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Adaptive capacity: A qualitative study of midlife Australian women's resilience during COVID-19

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ABSTRACT

This article explores adaptive capacity as a framework for understanding how South Australian women in midlife (aged 45–64) demonstrated resilience during the early phases of COVID-19. In-depth interviews were undertaken with 40 women mid-2020 as a follow-up study to interviews with the same women undertaken 2018–19 (before COVID-19 emerged). Transcripts were analysed following a critical realist approach using Grothmann and Patt's construct of adaptive capacity as a framework for analysis. This enabled authors to unpack the mechanisms of resilience that shaped women's experiences of appraising, and then showing an intention to adapt to COVID-19 adversity. Findings support the explanatory utility of adaptive capacity to understand resilience processes in the context of person-environment changes – the environment being the COVID-19 context – and women's capability to adapt to social distancing and lockdown conditions. With COVID-19 evoking health, social and economic challenges at incomparable scales, potentially fracturing mental stability, this article provides insight useful to policy makers and health professionals to support resilience as the pandemic continues.

1. Introduction

The COVID-19 pandemic has had far-reaching consequences beyond the spread of the SARS-CoV-2 virus. Countermeasures taken in order to suppress viral spread, including social distancing and lockdown restrictions, have placed strain on the economy with flow on effects to the role and meaningfulness of work, as well as socialising through recreational and cultural activities – and we know that such a loss of familiar and meaningful activity places challenges on wellbeing (Smith & Judd, 2020). COVID-19 has evoked systemic upheaval and acute personal uncertainty at a scale not previously experienced (Ward, 2020). As such, researchers have touted 'resilience' as a critical piece of the current COVID-19 research agenda (Brown, 2020). As the pandemic continues to evolve, it is suggested that an understanding of the mechanisms of resilience will be useful to mitigate negative psychological effects (Alonge et al., 2019; Chen, 2020; Gordon & Borja, 2020, Vinkers et al., 2020). Aligning with this research agenda, this theoretically inflected study sought to uncover Australian women's capacity to adapt to adversities ensued from COVID-19.

While the COVID-19 pandemic has impacted all people globally, this crisis has disproportionally affected women - delaying progress toward gender parity in social and economic security. Reports of the impact on women's involvement in the labour force - either women's precarious employment or the increased demands for their labour during the pandemic coupled with the burdens of unpaid care responsibilities (McLaren, Wong, Nguyen, & Mahamadachchi, 2020; Craig & Churchill, 2021) - make it unsurprising that Australian women have been more likely than men to report feelings associated with stress, anxiety and depression during COVID-19 (Biddle, Edwards, Gray, & Sollis, 2020; Lunnay et al., 2021; Ward, 2020). Worldwide, the uncertainty and fear COVID-19 ensues is exponentially difficult. In Australia, at the time our study was conducted (March 2020), the SARS-COV-2 virus that resulted in COVID-19 had newly emerged. The Australian Government instantaneously installed public health measures in order to reduce viral spread.

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Measures included social distancing and shutdown restrictions intended to reduce close contact between people and this limited every facet of basic social life – physical activity, shopping, travel, work, school, childcare etc). Women reported feelings linked to existential anxiety about the virus – questions regarding contagiousness and their personal risk of complications, and alongside this, expressed feeling a loss of control over life as they knew it (Lunnay et al., 2019; Ward et al., 2021). Despite low viral case numbers, public health measures imposed changes that prompted adaptation and tested women's resiliency. It is perhaps worth noting that at the time of writing, Australia has since ridden various pandemic 'waves' and in South Australia, viral spread certainly escalated. As of 13 January 2022, South Australians are living under a major emergency declaration in response to the outbreak of the virus (4503 active cases) and are experiencing a cocktail of travel quarantines, stay-at-home orders, isolations following close contacts, exposure site and testing requirements. This highlights the continued importance that context and environment plays on the capacity to adapt during COVID-19.

Intriguingly, research suggests it is possible to adapt, and indeed, experience positive outcomes (e.g., increased hope, heightened compassion toward others) through the pandemic (Biddle, Edwards et al. 2020; Meagher et al., 2020; Sibley et al., 2020). The key point of interest is how, and in what ways, women have demonstrated adaptive capacity that has enabled resilience within COVID-19. The research question we consider here is: what adaptive capacity processes are available to different women and therefore how does this shape their resilience during COVID-19? We unveil the mechanisms of women's resilience through the theoretical lens of Grothmann and Patt's model of 'adaptive capacity' (Grothmann & Patt, 2005). We do so to provide insight into how women might have had capacity to adapt and adjust - or to show resilience - to the challenges imbued in the pandemic.

1.1. Study background

Before COVID-19 we had explored women's understandings of alcohol consumption as a risk factor for breast cancer.[1] During these interviews, women situated their perceptions of their own cancer risk within their unique life chances according to a sociological and relational model of class (Bourdieu, 1984). Women's descriptions of factors that enabled or constrained their opportunities for living well provided important context for their resilience strategies in response to alcohol-related risk (Lunnay, Foley, et al., 2021; Lunnay, Toson, et al., 2021; Ward, 2020). Nation-wide pandemic countermeasures (social distancing, lockdown restrictions[2]) changed Australian women's daily living substantially in an effort to keep case numbers low. As such, potential for change in the scope of women's resilience surfaced. Our preliminary analysis of interview data showed shifts in women's risk perceptions toward "getting through" immediate short-term needs during the pandemic (away from longer term risks such as those that are alcohol induced) (Lunnay et al., 2021). We realised the unique COVID-19 context that emerged shortly after our initial study offered potential to re-interview women and to explore theoretically, and then perhaps to illustrate, resilience as a person-environment process. This paper reports on our analysis. It considers how women's innate capacity to adapt interacts with external factors (in this instance, COVID-19) that shape daily experiences.

International studies exploring resilience during COVID-19 in the US (Killgore, Cloonan, Taylor, & Dailey, 2020), China (Akuhata-Huntington, Foster et al., 2020) and Slovenia (Kavčič, Avsec, & Zager Kocjan, 2020) suggest stress and resilience are highly diverse and context-dependent, with different social mechanisms (such as availability of social supports, trust in government) either supporting and/or limiting individual adaptation to the pandemic. Studies have also explored the experiences of 'vulnerable' population groups such as health care workers (Mills, Ramachenderan, Chapman, Greenland, & Agar, 2020), sex workers (Lam, 2020), older adults (Chen, 2020, Pearman, Hughes, Smith, & Neupert, 2020), children and adolescents (Dvorsky, Breaux, & Becker, 2020; Luthar, Ebbert, & Kumar, 2020) and Indigenous peoples (Akuhata-Huntington et al., 2020). Across these studies, inequitable access to social protection and unequal 'baseline' social conditions rendered resilience more difficult, although not impossible. Research on smoking cessation, albeit undertaken before the pandemic, showed people have an ability to respond or adapt to, and to show resilience, during major life events. This surfaces from a combination of intrinsic factors in unison with aspects of the environmental context that might foster one's capability to adapt to hardships (Ward et al., 2011) – a person-environment resilience process. Building from this, the present study explored the ways South Australian women in midlife (aged 45–64 years) with differing living and working arrangements and different access to resources or capital (social, economic, cultural), perceived COVID-19 health risks and how they were able to adapt, and show resilience.

We anticipate our findings will have relevance at various levels. A theoretical motivation undercutting our study was to advance our understanding of resilience as a construct by exploring the explanatory utility of one particular concept within resilience theory termed 'adaptive capacity' - a socio-cognitive response to risk. Before explicating Grothman and Patt's model of 'adaptive capacity' we first set an ontological tone for the model of resilience deployed for our analysis and its suitability for a study conducted on resilience during COVID-19. We present this adjacent to the types of experiences women had during COVID-19 in Australia that provoked adaptation. Optimistically, we hope our findings are translatable to public health professionals engaged with designing community and individual interventions in order to support resilience during the COVID-19 pandemic and into endemic phases.

1.2. Theoretical framework: A psycho-social model of resilience and adaptive capacity

Resilience is a multi-interpretable construct with varied definitions emerging from different fields of study (Klein, Nicholls, & Thomalla, 2003). Common to most disciplines, is that resilience is not innate, nor is resilience stable, but rather resilience is fickle – both built or eroded in unpredictable ways (Lunnay et al., 2019; Ward et al., 2011). Scholars have suggested that when individuals face adversity, they accumulate strategies they can later use to cope with adverse situations (Harvey & Delfabbro, 2004). With these characteristics in mind, we adopt a psycho-social definition of resilience fitting for a study conducted during COVID-19 – a period of much variability and instability with strong potential for adversity: *"the interaction between the internal processes of the individual and the set of external conditions that allow individual adaptation to different forms of adversity"* (Ward et al., 2011, p 1141) . This definition identifies resilience as a dynamic person-environment phenomenon, where previous work has found individuals and their physical, social, cultural and socio-economic environment to be mutually influential for resilience (Rutter, 2006, Pangallo, Zibarras, Lewis, & Flaxman, 2015). Within this definition sits the construct 'adaptive capacity' which we suspect has particular explanatory potential for understanding women's resilience during COVID-19.

Adaptive capacity offers a conceptual inroad to identifying the underlying conditions and processes that enable a woman to cope with uncertainty or change (such as during COVID-19) and to learn, experiment or foster innovative solutions in complex social-ecological circumstances (Klein et al., 2003) or the 'traps' (Clark, 2021) that allow or constrain resilience. Adaptive capacity evolved through climate change research (Klein et al., 2003; Aguilera et al., 2015; Bryan et al., 2015;

[1] Alcohol is a class 1 carcinogen, meaning the propensity for alcohol to cause cancer is certain see: International Agency for Research on Cancer (2012). Personal Habits and Indoor Combustions. IARC Monographs on the Evaluation of Carcinogenic Risks to Humans. Lyon, IARC.

[2] See: https://www.covid-19.sa.gov.au/response.

Power, Bell, Kyle, & Andrews, 2019), connotating the ability to undertake changes (to adapt) as environmental risks become present (Few, 2012). When we revisit (Ward et al., 2011) psycho-social definition of resilience alongside adaptive capacity we can proffer that a woman's capacity to *adapt* during COVID-19 (i.e. their adaptive capacity) is likely determined by resources available at individual but also community levels (Power et al., 2019) – a combination of internal attributes and external resources.

Grothmann and Patt (2005) introduced a socio-cognitive model of 'adaptive capacity' that allowed a *prediction* of behavioural responses – in their scholarly field, this was designed to predict the perceived threat of climate change. They theorised that when appraising risk in order to form a perception of the probability/severity of an event, people undertake an 'adaptation appraisal' – alongside their self-efficacy they consider their perceived adaptation efficacy to respond and the adaptation costs. The outcome of this adaptation appraisal is said to shape people's responses. This is proffered to occur irrespective of resources available. To date, Grothman and Patt's model of adaptive capacity has been under-used to understand individual resilience alongside public health risks - despite the explanatory potential for identifying the relevance of adaptation to resilience. This is with the exception of Few (2012) who used adaptive capacity to understand people's responses to communicable disease risk, specifically their responses to diseases that might alter in response to changes in climate. Few's study confirmed that a process of adaptation was required for an individual to absorb and enact preventive health behaviour, offering gumption to Grothmann and Pratt's work as a useful model for advancing our understanding of women's responses during COVID-19. It reinstates that adaptation to public health risk (and associated countermeasures) is a hallmark of resilience, particularly when the context of disease is constantly evolving and changing – as it is with COVID-19. Thus, we utilised Grothmann and Patt's model as a framework for our theory-driven analysis presented here. A key theme (or mechanism) that had particular explanatory utility when we applied the model was 'adaptive appraisal processes' - including risk perception and perceived adaptive capacity – that shaped whether participants saw adaptation as a response option. The second was 'adaptation intention' – participant's intention to take on or to cease activities or social practices (additive/subtractive).

2. Methodology and method

In-depth interviews were conducted with 40 women aged 45–64 years (i.e. midlife) who were conversant in English and living in South Australia. This was a follow-up study comprising repeat interviews with women interviewed in 2018-19 before COVID-19 emerged in 2020. Before COVID-19, researchers BL and KF (both females aged between 30 and 40 years) had conducted interviews with 51 women in-person (in cafes, libraries, and women's homes) to ascertain their perceptions of breast cancer risk and their willingness/ability to modify alcohol consumption (a known carcinogenic). Women were recruited through an advertisement in newspapers in South Australia, which was also posted on Facebook. The study was promoted via a radio interview (conducted by researcher EM). Women from particularly disadvantaged backgrounds were recruited via a women's group at a neighbourhood centre situated in a low socio-economic area (researcher BL provided a brief presentation about the study during the group's weekly meeting).

When COVID-19 emerged, we lodged an amendment with the HREC and approached the same women for consent to be interviewed again (this time via telephone according to distancing requirements). We wanted to opportunistically ascertain any shifts in their risk perceptions and challenges to their resilience whilst living during pandemic conditions – noting Ward's definition of resilience as a person-environment process. Forty women agreed to be reinterviewed. We asked them 'if/how have your perceptions of risk changed with the emergence of COVID-19' requesting that women reflect on this in broad terms but specifically to health risks that are both short and longer-term in nature. Interviews were conducted with 'empathic neutrality' to facilitate participant–driven explanations (Patton, 2002; Popay & Williams, 1996). We probed for their rationalities and the processes they followed as a logic for their perceptions of risk and their responses in terms of weighing up and acting on preventing (or not) COVID-19. All interviews were audio-recorded with participants' permission, transcribed verbatim by professional transcribers, and then de-identified for analysis.

Prior to interviews, participants completed a questionnaire measuring economic capital (income, property and assets), social capital (social contacts and occupational prestige of those known socially), and cultural capital (level of participation in various cultural activities) to inform classification in a social class (Johar, Jones, Keane, Savage, & Stavrunova, 2013; Sheppard & Biddle, 2015). Though not statistically generalisable, the sample was a relatively representative sample of middle-aged women experiencing various life chances before and during COVID-19 in South Australia, including differing levels of educational attainment, occupations, living and employment arrangements and participation in different sociocultural activities. We must note that women were not sampled for ethnic diversity, although we acknowledge that there has been increased racism during the pandemic towards Asian Australians and that racism is a factor in resilience and its resources (Biddle, Gray et al. 2020). In terms of ethnicity, our study recruited women of mainly Anglo-Saxon ethnicity however seven women were migrants – born in South Africa, Poland, Ireland, Britain, Germany and South America. Within each social class group, the women we interviewed varied in living circumstances – some reported living alone, others reported living with a partner and with no children and some reported living with children either with their partner or without a partner. Women worked in various arrangements – full time and part time, while some said they were retired, and 3 women reported that they were unemployed at the time of the interview. Our sample also included women with different levels of education (high school through to university/college) and with different self-perceived levels of general health – mostly moderate/fair or good/very good, but 2 women reported their health was 'bad'.

The 'working class' women (n = 13) were the most 'disadvantaged' group, with the lowest educational attainment, household income, participation in cultural activities, and occupational prestige. The 'established middle class' women (n = 7) had average educational attainment, household income, property value and participation in cultural activities. The 'mobile middle class' women (n = 6) were similar to the middle class, but with higher educational attainment, higher household incomes and property wealth. The 'emergent affluent class' women (n = 14) were well-educated with high incomes, and a wide range of social networks with high occupational prestige. The 'established affluent class' women (n = 5) were the most 'advantaged' group, with high rates of economic, cultural and social capital. For the purposes of presenting our results women are referred to dichotomously as those in 'lower social class positions' and those in 'more affluent social class positions'. Our intention is to streamline the presentation of results given the focus of this study was not on identifying how resource constraints impact adaptive responses and therefore resilience but rather on understanding how alterable aspects of the environment (COVID-19) shaped adaptive capacity. This is also congruent with the focus of Grothmann and Patt's model of adaptive capacity.

2.1. Data analysis

As previously indicated, early data immersion suggested the construct of adaptive capacity could offer an explanatory framework to understand women's resilience during the pandemic. In order to uncover the mechanisms that enabled resilience (i.e the nature of resilience) by different participants, our analysis approach was designed following a critical realist ontology (Wong, Greenhalgh, Westhorp, Buckingham, & Pawson, 2013; Fletcher, 2017, Greenhalgh, Thorne, & Malterud, 2018). Four main tools of critical realism: induction, deduction, abduction and

retroduction, guided data analysis to determine the nature of resilience situated within the nature of women's social worlds. Coding then occurred in three stages: precoding, conceptual categorisation, and theoretical categorisation (Meyer & Lunnay, 2012; Meyer & Ward, 2014). This theoretically-driven analysis allowed us to move beyond a description of narratives, to uncover the explanatory potential of adaptive capacity as a framework of resilience and promoted interpretive validity (Popay, Rogers, & Williams, 1998).

During manual precoding, common words/phrases were identified through inductively coding a selection of transcripts (Liamputtong, 2013), and through this we identified concepts such as adaptation and appraisal of risk that pointed us to a framework with explanatory potential – that of adaptive capacity. To facilitate conceptual deductive coding, a framework was developed based on the constructs comprising the adaptive capacity model conceptualised by Grothman and Patt. A selection of transcripts from each social class group were deductively coded against the framework using QSR NVivo software (version 12) by extracting words and/or whole phrases that appeared relevant to the conceptual frameworks (termed 'deductive inference') (Meyer & Lunnay, 2012). To ensure rigour, authors (EH, BL, KF and PW)) deductively co-several transcripts before discussing findings and areas for extension. The resulting coding structure was applied to all 40 transcripts. Attention was given to findings that fell outside the explanatory frameworks and these abductively derived codes were added to the framework. Data based on specific constructs comprising Grothman and Patt's model (e.g., I do what I can to do the right thing (open-code) – adherence to infection control guidelines (categorical code) – adaptive appraisal (thematic code) were charted into matrices. We then looked across the thematically organised interview data to illuminate the mechanisms/conditions of resilience (via adaptation). Patterns were deductively linked to the theoretical model to interpret the data and provide explanations as to how, and why (what mechanisms), certain women demonstrated resilience during COVID-19. At this stage, acknowledging that social realities do not follow causal law with infinite interactions between real-world events influencing how people change (Fletcher, 2017), we revisited inductively derived codes built from participant's descriptions of their life circumstances before COVID-19. Case studies were written that detailed the life events women described as both formative in developing resilience pre-COVID-19 that they brought into the pandemic, and those that seemed to reflect their capacity to be resilient, privileging participants' subjective meanings surrounding their own resilience (Popay et al., 1998).

3. Results and discussion

The following section describes participants adaptive responses to COVID-19 conditions and is presented in two parts 1) additive and subtractive resilience strategies, and 2) adaptive appraisal processes based on the two most prominent resilience processes (mechanisms) identified through our analysis. They are constructs derived from Grothmann and Patt's model of adaptive capacity (and in this sense verify the model) and they speak the most to 'how' and 'why' women showed resilience during COVID-19. Pseudonyms have been used to preserve participant anonymity.

3.1. Adaptation appraisal processes

When discussing and appraising the risk of contracting the COVID-19 virus, women talked about the perceived likelihood of infection. Those who felt their likelihood of infection with the virus was low also described their intentions to follow social distancing or infection control guidelines, for example Rebecca said: *'Basically, if I self-isolate I'm safe*' and continued with saying '*I don't feel like I'm in a high-risk category at all. I'm very careful about handwashing. At work I've been opening door handles with paper towel for weeks and I'm not fearful of that [COVID-19], at all*'.

Conversely, a few women felt it was inevitable they would be infected with the COVID-19 virus, as Sarah suggested:

'*I feel like it's unrealistic for any of us to think that we're not going to get this … But I feel like we just need to be really, really, really smart, and so that's where I'm at.*'

Participants also appraised the severity of being infected. Whilst some women acknowledged they were in the most 'at-risk' group due to their age, they felt their own personal good health would protect them if they became infected, such as Isabelle who said:

'I don't have any health problems, no respiratory problems or anything. I've got a good chance of fighting it off'.

The multiple directions in which women were being pulled during COVID-19 lockdown restrictions seemed to result in them needing to balance challenges associated with family, work and personal responsibilities, and this emerged in their narratives, described by multiple women using the phrase '*my plate is full*'. Some described how these life challenges influenced their lesser or dampening perception of COVID-19 risk in the same way as Carol, who said:

'*It's not … on my radar as something that would come to me, but I've got plenty of other things to worry about before that*'.

Most of the women interviewed, regardless of life chances or contexts, appeared to adhere to infection control and social distancing guidelines. Women seemed to consider the cost of adaptation (social distancing) appropriate relative to the potential risk of contracting the virus (if indeed they were convinced the virus was 'real' and not a conspiracy theory) and within their realm of possibility. Rebecca described a temporal aspect to her perception of the cost of adaptation by adhering to public health advice: '*Yes, I can do this [social distancing] for say, three months if I need to, but I couldn't do it for three years. That's just not going to happen.*'

Fay's viewpoints matched Rebecca's and she also described her own self efficacy for managing viral spread:

'*I feel comfortable with my understanding of how to manage the situation … I mean, obviously there's a lot of unknowns, we don't really understand the bug and everything, but the measures to contact and transmission are understandable to me so that's why it doesn't stress me too much.*'

Fay's response was typical of most participants' adaptation appraisal processes, many of whom described the social distancing measures as appropriate and possible. Based on the outcomes of the risk and adaptation appraisal processes women undertook in response to the COVID-19 pandemic, all the women interviewed, irrespective of social class, described some form of adaptive response. Albeit adaptive responses were often those prescribed by the Australian Government and in some cases socially reprehensible. Indeed some women, particularly those in lower class positions, described animosity toward the restrictions despite compliance – a resigned acceptance. Most women made adaptations to their lives in order to prevent risk of SARS-COV-2 infection.

3.2. Adaptation intention

Women in our study showed an intention to adapt through adding or subtracting social practices that served as resilience strategies to cope with the continual changes ensued by pandemic countermeasures. For example, Isabelle likened her intention to adapt to the pandemic with her experience with raising children. She reflected on her personal competence and ability to find rhythm, routine and purpose in chaos: *'I've always written a list of things to do outside the house, what my day looks like, and now I do the exact same thing'*. Sarah on the other hand, described utilising external resources (social supports) to prior to the pandemic and her intention to adapt during the pandemic was modelled on her prior experiences albeit tailored for pandemic conditions. She said:

'I joined a group where they do Pilates and step, and all sorts of these amazing things and then this all happened, so we couldn't go to class anymore and so they've put it online. So I've set myself up a little – what I call my little fitness area, and so I'll do that as my thing for the morning.'

Both internal traits and external resources that support the intention to adapt were described by participants across all social classes, albeit with nuances that belied their resources. That is, women seemed to show an intention to adapt using mechanisms that were within the capital (social, economic, cultural) available to them.

When discussing their ways of coping which we identified as an intention to adapt, women across all social classes described having learnt 'life lessons', and their varying life chances did not preclude women from having developed a reservoir of life lessons, but the context shaped the lessons - in line with the notion of resilience as a person-environment process. For example, Danielle and Rebecca each described growing up with minimal financial resources which allowed them to feel less concerned about (or resilient to) and therefore we identified as being able to show an adaptation intention to the economic shifts caused by COVID-19.

In the context of the pandemic, an adaptation intention evident in women's descriptions also involved moving away from activities or social practices. For many participants, this meant reducing social activities (to reduce risk of infection as per Government guidance), cutting down on 'unhealthy' behaviours (such as alcohol use) or taking media breaks (to avoid becoming overwhelmed by COVID-19 news stories).

Some women described having a lack of resources and that this made adaptation difficult – including factors such as a lack of support from friends or family (low social capital), financial instability (low economic capital), limited access to the 'know how' to locate assistance (low cultural capital). Conversely, women detailed resources that increased their capacity to adapt: friends, family, education, access to technology, or availability of services (high volumes of all forms of capital – social, economic and cultural).

Julie describes adapting by moderating her exposure to pandemic news and her intention to adapt to the pandemic conditions by following Government advice:

'In the beginning, when we first went into self-isolation, I clicked to follow the link on COVID-19 and I ended up turning the notifications off because there were updates all the time. It was like, you know what? I'm doing what I need to do to keep safe. This isn't going to be good for my health if I'm watching this all the time, and then I'm going to be worrying about something that I can't actually do. All I can do is the right thing for us and make sure we're following the guidelines (social distancing) that we've been given.'

For some women, COVID-19 restrictions seemed to allow space from the busy nature of 'normal' daily life, affording them the opportunity of time to take on new activities, and in turn, to replace previous ways of coping with adversity or showing resiliency. For example, Yvonne described how she had been able to replace alcohol with other activities:

'With alcohol, what I used to find … I would get so irritated … I didn't know what to do … but I don't feel like that anymore. I feel like – I know exactly what I do – I finish my dinner and I read a book or I have a dance.'

Several women described their alcohol consumption during COVID-19 in ways we might consider 'adaptive'. For example, Michelle described alcohol as a replacement for illicit drugs. Others described increasing alcohol intake using it as a form of pleasure to replace usual life events that were no longer available due to social distancing restrictions, for example Trudy said:

'*… You can't go out. You can't go and see anybody else. You can only go to the shops and so it's that thing about, oh, I can't do anything so I'll have a drink*.'

Writing case studies to unpack individual narratives as part of the analytical process illuminated the scale or severity of other adverse life events that seemed to shape women's adaptive capacity during COVID-19. Stephanie was one of several women who associated a family diagnosis of cancer as a significant event which seemed to shape her adaptation intention during COVID-19 (see box 1). Her narrative illustrates how this pre-COVID-19 event challenged her adaptive capacity and we noted that she brought an ability to show an adaptation intention to COVID-19. During data analysis and reflecting on the transformative nature of previous adverse events for Stephanie (depicted in Box 1), we got a sense that Stephanie's intention to adapt was perhaps a redeployment of previous skills that she engaged in order to manage through COVID-19. We asked participants how their perceptions of risk changed as COVID-19 emerged and Stephanie seemed to assess COVID-19 impact relative to previous health-related adversity – reasoning that "it [previous adversity] was like a reassessment of what I'm doing with my life" and "what I needed to do to live my life more fully in future". She explained that when COVID-19 arrived though it "limited opportunities to live life more fully" she said regardless she undertook a "reassessment of the relationship that I have" (See Box 2).

Many of the women we interviewed cited significant challenges in their life that we sensed gave shape to their adaptive capacity during COVID-19, although their specific adaptive responses differed. Whilst some reflected positively on their intentions and indeed their capacity to adapt that occurred through life changing events (per Stephanie's narrative), other women described how such events had diminished their sense of personal competence to show an intention to adapt during COVID-19 and Tamara's narrative provides us with an example of this:

Contrasting Tamara's narrative with the narrative provided by Stephanie gives insight into the complexity of the mechanisms of adaptive capacity that affect women's adaptation intention and thus, their resiliency during COVID-19. As Tamara's narrative demonstrated, previous adverse experiences did not lead to adaptive resilience strategies for all participants (as they did for Stephanie) and they point to the importance of social resources as a key mechanism for adaptation intention.

4. Discussion and conclusion

The analysis presented herein supports the explanatory utility of 'adaptive capacity' for enhancing our understanding of women's ability to adapt to COVID-19 pandemic conditions and to see some positive outcomes. Two key resilience processes were observable and are key to our understanding of how women were resilient during COVID-19 – adaptive appraisal processes and adaptation intention – participant's intention to take on or to cease activities or social practices (additive/subtractive).

Appraisal processes aided resilience by highlighting a relativity of COVID-19 risk and adversity, and it follows that those women in lower social class positions were affected most adversely during COVID-19 (Lunnay et al., 2021; Ward et al., 2022). Our abductive analysis usefully extends Goffman and Patt's model here – they suggested that resources are not a determinant of adaptation. Our study seems to contradict this although we cannot claim to have analysed data by social class we flag this as an important area for extension and perhaps a limitation of the present study. An important aspect of the adaptive capacity model by Grothmann and Patt (2005) exposed through our abductive analysis (findings that sit outside of and therefore extend the theoretical model) and relevant to the pandemic context, is that the tenets for adaptive capacity described *in theory* can be compared with those required for *actual* adaptation. This includes resources like time, money, knowledge, entitlements, and social/institutional support and these could result in adaptive responses. We found appraisal processes and adaptive responses, of some kind, were available to women regardless of social class – but the contours of these strategies varied in line with their

Box 1
Stephanie's story

Stephanie experienced a lot of grief in her life, having lost her mother, father and two of her sisters to different illnesses. She described how these experiences shifted her outlook in life, shaping her desire to live a balanced life and chase both personal and work-related goals: *'… I think that part of that is having lost people young, and then being really aware of you only have one life and it's not just about your work or career. It's about having a balanced life and doing what you want to do.'*

She recalled a specific interaction with her late sister that shaped who she is today: *'My sister, when I was in high school, she went to live overseas … and when she came back she gave me these wings … and said that she wanted me to travel … that was something she wanted me to do and so I always thought about that. And I've actually travelled a lot in my life.'*

After finishing school and moving out of home at 16, Stephanie had a desire to travel but was not in a financial position to do so, so she worked hard to save money '*I've always been a goal setter. In actual fact, the gap year I took off I worked 'for a psychologist practice [to save money to travel]*.' Later in life, she continued to use goal setting to achieve both personal and work-related goals, being the first of her family to get a university degree. When faced with increasing pressures of demanding work roles, she employed a number of additive resilience strategies to find more balance in her life, using exercise, catch-ups with friends, reading self-help guides and other personal projects to adapt to the increasing stresses associated with her work. During COVID-19 she described to us a clear perspective.

Her story provides a sense of the challenges she has had to adapt to in the past that contributed to her sense of self efficacy and intention to adapt during the COVID-19 pandemic.

Box 2
Tamara's story

Tamara described the major stresses she experienced in her life – from surviving trauma in childhood and domestic violence as an adult, to her mothers' diagnosis of dementia and her own personal diagnosis of diabetes. Tamara discussed how she learnt to use alcohol as a way to cope: '*It goes back to childhood and just not dealing with things in a constructive way. (I) was a drug user, and used alcohol as replacement for other things to cope with life.*'

From Tamara's story, we heard how her sense of worth and competence was shaped by her experiences early in life: '*I have suffered nearly every horrible thing that you can imagine in my past, but my mindset has shifted a lot. But there is still this little part that finds it very difficult to, to love myself when others couldn't.*' … '*I guess that all boils down to like, that I just don't love myself so much. Because if I did, I wouldn't be doing these things'*.

Tamara described how social distancing restrictions challenged her resilience because it eroded her access to external domains of support and jeopardised her social capital: '*So, in regards to the way I connect with people and/or socialise, my employment now is as a Reiki master and psychic card reader and I do a lot of fairs and festivals. And that has all dissipated.*' Tamara's intention to adapt was therefore low because she did not feel scaffolded with support. COVID-19 restrictions meant Tamara did not have access to her daughter and grandson (with whom she previously had regular contact), and she described how this influenced her intention to adapt: '*I could cope without everything else if I had them. But then, I haven't got them.*'

access to economic, social and cultural capital. It was outside the scope of this study, and perhaps a limitation, that we did not probe the resilience strategies available by social class.

We note this as not only an area for research and theoretical extension but important to policy directives as the pandemic continues. Results of this analysis offer value for informing future pandemic policy – in particular, policy that responds to how different women draw on particular coping strategies when adapting to adversity. There seems a need for governing bodies and public health professionals to promote access to 'replacement' coping strategies when women are no longer able to draw on existing coping strategies and so assistance with resilience processes. Given COVID-19 lockdown restrictions have limited women's access to entrenched coping mechanisms, policy makers will need to consider how to promote other modifications to 'replace' lost meaningful activities and improve resilience during pandemic recovery – or as we continue to adapt to the 'new normal'.

Adaptation intention hinged on a combination of internal traits and external resources that support resilience. Women's stories of encountering adversity and hardship and responding with some form of adaptation – provided insight into various major life events that seemed to shape women's adaptive capacity or at least, gave meaning and shape to their resilience processes during COVID-19. Overall, prior experiences with having to cope with adversity cultivated adaptative capacity; albeit this was not the case for all women we interviewed (for example, Tamara's resilience was fragile from previous childhood trauma and the pandemic seemed to only further fracture her ability to cope). Chiefly, our findings confirm resilience literature, which proffers that through exposure to adversity, individual's impignorate coping strategies that become useful when adapting to future hardships (Harvey & Delfabbro, 2004, Pearman et al., 2020). Certainly, other resilience research does suggest that individuals employ additive and subtractive resilience strategies in order to adapt to adversity (Ward et al., 2011) .

Many women we interviewed commented on the transformative nature of adverse events that underpinned their adaptive coping strategies during COVID-19. These seemed to be redeployed to cope with day-to-day stressors and to manage the acute changes resulting from reactive COVID-19 countermeasures. Grothmann and Patt (2005) suggest that cognitive biases can influence an individual's risk perceptions and therefore their perceived adaptive capacity, with errors of judgement most serious when levels of uncertainty are high as has been experienced during COVID-19. They suggest that people often perceive their personal risk of harm from a particular threat as smaller than the average risk thereby exhibiting an optimistic bias – that is, a tendency to overestimate the likelihood of a positive outcome. Fear and/or intolerance of uncertainty was a key aspect of women's COVID-19 experiences, raising the question of whether their low appraisal of the likelihood and severity of

COVID-19 risk was the result of an optimistic bias. The model of adaptive capacity describes the 'relative appraisal of urgency' individuals undertake, which involves consideration of the severity of risks against other life challenges (Grothmann & Patt, 2005). We certainly observed in our data a tendency for individuals to distance themselves from perceived real threat of contracting the virus; regardless, they said they adhered to distancing guidelines. However, at the time of the interviews (2020), the COVID-19 pandemic had not spread widely in Australia. Whilst the pandemic in Australia created very high levels of uncertainty in the community, and an ensuing sense of crisis, very few people in South Australia were directly physically impacted (with only one participant reporting a known contact who had acquired the virus). It remains unclear whether participants of this study were exhibiting an 'optimistic bias' (Park, Ju, Ohs, & Hinsley, 2021) or whether their perception of risk was appropriate relative to lower case numbers in South Australia at the time of the interviews[3] (compared with other locations nationally such as Victoria, NSW and indeed, internationally). We also note Grothmann and Patt's call for attention to how people appraise risk against other life challenges and suggest that women's pre-existing life chances would impact their optimism moving into the pandemic – this would need to be explored through a study in order to make any determination.

Policy makers might also consider the notion of adaptive capacity when introducing new policies aimed at minimising COVID-19 viral spread to explore reasons community members may (or may not) follow policy directives. For example, a focus on dissemination of information to address optimistic bias, could involve dissemination of targeted information aimed to encourage adaptation to the inevitability ambiguous and changing viral risk messaging. Our study participants reported the adaptation cost of social distancing as a worthwhile benefit in terms of reduced viral spread. If the perceived cost of adaptation increases, the likely outcomes of this equation changes – women may become less likely to adhere to government-recommended behaviours to reduce COVID-19 spread. We therefore urge policy makers to consider the availability of entitlements, social supports, employment opportunities and technology to ensure community members have the objective adaptive capacity to support adaptive responses as pandemic countermeasures evolve.

Declaration of competing interest

The authors declare the following financial interests/personal relationships which may be considered as potential competing interests: Professor Paul Ward reports financial support was provided by Australian Research Council.

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