. The second includes arts, crafts or other artistic activities (e.g., playing musical instruments) and the third includes going out to museums or art galleries.

Mediating variables

Following on from descriptive evidence presented above on the reasons for attendance at arts and cultural events, social support, satisfaction with neighbourhood, feeling part of the community, life satisfaction and

satisfaction with free time are considered as potential mediators of the relationship between arts and health.

Social support is commonly used as a proxy for social capital. It is constructed from the information provided by survey respondents to a 10-item instrument in the HILDA survey about the level of support they obtain from people, including friends and families. Responses are coded on a scale of 1 'strongly disagree' to 7 'strongly agree'. The second mediating variable is a measure of the feeling or the respondents' perception of being part of their local community on a scale of 0 to 10 corresponding to the range from 'totally dissatisfied' to 'totally satisfied'. Similarly, satisfaction with the neighbourhood where the respondents live, as well as the satisfaction with the free time they have, are rated from 0 to 10, with higher numbers indicating greater satisfaction.

The measure of subjective wellbeing is captured through respondents' evaluation of their life satisfaction. Following the literature, life satisfaction is used as a measure of subjective wellbeing (see, for example, Kesavayuth *et al.* 2021). The HILDA survey collects information on life satisfaction from the responses to the question "all things considered, how satisfied are you with your life?". The responses are provided on a scale ranging from 0 (totally dissatisfied) to 10 (totally satisfied).

Control variables

Following the literature on the social determinants of health and wellbeing, the model includes several control variables including income, education and demographic variables such as age and marital status.¹¹

¹¹ The variables included can be seen in the tables in Appendix 3 containing the full regression results.

Analysis of empirical results

Models are estimated for the full (national) HILDA sample and for the sample restricted to persons living in WA. *A priori*, there is no particular reason to expect the effects of participation in culture and the arts on health and wellbeing to be different for people in this state. On this basis, the estimates based on the much larger Australian sample are our preferred estimates of those effects. For completeness, however, we also report results for WA. Table 7 shows the role of engagement with arts and culture on general health. The evidence supports the positive role of arts and culture in promoting general health. Specifically, the

empirical results show that an increase in the frequency of attendance of performing arts activities is associated with an increase in the general health index of 1.32 points for Western Australians. That is, roughly, engaging in arts and culture improves general health by about 1.9 per cent relative to the mean value in the sample. This result is similar to the estimated effect at the national level (1.296). Activities related to heritage, such as going to museums and art galleries, also have a significant positive effect on general health, again with a comparable estimated effect for WA. A smaller positive effect is estimated for artistic activities, and this is significant for the national sample.

Attendance at performing arts and heritage activities have a significant positive effects on physical health.

TABLE 7

The effect of participation in arts and culture on general health

	WA	National	WA	National	WA	National
Performing arts	1.323**	1.296***				
	-0.598	-0.14				
Artistic activities			0.018	0.287***		
			-0.205	-0.069		
Heritage					0.900**	0.882***
					-0.439	-0.143
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,453	15,903	2,862	30,921	2,864	30,946
R-squared	0.19	0.201	0.194	0.198	0.196	0.199

Note: The dependent variable is general health, which is the transformed sub-scale of the Short Form 36 (SF-36). All regressions include full set of control variables, including labour force status, household income, long term illness, number of dependents, age, educational attainment and marital status. Robust standard errors in parenthesis. *** and ** indicate significance at 1% and 5% levels, respectively.

Attendance at performing arts has a significant association with better mental health.

Table 8 reports the estimates of the effect of attending arts and cultural activities on mental health. The results show that attendance at performing arts activities has a significant positive association with mental health. Specifically, the results show that attending performing art events is associated with an increase in the index of mental health of Western Australians by 1.1 points. Relative to the average index of mental health, the results show that attendance at performing arts improves mental health by about 1.5%. This estimate is slightly higher than the estimated effect at the national level. However, no significant effects of attendance in artistic and heritage activities on mental health are observed, save for a weakly significant and positive estimate for the effect of participation in artistic activities for the national sample.

These findings offer support for the possibility of promoting public health through arts and culture. Given the extent of mental health illness in Australia, and the exacerbating situation following the COVID-19 pandemic, this potential

non-therapeutic role of arts and culture is likely to be more critical than ever. However, it is not possible from these estimates to claim with certainty that participation in arts and cultural activities has a causal effect of improving mental or general health. An understanding of the channels through which the arts and culture are associated with health outcomes can cast more light on the nature of those relationships.

To aid in interpreting the magnitude of these associations, we estimated a simple model of the probability of people reporting they were in good health ('excellent', 'very good' or 'good') as opposed to poor health ('poor' or 'very poor'). If all Western Australians increased their frequency of attending performing arts, the results suggest 92,000 additional Western Australians would report good general health rather than poor health. For mental health, the estimated effect translates to an additional 46,000 Western Australians being lifted out of the range on the mental health summary score that is commonly used to indicate severe depression and anxiety.

TABLE 8

The effect of participation in arts and culture on mental health

	WA	National	WA	National	WA	National
Performing arts	1.113**	0.848***				
	-0.53	-0.136				
Artistic activities			-0.075	0.110*		
			-0.21	-0.059		
Heritage					0.498	0.157
					-0.435	-0.134
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,461	16,042	2,881	31,180	2,883	31,206
R-squared	0.118	0.097	0.087	0.084	0.088	0.084

Notes: The dependent variable is mental health. All regressions include full set of control variables, including labour force status, household income, long term illness, number of dependents, age, educational attainment and marital status. Robust standard errors in parenthesis. ***, **and * indicate significance at 1%, 5% and 10% levels, respectively.

Existing literature identifies social capital (including social support and neighbourhood characteristics, such as satisfaction with neighbourhood, and feeling part of the community) and subjective wellbeing (including overall life satisfaction and satisfaction with free time) as the main potential channels that may link engagement in the arts and culture with health outcomes. Table 9 presents the direct, indirect, and total effects of participation in performing arts events on the health and wellbeing of Western Australians, estimated using a structural equation model based on the framework presented in Figure 45. The results show that the effect of participation in arts and culture activities on health and wellbeing is significantly mediated by social capital, including social support and neighbourhood characteristics. Virtually identical estimates are obtained if the model is estimated for the full Australian sample, but with higher levels of statistical confidence courtesy of the larger sample.

By way of example, looking at Column (1) in Panel A of Table 9, attendance and participation in arts and cultural events has a total effect of 1.92 points on general health, of which 1.05 points are the direct effects and 0.87 points represent the indirect effect on general health through social capital. Similarly, the other mediating variables have significant indirect effects on the outcome variables. These results are consistent with the literature that documents the role of creative and cultural activities as a powerful tool to reduce social isolation and promote social inclusion. For example, community connections through arts and culture in Aboriginal and Torres Strait Islander communities are found to

play a crucial role in promoting pride and self-worth, which in turn lead to positive mental health outcomes.¹² Similarly, art and cultural activities influence mental health outcomes through their effects on life satisfaction. For example, the 2014 General Social Survey results show that individuals with mental health conditions who had attended selected culture and leisure activities reported an average overall life satisfaction score of 6.8, on a scale of 0 'not at all satisfied' to 10 'completely satisfied'. In contrast, the average overall life satisfaction of those who had not attended any selected culture and leisure activities was only 5.7.¹³

The results are consistent with the descriptive analysis of the data from the National Arts Participation Survey in the previous sections. In sum, the findings of the empirical analysis suggest that the mediating variables play an important role in linking arts and culture with health and wellbeing through building community connection and reducing social isolation, as well as increasing satisfaction with the neighbourhood of residence. Again, we cannot claim to have established a causal effect running from participation to improved mental health. However, the results are consistent with theoretical expectations. For example, participation in arts and culture is expected to increase one's feeling of being part of the community which, in turn, is expected to contribute to better mental health. The fact that the relationships identified in the structural equation model align with these theoretical expectations gives us some confidence that at least part of the link between participation in arts and mental health is causal.

Social capital (including social support and connection with community) and life satisfaction are the main channels through which engagement in arts and culture is linked to better health outcomes.

¹² House of Representatives Standing Committee on Aboriginal and Torres Strait Islander Affairs (HORSCATSIA) 2012, Our Land Our Languages: Language Learning in Indigenous Communities, 7.

¹³ ABS (2014). General Social Survey: Summary Results, Australia. TableBuilder (cat. no. 4159.0).

TABLE 9

Mediation analysis: effect of participation in performing arts on mental health

	Social support	Feeling part of local community	Satisfaction with neighbourhood	Satisfaction with free time	Overall life satisfaction
Panel A: General health					
Direct effect	1.046**	1.489***	1.621***	1.691***	1.372***
	-0.495	-0.523	-0.518	-0.533	-0.518
Indirect effect	0.872***	0.414***	0.317**	0.253***	0.574**
	-0.222	-0.14	-0.15	-0.092	-0.227
Total effect	1.918***	1.903***	1.938***	1.944***	1.946***
	-0.537	-0.538	-0.538	-0.538	-0.538
Panel B: Mental health					
Direct effect	0.465	0.983**	1.190***	1.154**	0.848**
	-0.394	-0.447	-0.451	-0.454	-0.394
Indirect effect	0.943***	0.413***	0.244**	0.282***	0.592**
	-0.252	-0.139	-0.118	-0.103	-0.249
Total effect	1.408***	1.395***	1.434***	1.435***	1.440***
	-0.464	-0.465	-0.465	-0.464	-0.464

Notes: Standard errors in parentheses. ***, ** and * indicate significance at 1%, 5% and 10% levels.

THE IMPACT OF COVID-19 AND THE CHANGING NATURE OF ARTS AND CULTURE

As shown above Western Australians attended arts and cultural activities at rates above the national average in recent periods before the onset of the COVID-19 pandemic. Starting from the first quarter of 2020, the global pandemic has inflicted a profound and substantial negative impact on key sectors within the creative industries. Following the announcement of numerous restrictions by Australian Governments, including bans on travel and public gatherings, a number of surveys on the impacts of COVID-19 have been conducted by peak bodies. Early results of the surveys suggest that the restrictive measures caused unprecedented disruption to the arts and cultural industry.

Drawing on multi-phase survey data from the Australia Council of the Arts' COVID-19 Audience Outlook Monitor, this section examines the impacts of COVID-19 on the arts and cultural sector during the pandemic, as well as the potential implications for the industry's future in the post-pandemic era. The first phase of the Audience Outlook Monitor in Australia was launched in May 2020 with the primary purpose of tracking audience sentiment following the declaration of the COVID-19 pandemic. Since then, five phases of the survey have been conducted, with the latest one completed in July 2021 with 8,728 respondents. A number of arts and culture organisations have been involved in the surveys. For example, in the recent phase,

up to 130 arts and culture organisations, such as performing arts, museums and galleries, have participated in a cross-sector collaborative survey process by reaching a random sample of their audiences that had attended arts or cultural activities in person since January 2018.

Effects of COVID-19 on demand for live events

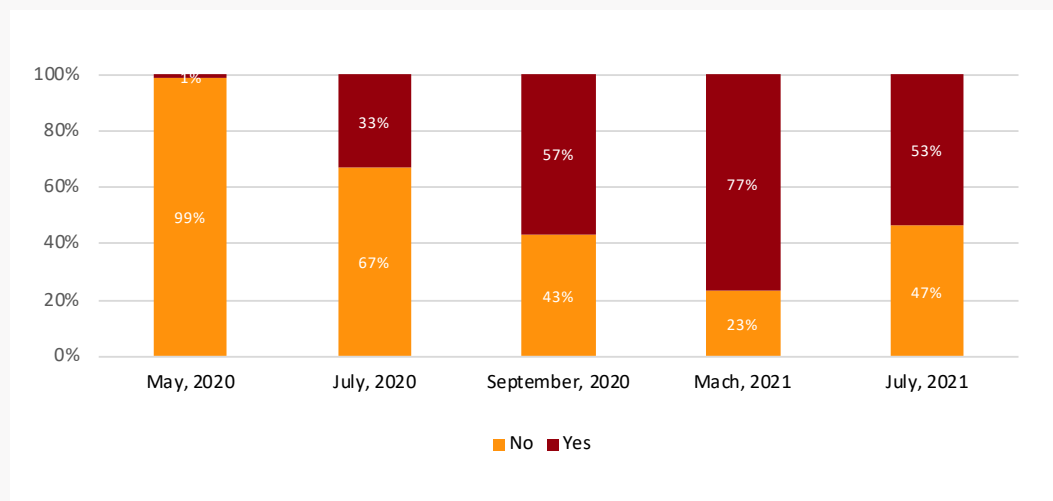
By the nature of the services provided by live events and venues, the arts and cultural sector is at the forefront of the sectors that have been heavily impacted by COVID-19, through demand shocks following gathering bans and a series of lockdowns. Figure 46 shows the proportion of "yes" or "no" responses to the question "In the past fortnight, did you do a cultural activity in-person (not online)?". The Figure clearly shows that live events virtually ceased in WA in the second quarter of 2020 following the declaration of the COVID-19 pandemic. Of the 2,769 participants in Phase1 (May 2020) of the COVID-19 Audience Outlook Monitor Survey, only about 1 per cent of Western Australians attended arts and cultural activities in the fortnight before the survey. The proportion of respondents who attended live events in person increased to 77 per cent in phase 4 (March 2021), before declining to 53 per cent in phase 5 (July 2021).

COVID-19 inflicted substantial negative demand shocks as a result of stringent restrictions and lockdowns in Western Australia.

Although the impact of COVID-19 has affected all states and territories, Western Australia's arts and culture industry has fared better than other jurisdictions (before July 2021) except Northern Territory.

FIGURE 46

In-person attendance at live events in the past fortnight, Western Australia



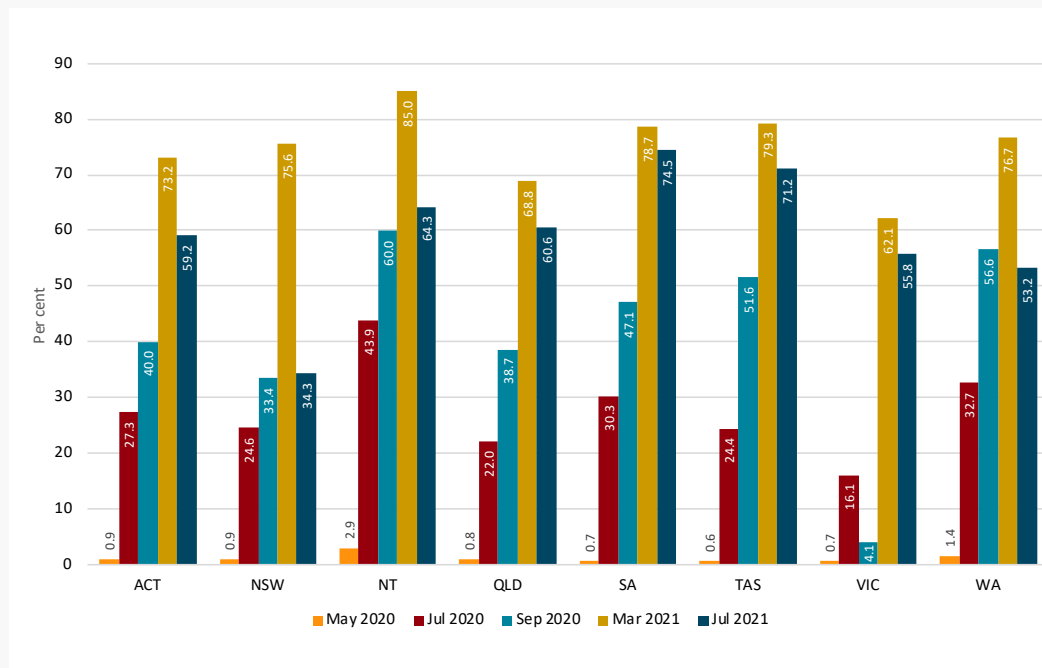
Source: Bankwest Curtin Economics Centre | Authors' calculations based on the COVID-19 Audience Outlook Monitor Survey.

The impact of COVID-19 has been similar across the Australian states and territories despite the differences in magnitudes. Figure 47 shows that Victoria's arts and culture industry experienced the largest negative demand shock for live events through 2020 compared to other jurisdictions. Western Australia's arts and culture industry performed relatively better during the pandemic next to the Northern

Territory except in Phase 5 (July 2021). Live attendance in WA dropped in July 2020 because of the four-day lockdown from 29 June to 3 July 2021. However, this drop was marginal compared to the sharp decline in NSW as lockdowns associated with the 'delta outbreak' commenced, many remaining in place as this report goes to print.

FIGURE 47

State-level in-person attendance at live events in the past fortnight



Source: Bankwest Curtin Economics Centre | Authors' calculations based on the COVID-19 Audience Outlook Monitor Survey.

Looking at the demand for live events by art forms, the survey results from the subsequent phases show that rates of attendance at arts and cultural events of all forms recovered sharply up to March 2021, before the reverse in the trends in phase 5 (July 2021). The fastest recovery and the highest rate of attendance was in live performances, increasing from 1 per cent in

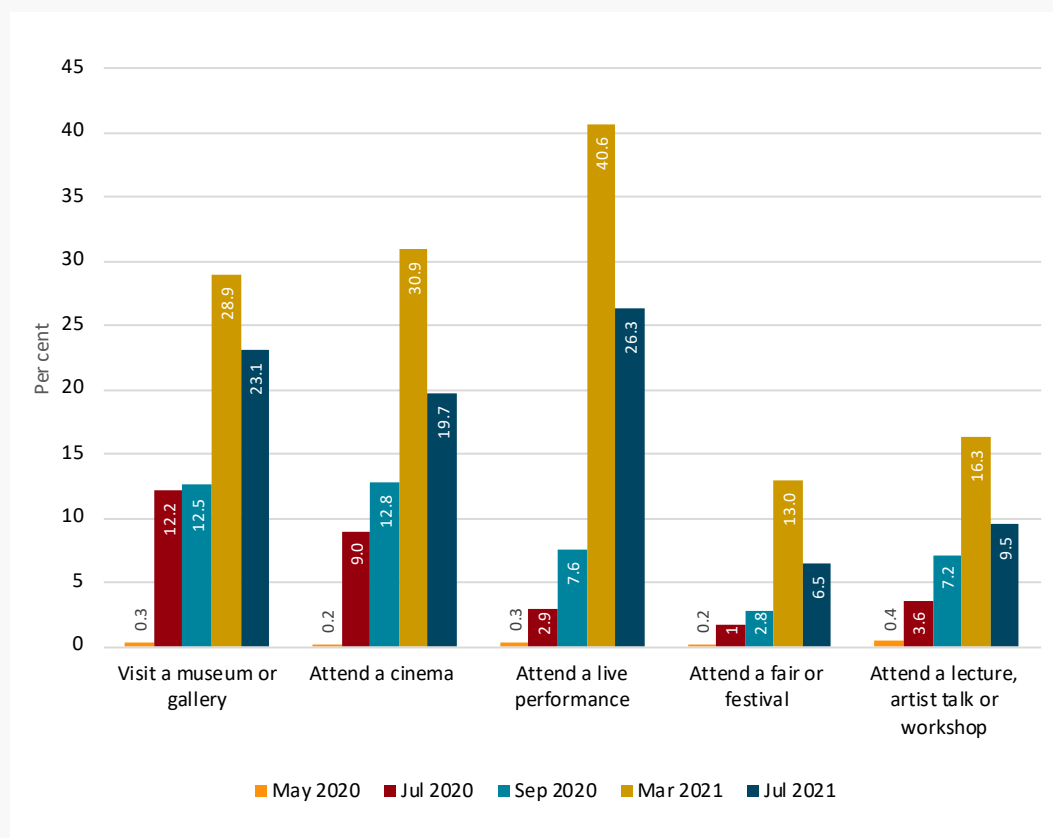
March 2020 to 49 per cent in March 2021. The lowest attendance rate for the entire period was recorded for festivals, as many such events were cancelled or postponed. The rate of attendance in all art forms declined in the latest phase due to the 4-day lockdown introduced for Perth and Peel from 29 June 2021 to 3 July, 2021.

The trends in the recovery of attendance rates sharply reversed in July 2021 following the 4-day lockdown (29th June to 3rd July) imposed in Perth and Peel.

Despite the unprecedented negative effects of COVID-19 on arts and culture, audience optimism remains high. The proportion of respondents who are eager to go out to arts and cultural events immediately or as soon as it is permitted increased from 25% in May 2020 to 80% in March 2021, albeit with a modest decline in July 2021.

FIGURE 48

In person attendance of arts and culture services during the COVID-19 pandemic, Western Australia



Source: Bankwest Curtin Economics Centre | Authors' calculations based on the COVID-19 Audience Outlook Monitor Survey.

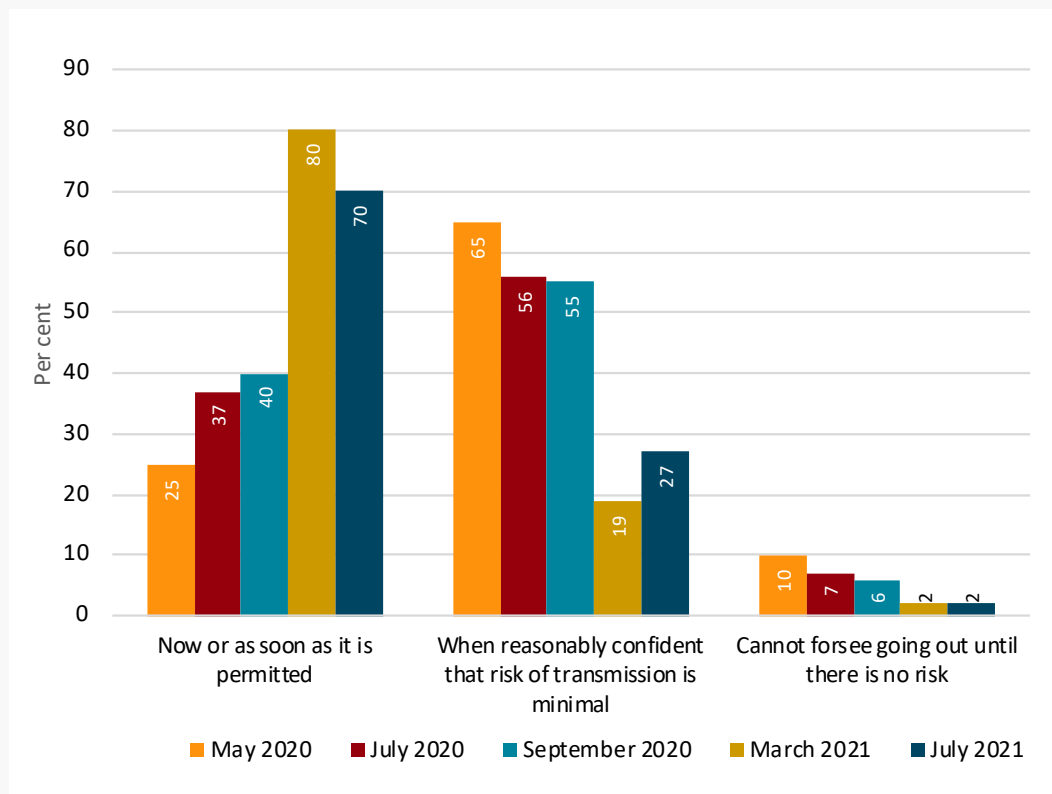
Consumer/audience sentiment and the future of arts and culture

An interesting aspect relating to the impact of COVID-19 is its influence on consumer sentiment and the implications for the future of arts and culture. Figure 49 provides an overview of the consumer optimism based on survey respondents' feelings about going out to attend arts and cultural events. The Figure shows that the audiences' confidence on returning to attending arts

and cultural events has increased in the last 12 months. Specifically, the proportion of respondents who are eager to go out to arts and cultural events immediately or as soon as it is permitted increased from 25 per cent in May 2020 to 80 per cent in March 2021, albeit with a modest decline in July 2021 following the recent lockdown in Perth and Peel region. This suggests that there is a significant hope for recovery of the arts and culture industry in the near future.

FIGURE 49

Level of consumer confidence: how you feel about going to arts and cultural events, WA



Source: Bankwest Curtin Economics Centre | Authors' calculations based on the COVID-19 Audience Outlook Monitor Survey.

A further look at consumers' confidence in WA based on the expected consumption expenditure on arts and culture services also suggests a positive outlook. As can be seen in Figure 50, more than two-thirds of past audiences anticipate that their overall spending on the consumption of arts and cultural services, such as tickets, admissions, subscriptions and memberships will be the same as before the health crises

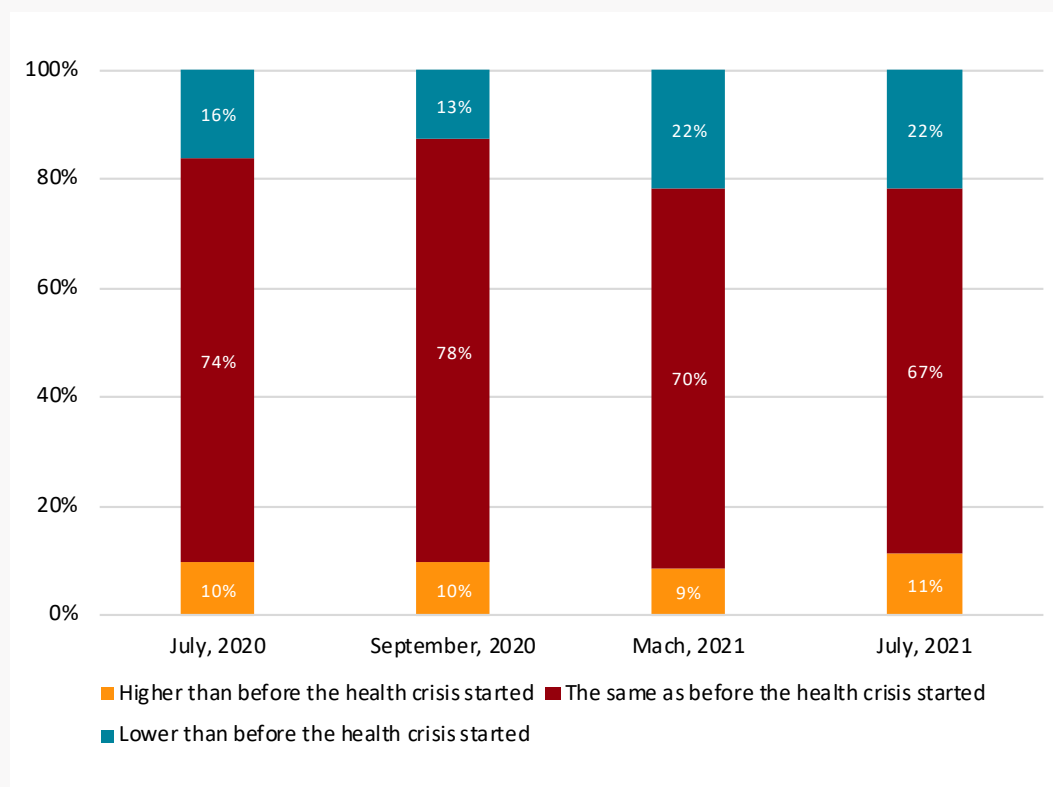
started. About 10 per cent of respondents anticipate that their consumption expenditure on arts and cultural services will be higher than the level before the COVID-19 crises started. Combining these two categories, more than 80 per cent of past attendants are expected to spend at least equal to the level of their pre-crisis expenditure on arts and culture.

About 80% of past attendants expect to spend at least an equal level of their expenditures on arts and culture as before the crises.

More than 95% of the participants in the recent phase of COVID-19 Audience Outlook Survey expect to attend at least as same as before their attendance before crises.

FIGURE 50

Expected effect of COVID-19 on future consumption expenditures on arts and culture, WA



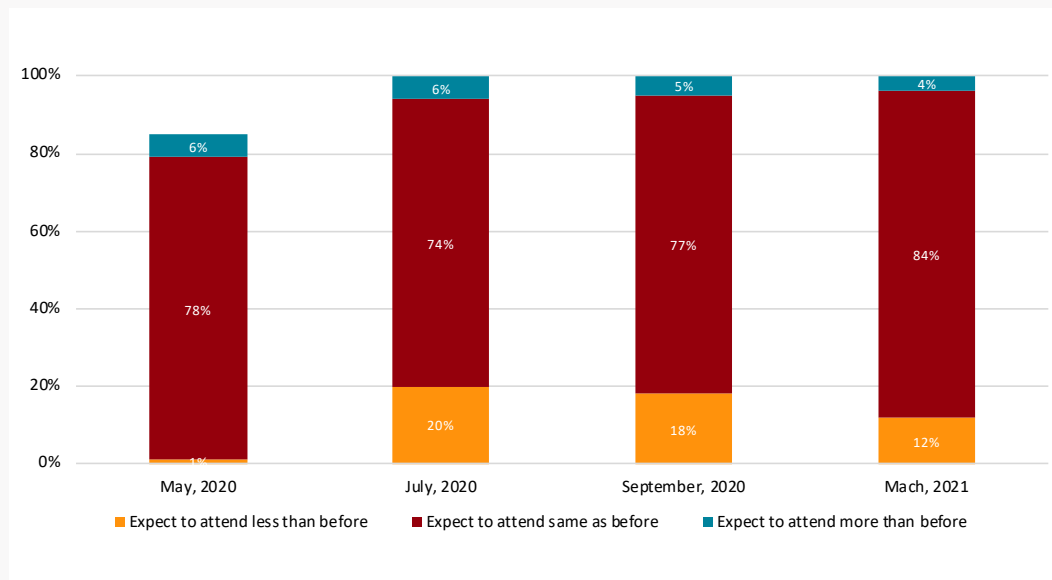
Source: Bankwest Curtin Economics Centre | Authors' calculations based on the COVID-19 Audience Outlook Monitor Survey.

As an indication of the potential long-term implication of COVID-19 on the arts and cultural sector, the COVID-19 Audience Outlook Monitor asked respondents how their attendance may be affected by the pandemic in the long-term. Figure 51 shows that between July 2020 and March 2021, the proportion of past attendants in WA who expect their attendance to be same as

before the pandemic increased from 74 per cent to 84 per cent. On the other hand, the proportion of people who expect to attend less than before the pandemic decreased from 20 per cent to 12 per cent. The trend suggests some cause for optimism on the recovery from the negative demand shock in the arts and culture industry.

FIGURE 51

Long-term impact of COVID-19, WA



Source: Bankwest Curtin Economics Centre | Authors' calculations based on the COVID-19 Audience Outlook Monitor Survey.

The role of COVID-19 vaccine in the recovery of arts and culture in WA

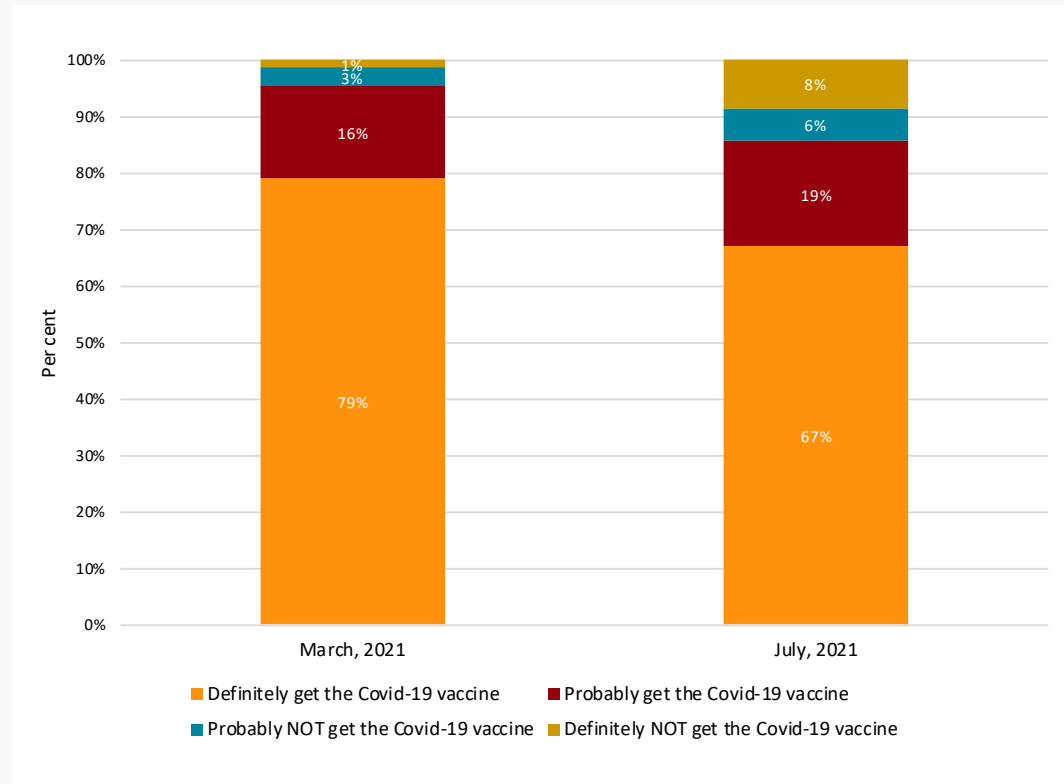
Vaccinations against COVID-19 are expected to be an important factor contributing to recovery for the arts and culture industry. When asked how likely they are to get a

COVID-19 vaccine, about 86 per cent of the respondents in July 2021 believed that they will definitely or probably get the COVID-19 vaccine (Figure 40). However, this had declined from 95 per cent reported three months earlier.

More than 85% of the COVID-19 Audience Outlook Survey participants are confident that the vaccination effort will be successful enough to allow for the resumption of normal activities within a year from now.

FIGURE 52

Likelihood of Audience Vaccination against COVID-19



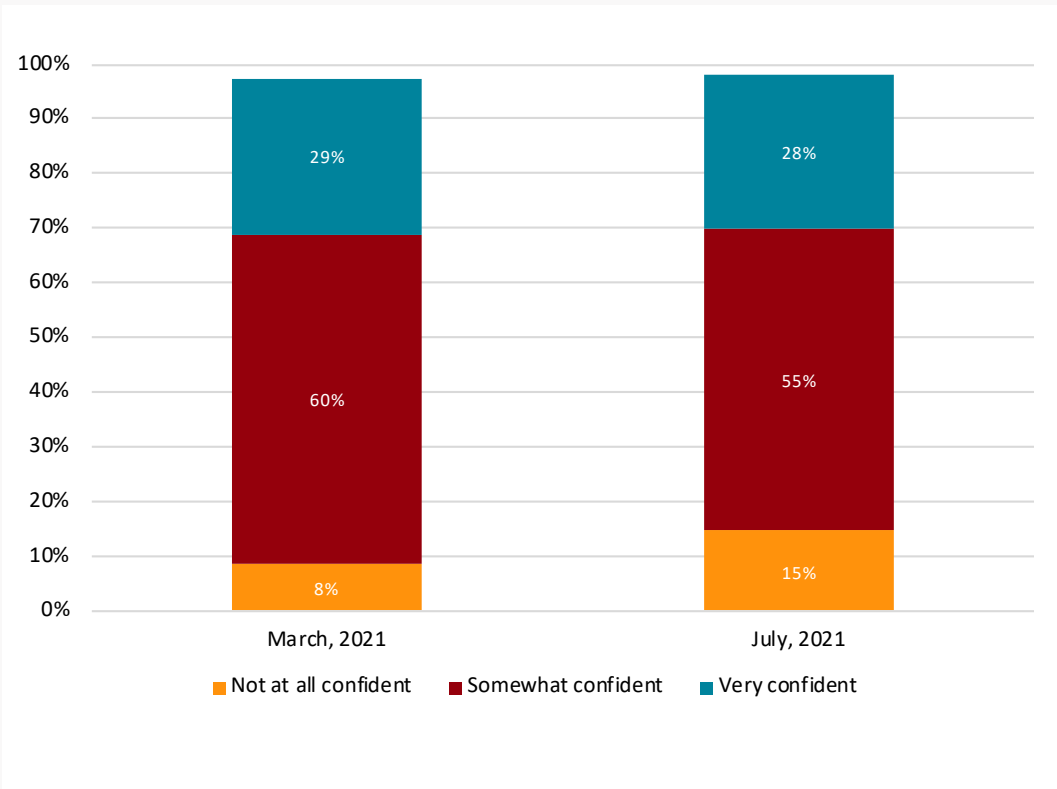
Source: Bankwest Curtin Economics Centre | Authors' calculations based on the COVID-19 Audience Outlook Monitor Survey.

Respondents were also asked about their confidence on whether the vaccination effort will be successful enough to allow for the resumption of normal activities within a year from now. Again there is a decline in the percentage who are very confident or somewhat confident from March 2021 to July 2021, more than 80 per cent of the survey participants were still optimistic on

the role of the vaccination to enable the resumption of normal activities (Figure 53). Overall, the arts and culture audience have high degrees of optimism for a return to normal engagement with the sector, but there are some worrying signs of growing hesitancy about receiving a vaccination and the effectiveness of vaccinations in the most recent data.

FIGURE 53

The potential role of COVID-19 vaccine on the recovery of arts and culture industry



Source: Bankwest Curtin Economics Centre | Authors' calculations based on the COVID-19 Audience Outlook Monitor Survey.

SUMMARY

Arts and culture is an important part of Western Australians' day-to-day life, despite the recent disruption of the COVID-19 pandemic. Among the states and territories, Western Australians have a relatively high level of engagement with arts and cultural activities. The young generation is more active in all forms of arts and cultural events. Women seem to attend more arts and cultural events compared to men, despite a higher proportion reporting barriers to attendance.

A significant number of people reported various factors acting as barriers to attending arts and cultural events, and these vary across different characteristics of the respondents, including gender, age profile, and area of residence. The cost of tickets and admission fees are the key reasons for not attending arts and culture services in major cities and regional towns, whereas accessibility is the main barrier to participation in remote areas.

The empirical analysis provides evidence that active engagement with arts and cultural events have a significant positive association with health and wellbeing of Western Australians. Social capital (including social support and neighbourhood environment) and subjective wellbeing (including overall life satisfaction and satisfaction with free time) play important roles as mechanisms through which the effects of engagement in arts and culture are transmitted to better health and wellbeing.

Despite the unprecedented disruptions on the arts and culture industry by the COVID-19 pandemic, audiences display a high degree of optimism for recovery of the sector in the near future. A large proportion of the audience is eager to see the resumption of normal activities, and vaccinations are seen to play some role in that optimism.

AT THE CROSSROADS



AT THE CROSSROADS

In recent years, WA government funding in culture and the arts has been higher than the national average on a per capital basis.

FUNDING AND POLICY DIRECTIONS

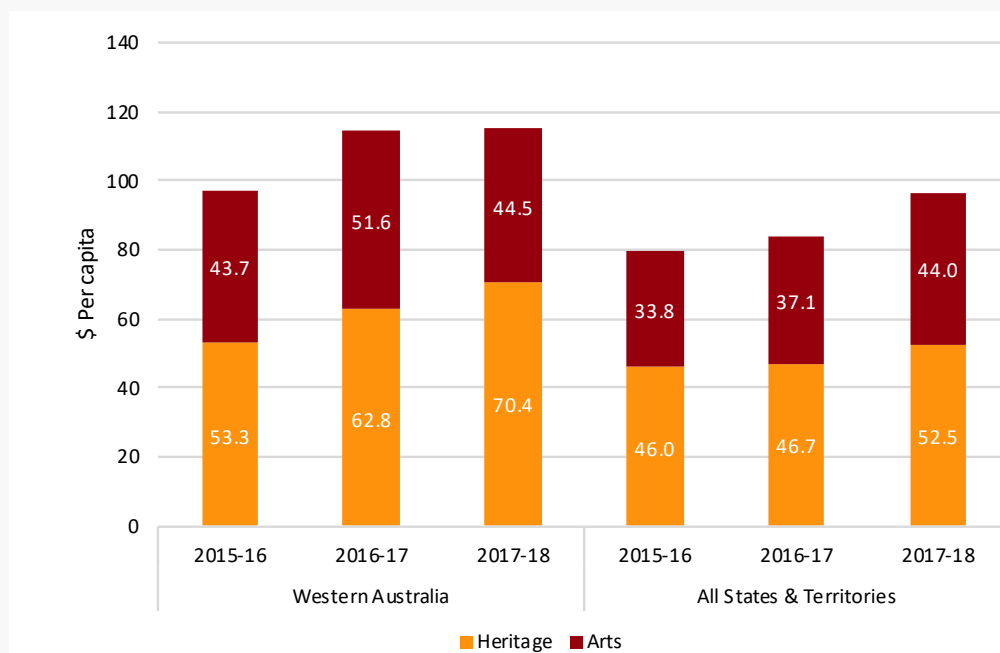
The analyses in the previous sections confirm the narrative of an ongoing structural change in the economy that is leading to a rapid increase in the demand for creative workers. Nationally, jobs in the creative occupations are growing at around twice the rate of overall jobs growth, and are becoming embedded in a wider range of industries. By and large, Western Australia has not hitched its wagons to this trend. As of 2016, at least, the creative industries contributed a relatively low share of overall economic output in this State, compared to the rest of Australia, and particularly in comparison to NSW and Victoria. Moreover, the share of creative workers in overall employment has increased only marginally in WA, while growing rapidly in the other states. In contrast, Western Australian consumers display strong preferences for creative output, a trait likely to be reinforced as incomes rise.

In this section, we discuss some of the key implications and issues arising from that analysis. The question of the role of government in funding creative activities is always at the forefront of such discussions. A proactive strategy to position WA as a creative economy would be in line with stated government priorities. The WA Government's 2019 *Diversify WA* policy statement identifies 'tourism, events and creative industries' as one of six priority sectors, though somewhat paradoxically for a diversification strategy, this list includes 'primary industries'. WA's (then) Department of Culture and the Arts had " ... a vision of a Western Australian community that is enriched by unique and transforming culture and arts experiences" (2013: i.).

In recent years, WA government funding in culture and the arts has been higher than the national average on a per capital basis (Figure 54). In 2017-18, WA State Government spending on culture and the arts amounted to \$115 per Western Australian, with the majority of this (\$70) spent on heritage (such as museums, libraries and archives) and the remainder on the arts. Typically, similar levels of funding are provided by the Commonwealth and by local government. Part of the higher spend by the WA State Government has been due to greater capital expenditure on heritage, much of which is likely to be associated with the major Boola Bardip museum development. In terms of recurrent expenditure, WA's per capita spending on heritage was roughly on par with the national average in the three years to 2017-18, and on the arts around \$10 per person higher.

FIGURE 54

Per capita state and territory Government spending on the arts and culture, WA and national average



Source: Bankwest Curtin Economics Centre | Authors' calculations based on data prepared by the ABS for the Meeting of Cultural Ministers, accessed from: <https://www.arts.gov.au/cultural-data-online/government-cultural-funding-and-participation>.

Among the four sub-groups, we find only art and culture workers fit the stereotype round the creative workers.

In seeking to gain a richer picture of the creative workforce, we identified four key sub-groups of creative occupations: arts and culture, marketing, design and ICT, and their differing characteristics have implications for the rationale for providing public funding. A common argument revolves around the 'public good' nature of what creative workers produce, and challenges in valuing output making it difficult to monetize or commercialise creative production. This can contribute to the risk of workers facing exploitation, given strong motivation by the intrinsic value and sense of self-actualisation embodied in their work (see, for example, Bakhshi, Cunningham and Mateos-Garcia 2015; Banks and Hesmondhalgh 2009; Crogan 2018).

Such arguments relate primarily to the arts and culture sub-group, noting that for the most part creative workings in the marketing, design and ICT occupations have well defined markets for their work.

Accordingly, among the four sub-groups, we find only art and culture workers fit the stereotype round the creative workers: it is these workers who disproportionately work part-time and are self-employed rather than working as employees. They display low satisfaction with their pay and job security, but high satisfaction with the actual work that they do. Industry analysis supports these findings – workers in the more traditional arts and cultural sectors have lower wages, higher rates of unemployment, underutilisation and multiple job-holding. They are less geographically concentrated in the major city CBDs than the marketing, design and ICT creative workers.

So while a broader concept of creative industries has found traction, one that emphasises the inherent creativity of workers' roles, it remains the case that those more traditional artistic and cultural sectors and jobs are distinctly different, albeit now a minority in the

WA's creative industries strategy should recognise the importance of culture and the arts in enhancing the quality of life for Western Australians.

The pronounced income gradients in Western Australians' attendance at events highlights the importance of accessibility in any policy and funding support.

more encompassing conception of creative work. However, there may well be pockets of workers in other fields that fit the same mould, of which the community of computer game developers has been identified as one. It is also noteworthy that arguments of the social benefits of engagement with creative pursuits continue to focus on the more traditional art and cultural domains, as do statistical collections for measuring these externalities and funding levels.

While there may well be a case for supporting workers in this sector, it is small in terms of the number of jobs involved. We estimate there were 6,800 arts and cultural creative workers in WA in 2016, of which less than 500 were closely aligned with film and television production. In terms of diversification, even prolific growth in employment opportunities in these sectors is not going to buffer the economy against the effects of volatile swings associated with commodity prices or droughts in the near future. At a more local level, however, the arts and culture may offer important economic development and employment opportunities in regional and remote communities.

Rather, the focus needs to be on the importance of culture and the arts in enhancing the quality of life for Western Australians, the complementarity between culture and the arts and the tourism sector, and the flow on effects on the ability of the State to attract and retain highly skilled labour. Strictly speaking, our analysis of the positive association between attending performing arts events and general and mental health is not proof of causation, but there are solid grounds to believe a substantial component of it is causal, given the alignment of empirical evidence with theoretical expectations. One of the key ways we might expect going to a performing arts event to impact on mental health is by fostering a sense of social and community connectedness, which in turn would be good for mental wellbeing. Accordingly, when you ask people what value they derive from attending such events, they highlight spending time with family and friends and getting to know people in the community.

And this is exactly what we see in the empirical relationships in the data: there is a positive association between attending performing arts events, and this association is mediated through stronger feelings of connectedness. Moreover, there is strong evidence of positive effects of engaging in traditional cultural activities for Indigenous Western Australians.

The social value role of artistic and cultural production and consumption, and the pronounced income gradients in Western Australians' attendance at events (Figure 27) highlights the importance of accessibility in any policy and funding support. Forty-three per cent of Western Australians report that they would like to attend more cultural events, and low-income households place greater value on the role of arts and culture in the community. We find this more compelling than arguments that art should be funded purely for their perceived intrinsic value: 'just because it is good art'. Figure 40 also shows the value Western Australians place on arts is actually quite invariant by income level. However, ticket prices are seen as the major barrier for people in Perth, while people in the regions are constrained by a lack of accessibility to events. The latter can be addressed not only by 'tours' of arts and culture from the major cities into the regions, which stakeholders suggest is the most common approach, but also by promotion of regional based artists.

Aside from a very clear comparative advantage in the relatively small industry of jewellery and silverware manufacturing, two areas of opportunity of potential strength in the creative industries for WA arise from our analysis. In both cases there is a geographical dimension to these opportunities, as well as acknowledgement to existing successes. One is the ongoing development of Indigenous arts and culture, and particularly its synergy with cultural tourism throughout regional WA. Noting the critical importance of hubs and networks in the process of creative production and innovation, the second is based around evidence of a creative hub around the broader Fremantle region and

building on the many recent successes in the contemporary music industry. The Fremantle region is home to industries that are well-linked across all the main creative industry sectors.

The WA government's focus on film and television production, with a production facility proposed for Fremantle's Victoria Quay, is consistent with this creative hub approach, and supported by the WA chamber of Arts and Culture: "Recent successes in Western Australian film, television and gaming show the potential for greater innovation and entrepreneurship in this area. The development of a postproduction facility would enhance the State's ability to attract significant investment in this area." (2020). Though much will have happened since the 2016 census, NSW and Victoria dominate screen production and Queensland appears to have surged past WA in employment in that sector. Of course, such cross-state

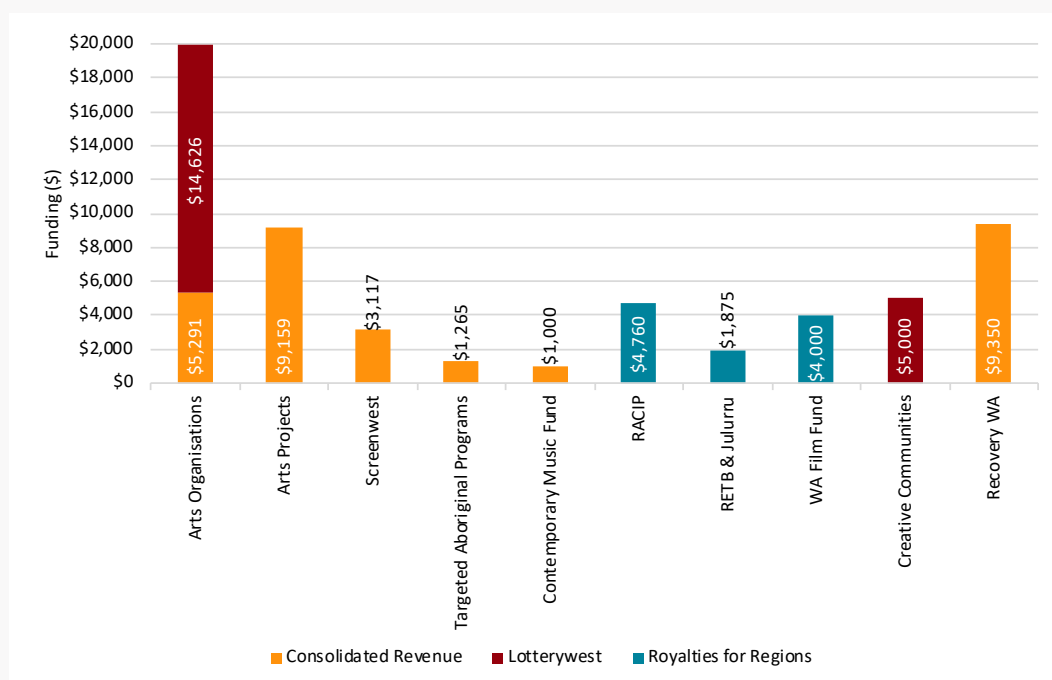
activities are not zero-sum competitions and may offer synergies, but the importance of networks and hubs suggests WA is likely to need to find niche areas of speciality to match the primacy of NSW, Victoria and, increasingly, Queensland in the creative industries.

Figure 55 shows funding allocations for arts grants and programs from the recent WA State Budget. The focus on film production can be seen, with more limited funding targeted to contemporary music or Aboriginal arts, which we have identified as potential priorities. A feature of the funding model is the proportion of funding coming from sources that are highly variable over time, such as Royalties for Regions and Lotterywest grants, notably for arts organisations. Industry stakeholders highlighted this uncertainty and variability in funding as a significant constraint for artists and arts organisations in WA.

Uncertainty and variability in funding is a significant constraint for artists and arts organisations in WA.

FIGURE 55

WA Government funding for controlled grants and programs, 2020-21 (\$'000s)



Notes: RACIP – Regional Arts and Cultural Investment Program; RETP – Regional Exhibition Touring Boost.

Source: Bankwest Curtin Economics Centre | Data from WA State Budget

We believe there is a strong social-benefit case for greater and more stable support for the arts and culture, both in terms of consumption and production.

Given the role of culture and the arts in establishing and expressing the character of Western Australia, and in promoting a sense of cultural identity and belonging among the unique and diverse groups and communities of the State, both within the metropolitan area and across the regions, the promotion of a home-grown arts and cultural industry is critical. One potential approach to addressing income uncertainty and other financial barriers faced by creative workers in order to promote local artists may be to adopt a model of income contingent loans, along the lines of Australia's Higher Education Loan Programme (HELP). Qualifying evolving cultural and artistic workers could be supported with a living wage for a period - perhaps 4 years - to establish themselves, through a loan that is only paid back to the WA government when their income meets a certain threshold, thus minimising the cost of the grant scheme on government expenditure. Another important element to fostering a locally-focussed arts and cultural sector is to ensure adequate creative arts education options are embedded in the school curriculum, and with subsequent post-school options through the vocational education and training system and university sector.

CONCLUSIONS AND POLICY RECOMMENDATIONS

In concluding, we return to the key questions motivating this report: how is WA positioned as a creative economy? We argue that the creative industries in WA sit at a significant crossroads, with forces tugging in multiple directions. A fundamental global economic restructuring has created a huge appetite and demand for creative input. Western Australians reveal strong consumer and social preferences for the arts and culture. However, as an economy, WA is lagging the country in terms of creative production, and most probably slipping further behind the eastern seaboard economies.

We identify at least three areas of strategic potential for the creative industries in Western Australia: art and culture based on the Aboriginal cultures whose traditional lands cover the State; an expansion of creative activity and innovation that capitalises on emerging digital technologies; and the music industry, based on past successes and evidence of creative hubs within the Perth metropolitan area, notably around Fremantle. Analysts and policymakers often offer bold suggestions on strategic industry policy for the WA economy, claiming a need to reorientate our economy. They often turn out to be wrong (see Bond-Smith *et al.* 2019: 29-38). An important difference here is that the rationale is not one of second-guessing market forces in identifying sources of economic growth or productivity, but rather one of a more direct opportunity to enhance the quality of life of Western Australians.

We believe there is a strong social-benefit case for greater and more stable support for the arts and culture, both in terms of consumption and production. This may be particularly important in the context of the current pandemic and its consequences for mental health. On the consumption side, affordability and accessibility should be a priority for policy, particularly accessibility in regional and remote areas. In the regions, accessibility can be enhanced through support of regional arts and cultural production, as well as through programs such as *Getting the Show Back on the Road*. It is an open question as to whether new forms of creative activity, such as gaming, warrant similar public support, and one contingent on the degree of marketisation of creators' labour and output, and assessment of the degree of positive social externalities associated with those activities.

Release of the 2021 Census data will be an important milestone for taking stock of exactly where WA is headed in terms of the creative industries. Methodologically, we find occupational data a more informative basis for monitoring creative output within the economy. This would be substantially enhanced by collection of data on the occupation of worker's second jobs for multiple jobholders.



APPENDICES

APPENDIX 1: CREATIVE INDUSTRIES

ANZSIC Code	Industry	WA Employment 2016	Creative Arts Category
6991	Professional Photographic Services	590	Traditional artists
9002	Creative Artists, Musicians, Writers and Performers	1,145	Traditional artists
5511	Motion Picture and Video Production	306	Movies
6924	Other Specialised Design Services	1,425	Design
5514	Post-production Services and Other Motion Picture and Video Activities	28	Movies
9001	Performing Arts Operation	270	Traditional artists
5621	Free-to-Air Television Broadcasting	735	TV and Radio
6921	Architectural Services	2,867	Design
5610	Radio Broadcasting	433	TV and Radio
2591	Jewellery and Silverware Manufacturing	506	Jewellery
5620	Television Broadcasting, nfd	13	TV and Radio
5410	Newspaper, Periodical, Book and Directory Publishing, nfd	13	Literature and print
5510	Motion Picture and Video Activities, nfd	15	Movies
5400	Publishing (except Internet and Music Publishing), nfd	107	Literature and print
5412	Magazine and Other Periodical Publishing	376	Literature and print
9000	Creative and Performing Arts Activities, nfd	119	Traditional artists
6940	Advertising Services	1,769	Design
5411	Newspaper Publishing	2,677	Literature and print
5700	Internet Publishing and Broadcasting	48	Internet
J	Information Media and Telecommunications, nfd	170	TV and Radio
6010	Libraries and Archives	550	Operation
1612	Printing Support Services	242	Literature and print
5420	Software Publishing	14	Design
5900	Internet Service Providers, Web Search Portals and Data Processing Services, nfd	15	Internet
5413	Book Publishing	267	Literature and print
5500	Motion Picture and Sound Recording Activities, nfd	8	Movies
5419	Other Publishing (except Software, Music and Internet)	14	Literature and print
5600	Broadcasting (except Internet), nfd	40	TV and Radio
8910	Museum Operation	447	Operation
5622	Cable and Other Subscription Broadcasting	70	TV and Radio
7000	Computer System Design and Related Services	7,690	Design
R	Arts and Recreation Services, nfd	397	Operation
5520	Sound Recording and Music Publishing, nfd	0	Music
9003	Performing Arts Venue Operation	234	Operation
5522	Music and Other Sound Recording Activities	132	Music
Creative Industry Total		23,732	

Source: Bankwest Curtin Economics Centre | ABS Census 2016, Higgs & Lennon 2014.

APPENDIX 2: CREATIVE OCCUPATIONS

ANZSCO Code	Industry	WA Employment 2016	Creative Arts Operation
1311	Advertising, Public Relations and Sales Managers	9,447	Marketing
2100	Arts and Media Professionals, nfd	35	Traditional Artists
2110	Arts Professionals, nfd	282	Traditional Artists
2111	Actors, Dancers and Other Entertainers	525	Traditional Artists
2112	Music Professionals	631	Traditional Artists
2113	Photographers	1,115	Traditional Artists
2114	Visual Arts and Crafts Professionals	467	Traditional Artists
2120	Media Professionals, nfd	132	Traditional Artists
2121	Artistic Directors, and Media Producers and Presenters	570	Traditional Artists
2122	Authors, and Book and Script Editors	262	Traditional Artists
2123	Film, Television, Radio and Stage Directors	544	Traditional Artists
2124	Journalists and Other Writers	1,396	Traditional Artists
2246	Librarians	881	Traditional Artists
2250	Sales, Marketing and Public Relations Professionals, nfd	121	Marketing
2251	Advertising and Marketing Professionals	4,072	Marketing
2253	Public Relations Professionals	1337	Marketing
2320	Architects, Designers, Planners and Surveyors, nfd	417	Design
2321	Architects and Landscape Architects	1,787	Design
2323	Fashion, Industrial and Jewellery Designers	467	Design
2324	Graphic and Web Designers, and Illustrators	2,442	Design
2325	Interior Designers	770	Design
2326	Urban and Regional Planners	1,330	Design
2610	Business and Systems Analysts, and Programmers, nfd	57	ICT
2611	ICT Business and Systems Analysts	1,613	ICT
2612	Multimedia Specialists and Web Developers	591	ICT
2613	Software and Applications Programmers	4,953	ICT
3621	Florists	556	ICT
Total creative occupations		38,816	

Source: Bankwest Curtin Economics Centre | ABS Census 2016.

APPENDIX 3: MULTIVARIATE RESULTS

TABLE A1

Full estimation results for the impacts of arts and culture on general health

Industry	(1) WA	(1) WA	(1) WA	(1) WA	(1) WA	(1) WA
Variables of interest						
Performing arts	1.323** (0.598)	1.296*** (0.140)				
Artistic activities			0.018 (0.205)	0.287*** (0.069)		
Heritage					0.900** (0.439)	0.882*** (0.143)
Controls						
Log income	0.655 (0.767)	1.005*** (0.200)	0.980** (0.480)	1.374*** (0.155)	0.988** (0.470)	1.340*** (0.153)
Long term illness	-19.818*** (1.429)	-19.317*** (0.452)	-19.521*** (1.236)	-19.505*** (0.384)	-19.472*** (1.229)	-19.430*** (0.382)
Married	1.607 (1.239)	0.795** (0.370)	0.742 (0.927)	0.379 (0.293)	0.637 (0.915)	0.404 (0.293)
Single	-0.155 (1.392)	-0.406 (0.474)	-0.903 (1.225)	-0.089 (0.371)	-1.058 (1.204)	-0.105 (0.371)
Separated	-4.200 (3.051)	-3.992*** (0.981)	-1.902 (2.178)	-2.559*** (0.820)	-1.909 (2.178)	-2.574*** (0.819)
Age	0.033 (0.030)	-0.029*** (0.010)	-0.020 (0.026)	-0.043*** (0.009)	-0.022 (0.026)	-0.048*** (0.009)
Postgraduate	3.526* (2.092)	3.070*** (0.640)	3.295* (1.703)	3.100*** (0.556)	3.034* (1.686)	2.779*** (0.561)
Graduate diploma	0.921 (1.905)	2.455*** (0.640)	1.735 (1.426)	2.482*** (0.541)	1.445 (1.430)	2.225*** (0.540)
Bachelor	3.176** (1.412)	2.956*** (0.423)	4.122*** (1.064)	2.611*** (0.349)	3.843*** (1.070)	2.392*** (0.350)
Year 12	3.208** (1.398)	1.193*** (0.432)	3.064*** (1.148)	1.198*** (0.328)	3.046*** (1.146)	1.173*** (0.330)
Observations	1,453	15,903	2,862	30,921	2,864	30,946
R-squared	0.190	0.201	0.194	0.198	0.196	0.199

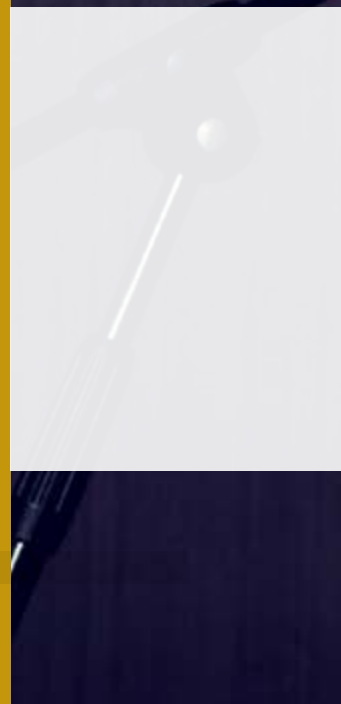
Note: Standard errors in parentheses. ***, ** and * indicate significance at 1%, 5% and 10% levels.

TABLE A2

Full estimation results for the impacts of arts and culture on mental health

Industry	(1) WA	(1) WA	(1) WA	(1) WA	(1) WA	(1) WA
Performing arts	1.113** (0.530)	0.848*** (0.136)				
Artistic activities			-0.075 (0.210)	0.110* (0.059)		
Heritage					0.498 (0.435)	0.157 (0.134)
Log income	1.120 (0.715)	1.065*** (0.179)	1.019** (0.398)	1.316*** (0.148)	1.021** (0.393)	1.302*** (0.148)
Unemployed	-5.523** (2.443)	-5.436*** (0.753)	-3.744** (1.828)	-4.575*** (0.541)	-3.859** (1.827)	-4.587*** (0.544)
Long term illness	-11.042*** (1.318)	-9.854*** (0.389)	-9.680*** (1.026)	-9.573*** (0.319)	-9.694*** (1.030)	-9.538*** (0.319)
Married	2.967** (1.214)	2.056*** (0.338)	1.850** (0.902)	1.726*** (0.261)	1.879** (0.902)	1.720*** (0.262)
Single	1.489 (1.515)	-0.602 (0.437)	1.440 (1.278)	-0.191 (0.338)	1.403 (1.275)	-0.185 (0.340)
Separated	-5.094** (2.572)	-4.547*** (0.925)	-3.094 (2.091)	-4.300*** (0.732)	-3.028 (2.057)	-4.281*** (0.731)
Age	0.241*** (0.032)	0.191*** (0.009)	0.203*** (0.022)	0.173*** (0.008)	0.202*** (0.022)	0.171*** (0.008)
Postgraduate	3.015 (1.839)	0.437 (0.565)	2.266* (1.214)	0.679 (0.471)	2.098* (1.214)	0.626 (0.474)
Graduate diploma	2.657 (1.869)	0.851* (0.509)	2.196 (1.636)	0.732* (0.439)	2.008 (1.637)	0.724 (0.442)
Bachelor	2.652** (1.246)	1.082*** (0.380)	3.377*** (1.004)	0.919*** (0.295)	3.165*** (1.004)	0.887*** (0.295)
Year 12	2.378** (1.149)	0.603 (0.415)	2.295** (0.962)	0.749** (0.314)	2.252** (0.962)	0.740** (0.314)
Observations	1,461	16,042	2,881	31,180	2,883	31,206
R-squared	0.118	0.097	0.087	0.084	0.088	0.084

Note: Standard errors in parentheses. ***, ** and * indicate significance at 1%, 5% and 10% levels.



A photograph of a man singing into a microphone. He is wearing a blue denim jacket and has a watch on his left wrist. The background is dark with several large, out-of-focus orange and yellow circular lights. A semi-transparent white horizontal band is positioned across the middle of the image, containing the word 'REFERENCES' in large, bold, yellow capital letters.

REFERENCES

REFERENCES

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