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Tourism operator mental health and its relationship with SME organisational resilience during disasters

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ABSTRACT

Crises have a negative, and often long-lasting impact on mental health. The stress of dealing with the ongoing and unpredictable aspects of the COVID-19 pandemic has led to an unprecedented rise in mental health problems including low mood, depression and anxiety. Tourism businesses have faced ongoing challenges, with repeated lockdowns and drastically reduced tourist numbers and mental health challenges faced by operators may impact the resilience of tourism organisations and vice versa. Few studies have examined this. Our study in Victoria, Australia documents the mental health impacts of the COVID-19 crisis on owners and managers (operators) of small to medium tourism businesses and explores organisational factors that may impact or protect operator mental health during the crisis. Our findings show that the mental health of the cohort reached critically low levels over the course of the pandemic. We also identify positive associations between tourism organisational resilience and operator mental health.

1. Introduction

Early in the global COVID-19 pandemic, the World Health Organisation (WHO) raised concerns about declining global mental health in both healthy and vulnerable populations (World Health Organisation, 2020). The WHO defines mental health as not merely the absence of mental disorders or disabilities such as depression but as:

“...a state of well-being in which every individual realises his or her own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to her or his community.” (WHO, 2018).

There are numerous studies that document the deleterious mental health impacts of the pandemic globally (Galea, Merchant, & Lurie, 2020; Park & Kim, 2021; Pieh, Budimir, & Probst, 2020; Shi et al., 2020; Sibley et al., 2020; Smith et al., 2020). Direct stressors associated to COVID-19 include the fear of contracting the virus and death or illness of family members. Indirect factors include social isolation, loss of income or employment and home schooling resulting from lockdowns (Dawel et al., 2020; Galea et al., 2020; Graf-Vlachy, Sun, & Zhang, 2020).

Tourism, hospitality and events (herewith to be referred to as ‘tourism’) operators have experienced ongoing and extreme financial and emotional strain due to international travel and mobility restrictions imposed during the COVID-19 pandemic. In 2020, international arrivals fell by 74% worldwide, placing 100–120 million direct tourism jobs at risk, predominantly in small to medium-sized enterprises (SMEs) (UNWTO, 2021). This downward trend was similarly observed in Australia, which experienced a 76% reduction in international tourism and a 43% decrease in domestic overnight tourism (Tourism Research Australia, 2021a). Of all Australian states and territories, the state of Victoria was hardest hit during the pandemic because of a severe second wave of the virus, causing an extended lockdown of 111 days in the state capital of Melbourne (Dunstan, 2021). Victoria was also directly impacted by the most severe bushfires in history (Huf & McLean, 2020).

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The bushfires extended over 79 days and were extinguished only six weeks before the imposition of COVID-19 travel restrictions. The combined impact was a 59% decline in domestic tourism (Tourism Research Australia, 2020). Such extreme circumstances are likely to increase the risk of tourism operators suffering mental health challenges.

Micro (employing less than 5), small (employing less than 20) and medium sized businesses (employing 20–199 people), make up approximately 99% of the tourism industry in Australia (Tourism Research Australia, 2021b). Previous studies have documented negative mental health impacts of crises (such as floods, earthquakes, bushfires) for tourism SME business owners and managers (herewith ‘tourism operators’) (Hannay & Jones, 2002; Prayag, Spector, Orchiston, & Chowdhury, 2020; Werner & Locke, 2012). Although these studies are informative, the ongoing and idiosyncratic nature of the COVID-19 calls for research dedicated to business operators’ experiences of this unprecedented event. A small number of studies have examined business operator mental health during the pandemic. These demonstrated increased risk of mental health issues including anxiety, depression and burnout in SME operators, especially when extreme financial stress was present. However, these studies were not specific to visitor economy businesses (Graf-Vlachy et al., 2020; Torres et al., 2022; Torres, Fisch, Mukerjee, Lasch, & Thurik, 2021).

The quality of the mental health of tourism operators has implications for their personal relationships and individual life satisfaction as well as their business’ success (Love & Crompton, 1999; McCabe & Johnson, 2013; Morrison, 2006; Stephan, 2018; Wincent, Örtqvist, & Drnovsek, 2008). Organisational resilience is the capacity of organisations to adapt to unexpected shocks and stressors and seize the opportunities of their new environment (Hall, Prayag, & Amore, 2017; Prayag et al., 2020). There is evidence that good mental health of operators may improve the ability of businesses to bounce back after crises (Pathak & Joshi, 2020; Prayag et al., 2020). However, the Conservation of Resources theory (COR) suggests that the reverse may also be true. This theory maintains that having reserves of capital (financial, social or cultural), which can be used in times of uncertainty or loss, can improve one’s sense of wellbeing, in the knowledge that resources are available when required. Therefore, organisational resilience, in the form of various reserves of capital, may contribute to tourism operator mental health during a crisis but studies are yet to explore this bidirectional relationship.

This paper addresses the above gap in the literature by presenting findings from a mixed methods study examining tourism destination and organisational resilience to two successive disasters (COVID-19 and preceding 2020 bushfires) in Victoria, Australia. The novelty of the COVID-19 situation, with extended periods of lockdown and continuing uncertainty, warrants exploration of the relationships between various stressors being experienced during the pandemic and operator wellbeing as well as organisational resilience. This complex context necessitates a flexible epistemology, and thus pragmatism has been employed, which states that exploring the world from multiple viewpoints can give a more complete understanding of a problem (Tashakkori & Teddlie, 2010). Combining multiple methods can overcome the weaknesses inherent in each type and give a more complete picture of real world and complex problems (Creswell & Clark, 2017). Therefore, the study involved a statewide tourism business survey as well as two case studies undertaken in regional Victorian tourism destinations. This paper has three objectives: to examine the impacts of the crises on tourism operators’ mental health and associated business-specific stressors; to examine whether there is a bi-directional association between tourism operator mental health and planned or adaptive organisational resilience and how pandemic-induced mental health issues may impact business operations; and, to explore issues relating to mental health in SME tourism operators within the context of COVID-19.

2. Literature review

2.1. Mental health and wellbeing

The literature on mental health and organisational resilience is situated in numerous disciplines including public health, organisational psychology, positive psychology, business, and tourism. Therefore, the foci or terminology varies greatly. Studies refer to wellbeing, mental wellbeing, emotional wellbeing, mental health, mental illness, and quality of life. As discussed, the WHO refers to mental health as not just the absence of mental illness, but wellbeing that allows individuals to thrive. It has also been recognised that mental illness and mental health are strongly inversely correlated (Antaramian, Huebner, Hills, & Valois, 2010; Westerhof & Keyes, 2010), but people can have low levels of mental health without being diagnosed with a psychopathology such as depression, anxiety, or bipolar disorder (American Psychiatric Association, 2000). The term “subjective wellbeing” is the psychological term for wellbeing and refers to the combination of an individual’s life satisfaction, as well as their evaluation of domain specific factors such as relationships and work, financial situation and positive and negative emotions (also called affect) (Diener, Suh, Lucas, & Smith, 1999). The affective side of subjective wellbeing is also referred to as evaluative wellbeing or happiness because moods and emotions require an evaluation of events and situations in people’s lives (Diener et al., 1999). Many studies in the business and tourism literature use brief scales measuring one aspect of subjective wellbeing such as happiness, life satisfaction and/or mood (Prayag et al., 2020; Stephan, 2018; Yu, Park, & Hyun, 2021). These factors have been shown to correlate with overall subjective wellbeing (Diener et al., 1999). Recent research in the field of public health has confirmed a strong positive association between life satisfaction and self-rated mental health indicating that the two measures are highly interrelated (Eckersley, 2009; Lombardo, Jones, Wang, Shen, & Goldner, 2018) Hence, good mental health is reflected as high subjective or psychological wellbeing and life satisfaction. In this article, we refer to mental health as defined by the WHO because it also includes wellbeing (Topp, Østergaard, Søndergaard, & Bech, 2015).

Both internal and external factors in people’s lives have been found to influence individual mental health. Internal factors include temperament, outlook and resilience (ability to bounce back after negative events) (Diener et al., 1999). External factors include access to sufficient material resources, access to adequate social resources (social contact and support) and societal factors (e.g., conflict, trust) (Diener et al., 1999). The main source of evidence regarding factors that are associated with business operator mental health are derived from studies involving entrepreneurs or SMEs. In non-crisis times, stressors related to business operations, high work demands, accumulation of negative events, difficulties, long work hours, feelings of isolation, general life stress and especially financial concerns and fear of bankruptcy have been found to be associated with business operator mental health, stress and risk of burnout (Annink, Gorgievski, & Den Dulk, 2016; Demerouti, Mostert, & Bakker, 2010; Hughes, Patrick, Hannon, Harris, & Ghosh, 2011; Lechat & Torres, 2017; Visentin, Cleary, & Minutillo, 2020; White & Gupta, 2020). Studies also identify resources which may have positive effects on operator mental health including business related social support and high degree of control or autonomy over their work (Parker, 2014; Stephan, 2016).

2.2. Disasters and mental health

There has been extensive research relating to the impacts of crises on the mental health of communities and individuals. Examples include earthquakes in New Zealand (Fang, Prayag, Otanne, & de Vries, 2020), the Black Saturday bushfires in Victoria, Australia (Bryant et al., 2018; Bryant et al., 2014; Cowlishaw et al., 2021; Gibbs et al., 2013; Van Kessel, MacDougall, & Gibbs, 2015) and other crises such as volcanoes, SARS-1, 9/11 terrorist attacks, and hurricanes (Ghuman, Brackbill,
Stellman, Farfel, & Cone, 2014; Gissurarðdóttir, Hlodversdóttir, Thordardóttir, Pétursdóttir, & Hauksdóttir, 2019; Low, Bonumwezi, Valdespino-Hayden, & Galea, 2019; Raker et al., 2019; Tzeng et al., 2020). These crises prompted mental health problems such as reduced wellbeing, to more serious mental illness such as PTSD, depression, anxiety, and problematic alcohol consumption lasting anywhere from two to 16 years or more (Berlemann, 2016; Danzer & Danzer, 2016; de Mel, McKenzie, & Woodruff, 2008; Luechinger & Raschky, 2009; Morgan et al., 2015; Oishi et al., 2015).

Organisational studies conducted within the context of crises and disasters, though limited, have identified factors that contribute to business owners' mental health. Among these feature; the extent of economic losses, gender (being female), background (minority groups) (de Mel et al., 2008; Hannay & Jones, 2002), human resources challenges and the burden of having to deal with challenges alone (Forsten-Antikainen & Muhos, 2016), business evacuations and insurance disputes (Fitzgerald et al., 2020). Particularly relevant to COVID-19, Fitzgerald et al. (2020) found that six months after a flood, continuing financial strain at six months more than doubled the rate of depression. Further, insurance disputes more than tripled depression risk and feeling unsupported by the state government also more than doubled depression risk in those who had been impacted by flood.

2.3. COVID-19 and mental health

The mobility restrictions (including social distancing and lockdowns) that were imposed to curb the spread of COVID-19 have impacted multiple predictors of wellbeing, which are detailed below (Galea et al., 2020; Piek et al., 2020; Shi et al., 2020; Sibley et al., 2020; Smith et al., 2020). In Australia, restrictions varied across the country in both their duration and severity. These forced periods of immobility caused several issues. The first is that people who live alone faced social isolation and loneliness. Social isolation is a state of having no social contact (Perlman, 1982) and loneliness is a feeling of missing relationships (Gierveld & Tilburg, 2006). Both loneliness and social isolation are well known to be negatively associated with mental health problems such as depression and anxiety and poor mental health (Hawthorne, 2006; Holt-Lunstad, Smith, Baker, Harris, & Stephenson, 2015; Shankar, Rafnsson, & Steptoe, 2015). The isolating effects of forced immobility have been even more pronounced in younger people and those in smaller households (Groarke et al., 2020). The second issue relates to work-life balance challenges, particularly for women. With the majority of primary carers being women, a large proportion of females struggled with family commitments and work responsibilities during lockdowns and home-schooling (Power, 2020). As a result, more women, particularly those who are younger, experienced depression and anxiety and low wellbeing during the pandemic (Piek et al., 2020; Sibley et al., 2020; Smith et al., 2020; Yu et al., 2021). Psychology literature highlights that the longer that mental ill health is experienced, the rate of recovery is potentially slower and full recovery is less likely (Holzel, Harper, Reese, & Kriston, 2011; Keller et al., 1992). This suggests that the extended duration of the COVID-19 pandemic may lead to a higher rate of long-term mental health problems than a relatively short, sharp shock such as an earthquake, flood or fire.

Arguably, the tourism industry (being a customer service industry) has faced more COVID-induced disruptions compared to other sectors. Reduced visitor numbers, multiple business closures or reduced customer capacities and the adoption of intensive hygiene measures have caused significant financial and physical and emotional strain on tourism businesses and their staff (Chen, 2020; Gosling, Scott, & Hall, 2020; Gursoy & Chi, 2020; Keiflini et al., 2021; Yu et al., 2021). Other stressors faced by tourism staff and operators during the pandemic have included the fear of being infected at work and concerns about social gaze (people judging them negatively for working in customer facing roles, where they may contract COVID-19) (Yu et al., 2021). Financial distress, job loss and work impairment due to COVID-19 have all been shown to be associated with increased risk of depression and anxiety and low mental wellbeing in samples of the general population (Dawe et al., 2020). Thus, tourism operators, may be at even greater risk of such mental health issues because of the pandemic. However, as yet, there are no studies examining the mental health impacts of the pandemic for tourism operators or the factors that have contributed to differences within the cohort. Thus, the first aim of this article is to address this gap.

2.4. Business operator wellbeing, organisational performance and organisational resilience

The wellbeing of business operators has significant implications for SME performance and resilience. This is because SME operators have various responsibilities that do not apply to operators of larger corporations, such as maintaining personal relationships with employees (Visentin et al., 2020), close interactions with their local community (van Praag & Versloot, 2008) and at times, an inability to delegate tasks to others (Vanishree, 2014). In non-crisis times, the mental health of small business operators has been shown to be associated to the success of their business (McCabe & Johnson, 2013; Wincent et al., 2008). Likewise, Stephan (2018) observed that entrepreneurs with higher wellbeing can experience greater happiness also had higher performing firms (measured in several ways including innovative behaviour, customer service quality perceptions and fewer perceived financial problems). The wellbeing of entrepreneurs has also been found to predict their subjective personal and financial entrepreneurial success two years later (Dijkhuizen, Gorgievski, van Veldhoven, & Schalk, 2018).

Organisational resilience allows for business transformation during crises through a progressive state of change and adaptation rather than a return to an original state (Jiang, Ritchie, & Verreyne, 2019). Although measuring organisational resilience is deemed complex (Hall et al., 2017), it is usually viewed as a two-dimensional concept composed of (i) planned resilience; and (ii) adaptive resilience. These components essentially measure various organisational behaviours that enable organisations to adapt to turbulent environments (Lee, Vargo, & Seville, 2013; Whitman, Kachali, Roger, Vargo, & Seville, 2013). This method of assessing organisational resilience has been utilised in tourism research in relation to disasters (Pathak & Joshi, 2020; Prayag et al., 2020). Planned resilience relates to the implementation of pre-disaster organisational activities such as risk management planning, continuity planning and development of business networks that may assist if a crisis occurred or strategies for dealing with crises (Whitman et al., 2013). Adaptive resilience are staff qualities and capabilities (such as commitment, leadership, innovation) and resources (human and financial) within the organisation that enable flexibility and rapid response to unplanned situations (Lee et al., 2013).

The three main factors associated with organisational resilience in tourism are partnerships (e.g. supply chain resilience), processes (systems resilience) and ‘people’ or individual resilience (Hall et al., 2017). In an industry reliant on small firms, the human capital aspect of organisational resilience is particularly important (Prayag et al., 2020; Xu, Chen, & Dai, 2017). Several studies suggest that various aspects of organisational resilience may also be related to operator mental health. For example, entrepreneurs with low mental health may be less likely to recognise opportunities for growth and vice versa, which relates to their ability to innovate (Gielnik, Zacher, & Frese, 2012; Rietveld, Bailey, Hesels, & van der Zwan, 2016). However, very few studies have been conducted examining the relationship between wellbeing and organisational resilience in tourism. Two recent studies have found a positive association between organisational resilience and wellbeing (measured as life satisfaction) in a small sample of tourism operators after the 2011 Canterbury earthquakes in New Zealand, and during the COVID-19 pandemic but larger studies are warranted (Pathak & Joshi, 2020; Prayag et al., 2020). The literature above suggests that the mental wellbeing of business operators is important for business functioning and success and that it may also be associated with organisational...
resilience. This paper examines this second point in more detail informed by a larger sample size and qualitative data.

2.5. Individual stress theories utilised in organisational research

Resilient individuals are able to maintain positive emotions and remain hopeful when they face difficult situations and experiences by viewing stressful events as challenges rather than threats, engaging in adaptive behaviour and being innovative (Fisk & Dionisi, 2010; Tugade, Fredrickson, & Barrett, 2004). However, even resilient individuals experience stress or distress in response to a perceived inability to cope with a situation. The Conservation of Resources (COR) theory states that psychological stress occurs when valued resources such as objects, conditions or people are lost or threatened to be lost (Hobfoll, 1989, 2001). When entrepreneurs and small business owners believe that organisational resources have been undermined to the point that their business can no longer function, reduced wellbeing is likely. The potential outcome is a negative spiral that eventually makes them quit their business or experience burnout (Gorgievski, Bakker, Schaufeli, van der Veen, & Giesen, 2010). The COR theory also suggests that having resource reserves that can be used in times of uncertainty or loss (e.g., financial savings) can improve one’s sense of wellbeing, in the knowledge that resources are available to manage crises. Adaptive and planned organisational resilience may act as resources for an SME operator to call on when required, thus reducing the risk of experiencing heightened stress or reduced mental health. However, small to medium size tourism businesses typically have limited financial and human resources, which places them at greater risk of experiencing stress in times of crises (Rosenbusch, Brinckmann, & Bausch, 2011). To our knowledge, the relationship described above has not yet been explored in tourism research and thus this is a further aim of our study. Our proposed conceptual model of the relationship between organisational resilience, operator wellbeing, business and personal stressors and resources is shown in Fig. 1.

Recently, several existing theories have been combined to understand how stressful events impact entrepreneurial wellbeing. The Stress Event Theory (SET) was developed by Lerman, Munyon, & Carr, 2020 (2020) and is based on event-based system theory (EST) (Morgeson, Mitchell, & Liu, 2015), COR theory (Hobfoll, 1989) and appraisal theory (Lazarus, 1993). The theory has been used to successfully explain factors predicting burnout in entrepreneurs during COVID-19 (Torres et al., 2021). The theory proposes that during stressful events such as COVID-19, an entrepreneur views the event characteristics (strength and duration) as well as novelty of the event, how much disruption it causes and how critical the disruptions are through the lens of their own personal experience (Morgeson et al., 2015). This informs their appraisal of the importance of the event and assessment of their own ability to cope with the event (ability to access adequate resources-Hobfoll (1989); Lazarus (1993). This theory adds two key factors to existing theories of stress and entrepreneurial wellbeing. The first is the importance of the features of the event (duration, strength etc) and the second is that there is a personal interpretation of the event and their ability to cope. This theory would suggest that the COVID-19 pandemic would most probably be interpreted as a major threat to tourism operator wellbeing because it is novel, very disruptive to tourism business operations, causes critical financial problems and has been ongoing in nature.

3. Methods

3.1. Design

This research is one component of a larger study examining multiple impacts of the COVID-19 pandemic on tourism businesses and destinations in Victoria, Australia in 2020–21, using a whole tourism system approach. The research applied mixed methods to enable contextualisation and explanation of the mediators of mental health of SME tourism operators during the pandemic on tourism operators and the implications for organisational resilience and industry recovery. A concurrent mixed methods design was used, with the qualitative component giving context and explanatory insight to the quantitative results (Creswell & Clark, 2017). Given that COVID-19 has been an unprecedented, prolonged and volatile event, it is important to provide context and meaning to the mental health implications of the shock and explore any unpredicted mediators of mental health using the qualitative data. The quantitative survey allowed for understanding of the broader impact and insight into the mental health-resilience relationship. The data from the two methods were synthesised at the point of analysis and interpretation and both data sources were given equal weight. The qualitative and quantitative data were triangulated at the point of analysis to add additional validity to the findings (Tashakkori &
Teddie, 2010).

The two parts of the study were as follows:

a) A cross-sectional survey of Victorian tourism operators. This part of the study formed the quantitative results.

b) Two case studies of regional destinations in Victoria, Australia. This part of the study formed the qualitative results.

3.1.1. Tourism business survey

The online survey was designed to measure the individual and organisational impacts of two major disasters affecting Victorian Tourism Businesses in 2019 and 2020 and factors that were related to resilience or vulnerability to the two crises. The survey contained closed response multiple choice questions designed to capture information on known factors that contribute to tourism business resilience and recovery in times of crises. The data for this study are derived from the larger study. Table 1 below is a summary of the survey data that relate to this paper and the justification for the inclusion of the variables.

Current mental wellbeing was measured using the WHO-5 scale, which has been well validated in clinical and general populations (Bech, 1999). A score below 50 indicates significant distress and in clinical practice an assessment of depression would be recommended (Bech, 2012; Krieger et al., 2014). The short scale was refined from earlier 28 and 10-item scales derived in multi-centre studies across eight European countries (Warr, Banks, & Ulah, 1985). The original 28-item scale was derived from Zung scales for depression, distress and anxiety, the General Health Questionnaire and the Psychological General Wellbeing Scale (Becha & Pichot, 1994). The original scales contained a mixture of positively and negatively worded items, but they chose only positively worded items for the WHO-5 to better align with the WHO definition of mental health (Bech, 1999).

Resilience was measured using two constructs. ‘Planned resilience’ was measured using five items adapted from Whitman et al. (2013). Adaptive resilience was also measured using five items adapted from Prayag et al. (2020). See Table 1. Reliability tests showed that the Cronbach’s α for planned resilience is 0.695 and for adaptive resilience is 0.7, which are both at acceptable levels (Sung, Chang, & Sung, 2016).

The survey was administered online using Qualtrics and distributed via email to all 2000 members of the Victoria Tourism Industry Council. The survey was also circulated to Visitor Economy businesses via the eleven Regional Tourism Boards (regional destination management organisations) across Victoria. The survey was open between September 30, 2020, and October 26, 2020. A total of 271 SME tourism operators started the survey and 213 of them completed both the wellbeing survey and the organisational resilience scales. The sample size satisfies the rule of thumb for regression analyses that there are at least 15 observations for each variable (Stevens, 2012). The characteristics of the participants who did not complete the full survey were reviewed to assess any risk of non-response bias and the only observable difference in the samples was that the representation of business sizes was more similar to the national average in the responders’ sample, with the non-responders having a higher proportion of medium-sized businesses (see Appendix 2). The characteristics of the sample that completed the WHO-5 scale are presented in Tables 2 and 3. Not all respondents chose to provide their demographic information. (See Table 4.)

As mentioned previously, around 99% of Australian tourism businesses are SMEs, with the greatest proportion being represented by micro (78%) followed by small business (17%) (Tourism Research Australia, 2021b). In our study, there was a slight over-representation of medium-sized businesses at 17%, resulting in under-representation from micro and small businesses compared to the national average. All sectors of the tourism industry were represented but accommodation was overrepresented compared to businesses in Australia (4%), and retail was under-represented compared to an Australian cohort (43%). The food and beverage sector had similar representation to the Australian

| Variable | Scale/item | Detail/question |
|----------|------------|----------------|
| **CONTROLS** | | |
| Business characteristic | Accommodation (Y/N) | |
| Demographic characteristics | Business size | |
| | Age range | |
| | Sex (male/female) | |
| Multiple crises | The business experienced | |
| | other crises in the last 12 months | |
| | which impacted their revenue (y/n) | |
| Bushfire | | |
| Drought | | |

**DEPENDENT VARIABLES**

| Wellbeing | WHO-5 wellbeing scale (Bech, 2012). | Five-item scale. Questions about the way they felt in the last two weeks. Rated on a six-point Likert scale (all of the time (5) - at no time (0)). The five item scores were added and then multiplied by 4 to give a score out of 100 |
| Organisational resilience | Adaptive resilience (Prayag et al., 2020) | Each item scored 1 to 5. 1 - strongly disagree, 2 - disagree, 3 - neither disagree nor agree, 4 - agree, 5 - strongly agree. AR1. People in our organisation are committed to working on a problem until it is resolved AR2. Our organisation maintains sufficient resources to absorb some unexpected change AR3. If key people were unavailable, there are always others who could fill their role AR4. There is good leadership within our organisation to deal with a crisis AR5. We are known for our ability to use knowledge in novel ways |

**INDEPENDENT VARIABLES**

| Human resources stressors | Staff mental health | Concern about mental health of staff (Micromex Research, 2020) (see Table 6) |
| Financial stressors | Sum of financial challenges experienced | Pay rent / utilities Pay and support staff Pay suppliers Cashflow Cancellation of orders/bookings Bank/credit provider has |
business experience represented in the sample, with the highest proportion (68%) being more than 5 years old (see Table 3).

Table 1 (continued)

| Variable | Scale/item | Detail/question |
|----------|------------|-----------------|
| Other business stressors | Sum of other stressors | Access to suppliers/stock Fear of catching the virus at work Attracting and retaining customers Other challenges (Micromex Research, 2020) (see Table 0) |
| Organisational resilience | Mean score of 10 items from adaptive and planned resilience scales | See scales above. (AR1-5 and PR1-5) |
| Connectedness with (local) community | The level of community connectedness (sharing information, knowledge and resources) | 1 question. 5- item Likert-style response. Not at all connected (0) – strongly connected (4) |

Table 2
Characteristics of survey respondents (n = 213).

| Variables | Values | Frequency | % cases |
|-----------|--------|-----------|---------|
| Age of business owner | 40 to 49 | 53 | 25% |
| | 50 to 59 | 77 | 36% |
| | 60 or more | 64 | 30% |
| Gender | Male | 83 | 39% |
| | Female | 123 | 58% |
| Multiple disaster | No | 78 | 37% |
| | Yes | 131 | 62% |
| Role | Manager/CEO | 71 | 33% |
| | Business Owner | 163 | 77% |

Where total percent of variables is less than 100, there were missing data. Where total percent is more than 100, respondents could choose more than one response.

Table 3
Business characteristics of survey respondents (n = 213).

| Variables | Values | Frequency | % cases |
|-----------|--------|-----------|---------|
| Tourism region | Regional/ rural Victoria | 181 | 85% |
| | Greater Melbourne | 32 | 15% |
| Sector | Accommodation | 121 | 57% |
| | Attractions | 28 | 13% |
| | Food/beverage | 48 | 23% |
| | Tours/transport | 55 | 26% |
| | Events | 33 | 15% |
| | Sport/outdoor activities | 15 | 7% |
| | Other (inc. Tourism agency, government) | 40 | 19% |
| Business type | Retail | 12 | 6% |
| | Sole trader | 43 | 20% |
| | Partnership | 28 | 13% |
| | Company | 88 | 41% |
| | Trust | 32 | 15% |
| | Other (government, other) | 22 | 10% |
| Firm size | Micro | 111 | 52% |
| | Small-medium | 102 | 48% |
| Firm age | Less than 5 years | 69 | 32% |
| | 5 years or more | 144 | 68% |

Where total percent of variables is less than 100, there were missing data. Where total percent is more than 100, respondents could choose more than one response.

Table 4
Description of variables, with scales and descriptives.

| Variable | Definition and measurement | Mean | SD |
|----------|----------------------------|------|----|
| 1 Firm size | Number of employees: 0 – 0 to 4 employees, 1 – 5 to 199 employees | 0.48 | 0.50 |
| 2 Age | Dummy variable. 0 – less than 60 years old, 1 – 60 or more years old | 0.30 | 0.46 |
| 3 Gender | Dummy variable. 0 – female, 1 – male | 0.77 | 0.43 |
| 4 Sole trader | Dummy variable. 0 – other type of business, 1 – sole trader | 0.21 | 0.41 |
| 5 Business owner | Dummy variable. 0 – manager, 1 – owner | 0.40 | 0.49 |
| 6 Accommodation provider | Dummy variable. 0 – other sector, 1 – accommodation | 0.57 | 0.50 |
| 7 Firm age | 0 – less than 5 years, 1 – more than 5 years | 0.68 | 0.47 |
| 8 Multiple disaster | Dummy variable. The firm experienced other disasters before the covid-19 pandemic (e.g., Bushfires, storms, flooding, drought), 0 – no, 1 – yes | 0.63 | 0.49 |
| 9 WHO5 | Mental health. Continuous variable. Sum of five items, multiplied by 4. 0 – worst possible mental health, 100 – best possible mental health. | 47.1 | 23.2 |
| 10 Human resources | Dummy variable. Experiencing concern about staff mental health 0 – no, 1 – yes | 0.50 | 0.50 |
| 11 Financial stressors | Sum of financial stressors. Range 0–6 | 3.00 | 1.48 |
| 12 Other stressors | Sum of other business stressors range 0–4 | 1.32 | 0.86 |
| 13 Connectedness with community | 0 – not at all connected, 1 – somewhat connected, 2 – moderately connected, 3 – strongly connected | 2.42 | 1.28 |
| 14 Organisational resilience | Average of all items from planned and adaptive resilience items (1 = minimum, 5 = maximum) | 3.78 | 0.55 |

3.1.2. Survey analyses
To explore the individual relationship between mental wellbeing with the independent variables of organisational resilience and key business challenges (financial, human resources /staff mental health/other), whilst keeping other covariates constant, a stepwise linear regression model was employed. Pearson’s r correlation coefficient was used to evaluate any potential collinearity between the independent variables prior to conducting the analyses (see First, demographic and business-type control variables were entered into the model to ensure that they were accounted for and explained (Model 1). Second, the three main business stressor types were added to the model (financial challenges, human resources challenges and ‘other challenges’ – Model 2). Third, organisational resilience was entered into the regression to determine whether this factor alone played any part in operator mental health (Model 3). Finally, three interaction terms incorporating organisational resilience by the three business stressor variables were added into the model to ensure that relationship differences across different ranges of organisational resilience were accounted for and explained (Model 4).

Table 8 shows that each of the models entered into the analyses had a significant effect on the f-change score and that the contribution of the
variables to mental health also changed with addition of more factors. With interactions incorporated, owners had worse mental health than managers, and sole traders had significantly better mental health than businesses with staff, but these were only significant at a $p < 0.1$ level (see Table 8). In the full model (Model 4), the independent factors that significantly contributed to operator mental health were organisational resilience and human resource challenges, measured as mental health concerns for staff (both $p < 0.001$). Experiencing concern for the mental health of staff was associated with significantly lower WHO-5 scores. Likewise, a higher organisational resilience score was associated with significantly higher WHO-5 scores. The other independent variables did not contribute to the variance in WHO-5 scores. The addition of interaction terms between organisational resilience and the other independent variables significantly improved the model by approximately 2% (Adjusted $R^2$ (Model3) = 0.12 vs Adjusted $R^2$ (Model 4 = 0.14); ($p < 0.05$). The interaction between organisational resilience and number of ‘other challenges’ that operators experienced contributed significantly to the variance in WHO-5 scores but the other two interactions did not.

To explore the significant interaction between organisational resilience by number of other challenges, the interaction was plotted (Fig. 4). The plot shows a positive crossover interaction indicating that operators in businesses with higher than average organisational resilience do not experience a significant reduction in mental health as the number of other business challenges increases but operators in businesses with lower than average organisational resilience experience increasingly worsening mental health as the number of challenges increases. This suggests that organisational resilience provides a protective effect for tourism operators against the stress that rising business challenges may cause.

The regression analyses using adaptive and planned organisational resilience as dependent variables also both showed a significant positive relationship between mental health and organisational resilience ($p < 0.05$) (see Table 9). This suggests that better mental health of a business operator is likely to be associated with better organisational resilience and vice versa.

Initial testing showed adaptive and planned resilience to be collinear and thus the two variables were combined into a mean organisational resilience score for the mental health model.

A second set of linear regression models was run to test whether the previously identified relationship between planned or adaptive organisational resilience and operators’ mental wellbeing as an independent variable was significant in our cohort (Pathak & Joshi, 2020; Prayag et al., 2020).

All the regression models’ residuals were also tested to ensure that they were normally distributed (Hair, 2009). The skewness and kurtosis of the residuals was acceptable in all cases as skewness was between 2 and –2 and kurtosis between –7 and 7 (Hair, 2009) (see appendix 3). All statistical tests were two-tailed and the results were considered statistically significant for $p$-values less than 0.05. Data analyses were conducted in SPSS version 27.

### 3.2. Case studies

#### 3.2.1. Case study destinations

The research included two regional Victorian case studies of the towns Bright, in the north-eastern alpine region of Victoria and Echuca and Moama; border towns on each side of the Murray River (the border between the Australian states of Victoria and New South Wales) in central northern Victoria (see Fig. 2). Bright, with a population of 2475 (Australian Bureau of Statistics, 2017), is a destination surrounded by natural areas, and is very popular for nature-based activities such as cycling, walking, skiing as well as food and wine and cultural activities. Echuca Moama is the regional centre for an agricultural region and has a population of 20,129 (Australian Bureau of Statistics, 2020). The two towns straddle the Murray River, which is the most important tourism asset in the area. Historically, the river was one of Australia’s most significant inland ports providing a water transport route for grain and other agricultural products. The main drawcards for the destination are thus water-based activities such as paddle-steamers, water sports and camping. The destination is also well-known as a self-contained destination for weddings and other events. The two cases were chosen for both their similarities and differences. They both experienced the COVID-19 pandemic but had varied experiences due to their locations. For example, Echuca-Moama was more severely impacted by border closures while Bright was directly impacted by bushfire, due to its location in the Victorian Alps. Comparison of both destinations was revealing of what impacts were particular to each destination and those that were common and likely to have state-wide significance. (See Fig. 3.)

#### 3.2.2. Data collection and analysis

Semi-structured interviews were conducted with key tourism stakeholders from the tourism systems in the two destinations. Drawing on the work of Braun and Clarke (2013), a progressive, participant-led approach was adopted. This approach entailed the use of a semi-structured interview style, utilising broad individualizable questions and spontaneous questions to follow up with unanticipated issues raised by respondents. This brought a degree of naturalness to the data collection exercise, which was important given the novelty of the pandemic. A total of 33 semi-structured interviews (average 60 min in length, completed over Zoom or Microsoft Teams) were conducted (see Appendix 1. Interview schedule). Interviewees were purposively sampled to ensure representation across the key components of the destinations system. A summary of the stakeholder types that were

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![Fig. 2. Study design.](image-url)
interviewed is shown in Table 5 below. Secondary data and literature were also gathered (e.g., industry reports) throughout the data collection process through desk-based research and a snowball design when stakeholders provided or described key documents. The interview data was transcribed, and both the secondary data and the interviews were analysed thematically using NVIVO 12.

4. Results

4.1. Impact of the COVID-19 pandemic on SME tourism operator mental health

The average mental health of the cohort as assessed by the WHO-5 scale was 47.1 (SD = 23.2). In a clinical setting, this result would suggest the need for further assessment for depression (Bech, 2012). This suggests that the average mental health of the cohort was low at the time of the survey, a finding supported by 47% of the respondents indicating that they had mental health concerns at the time of the survey (Table 6). (See Table 7.)

The low level of mental health observed in the survey was also echoed in the qualitative data. There was consensus across the two case studies that the tourism business owners, staff and local communities were all experiencing various types of stresses and strain, both business and personal, due to the pandemic. Interviewees all agreed that specific conditions created to quell the spread of the COVID-19 pandemic such as travel restrictions, covid-safe work practices, reduced customer capacities, lockdowns placed significant emotional and financial strain on tourism operators. They reported being physically and emotionally exhausted from the uncertainty of the pandemic and the ongoing financial stresses and that “everyone’s mental health is suffering” [BTOF01]. For example:

Table 5

| Stakeholder group | Bright | Echuca |
|-------------------|--------|--------|
| TOURISM INDUSTRY. Including operators, event organisers and peak bodies | 10 | 11 |
| GOVERNMENT OFFICERS. From across the spectrum of tourism related sectors such as parks management, land use planning, Alpine Resort Management Boards, community engagement and events management at local and state level | 7 | 5 |
| Total | 17 | 16 |

4.2. Quantitative findings

4.2.1. Association between business challenges and tourism operator mental health during COVID-19 pandemic

COVID-19 lockdowns and travel restrictions caused many issues for tourism businesses. More than half of the survey respondents indicated that their business had experienced issues including cancellations, interrupted cashflow, attracting and retaining customers, paying rent or utility bills, or concerns about the mental health of their staff (see Table 6). Other challenges faced by the respondents were primarily financial but 33% were also fearful of catching the virus at work and 13% had supply chain issues (see Table 6).

To give an indication of the burden of stress being experienced by each of the operators, the challenges above were converted into three main independent variables for further analyses. As mentioned in the introduction, financial challenges and human resource challenges are recognised as key mediators of business operator mental health during a crisis, and thus the sum of the financial challenges experienced was operationalised as an indicator of financial stress. Experiencing mental health concerns for staff was an indicator of human resource challenges. The number of operational stressors were added together and called ‘other stressors’.

Table 6

| Challenges | Frequency | % respondents* |
|------------|-----------|----------------|
| Cancellation of orders/bookings | 172 | 81% |
| Cashflow | 164 | 77% |
| Attract / retain customers | 137 | 64% |
| Pay rent / utilities | 119 | 56% |
| Mental health concerns, for your staff | 106 | 50% |
| Pay and support staff | 102 | 48% |
| Mental health concerns, for you | 100 | 47% |
| Fear of catching the virus at work | 70 | 33% |
| Pay suppliers | 68 | 32% |
| Other challenges? Please specify | 47 | 22% |
| Access to suppliers/stock | 28 | 13% |
| Bank/credit provider has been unsupportive | 13 | 6% |

* Each respondent could report more than one challenge.

Business owners are tired. They’re exhausted. And we’re seeing very, very capable businesspeople who run very successful, small businesses, just, they're done. They’ve had enough. [BTAF04].
4.2.2. Stepwise linear regression analyses

First, demographic and business-type control variables were entered into the model to ensure that they were accounted for and did not explain all the variance in models (1. Control model). Second, the three main business stressor types were added to the model (financial challenges, human resource challenges and ‘other challenges’ – Model 2). Third, organisational resilience was entered into the regression to determine whether this factor alone played any part in operator mental health (Model 3). Finally, three interaction terms incorporating organisational resilience by the three business stressor variables were added into the model to ensure that relationship differences across different ranges of organisational resilience were accounted for and explained (Model 4).

Table 8 shows that each of the models entered into the analyses had a significant effect on the f-change score and that the contribution of the independent variables significantly improved the model by approximately 2% (Adjusted $R^2$ (Model3) = 0.12 vs Adjusted $R^2$ (Model 4 = 0.14); ($p < 0.05$). The interaction between organisational resilience and number of ‘other challenges’ that operators experienced contributed significantly to the variance in WHO-5 scores but the other two interactions did not.

To explore the significant interaction between organisational resilience by number of other challenges, the interaction was plotted (Fig. 4). The plot shows a positive crossover interaction indicating that operators in businesses with higher than average organisational resilience do not experience a significant reduction in mental health as the number of other business challenges increases but operators in businesses with lower than average organisational resilience experience increasingly worsening mental health as the number of challenges increases. This suggests that organisational resilience provides a protective effect for tourism operators against the stress that rising business challenges may cause.

The regression analyses using adaptive and planned organisational resilience as dependent variables also both showed a significant positive relationship between mental health and organisational resilience ($p < 0.05$) (see Table 9). This suggests that better mental health of a business operator is likely to be associated with better organisational resilience and vice versa.

4.3. QUALITATIVE FINDINGS

4.3.1. Association between business challenges and tourism operator mental health during COVID-19 pandemic

During the interviews, individual factors of organisational resilience were mentioned in relation to the mental health of the business operators, agreeing with the survey findings. For example, collaborative business relationships were called upon for emotional support in some cases and access to significant financial reserves was a source of relief for the business owners as they did not need to worry that their business would fail. On the flip side, the extent of the financial strain was also a cause of emotional burden for many as was expressed by a representative from a tourism association:

“We’ve come out of the bush fires and, most of our businesses, you know, did really badly over summer, which is our really busy time. We’ve come out of the bush fires and, most of our businesses, you know, did really badly over summer, which is our really busy time. We’ve come out of the bush fires and, most of our businesses, you know, did really badly over summer, which is our really busy time.”

This finding is contrary to what the survey analysis suggests but there was consistent evidence from most of the interviews that financial stress was indeed detrimental for the mental health of business owners. Similar to the regression analysis, the interviews indicated that staff mental health was a significant factor impacting operator mental health during COVID-19 pandemic.

The operators interviewed typically took a personal approach to supporting the mental health of their staff, who were experiencing significant distress, which required empathy and flexibility as seen below.

“I just monitor that, on a day-to-day basis, and just try to keep them (the staff) really positive.”

However, the strain of caring for staff during the pandemic placed an additional burden on the business operators, and some of them found they were unable to cope:
### Table 8

**Primary analysis: stepwise linear regression model with ‘operator mental health’**

| Model | Controls | Business Stressors | Resilience Model | Interactions |
|-------|----------|--------------------|------------------|--------------|
| 1. CONTROL MODEL | $\beta$ | 1.09 | 3.72 | 3.52 |
| 2. BUSINESS STRESSORS | $\beta$ | 0.09 | 0.14 | 0.13 |
| 3. RESILIENCE MODEL | $\beta$ | 0.12 | 0.17 | 0.13 |
| 4. INTERACTIONS | $\beta$ | 0.12 | 0.17 | 0.13 |

**Table Notes:***

- $p < 0.1$, $\ast p < 0.05$, $\ast\ast p < 0.01$.
- IV = independent variable.
- OR = organisational resilience score.

### Discussion

The interviews identified many additional personal stressors that were created by the pandemic, which were not able to be assessed in the survey. For example, social isolation and reduced access to normal channels for emotional support such as meeting friends and family, or business networking events were additional factors contributing to the emotional strain being faced by tourism operators. At the same time, those who had access to like-minded business colleagues through business networks also found them to be emotionally supportive. Home working and home schooling exacerbated the stresses faced by people with children as seen in this quote: “it has been for some people, really stressful working from home. Really stressful going to work, whatever it might be.” [ELGF01].

It was also noted that differences in personality and resilience between operators impacted the way they responded to the pandemic and whether the conditions of the pandemic were impacting their mental health, as illustrated below:

> “Some people cope with things better, or differently to others. You know, some people it’s the kids at home, some people it’s not being able to have cups of tea and socialise with their workmates. Other people are quite happy to be at home by themselves and not have to talk to people.” [BCOF05].

#### 4.3.2. Association between organisational resilience and operator mental health

Similar to the quantitative findings, the qualitative data suggested that lower operator mental health may negatively impact organisational resilience to long term shocks such as COVID-19. There were some examples of tourism business owners being made vulnerable to scams such as those offering fake services to assist in applying for grants. Tourism agency representatives and local government staff noted that tourism business owners were also engaging less frequently in training and development opportunities as the pandemic went on. There were additional concerns that the reduced mental health of tourism operators would negatively impact their ability to engage with visitors again once lockdown ended.

> “I haven’t been ringing around to make sure they’re all right. I’ve got other people to do that, because I still wanna concentrate on my well-being. If it’s more sad stories and depression, you know, that could pull me down,... so I send people up to help that.” [ETOM02].

Another key factor raised repeatedly was the uncertainty and long-term nature of the pandemic placing emotional burden on business operators that was the main reason the mental health and wellbeing was so low. This was well described by one of the tourism association representatives that were interviewed:

> “The morale from stage one (lockdown) to stage two (lockdown) really declined. Stage one, people got a bit of a jolt, probably had the cash reserves, probably could sustain that, and could probably see a bit of a pathway out, thought it was gonna be short and it sort of was, as it was just across a couple of months. This time around, I think they’re probably exhausted, both mentally, cash flow, and they can’t see a future.” [ETAM08].

The issues described above are likely to reduce the ability of the tourism businesses to recover quickly after the pandemic.

#### 4.3.3. Barriers and facilitators of access to mental health support

Compounding the mental health problems for the operators who...
were interviewed was either an absence of, or lack of awareness of mental health services available for businesses and the community. In Bright, mental health services were provided through Bushfire Recovery hubs. However, it was not known if these would be adequate to support a growing number of mental health concerns as the pandemic progressed and access to these services had been reduced to an online service during the pandemic. Poor health service infrastructure and inequality of access to mental health services in regional areas was also noted in the document analysis undertaken during the case study and in the recent Royal Commission into Mental Health in Victoria (State of Victoria, 2021; Wakerman et al., 2008; Ziller, Anderson, & Coburn, 2010). The COVID-19 pandemic has highlighted the importance of improving these services.

There were also concerns about the low uptake of mental health services by businesses owners and the community in both case study destinations, especially as the pandemic progressed. On multiple occasions in both sets of interviews, self-reliance and the tendency towards stoicism was described a barrier to accessing support for mental health conditions. Inadequate knowledge of mental health support that was available was also described as a barrier to accessing help, as demonstrated below:

“If somebody did have an issue, I wouldn’t know where to send them, to be honest…not locally.” [BTOF01].

“Smaller businesses won’t reach out for help and smaller operators are sometimes the hardest ones to access…you can call a meeting of business owners to come and talk about something pretty important, and all the big guys are there but the small guys tend not to be… I think something that needs to change is that those support mechanisms that come through… because small operators, as things get harder, they just work harder…they just bury themselves in their business.” [ETOM05].

Initiatives to improve access to mental health services in regional areas were also described. These included community involvement in the planning, delivery and marketing of the mental health services, encouraging communities to support friends and colleagues to access to help, the coordination of multiple services to improve accessibility, and the design and dissemination of mental health information utilising...
These factors were added. However, the only factor that was independently significant was human resources, measured by mental health (e.g., employee mental health support, organisational resilience acts as a resource that reduces the mental health impacts of a crisis. Whilst this study was exploratory in nature, it suggests that future research investigating which business stressors are most significant in their impact on tourism operator mental health during a crisis may help develop tailored support that is beneficial for both business continuity and operator mental health (e.g., employee mental health support, financial aid, marketing assistance).

Many of the stressors experienced by participants in the study were not specific to the tourism industry and have been identified in other studies in the general population, including working from home, social isolation, and financial stress (Dawel et al., 2020). There were, however, many additional stressors for tourism operators due to the reliance of the industry on personal service, and the movement of people. International and nation-wide travel restrictions, lockdowns and customer density limits have all led to booking cancellations, loss of customers and loss of revenue leading to the need to make staff redundant and supply chain issues in addition to the fear of catching the virus. Whilst the variable measuring number of ‘other stressors’ in the regression model was not a significant contributor to mental health, a positive interaction effect was noted between organisational resilience and other challenges in the regression analysis. Operators with low organisational resilience experienced reduced mental health as the number of challenges rose but those with high organisational resilience did not. This suggests that organisational resilience can act as a buffer against rising business challenges, which is an important and novel finding of the study. However, the number of businesses experiencing higher numbers of challenges was low, warranting a larger study in future. The qualitative data also suggests that in some cases, the overwhelming number of issues being faced by businesses and the uncertainty of the pandemic was an emotional strain, but that each person different personal coping abilities. This also aligns with the SET theory, which suggests that every event is interpreted through the lens of individual coping abilities and the way events are appraised (Lerman et al., 2020). This suggests that both the personal coping styles of an operator and a resilient organisation are important protecting factors for tourism operators, especially in a crisis that causes multiple and long-lasting stressors.

The study also showed a significant positive bi-directional association between organisational resilience and tourism operator mental health. These correlations were supported by the analysis of qualitative data from our case studies. Other research has found that operator health is a factor that positively predicts organisational resilience on hotel operators in India during the COVID-19 pandemic (Pathak & Joshi, 2020) and following the Canterbury earthquakes in 2010/2011 (Prayag et al., 2020). These studies however did not note a bidirectional relationship. Our study adds that organisational resilience also significantly contributes to tourism operator mental health during a long-term crisis like the COVID-19 pandemic. Further, strategies that make an organisation resilient, including making collaborative business relationships and having financial reserves for example, may also contribute to the individual mental health of operators during a crisis. This also aligns with the COR Theory (Hobfoll, 2001), as those operators who develop more organisational resources in preparation for crises may have better business reserves, which can be called upon during a crisis to reduce stress and risk of mental health challenges.

Our data suggest that mental health services available in regional areas of Victoria were inadequate for the increasing demand during the COVID-19 pandemic. Poor awareness of available mental health support services was another barrier to access. Inequality of access to health services and specifically mental health services in regional and rural areas of Australia has been noted for many years (State of Victoria, 2021; Wakerman et al., 2008; Ziller et al., 2010). A recent royal commission into mental health in Victoria has identified this as a problem but business operators in tourism were not recognised as at-risk cohorts in the review (State of Victoria, 2021). A compounding problem identified in the current study was self-reliance of business owners in regional areas preventing accessing help. It is not possible to know if self-reliance was a problem in metropolitan business owners as this was not asked in the survey. Thus, programs and services that are tailored to the needs of small business owners is important to ensure that this cohort can access services to prevent worsening mental health problems.

The long-term and unpredictable nature of the COVID-19 pandemic has generated accumulative impacts on the mental health and engagement of tourism operators. Targeted interventions to relieve financial burden on businesses and improve the mental health of their staff may ease stress and improve their mental health. Without significant assistance, many tourism operators may become disengaged, emotionally unable to continue their businesses and be at increased risk for burnout (Torres et al., 2021). These problems were already starting to occur at the time of the study and Melbourne, Victoria has since experienced some of the longest restrictions worldwide, at more than 260 days during 2020 and 2021 (BBC News (Producer), 2021). Experiencing low mood, anxiety or depression over such an extended period may have detrimental effects on the ability for the industry to recover, rebuild destinations or attract investment post-crisis.
6. Limitations and conclusions

The design of the study was cross-sectional in nature and thus it is impossible to assess causality from the findings in this study. In addition, the models that were conducted explained a small but significant variance in operator mental health. We recognise that in addition to business challenges, there are many other challenges in the lives of the business operators that are unrelated to their business such as social isolation, lack of access to social support networks or home schooling, some of which were described in the qualitative data.

A further limitation was that, due to the challenging situation created by the COVID-19 pandemic, we employed data collection strategies to maximise response rate by using various tourism agencies for distribution. This meant that there was a greater representation of the accommodation sector in our results. We tried to counter this effect by incorporating accommodation as a control variable into our analyses, but it remains a significant consideration in the interpretation of findings. The use of mixed methods did reduce the likelihood that our interpretation of the results is biased (Creswell & Clark, 2017).

Successive and long-lasting crises have had a significant impact on the mental health of tourism SME operators. This has had detrimental impacts on their ability to adapt to the challenges imposed by the crises and increased the risk of significant mental health problems such as anxiety, depression and burnout. At the same time, planning for crisis and developing organisational resources may reduce the likelihood of negative personal mental health impacts of crises. Interventions that reduce business challenges such as operator and employee mental health support and easily accessible financial assistance are likely to reduce negative mental health impacts on tourism operators during a crisis. However, larger studies are warranted to explore this relationship.

Improving access to mental health support is vital for the recovery of the tourism industry following the COVID-19 pandemic. Further, the mental health of SME tourism operators and the resilience of their businesses are closely linked and thus resilience building efforts should include both organisational and individual level strategies. These efforts need to be cognisant that there may be business related factors that may directly be associated with an individual’s perception of their ability to cope and adapt during a crisis.

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Disclosure statement

The authors declare that they do not have any financial interest or benefit associated with the direct applications of this research.

Data availability statement

The data utilised in this study were qualitative in nature and obtained from interviews with stakeholders. It is not possible to disclose this data without breaching participant confidentiality and privacy. We are also not able to share the quantitative data obtained from survey participants.

CRediT authorship contribution statement

Gabrielle Lindsay-Smith: Conceptualization, Data curation, Formal analysis, Investigation, Methodology, Project administration, Supervision, Validation, Visualization, Writing – original draft, Writing – review & editing. Joanne Pyke: Conceptualization, Data curation, Formal analysis, Funding acquisition, Investigation, Methodology, Resources, Supervision, Validation, Writing – review & editing. Ancy Gamage: Conceptualization, Data curation, Formal analysis, Investigation, Methodology, Project administration, Validation, Writing – review & editing. VanKhanh Nguyen: Conceptualization, Data curation, Formal analysis, Investigation, Methodology, Project administration, Supervision, Validation, Writing – review & editing. Terry de Lacy: Conceptualization, Data curation, Funding acquisition, Investigation, Methodology, Supervision, Validation, Writing – review & editing.

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Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.tjmp.2022.100961.

References

American Psychiatric Association. (2000). Diagnostic and statistical manual of mental disorders, fourth edition: DSM-IV-TR® (4 ed.). American Psychiatric Association.

Annink, A., Gorgievski, M., & Den Dulk, L. (2016). Financial hardship and well-being: A cross-national comparison among the European self-employed. European Journal of Work and Organizational Psychology, 25(5), 645–657.

Antaramian, S. P., Huebner, E. S., Hills, K. J., & Valois, R. F. (2010). A dual-factor model of mental health: Toward a more comprehensive understanding of youth functioning. American Journal of Orthopsychiatry, 80(4), 462.

Australian Bureau of Statistics. (2017). 2016 census QuickStats. Bright. (Vic). Retrieved from https://quickstats.censusdata.abs.gov.au/census_services/getproduct/census/2016/quickstat/SSC20324.

Australian Bureau of Statistics. (2020). 2016 census QuickStats: Echuca and Moama. Retrieved from https://quickstats.censusdata.abs.gov.au/census_services/getproduct/census/2016/quickstat/SSC20832?opendocument.

BBC News (Producer). (2021, 25 October 2021). Melbourne: Celebrations as city exits sixth lockdown. Retrieved from https://www.bbc.com/news/world/australia-58998418.

Bech, P. (1999). Health-related quality of life measurements in the assessment of pain clinic results. Acta Anaesthesiologica Scandinavica, 43(9), 893–896.

Bech, P. (2012). Clinical psychometrics. Oxford: Wiley-Blackwell.

Becha, P., & Pichot, P. (1994). Rating scales for psychopathology, health status and quality of life. Compendium on documentation in accordance with the DSM-M-R and WHO systems. Nordic Journal of Psychiatry, 48(4), 300–301. https://doi.org/10.3109/08039489409078153

Berlemann, M. (2016). Does hurricane risk affect individual well-being? Empirical evidence on the indirect effects of natural disasters. Ecological Economics, 124, 90–113.

Braun, V., & Clarke, V. (2013). Successful qualitative research: A practical guide for beginners. Sage.

Bryant, R. A., Gibbs, L., Gallagher, H. C., Pattison, P., Lushner, D., MacDougall, C., … Forbes, D. (2018). Longitudinal study of changing psychological outcomes following the Victorian Black Saturday bushfires. Australian and New Zealand Journal of Psychiatry, 52(6), 542–551. https://doi.org/10.1177/0004867417714337

Bryant, R. A., Waters, E., Gibbs, L., Gallagher, H. C., Pattison, P., Lushner, D., … Forbes, D. (2014). Psychological outcomes following the Victorian Black Saturday bushfires. Australian and New Zealand Journal of Psychiatry, 48(7), 634–643. https://doi.org/10.1177/000486741434476

Calero, A. L., McCallum, S., Morse, A. R., Banfield, M., Gulliver, A., Cherbuin, N., … Rafterham, P. J. (2002). Psychosocial impacts of home-schooling on parents and caregivers during the COVID-19 pandemic. BMC Public Health, 22(1), 119. https://doi.org/10.1186/s12889-022-12532-2

Chen, C.-C. (2020). Psychological tolls of COVID-19 on industry employees. Annals of Tourism Research. https://doi.org/10.1016/j.annals.2020.103080, 103080-103080.

Cornell, S., Nickel, C., Creeve, E., Bonner, C., McCaffery, K. J., Ayre, J., … Dodd, R. (2021). Positive outcomes associated with the COVID-19 pandemic in Australia. Health Promotion Journal of Australia: Official Journal of Australian Association of Health Promotion Professionals. https://doi.org/10.1002/hpja.1494

Cowlishaw, S., Metcalf, O., Varker, T., Stone, C., Molyneaux, R., Gibbs, L., … Forbes, D. (2021). Anger dimensions and mental health following a disaster: Distribution and implications after a major bushfire. Journal of Traumatic Stress, 34(1), 46–55. https://doi.org/10.1002/jts.22916

Creswell, J. W., & Clark, V. L. P. (2017). Designing and conducting mixed methods research. Sage publications.

Danzer, A. M., & Danzer, N. (2016). The long-run consequences of Chernobyl: Evidence on subjective well-being, mental health and welfare. Journal of Public Economics, 135, 47–60.
Groarke, J. M., Berry, E., Graham-Wisener, L., McKenna-Plumley, P. E., McGlinchey, E., Gorgievski, M. J., Bakker, A. B., Schaufeli, W. B., van der Veen, H. B., & Giesen, C. W. M. Dijkhuizen, J., Gorgievski, M., van Veldhoven, M., & Schalk, R. (2018). Well-being, Hall, C. M., Prayag, G., & Amore, A. (2017). Hair, J. F. (2009). Dunstan, J. (2021). Melbourne marks 200 days of COVID-19 lockdowns since the Hobfoll, S. E. (1989). Conservation of resources: A new attempt at conceptualizing stress. Fang, S., Prayag, G., Oxane, L. K., & de Vries, H. (2020). Psychological capital, coping mechanisms and organizational resilience: Insights from the 2016 Kaikoura earthquake, New Zealand. Tourism Management Perspectives, 24, 100637. https://doi.org/10.1016/j.tmp.2020.100637.
Fisk, C. M., & Dionisio, A. M. (2010). Building and sustaining resilience in organizational settings: The critical role of emotion regulation. In Emotions and organizational dynamism. Emerald Group Publishing Limited. Fitzgerald, K. C., Pli, S. W., Rolfe, M., McKenzie, J., Matthews, V., Longman, J., & Bailie, R. (2020). Cross sectional analysis of depression amongst Australian rural business owners following cyclone-related flooding. Journal of Occupational Medicine and Toxicology, 15(1), https://doi.org/10.1186/s12995-020-00264-1 Forsten-Astikainen, R., & Muhos, M. (2018). Resilience in sudden changes and crises related to natural disasters. In P. Conquest at the international conference on innovation and entrepreneurship. September, Galea, S., Merchant, R. M., & Lurie, N. (2020). The mental health consequences of COVID-19 and physical distancing: The need for prevention and early intervention. JAMA Internal Medicine, 180(6), 817-818. https://doi.org/10.1001/jamainternmed.2020.1562 Ghuman, S. J., Brackhill, R. M., Stellman, S. D., Farfel, M. R., & Cone, J. E. (2014). Unmet financial problems and psychological distress: Investigating reciprocal association between mental health and life satisfaction. Results from successive waves of a Canadian national survey. BMC Public Health, 18(1), 342. https://doi.org/10.1186/s12889-018-5235-x Love, L. E., & Crompton, J. L. (1999). The role of quality of life in business (re)creation. Journal of Business Venturing, 14(3), 211–222. Lowe, S. R., Bonumwezi, J. L., Valdespino-Hayden, Z., & Galea, S. (2019). Posttraumatic stress and depression in the aftermath of environmental disasters: A review of quantitative studies published in 2018. Current Environmental Health Reports, 6(4), 344-365. Luechinger, S., & Rauschky, P. A. (2009). Valuing flood disasters using the life satisfaction approach. Subjective well-being and social tourism. Annual Review of Economics, 41, 42-65. https://doi.org/10.1146/annurev.economics.41.110708.073740 de Mel, S., McKenzie, D., & Wooddruff, C. (2008). Mental health recovery and economic outcomes following the traumatic events associated with the September 11, 2001, terrorism directed at U.S. small business owners. Social Science & Medicine, 66(3), 582–595. https://doi.org/10.1016/j.socscimed.2007.10.006 Micronex Research. (2020). Northern Sydney Regional Organisation of Councils (NSROC): Covid-19 Research Report. https://www.nsw.gov.au/wp-content/uploads/report-NSROC-Business-COVID-19-Research-2020-10-06.pdf. Morgan, J., Begg, A., Beaven, S., Schluter, P., Jamieson, K., Johal, S., … Sparrow, M. (2015). Monitoring wellbeing during recovery from the 2010–2011 Canterbury earthquakes: The CERA wellbeing survey. International Journal of Disaster Risk Reduction, 14, 96–103. https://doi.org/10.1016/j.jidrr.2015.01.012 Morgeson, F. P., Mitchell, T. R., & Liu, D. (2015). Event system theory: An event-oriented approach to the organizational sciences. Academy of Management Review, 40(4), 515–537. Morrison, A. (2006). A contextualisation of entrepreneurship. International Journal of Entrepreneurial Behaviour & Research, 12(4), 192–209. https://doi.org/10.1108/13552560610791391 Oishi, S., Kumara, R., Hayashi, H., Tatsu, S., Tamura, K., Ishii, K., & Tucker, J. (2015). Psychological adaptation to the Great Hanshin-Awaji Earthquake of 1995: 16 years after. Journal of Personality, 83(4), 587–609. https://doi.org/10.1111/j.1467-6494.2014.07120.x.
G. Lindsay-Smith et al.

Tourism Research Australia. (2021a). National visitor survey results December 2020. Retrieved from https://www.tra.gov.au/data-and-research/reports/national-visitor-survey-results-december-2020

Tourism Research Australia. (2021b). Tourism businesses in Australia: June 2014 to 2019. Retrieved from https://www.tura.gov.au/data-and-research/reports/tourism-businesses-in-australia-june-2014-to-2019

Prayag, G., Spector, S., Orchiston, C., & Chowdhury, M. (2020). Psychological resilience, organisational resilience and life satisfaction in tourism firms: Insights from the Canterbury earthquakes. Current Issues in Tourism, 23(10), 1216–1233. https://doi.org/10.1080/13683500.2019.1607832

Raker, E. J., Lowe, S. R., Arcaya, M. C., Johnson, S. T., Rhodes, J., & Waters, M. C. (2019). Twelve years later: The long-term mental health consequences of Hurricane Katrina. Social Science & Medicine, 242, 112610.

Rosenbusch, N., Brinckmann, J., & Baush, A. (2011). Is innovation always beneficial? A meta-analysis of the relationship between innovation and performance in SMEs. Journal of Business Venturing, 26(4), 441–457.

Shankar, A., Rafnson, S. B., & Steeple, A. (2015). Longitudinal associations between social connections and subjective wellbeing in the English Longitudinal Study of Ageing. Psychology & Health, 30(6), 686–698.

Shi, L., Lu, Z.-A., Que, J.-Y., Huang, X.-L., Liu, L., Ran, M.-S., Sun, Y.-K. (2020). Prevalence of and risk factors associated with mental health symptoms among the general population in China during the coronavirus disease 2019 pandemic. JAMA Network Open, 3(7), e2014053-e2014053.

Sibley, C. G., Greaves, L. M., Satherley, N., Wilson, M. S., Overall, N. C., Lee, C. H. J., & Tourism Research Australia. (2021a). National visitor survey results December 2020. Retrieved from https://www.tra.gov.au/data-and-research/reports/national-visitor-survey-results-december-2020

Sibley, C. G., Greaves, L. M., Satherley, N., Wilson, M. S., Overall, N. C., Lee, C. H. J., & Tourism Research Australia. (2021a). National visitor survey results December 2020. Retrieved from https://www.tra.gov.au/data-and-research/reports/national-visitor-survey-results-december-2020

State of Victoria. (2021). Royal Commission into Victoria’s Mental Health System, final agenda.

Topp, C. W., Smith, L., Jacob, L., Yakkundi, A., McDermott, D., Armstrong, N. C., Barnett, Y., Shi, L., Lu, Z.-A., Que, J.-Y., Huang, X.-L., Liu, L., Ran, M.-S., Sun, Y.-K. (2020). Prevalence of and risk factors associated with mental health symptoms among the general population in China during the coronavirus disease 2019 pandemic. JAMA Network Open, 3(7), e2014053-e2014053.

Tully, M. A. (2020). Correlates of symptoms of anxiety and depression and mental wellbeing associated with COVID-19: A cross-sectional study of UK-based respondents. Psychiary Research, 291, 113138. https://doi.org/10.1016/j.psychres.2020.113138

van Praag, M., & Versloot, P. H. (2008). The economic benefits and costs of entrepreneurship: A review of the research. Foundations and Trends in Entrepreneurship, 4(2), 65–154. https://doi.org/10.1561/03000000012

Warr, P., Banks, M., & Ullah, P. (1985). The experience of unemployment among black and white urban teenagers. British Journal of Psychology, 76(1), 75–87.

Werner, D., & Locke, C. (2012). Experiences of chronic stress one year after the Gulf oil spill. International Journal of Emergency Mental Health, 14(4), 239–246.

Westerhof, G. J., & Keyses, C. L. M. (2010). Mental illness and mental health: The two continua model across the lifespan. Journal of Adult Development, 17(2), 110–119.

Whitman, Z. R., Bachali, H., Roger, D., Vargo, J., & Seville, E. J. M. B. E. (2013). Short-form version of the Benchmark Resilience Tool (BRT-53).

WHO. (2018). Mental health: strengthening our response. Retrieved from https://www.who.int/news-room/fact-sheets/detail/mental-health-strengthening-our-response

Wiersema, J. F., Talkington, T. D., & Pounder, S. (2012). Access to rural mental health services: Service use and out-of-pocket costs. Journal of Rural Health, 28(4), 420–427.

Wincent, J., Ortqvist, D., & Drnovsek, M. (2008). The entrepreneur’s role stressors and proclivity for a venture withdrawal. Scandinavian Journal of Management, 24, 222–246.

World Health Organisation. (2020). Substantial investment needed to avert mental health crisis. News. Retrieved from https://www.who.int/news/item/14-05-2020-substantial-investment-needed-to-avert-mental-health-crisis

Xu, H., Chen, F., & Dai, S. (2017). 11 disaster resilience of small businesses in Guizian ancient town, Sichuan, China. In Tourism resilience and adaptation to environmental change: Definitions and frameworks.

Yu, J., Park, J., & Hyun, S. S. (2021). Impacts of the COVID-19 pandemic on employees’ work stress, well-being, mental health, organizational citizenship behavior, and employee-customer identification. Journal of Hospitality Marketing & Management, 1–20. https://doi.org/10.1080/19366023.2021.1867283

Ziller, E. C., Anderson, N. J., & Coburn, A. F. (2010). Access to rural mental health services: Service use and out-of-pocket costs. The Journal of Rural Health, 26(3), 214–224. https://doi.org/10.1111/j.1748-3631.2010.00291.x

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