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Gender in the Gig Economy: Men and women using digital platforms to secure work in Australia

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Abstract

This article explores the characteristics, experiences, and motivations of men and women who secure work through digital platforms. Drawing on quantitative survey data—the first of its kind—of Australian men (n=251) and women (n=253) it finds that the gig economy, much like the wider economy, is highly gender-segregated. Men dominate platforms which specialise in male-typed tasks like transport and women dominate platforms which specialise in female-typed tasks like caring. Both are both drawn to the gig economy for income-related reasons despite a significant proportion of them holding a job outside the gig economy. Flexibility was an important motivator for both genders, but women were more likely than men to report that they did gig work because it ‘fit with their schedule’, indicating that non-work commitments, e.g. family, constrain women more so than men. More men than women reported that gig work was effective in generating income.

Keywords

Gig economy, digital platforms, work, gender

Gender in the Gig Economy: Men and women using digital platforms to secure work in Australia

Introduction

Over the last few decades, there have been seismic shifts in work and employment relations. One of the most important has been the exponential growth of precarious work. Precarious work is “*uncertain, unstable, and insecure and in which employees bear the risks of work (as opposed to businesses and government) and received limited benefits and statutory protections*” (Kalleberg and Vallas 2018: 1, emphasis in the original). It is often described as contingent or non-regular work or referred to as ‘alternative work arrangements’ or ‘flexible staffing arrangements’ (Kalleberg 2018: 12). Examples of precarious work include temporary work; contract work, including independent contractors; part-time work with a desire for more hours; work with irregular hours; casual work and own-account self-employed workers (Kalleberg 2018: 12).

The growth in precarious work has been a result of structural changes which have eroded the standard employment arrangements that emerged post-war (Kalleberg and Vallas 2018). The first has been the weakening of unions and unionisation, which over the last three decades has seen workers stripped of both employment protections and the power to negotiate, for example on wages. Second, the financialization of corporations and the economy has sidelined workers’ interests in favour of the shareholder and institutional investors, and lead to the rearrangement of work practices such as outsourcing work or off-shoring to countries with lower paid workers. Third, globalisation engendered a competitive global pool of workers, limiting wages growth and job quality. The fourth structural change underpinning growth in precarious work is the digital revolution. The digital revolution has, according to Kalleberg and Vallas (2018: 1), ‘aided’ the de-unionisation, financialization and globalisation of labour markets because technology has made the economy less dependent on labour, enhanced the mobility of capital and given investors greater oversight. This change has underpinned the gig economy, which because of the proliferation of mobile devices, has created a market for on-demand work which allows “firms to use digital platforms as their organisational structure, redefining workers as independent contracts who can be made to assume risks previously handled by the firm” (Kalleberg and Vallas 2018: 1). As labour markets continue to evolve, more standard forms of employment are being ‘supplemented’ or ‘substituted’ by gig work (Kässi and Lehdonvirta 2018: 241).

This last area of precarious work—the gig economy—is the focus of this paper. The gig economy is “characterised by short-term engagements amongst employers, workers and customers” (Kalleberg and Dunn 2016: 11). “[A]typical, casual, freelance or contingent work arrangements” existed before the middle of the twentieth century but what distinguishes the gig economy from these prior arrangements is the platforms which ‘broker’ work (Kalleberg and Dunn 2016: 11). In Australia, there has been significant attention, especially from unions, paid to the expansion of digital platforms, such as ridesharing services Uber and Deliveroo. There has been some debate about whether the gig economy should be taken seriously given its size relative the whole economy (Healy, Nicholson and Pekarek 2017). However, attention from scholars has focussed on the impact of these platforms on working conditions (Goods, Veen and Barratt 2019) and how these platforms should be regulated (Stewart and Stanford 2017).

This paper is focused on the experience of those using digital platforms in Australia, and how it differs by gender. Women and minority men have historically been more subject than majority men to the precarious work that has always been a feature of societies. However, what is new is that precarious work is now also experienced by “majority men in rich, democratic, post-industrial societies” (Kalleberg 2018: 3). Given that precarious work spreading it is of interest to know whether and how the experience of securing it from digital platforms it differs across demographic groups. This paper focusses on what types of platforms Australian men and women work for, the types of gig work they perform on these platforms, their motivations for entering the gig economy and their satisfaction with aspects of gig work.

Background

Getting a gig: what is the gig economy and who is in it?

While the term ‘gig economy’ has become synonymous with digital platforms such as Uber or Airtasker, it is also used interchangeably with other terms, such as the sharing economy, on-demand economy, platform economy, crowd-working and freelancing (Kalleberg and Dunn 2016: 10). It is comprised of work that is secured and managed through digital platforms and the Internet, which create a marketplace for individuals and businesses to offer and to find work. It allows individuals and businesses to “source digital and material contributions from an on-demand workforce” (Howcroft and Bergvall-Kåreborn 2019:21). Broadly, work secured from digital platforms is categorised as either (1) physical tasks, which are carried out locally and require the worker to be physically present or (2) digital tasks, which the work is carried out remotely, entirely online from beginning to end (Goods, Veen and Barratt 2019; Howcroft and Bergvall-Kåreborn 2019; Wood et al. 2019). In the latter case, the worker may have no contact with the individual or business offering the work beyond the initial set-up of the job whereas in the former, the worker may have some contact with the hiring individual or business. However, in both cases the work is managed through the platform and in most cases any changes to the nature of the work are done through the platform. Physical tasks may involve transport, couriering, food delivery and manual jobs such as cleaning, whereas digital work may involve tasks such as data entry or clerical work (Wood et al. 2019: 57). Digital tasks are often ‘microtasks’– “menial, monotonous and tightly bounded” (Howcroft and Bergvall-Kåreborn 2019: 24), which allow companies to outsource large volumes of work like data entry to be done in a limited timeframe. This is a form of online piecework, which has been in existence for some time and involves work that is completed remotely over the Internet, paid at a fixed price per task (Lehdonvirta 2018). It is different from traditional ‘freelancing’ which is often paid on an hourly basis or on the completion of work. Online piecework can also be highly skilled, such as writing legal contracts or marking university exam papers, but even tasks which are ordinarily well-renumerated when done outside of the gig economy are often less costly when offered and secured through digital platforms (Howcroft and Bergvall-Kåreborn 2019).

Increasingly, businesses are using digital platforms to “find, hire, supervise and pay workers on a project, piece-rate, or hourly passes” (Kässi and Lehdonvirta 2018: 241). Moreover, businesses are using these platforms to find varied types of workers, ranging from the highly skilled and technically proficient engaged in professional and technical work to the low-skilled who can undertake ‘microtasks’ (Kässi and Lehdonvirta 2018). In profiling the nature and scope of online gig work, Kässi and Lehdonvirta (2018: 246) found that the highest demand for online work skills were proficiency in

software development and technology. This was followed by creative and multimedia work skills and then clerical and data entry skills. They argue that the large proportion of the demand for software development and technology skills as well as 'repetitive clerical tasks such as data entry' is in part driven by outsourcing and off-shoring and show that half of the vacancies posted online were from Western nations.

Between 2014 and 2016, 1.5 percent of the global workforce had some involvement in the gig economy (Hunt and Samman 2019: 11). At a national level, estimates range from about one percent of all US workers, through nine percent in each of Germany and the United Kingdom and 22 percent in Italy (Hunt and Samman 2019: 11). In Australia, despite significant public attention on the issue, there are no official estimates of the size of the gig economy, although some evidence suggests that it might account for the growing number of second jobs (Wilkins and Lass 2018: 97). While the overall number of gig workers is small compared to those in more standard employment relationships, there is some evidence to suggest that some aspects, such as the use of online labour platforms, are growing by around 25 percent annually (Kässi and Lehondvitra 2016). In terms of the gender composition of the gig economy workforce globally, Hunt and Samman (2019: 12) found that with the exception of Canada where there was a more equal distribution of men and women in the gig economy, women were less likely to be in the gig economy than men in Austria, Germany, Italy, the Netherlands, Switzerland, United Kingdom and the United States. Balaram, Warden and Wallace-Stephens (2017: 15) found that women in the United Kingdom were more likely than men to use asset-based platforms (e.g. selling goods or renting out rooms) and are more likely to do female-typed work, such as cleaning).

Good gigs or bad gigs? Motivations and practicalities of working in the gig economy

The gig economy may be an attractive alternative to standard employment because it is seen as "promoting entrepreneurship and limitless innovation coupled with jobs that offer considerable flexibility, autonomy and work/life balance, as well as opportunities for individuals to supplement their incomes by monetizing their resources (e.g., their minds, time, talents and physical abilities, cars, computers)" (Kalleberg and Dunn 2016: 10). Generating additional or alternative sources of income and flexibility are the strongest factors motivating individuals to engage in work in the gig economy. A survey by the International Labour Organisation (ILO) (2018: 37) found that 32 percent of crowdworkers who worked on digital platforms said it was to "complement pay from other jobs" while 22 percent said it was because they "prefer to work from home". They also found that income generated from crowdwork was the main source of income for about a third of workers in the study (ILO 2018).

Gleim, Johnson and Lawson (2019: 142) suggest that earning income through gig work is attractive to different segments of the labour force for different reasons. For example, it is enticing for young people because it affords them opportunity to earn an income while studying. At the other end of the age spectrum, it allows older people to earn income alternatives to welfare. Gig work is also seen as a way for the underemployed to bolster their economic activity and supplement their incomes. Indeed, the emergence of the gig economy coincided with the global financial crisis "when a large number of people did not have a job or even if they had their income was not enough in relation to basic or existing needs" (Bonciu 2016: 44). Increasingly, income earned from the digital

platforms has become the main source of income for many workers. Such income is critical for livelihoods. In contrast to ideas which suggest that money earned from the gig economy is extra, supplementary income, most gig workers “do not work for ‘pin money’ or out of boredom, as the available evidence shows that there are fairly large shares of individuals for whom earnings from working for digital labour markets represent their primary source of income” (Codagnon, Abadie and Biagi 2016: 6). This holds even for those who are employed. In fact, evidence suggests that most gig workers are either under-employed or self-employed with earnings that are “very low to modest, with only a small minority of workers making above middle-level incomes” (Codagnon, Abadie and Biagi 2016: 6). Goods et al. (2019) found ridesharers were earning “well below the national minimum wage for casual employment”, and that pay conditions were worsening as platforms and the numbers of gig workers expanded. But even when the income generated is low, money is still the primary motivator for working in the gig economy (Kaufmann et al., 2011; Pilz & Gewald, 2013; Ross et al., 2010). There is some evidence to suggest, however, that this motivation is relative to earnings outside the gig economy. Schor (2016) found that many workers in the gig economy were “doing well economically” and their motivation for entering the gig economy was to supplement their pre-existing incomes. However, Schor’s sample was economically broad. For respondents on the lower end of the income spectrum, earnings outside of the gig economy “left them barely able to meet basic expenses such as rent and food” (Schor 2016: 271), whereas higher-income earners were motivated to earn additional income or were doing it for social reasons.

As noted, flexibility is seen as a motivating factor for many to enter into the gig economy. It is a widely held belief that gig work is flexible because of the way in which the work is secured and managed. It seems particularly flexible because the gig worker has some control of the types of work they do, how much work they do and where they do it (Berg, Furrer, Harmon, Rani and Six Silberman (2018: 64). This is especially true for those who do online tasks. The gig economy also allows individuals who may be incapacitated or disabled, or those who have domestic and caring responsibilities, the flexibility to work when and where they can (Berg, Furrer, Harmon, Rani and Six Silberman (2018). Flexibility is potentially positive for both worker and the organisation they are working if it enhances worker autonomy while also increasing productivity (Lehdonvirta 2018). As Goods et al. (2019: 15) found in their qualitative research on ridesharers, “the temporal flexibility offered by gig work allowed workers to juggle their work- and non-work commitments. Workers viewed this fit as being an important component of job quality, one for which they were willing to downgrade economic security and enjoyment”. This was echoed in work by Lehdonvirta (2019), who found that workers who engaged in online piecework enjoyed considerable flexibility in scheduling their work, and that this was particularly important for those managing work alongside individual commitments. However, this was conditional upon whether they had access to other work and on whether work being offered through their online platform was readily available: “when work was plentiful and workers also had other sources of income, workers were able to schedule their piecework freely. But when the availability of work was limited, those workers who depended on it for a living ended up being constantly on call” (Lehdonvirta 2019: 24).

Flexibility is not necessarily autonomy in the gig economy. As Berg, Furrer, Harmon, Rani and Six Silberman (2018: 64) observe, “[T]he flexibility that it entails is also illusory, as workers cannot just turn on the computer and work whenever they want, as the jobs available are irregular. Instead, they are left feeling not entirely in control of their time or work schedule and have to be constantly

available". This reflects the experience of ridesharers in Goods et al. (2019) who described themselves as being quite autonomous in deciding "when, where and how long" they worked, but also reported there was often less autonomy than first realised. The labour process—the allocation and governing of work—was shaped by the digital platform. Thus, there was pressure on gig workers to maintain a high acceptance rating (which reflected the percentage of jobs they accepted), or they were otherwise 'locked out' of the app and prevented from working.

Research direction

Although income and flexibility are clearly the most significant motivating factors for those working in the gig economy, they reflect to some extent the social, economic and cultural circumstances of the worker and how they are positioned in the labour market. Its very unpredictability means some demographic groups are more likely to become part of the gig economy than others. In Australia, Goods, Veen and Barratt (2019) found that food delivery gig work was a good 'fit' because it is unskilled and the delivery riders in their study were mostly young, non-Australian residents whose limited English language skills and work-restricted visas meant they had limited labour market alternatives. For these riders, gig work was preferable to other work in industries such as hospitality in which migrant workers often encountered poor treatment and conditions, including lower pay, greater insecurity and limited career pathways (Goods et al. 2019: 15). While for this group gig work was not seen as 'good' work that 'local' (white) Australians would do (Goods et al. 2019: 16), nonetheless it fit their individual circumstances. They saw food delivery work as short term and did not consider it to be a career.

Another demographic group which experiences structural constraints on their workforce participation is women. This is certainly so in Australia, where female work force participation is low in world terms (Authors). Over their working lifetime most Australian women move in and out of paid work to provide family care and they are much more likely than men to be 'secondary earners' within families (Pocock, Skinner and Williams, 2012). When in work, they are more likely than men to have part time hours, and to be in casual and temporary jobs without tenure protections, and with less opportunity for career progression (Charlesworth, Strazdins, O'Brien and Sims, 2011; Authors). Although female educational attainment is high, successive cohorts of Australian women have failed to convert their growing dominance in tertiary education into workplace parity with men (Chesters 2018). They are more likely than men to be overqualified for their positions (Risse 2018) and to juggle work and family many accept occupational downgrading and insecurity as a trade-off for shorter hours and schedule control (Charlesworth, Strazdins, O'Brien and Sims, 2011). For example, some turn to self-employment explicitly because it potentially offers more flexibility and control over their work timing than organizational employment (Authors; Foley 2018). Although work constraints are most pronounced for carers, Australian women generally are less well-positioned in the labour market than men; the gender pay gap for full time workers is 15 percent and few women are in the upper echelons of income earners (WGEA 2019). Women are concentrated in the public sector and in the personal service, retail, education and health care industries, while men dominate high-level management, and the agriculture, manufacturing and construction industries (Pocock, Skinner, & Williams, 2012; WGEA 2019).

Thus, women may be drawn into the gig economy due to both the need for flexibility to manage work-family issues and to their overall relatively peripheral position in the formal labour market. The

interest in this paper is to understand gender dimensions of the gig economy, specifically in work sourced through digital platforms. Is gig work sourced online an opportunity to avoid gendered patterns prevalent in traditional workplace organisational structures? Or are the gender differences in the 'standard' labour market replicated in the digital gig economy? To find out, this paper examines what men and women do in the gig economy, what types of platforms they use, and which tasks they perform, their motivations and satisfaction including with the income earned.

Data and Methods

The data used in this paper comes from the *Making it Work in the Gig Economy* survey (<http://www.unimelb.edu.au/gigwork>), administered in the second half of 2018. The survey used a non-probability design because the population of individuals who secure work from digital platforms is largely unknown due to a lack of official statistics capturing gig work and the gig economy at large. Thus, the intention was not to make inferences about the number of gig workers, but to profile their experiences, characteristics and motivations. The survey was administered online using Qualtrics and was advertised both online and offline. It was given ethics approval by the University of Melbourne (ID: 1852186). Participation in the survey was voluntary and the sample was self-selecting. Participants were identified as securing work through digital platforms if they answered "yes" to the question, "Do you conduct work through a digital platform? (e.g. Airtasker, Uber, Gumtree, Deliveroo, Freelancer, Fiverr, etc.)". Participants were given a list of digital platforms to choose from as well as the opportunity to record any that were not listed under 'other'. The platforms are described in Table 1. The final sample comprised 504 individuals, including 251 men and 253 women, and the sample characteristics are set out in Table 2

Table 1. Digital platforms

Platform	Description of platform	Examples of types of tasks offered
Airtasker	Airtasker is used to outsource 'everyday tasks' where posters describe the task and task budget and taskers bid to complete the task. Established in 2012.	Various—Handyman tasks, cleaning, administrative and clerical tasks
Mabel	Formerly called 'Better Caring', Mabel is used to connect users with care and support workers in aged care and disability sectors. Established in 2014.	Caring, care support work
Care.com	Care.com is platform used by individuals and businesses to connect individuals requiring care support with care services. Established in 2016.	Babysitting, caring, care support work, pet-sitting, housekeeping, handyman tasks, cleaning
Deliveroo	Deliveroo offers delivery of food from local restaurants to individuals via riders. Established in 2015.	Food deliveries
Fiverr	Fiverr is an online marketplace for users to sell and buy freelance services. Established in 2010.	Various—graphic design, digital marketing, writing and translation, video and animation design, music and audio design and production, programming
Freelancer	Freelancer is a platform that allows users to post their project which is then bided on by freelancers associated with the platform. Established in 2009.	Various— administration, clerical, graphic design, digital marketing, writing and translation, video and animation design, music and audio design and production, programming
Gumtree	Gumtree is an online classified advertisement website and marketplace that allows users to post to buy and sell goods and services.	Various—handyman tasks, cleaning, babysitting, selling goods
Uber	Uber is an online platform used to offer services, such as peer-to-peer ridesharing, ride service hailing, food deliver and bicycle-sharing system. Established in 2012.	Ridesharing, delivering food
Upwork	Upwork is a platform that allows users to post their project which is then bided on by freelancers. Established in 2015.	Various— administration, clerical, graphic design, digital marketing, writing and translation, video and animation design, music and audio design and production, programming

Source: <http://www.airtasker.com.au> (2019); <http://www.mabel.com> (2019); <http://www.care.com> (2019); <http://www.deliveroo.com.au> (2019); <http://www.fiverr.com> (2019); <http://www.freelancer.com.au> (2019); <http://www.gumtree.com.au> (2019); <http://www.uber.com.au> (2019); <http://www.upwork.com.au> (2019).

Table 2. Descriptives by gender, means and proportions

Variable	Men	Women
Age	35.1 (.9)	33.4 (.4)
Indigenous Australia	5.97	4.43
English first language	81.09	78.71
Employed outside the gig economy	62.07	46.70
Educational qualifications		
<i>Degree-level +</i>	45.70	43.26
<i>Adv. Diploma, Diploma</i>	21.89	18.72
<i>Certificate-level</i>	7.46	18.72
<i>Year 12</i>	18.41	12.32
<i>Year 11 and below</i>	6.47	6.90
Currently studying	40.30	37.44
Relationship status		
<i>Married</i>	44.44	38.12
<i>Cohabiting</i>	5.56	18.32
<i>Separated</i>	2.02	2.48
<i>Divorced</i>	5.05	3.96
<i>Widowed</i>	1.01	1.49
<i>Single</i>	41.92	35.64
Parenthood	40.61	46.80
N	251	253

Source: Making it Work in the Gig Economy (2019)

As the descriptives in Table 2 highlight there are some interesting gender patterns in the sample. Men in the survey were older, and marginally more qualified at the upper levels of education than women. However, they were interestingly less likely to hold a certificate-level qualification and more likely to end their formal education at year 12 than women. They were less likely to be in cohabiting partnerships, to be a in relationship or to have children than women. Men were also much more likely than women to be employed outside the gig economy (62 percent vs 47 percent).

Results

Profile of platforms and tasks performed on digital platforms

Table 3. Use of digital platforms by gender (%)

Platform	Persons	Men	Women	<i>Sig. difference</i>
Airtasker	23.76	24.88	22.66	
Mabel	5.20	7.96	2.46	**
Care.com	5.20	4.98	5.42	
Deliveroo	16.58	19.90	13.30	*
Fiverr	11.14	13.43	8.87	
Freelancer	15.59	11.94	19.21	**
Gumtree	45.54	38.81	52.22	**
Uber	33.17	42.79	23.65	***
Upwork	7.18	5.97	8.37	
Other	18.07	16.92	19.21	

Source: Making it Work in the Gig Economy (2019)

In Table 3, the proportion of respondents who source work from each of the different digital platforms is presented. Some use multiple platforms. The proportions are also broken down by gender and an indication as to whether differences between men and women are statistically

significant is provided derived from a t-test. The most common digital platform used was Gumtree with almost half of all respondents (45.5%) using it. The second and third most common platforms were Uber (33.1%) and Airtasker (23.7%). The care platforms, Mabel and Care.com, were the least commonly used to source work. This might reflect the infancy of these platforms; Mabel was established in 2014 and Care.com was established in 2016. There were some significant gender differences in the types of platforms used. The most common platform used by men was Uber (42.7%). Just 23.7% of women used Uber, was significantly different to men ($p < .05$). In contrast, Gumtree was used by 52.2% of women compared to 38.8% of men, which was also significantly different ($p < 0.001$). Women were also more likely to use Freelancer (19.2 vs 11.9%, $p < 0.05$) but men were more likely to be Deliveroo drivers (19.9 vs 13.3%, $p < .10$) or to source work from Mabel (7.9% vs. 2.45%, $p < 0.05$).

Table 4. Tasks performed on digital platforms by gender (%)

Tasks	Persons	Men	Women	<i>Sig. difference</i>
Caring	7.92	5.47	10.34	*
Cleaning tasks	4.46	1.49	7.39	***
Creative tasks—graphic design, software design	17.82	11.44	24.14	***
Delivering	20.54	25.87	15.27	**
Driving	24.75	27.86	21.67	
Maintenance, repairs, gardening, building tasks	12.62	13.43	11.82	
Miscellaneous	5.69	6.47	4.93	
Selling own goods	22.28	21.39	23.15	
Writing, editing and administrative tasks	12.38	9.45	15.27	*

Source: Making it Work in the Gig Economy (2019)

Table 4 shows the types of tasks men and women secured from digital platforms. These results were derived from a question from the survey which asked respondents to describe the types of tasks they perform on each digital platform they sourced work from. Respondents were allowed multiple responses, which were coded and grouped into the nine categories listed in Table 4. A t-test was used for each response category to identify significant differences between men and women. The most common tasks were driving or ridesharing (24.7%), selling (22.2%) or delivery and couriership, including food delivery (20.5%). There were some clear gender differences in the types of tasks performed. The most common task for men was driving with 27.8% of all men surveyed participating in driving or ride-sharing tasks. In contrast, the most common activities women performed through digital platforms were creative, which included photography and design-related tasks (24.1%). Compared to men, there a higher proportion of all women did creative tasks (24.4% vs. 11.1%, $p < .001$), cleaning (7.39% vs. 1.49%, $p < .001$), caring (10.3% vs. 5.4%) and writing and editing (15.2% vs. 9.4%, $p < .10$). The only task in which men made up a higher proportion than women that was statistically significant was delivering (25.8% vs. 15.8%, $p < .05$).

Table 5. Motivations for sourcing work from digital platforms by gender (%)

Factors	Persons	Men	Women
Main source of income	17.11	24.85	9.77
To supplement income	32.15	35.15	29.31
Prefer to work for digital platforms	8.26	8.48	8.05
Can't find work elsewhere	8.85	3.64	13.79
Want to work flexibly	16.22	16.36	16.09
Fits with schedule	12.98	7.88	17.82
No choice	4.42	3.64	5.17
Total	100.00	100.00	100.00

Source: Making it Work in the Gig Economy (2019)

Table 5 presents the motivating factors for men and women sourcing work through digital platforms. Respondents were asked to choose the *main* reason, so the categories do not overlap. A chi-square test of independence was performed to examine the relationship between motivations and gender. The relationship between these variables was significant, $X^2(6, N = 504) = 28.9439, p < .001$. Overwhelmingly, the strongest motivating factors for both men and women were related to income. Almost a third of all respondents said that their main motivation for sourcing work from digital platforms was to supplement their income. A further 17 percent said that it was to be their main source of income. However, interestingly, this average masked a substantial gender difference. A quarter of all men in the survey said their reason for sourcing work from digital platforms to generate their main source of income compared to just under 10 percent of all women. This is a substantial gender difference in reliance on the gig economy for one's whole livelihood. Moreover, combining main and supplementary income, 60 percent of all men in the survey sourced work from digital platforms for income-related reasons compared to around 40 percent of all women.

The next most common motivation was flexible work, which around 16 percent of all respondents said was their main reason for doing gig work. Although this motivation was very similar by gender, a further 13 percent of all respondents said that securing work from digital platforms 'fits with [their] schedule', and this *was* highly gendered. Women were significantly more likely to nominate schedule fit as their main motivating factor than men (17.8% vs. 7.9%). This implies that, for more women than men, scheduling constraints come from non-work aspects of their lives. Non-work schedules could include education, but also children's school schedules and family care needs. Combining 'fits with schedule' and 'want to work flexibly', shows that almost 34 percent of all women in the survey source work from digital platforms because of flexibility or scheduling reasons compared to just under a quarter of all men.

Financial aspects of sourcing work from digital platforms

Table 6. Role of income earned from digital platforms

Role of income	Persons	Men	Women
It is an extra source of income on top of my regular work	42.63	43.72	41.58
It is a source of income while focussing on something else	28.15	26.78	29.47
It is a source of income while I look for more permanent work	16.09	12.02	20.00
It is my main source of income	13.14	17.49	8.95
Total	100.00	100.00	100.00

Source: Making it Work in the Gig Economy (2019)

Table 6 shows the result of questions further probing the role of income earned from digital platforms. A chi-square test of independence was performed to examine the relationship between the role of income and gender. The relationship between these variables was significant, $\chi^2(3, N = 504) = 9.2033, p < .05$. Consistent with the main motivation above, the largest category for ‘role of income from digital platforms’ was as an extra source on top of income derived from regular work. A further 28 percent said that earnings from digital platforms was a source of income while they focused on something else. Around 16 percent of all respondents said that it was a source of income while they looked for more permanent work. Women were significantly more likely to indicate that this was the role of income secured from gig work than men were, perhaps reflecting that women face more difficulty than men getting employment in the standard economy. Around 13 percent of respondents indicated that digital-platform-derived work was their main source of income. However, this too was heavily gendered; around 17 percent of men indicated the income earned was their main source of income compared to just under nine percent of women. Interestingly, a similar percentage of women reported that earnings from gig work were their ‘main source of income’ (8.95 percent) as had identified this as their motivation for taking gig work (9.77 percent, see Table 5), whereas a higher percentage of men were motivated to take gig work as their main source of income (24.85 percent, see Table 5) than reported it having this role (17.49).

Table 7. Effectiveness of money earned through digital platforms to supplement family/household income

Effectiveness of income	Persons	Men	Women
No, income earned does not supplement income	27.01	20.22	33.51
Yes, income earned does supplement income	72.99	79.78	66.49
Total	100.00	100.00	100.00

Source: Making it Work in the Gig Economy (2019)

Following questions about the role of income, respondents were asked questions designed to capture whether the income they earned from digital platforms was *effective* in supplementing family and or household income. Thus, the focus of the question is how well gig work earnings supplement other income earned within the household or family. A chi-square test of independence was performed to examine the relationship between the effectiveness of income earned through digital platforms and gender. The relationship between these variables was significant, $\chi^2(1, N = 504) = 8.3729, p < .05$. In Table 7, the proportion of men and women who answered no or yes to the question, “does the money you earn from digital platforms supplement your family and/or household income?” is presented. Seventy-three percent of respondents answered yes. Men were more likely to answer yes (79.78 percent). A third of women responded that the income earned does not supplement their family or household income. We also asked men and women about how well they were getting on financially (table not shown here). We found significant gender differences in the financial well-being of respondents. Men were more likely to say they were doing okay financially ($M=3.0, SD=1,1$) than women ($M=3.5, SD=1.1, p < .001$). Taken together, the results suggest that women need the money, but have more difficulty than men in leveraging their gig work to adequate earning levels.

Table 8. Opinions about current job for gig workers who hold a non-gig job

	Men	Women	Sig. difference
My job is secure	4.95 (.1)	4.41 (.1)	**
My job allows me to use my skills, knowledge and abilities	5.10 (.1)	5.09 (.1)	
I earn enough to pay my bills	5.24 (.1)	4.64 (.1)	**
I can control how I order and undertake the tasks in my work	5.06 (.1)	4.83 (.1)	
I feel isolated at work	4.06 (.1)	3.24 (.1)	**
I feel useful to other people at work	5.15 (.1)	5.07 (.1)	
My job makes me stressed	4.18 (.1)	3.96 (.2)	

Source: Making it Work in the Gig Economy (2019)

Table 8 shows results of a question asking respondents with a current non-gig economy job how strongly (on a scale from 1 to 7) they agreed or disagreed with the propositions listed above in regard to that job. Scores closer to 1 indicate strong disagreement and scores closer to 7 indicate strong agreement. A t-test was used to test for differences between men and women. Men and women reported similarly on several factors; that their standard economy job allows them to use their skills, control how they order and undertake the tasks in their work, how stressed they feel, and in how useful they feel to others at work. There were significant differences between men and women on other issues. Men agreed more than women that they felt isolated at work (4.06 vs 3.24, p. <0.05). Again, there were signs that women had less economic security than men; women were less likely to agree that their job is secure (4.41 vs 4.95, p. <0.05), and that they earn enough to pay their bills (4.64 vs. 5.24, p. <0.05).

Table 9. Opinions on the gig economy

	Men	Women	Sig. difference
Are a good entry-level job for people who are entering the workforce	4.48 (.1)	4.50 (.1)	
Places too much of a financial burden on workers	4.73 (.1)	4.04 (.1)	***
Are great for people who want a flexible schedule	5.23 (.1)	5.54 (.1)	
Are the kind of jobs you can build a career out of	4.08 (.1)	4.22 (.1)	
Let companies take advantage of workers	4.90 (.1)	4.30 (.1)	***
Are a good option for older people who don't want to work full-time anymore	4.83 (.1)	5.08 (.1)	
Are a good option for younger people who can't find full-time work	4.95 (.1)	5.26 (.1)	

Source: Making it Work in the Gig Economy (2019)

Respondents were asked how strongly (on a scale from 1 to 7) they agreed or disagreed with the propositions listed in Table 9 regarding jobs in the gig economy. Scores closer to 1 indicate strong disagreement and scores closer to 7 indicate strong agreement. A t-test was applied to these data to test for significant differences between men and women. There is overwhelming agreement amongst both men and women who work in the gig economy that it is 'great for those who want a flexible schedule'. They also feel similarly that jobs in the gig economy are good for both older and young people. To a lesser extent, they agree that jobs in the gig economy are good entry-level jobs. There were statistically significant differences on two propositions. Women agreed less than men that jobs in the gig economy place too much of a financial burden on workers (4.73 v. 4.04, p. <0.001) and they also agreed less strongly that companies using digital platforms take advantage of workers (4.90 vs. 4.30, p. <0.001).

Discussion

This paper drew on the first Australian data source that provides a breakdown of the sociodemographic characteristics of those who secure work from digital platforms and is also the first to provide a stratified analysis of experiences and motivations by gender. The sample was highly qualified with 45 and 43 percent of men and women respectively holding a tertiary qualification. This implies that the well-educated are a substantial proportion of those securing from digital platforms work that is by definition short term, task-based and insecure and precarious. More expectedly, a large proportion were currently studying, indicating that the long-established pattern of students working in short term temporary jobs now encompasses work in the gig economy. There were some noticeable gender differences in profiles. Almost two-thirds of men in the sample were securing work from digital platforms while also holding employment outside the gig economy compared to just over 46 percent of women. For men, multiple job holding usually reflects underemployment and low wages (Kalleberg 2018), so the higher proportion of men with a job outside the gig economy suggests that they find themselves in a precarious position, earning insufficient to live on. Women in the sample were also more likely than men to be partnered and have a child, which implies they were the secondary earner in the household. However, these data are drawn from a non-probability sample, and to reliably establish the profile and characteristics of the digital-platform workforce and how it compares with the standard economy a nationally representative sample is needed. To identify trends would require longitudinal data. Here, we can present the characteristics as indicative only, and focus more on the motivations and experiences of the men and women sourcing work from digital platforms.

We examined what types of digital platforms men and women secure work from and what types of tasks they do through these platforms. The most commonly used digital platform was Gumtree. This is interesting given that much of the media interest and academic scholarship has focussed on more newer platforms such as Uber and to a lesser extent Airtasker (which were second and third most commonly used by respondents to this survey). Gumtree has been in existence since 2007 and the platform differs from the others in the survey in that its original intent and design was as an online classified advertisement and community website. Interestingly, its use was driven most by women. Almost half of all women in the sample used Gumtree to sell their own goods. This aligns with findings from Balaram, Warden and Wallace-Stephens (2017) that women in the United Kingdom were more likely to use asset-based platforms (e.g. selling goods or renting out rooms) rather than task-based platforms. Disaggregating by gender showed that the most common platform used by men was Uber and that men were also more likely than women to use Deliveroo, a rideshare platform for delivering food. A higher proportion of men than women reported using Mabel, a platform used for those who need care and support workers, and there was no significant gender in difference in the use of Care.com. This is surprising given the profile of care services more generally, which is heavily skewed towards women. Men were just as likely as women on this platform to do caring and support tasks. This is an interesting finding that might indicate men's participation in the care sector is increasing, but further research is needed. Also interesting is that similar proportions of men and women reported sourcing work through Airtasker, but this overall similarity does not mean they performed the same tasks.

In terms of the type of work men and women do as a result of sourcing work from these digital platforms, there are some clear and very gendered patterns. The most common task performed was driving which comprised almost a quarter of all respondents' tasks. The next most common task was delivery or couriering and the third was selling their own goods. The high proportion of driving and delivery largely reflects the high proportion of men who perform these tasks. In general, these findings suggest that in Australia, physical tasks are most common. Work which could be completed online, such as creative tasks and writing, editing and administrative tasks accounted for only small proportions of the types of tasks individuals did overall. These results in part reflect findings from previous research, which shows that digital tasks or online work in Australia is relatively small compared to other Western nations like the United States (Kässi and Lehondvitra 2018). However, online work is the most common type amongst women, narrowly edging out selling. Almost a quarter of sampled women secured creative tasks from a digital platform compared with just 11 percent of men. They were also significantly more likely than men to secure writing, editing and administrative work from digital platforms. Notwithstanding the presence of men on care platforms noted above, women were more likely to perform cleaning and caring tasks, suggesting they accept more of this work than men do. Taken together, the findings regarding what types of platforms and tasks men and women perform in the gig economy reflect the gender segregation in the broader Australian labour market. Care and transport (delivering and driving in the case of the gig economy) are, respectively, female- and male-dominated industries in the wider economy (WGEA 2018). Perhaps of interest here is that the creative and writing, editing and administrative tasks which women are more likely to do in the gig economy are classified as 'mixed' (WGEA 2018)—that is dominated neither by men nor by women. Our findings may arise because women with these skills find better opportunity online than in standard employment.

The next question of interest was what the motivations for men and women entering the gig economy were. Overwhelmingly, the strongest motivating factor for respondents in the survey was income related. Seventeen percent reported that money earned from the gig economy was their main source of income and almost a third reported that they work in the gig economy to supplement their income. This is not surprising given that two thirds of all sampled men and 40 percent of sampled women worked outside of the gig economy. It is also consistent with the previous literature in other countries (Codagnon, Abadie and Biagi 2016). Flexibility was also a motivating factor but, in this research, it was operationalised in two ways: (1) the desire to work flexibly; and (2) the gig economy 'fitting' with their schedule. These were third and fourth most common factors respectively. Both men and women overwhelmingly agreed that that the gig economy was good for people who wanted flexibility.

However, there were some clear gendered patterns when it came to motivations. For men, the motivating factor for entering the gig economy was clear. It was income. This accounted for 60 percent of their responses (35.1 percent nominated money earned from the gig economy was to supplement their other income and a further 24.8 said that it was their main source of income). Income significantly outweighed flexibility as a motivating factor for men. Women's motivations were more diverse. As for men, income related factors were important. Almost 30 percent said it was to supplement income and a further 10 percent said it was their main source of income. However, a further 30 percent nominated flexibility reasons as a factor, with the greatest gender difference in 'fits with [my] schedule'. This implies that women are constrained by non-work

schedules much more than men and turn to the gig economy as result. This is like previous findings in relation to self-employment, which suggest women leave standard employment because it is not 'family-friendly' (Authors; Foley 2018). A smaller but not insignificant proportion of women also nominated that they 'can't find work elsewhere'. This resembles the findings of Goods et al. (2019) who found that young migrant men took up ridesharing because they had few alternatives. Our findings suggest that, similarly, the gig economy is an alternative for women who struggle to make inroads in the wider economy.

The paper also examined the different ways in which earnings from the gig economy were important for respondents' livelihood. Over 40 percent of both men and women reported that gig-economy work was intended to supplement their income, which again reflects that non-gig economy work was common in the sample. However, the results clearly demonstrate that women in the sample were doing worse than men. Men were much more likely to say that earnings from the gig economy was their main source of income, and notwithstanding some slippage between motivation and reality, it seemed to be working better for them than for women. Women agreed less with the idea that they were doing 'okay' financially than men did and agreed less than men that their earnings from the gig economy were effective in supplementing their household income. Post-hoc analysis found that women in the gig economy worked fewer hours than men and they also did tasks that reflect the types of work they do in the wider economy. Female dominated jobs such as care and personal services are often poorly remunerated and are perhaps even more so when secured through digital platforms. Women who held another job outside the gig economy were less likely than men to agree that that job was 'secure' or that they earned enough to pay their bills. These findings might also explain why a fifth of women described the money earned from the gig economy as a source of income while they looked for more permanent work. Moreover, that more women than men provided skilled online services through digital platforms may reflect them being less able to leverage these skills into standard employment. This is consistent with previous findings that women are less able than men to turn education qualifications to advantage in the workforce (Chesters 2018). Taken together, the results of this study suggest that regardless of where women work, either in the gig or wider economy, they occupy a more precarious position in terms of income and economic security.

Limitations and future research directions

This research relies on non-probability sample, so the results are not generalizable to the Australia population. Future research including current datasets such as the Household, Income and Labour Dynamics in Australia (HILDA) survey and labour force surveys administered by the Australian Bureau of Statistics should aim to capture data on the gig economy and its workforce.

Conclusion

In summary this research filled a gap in knowledge by providing new information on the gender dimensions of the gig economy. The findings highlight how much the digital platforms used to secure work and the tasks done by men and women differ, suggesting that gender patterns in the gig economy echo those in the wider Australian economy. Although both men and women were motivated to earn income from the gig economy, and by its flexibility, women were also motivated by fitting around non-work schedules. Moreover, the findings of this research highlight the differing

economic position of men and women both inside and outside the gig economy. For men, the gig economy largely met their expectations. Income was their primary motivation for entering the gig economy and it was largely effective in meeting their needs, but for women less so. Taken together the data suggest that many women are in the gig economy because they are under the constraint of other time and scheduling demands and although they are seeking to earn money within the opportunities available, it is not enough.

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