RESEARCH ARTICLE

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Jump Girls-Female Jockey's Unique Stressors and Coping Strategies

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ABSTRACT

Purpose: **Horse racing is one of the only sports in the world where males and females complete alongside each other, however female jockeys represent a small minority with the horse racing community. Insight into the unique stressors female jockeys encounter may provide sport science specialists and researchers with a greater awareness of the influencing aspects towards their stressors and specific supports they need. The primary aim of this study was to explore the unique stressors and coping strategies of female jockeys.**

Design: **Semi-structured interviewed were conducted with ten female jockeys.**

Findings: **The results found distinctive female stressors, such as a perceived limited timeframe for careers, lack of momentum, lack of control over their career and males being chosen over females to race ride. Bespoke female coping strategies were also identified, such as social support, wellbeing strategies and reflection on stressful experiences. No single coping strategy was identified.**

Practical implications: **A valuable recommendation should be to interpret new data into applied, bespoke, best practice guidelines, and thus educate jockeys and service providers to enable, educate and support female jockeys to cope with performance and environmental stressors.**

Originality/value: **This study fills a significant gap in the existing literature. Research relating to female jockeys is incredibly limited.**

Keywords: Coping strategies, females, jockeys, stressors, wellbeing.

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I. INTRODUCTION

The bespoke working conditions of a jockey differentiates them from other athletes, in that jockeys primarily have exhausting calendars with no off season and take part in a sport that is exceedingly hazardous and high risk (King *et al.*, 2021; Landolt *et al.*, 2017; Losty *et al.*, 2019; O'Connor *et al.*, 2017; Wilson *et al.*, 2014). Jockeys take part in a sport that is notorious for being challenging both physically and psychologically, for example, high incidences of injury (O'Connor *et al.*, 2017); low weight requirements (Dunne *et al.*, 2022); risky and rapid weight management methods (King *et al.*, 2021), yet there is inadequate research concerning to the psychology of jockeys (Losty, 2019). Sports requiring a horse-human dyad are under researched in the sport psychology and physiology stress literature. A jockey is required to perform on demand and boost the performance of the horse (McBride & Mills, 2012). On race days jockeys compete on various horses of varying ability throughout their day. This unique experience of constantly changing horses provides the jockeys with a specific demand and stress, that is not endured by other athletes competing in other non-equestrian sports.

Cullen *et al.* (2015) described horse racing to be a physically challenging sport. These physical challenges can impact on a jockey's lifestyle (Dolan *et al.*, 2011; Landolt *et al.*, 2017; Wilson *et al.*, 2014), which may influence their stressors and coping strategies. A study which examined depression, generalised anxiety, psychological distress, and harmful alcohol use, found that nearly 80% of jockeys in Ireland met the level for at least one of the mental health disorders (MHD) (King *et al.*, 2021). Even though horse racing is often regarded as a dangerous and challenging sport (Warrington *et al.*, 2009), there is a scarcity of research exploring the stressors and coping strategies experienced by jockeys. Furthermore, there is a paucity within the literature examining the unique stressors and coping strategies employed by female jockeys.

Equestrian sports and horse racing offer a rare opportunity for males and females to compete against each other and is recognised as the only Olympic sport that allows males and females to compete in the

same event. Female entry into horse racing and securing work in the male dominated sport has been reported as difficult (Adelman & Moraes, 2008). Williams and Hall (2020) reported that family contacts and influential networks are often more facilitative for men in horse racing. The USA Jockey's Guild membership shows that approximately eight percent of jockeys are female, and the majority never reach that top level. Eleven percent of professional UK jockey licenses are held by female jockeys (British Horse Association-BHA; 2018). In Ireland, a total of 235 jockeys holds licenses for national hunt or flat racing, and only 24 (9.4%) of those licence holders are female (Irish Horse Regulatory Board-IHRB; 2022). Horse racing is one of the only sports in the world where males and females compete alongside each other, however female jockeys represent a small minority with the horse racing community. High performance sport often highlights masculine principles such as stoicism, mental hardiness, whereby repression of perceived weaknesses is often imposed (Reardon & Factor, 2010). Athletes have disclosed fear of deselection from coaches, and often do not reveal if they have engaged with psychologists (López & Levy, 2013). The overarching aim of this qualitative study was to offer a rich depiction of the female jockey's experiences of specific stressors and coping strategies. Awareness of these stressors may be considered by practitioners working with jockeys. Insight into the unique stressors female jockeys encounter may provide sport science specialists and researchers with a greater awareness of the influencing aspects towards their stressors and specific supports they need. Feminist sport researchers have identified that research that specifically examines the unique events of female athletes is crucial to promoting women's sport participation and promoting parity in opportunities (Lebel *et al.*, 2021). Sport psychologists are often requested to assist athletes with personal, performance and transition issues, so it is crucial that the field be responsive to the needs of female jockeys (Lebel *et al.*, 2021).

II. Literature Review

Particularly poignant for jockeys is that injury is a significant competitive stressor for jockeys (King *et al.*, 2021). Horse racing is often regarded as a perilous sport that reports a high percentage of falls and injuries (O'Connor *et al.*, 2017). Athletes who are injured are more prone to describe depressive indicators than those who are not injured (Wolanin *et al.*, 2015). The career length of jockeys can be short. Legg, Cochrane, Gee, and Rogers (2020) identified that the average longevity of a jockey's career is three years. In comparison, jockeys who have had more opportunity to ride in horse races (race ride), had on average longer careers (Legg, Cochrane, Gee, & Rogers, 2020). Legg *et al.* (2020) discussed that national hunt jockeys in races, fall 50–100 times more than flat jockeys. Flat jockeys generally fall once every 10–20 races approximately (Legg *et al.*, 2020). The pressure to perform is also a key stressor for athletes (Sarkar & Fletcher, 2014). The high-profile side of horse racing is often portrayed, however rarely seen are the chronic injuries, personal sacrifices, and the daily stressors and hassles many jockeys experience (Gruender, 2007). Within the media, jockeys are generally described as low weight, lean and mentally strong athletes. On the contrary jockeys often may be dehydrated and lacking in calories (Dunne *et al.*, 2022) and experiencing fatigue (Caulfield & Karageorghis, 2008). Jockeys may also have doubts, be in a performance slump, experience high levels of stress, pressure to perform on demand and must manage horse owners and trainer's expectations (King *et al.* 2020; Gruender, 2007). Making weight strategies, which is commonly known as 'wasting' in horse racing for example sauna use, starvation and over exercising are all examples of wasting in horse racing, can also be stressors (Wilson *et al.*, 2020).

King *et al.* (2021) identified that the racing industry contributed to jockey's stress via the workload, high volume of travel required, career uncertainty, and lack of career opportunities. Limited research exists which examines female jockey's opportunities to ride compared to male jockeys, however Velija and Flynn (2010) identified that female jockeys are generally accepting of their inferior position within horse racing, based on the stereotype of male jockeys being superior to them from an evolutionary perspective. Velija and Flynn (2010) also highlighted that even though structural and organisational changes have allowed women to be approved for licenses to ride, train, and compete along with males, this may not have changed the general view of female jockeys. Female jockeys are still perceived as physical and mentally weaker, and less skilled than male jockeys. Roberts and MacLean (2012) completed a qualitative study and their results found that women face prejudice in horse racing in relation to three main factors, their physical power, body shape, and the gender tradition of utilising male riders over female riders, which is rooted within the horse racing industry.

Sarkar and Fletcher (2014) define personal stressors as "the environmental demands associated primarily and directly with personal nonsporting life events" (p. 11). Such stressors include life demands, dual careers, relationship issues, and distressing incidents such as chronic injury. Based on the Kessler Psychological Distress Scale (Andrews & Slade, 2001), King *et al.* (2021) and Losty *et al.* (2019) both reported indicators of distress for jockeys. King *et al.* (2021) found that flat jockeys reported higher levels of symptoms of distress in contrast with jump jockeys. Methodologically it is difficult to compare levels of

distress in jockeys to other athletes as multiple methods of measuring distress have been utilised, the movement towards sports specific measure would combat this. Another personal stressor is that being a jockey has been described as a lonely profession (Dolan *et al.*, 2011). Unver *et al.* (2015) highlighted that female athlete's experienced higher levels of loneliness than males, and that athletes under 20 experienced higher level of loneliness compared to athletes over 20 years of age. Fry and Bloyce (2017) interviewed 20 professional golfers in their study, and found loneliness and isolation progressed as players were separated from family and friends. These feelings combined with unreliable revenue through golf competitions further added to their work-related anxieties. These are similar comparisons with a jockey's lifestyle.

The meta-analysis by Nicholls *et al.* (2016) revealed a significant relationship between coping strategies and sports performance. Mastery-based strategies (i.e., eliminating the stressor) were positively linked with performance, whereas internal control (i.e., managing emotional responses) and goal withdrawal (terminating efforts towards a goal) was negatively linked with performance. Lazarus and Folkman (1984) identified that coping strategies centres on two elements: focusing on the problem for example solving or modifying the source or the stress or focusing on the emotion such as a jockey controlling their reactions and regulating their emotions to the perceived stressor. Cosh and Tully (2015) discussed that athletes specifically benefit from the support of both parents and coaches; however, they also highlight that athlete would gain from upskilling in time management, self-care, and stress management techniques. Crane *et al.* (2019) identified that the specific meta-cognitive skill, for example self-reflection on one's primary stressor reaction is a possible process for fostering resilience. Nicholls and Polman's (2007) systematic review identified that female athletes utilise social support to cope with stressful situations, however there is little to no research that compares male and female athletes coping strategies to the same stressor. Rosenfeld *et al.* (1989) and Kristiansen and Roberts (2010) also corroborated with these results. The main finding in relation to age is that athletes generally cope better as they mature (Nicholls & Polman, 2007). This finding implies that younger jockeys could be trained to cope more successfully by improving their coping strategies to facilitate them to feel better able to manage their stress. There is currently no data exploring the bespoke coping strategies implemented by jockeys. This limits the development of evidence-based best practice guidelines for any member of an interdisciplinary team working with jockeys. In contrast athletes who reported optimised emotional regulation at an Olympic Games, also reported coping effectively, and this appeared as a positive predictor of those athletes who performed well in competition (Pensgaard & Duda, 2003). Therefore, interventions which targeted bespoke coping strategies (Lazarus, 2000) for jockeys, may help to prepare jockeys for the stressors and challenges they face and possibly enhance their performances.

Roberts and MacLean (2012) identified that women faced specific prejudice in horse racing regarding several issues. The three central reasons identified within their study were due to a women's physical strength, body shape, and the institution and history entrenched within the horse racing industry. Using a database of over a million horse races, over three years, Binder *et al.* (2021) analysed the probability for male and female jockeys placing first, second, or third, and the determining factors for an opportunity to race ride. Their results revealed that the possibility for female jockeys placing in a race was not significantly different from male jockeys, however female jockeys received fewer opportunities to race ride. Binder *et al.* (2021) also noted that many female jockeys race under their initials, and not their full names, to avert stereotypical reactions from those in the industry. These findings are also documented by Clayton-Hathway and Stumbitz (2020). Therefore, the overarching aim of this study was to explore female jockey's unique stressors and their coping strategies.

III. METHODOLOGY

A. Philosophy

The philosophical underpinnings of this study were informed by critical realism. Critical realism strives to collect deep information from the participants (Brönnimann, 2022) and their unique lived experiences. Braun and Clarke (2022) described critical realism as 'combining ontological realism (the truth is out there) with epistemological relativism (it's impossible to access truth directly) to provide a standpoint that retains a perception of truth and reality but identifies those human practices always share how we experience and know this – human practices can be said to give rise to perspectival and contextual truths' (p. 169). Critical realism is described as a philosophy, but not a methodology, it also reflects the methodological realist tenets by Wynn and Williams (2012). Critical realism conceptualises different perspectives and acknowledges that language and culture are crucial. Within critical realism the researcher accesses the participants perception of their reality, shaped and embedded within their culture and language (Willig, 2013). Therefore, the ontological position utilised in this study aligned with realism, critical realism, and relativism. Whereas the epistemological approach aligned with constructionism, and poststructuralism. The

epistemological approach situates significance as multiple, socially constructed and connected to wider systems of power (Braun & Clarke, 2022).

The following research questions were explored within this study: 1) What stressors have the female jockeys experienced or currently experiencing within their careers? 2) What coping strategies aided the female jockeys to cope with these stressors?

B. Sample and Procedure

UK and Irish Female national hunt and flat racing jockeys who are over 18 and hold a racing license for over one year were invited to take part in the research. Ten jockeys took part in the present study. Due to the small number of female jockeys who race ride, the exact riding background and experience of the jockeys has been withheld to protect identification of the individual participants. Publicity of the study was via the Chief Medical Officer on the racetracks and through the jockey's general weekly communications from the Chef Medical Officer. Jockeys were requested to contact the researcher to volunteer for the research. Participants self-selected and opted to participate. Due to ongoing Covid-19 restrictions jockeys were requested to take part in a semi structured interview via zoom. The interviews lasted on average 30 minutes. Interviews were semi structured in nature which gave the female jockeys openness to detail and elaborate their ideas and to accumulate rich data (Smith *et al.*, 2014).

C. Interview Guide Development

The interview questions were guided by the interview guide, an adaptable and flexible style was employed to guarantee conversational flow. The interview guide was developed and built on the athlete and jockey stressors literature (King *et al.*, 2021; Noblet & Gifford, 2002). Three key questions were asked to participants. Initially, to establish connection, participants were asked to talk about how they became involved in horse racing and their career to date. Participants were then asked to discuss stressors they have faced or were presently undergoing. Thirdly, participants were asked to discuss how they coped with these stressors and highlight any coping strategies they found useful.

D. Data Analysis

Reflexive thematic analysis was employed to deliver a comprehensive evaluation of the qualitative data and investigate the practices, meanings, and experience of the female jockeys (Braun & Clarke, 2022). The six-stages of thematic analysis as described by Braun and Clarke (2006) were utilised to scrutinise the data. The stages discussed below describe a systematic attempt to analyse the data, however the analysis was creative and recursive, where different stages often intersected with another stage. Each transcript was read several times. This allowed the researcher to become more familiar with the data. Semantic coding of the transcripts was conducted by reviewing the transcripts line by line. Sections of text were highlighted with a marker, short word or a line written alongside it, and notes were written alongside the text. This aided in generating initial codes. Generated codes were inputted into a file to initiate the search for themes, codes were also inputted into an excel spreadsheet (Bree & Gallagher, 2016). Exploring and generating themes was ascribed to "something important about the data in relation to the research question and represents some level of patterned response or meaning within the data set" (Braun & Clarke, 2006, p. 82). The themes were reviewed and refined and revised again, with some original themes combined into broader themes or deleted. Themes were reviewed and re-read to make sure the theme depicted matched the nature of the coded data. The researcher utilised the read aloud function on Microsoft word, while reviewing the transcripts with the notes and themes at hand. An overarching thematic map was designed highlighting higher-order and lower-order themes. This aided the researcher to visualise and interpret the data. The researcher then took time for thoughtful reflection and took some time away from the data. A reflective journal was also used to promote persistent reflexivity (Braun & Clarke, 2022) and notes were jotted into this journal and discussed with the research supervisor. Themes were then defined and reflected on again.

E. Ethical Considerations

Ethical approval was obtained from the University Research Ethics Committee. All participants were supplied with an informed consent form to sign prior to their involvement in the study (Sanjari *et al.*, 2014). A signed consent form was obtained from all participants before any data collection commenced. The informed consent form described the justification for the research, the voluntary nature of the participants' contributions and assured participants that their anonymity was protected (within British Psychological Society (BPS) and Psychological Society of Ireland (PSI) guidelines). All participants were also informed that they could withdraw, with no reason, from the research within a specific time frame. Upon conclusion of the interview the participants were thanked for engaging and were invited to request copies of the research results. Confidentiality was also safeguarded through data access and storage guidelines. All information received was stored in strict confidence and with due respect for legal requirements for data protection (Data Protection Act, 2018; GDPR, 2018). Anonymity was assured by allocating each participant a distinctive number. The data from their interview was connected to this number instead of any personal

details. This was completed as soon as the interview was finished, so that the data investigated could not be linked to any participant's personal details. The list of participants and their identification numbers were password protected and this information was separate from all other information. The researcher and supervisor had access to all the data. Data access and storage was in line with the standardised procedures at the University.

IV. Results and Discussion

Evaluation of the interviews were developed in line with the research questions and were categorised into themes and codes. The assortment of stressors described was considerable, however most stressors affiliated with stressors experience by other elite athletes (e.g., Sarkar & Fletcher, 2014) and jockeys (King *et al.*, 2021) however only stressors relevant to female jockeys are identified within this research. Following this, categories of stressors and coping were grouped into two main themes: unique female jockey stressors, unique female coping strategies (see Fig. 1). The findings are principally examined via thick descriptions in the manner of direct quotes. The following results are in line with the overarching research questions of this research. Section A will discuss the unique female jockey stressors, section B will explore the unique female jockeys coping strategies.

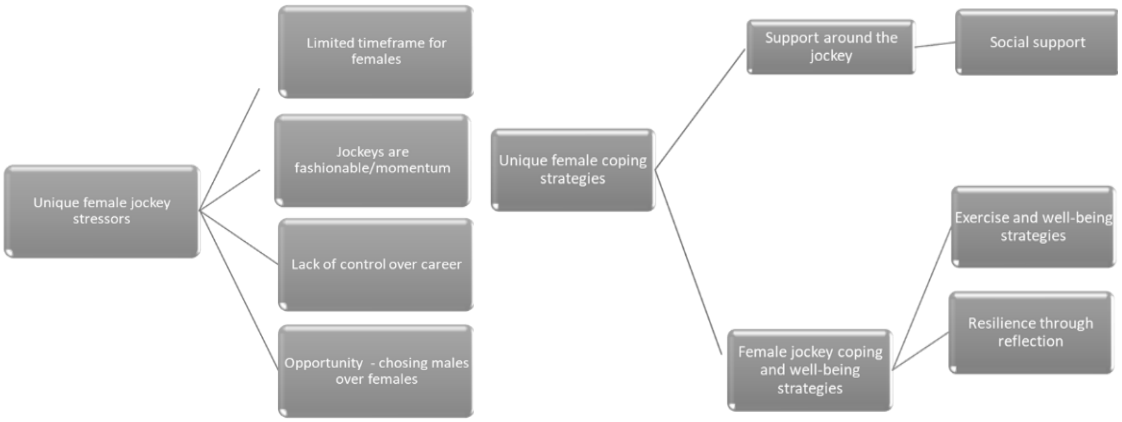

Fig. 1. Main themes of the study. A) Unique female jockey stressors. B) Unique female jockeys coping strategies.

A. Unique Female Jockey Stressors

The female jockeys identified that they felt they had limited time to 'make it' as a jockey. The following quote highlights this:

> *…I'm riding for 13 years, you, you would like to have achieved a bit more to be honest in 13 years, it's a long time. And you're kind of feeling isn't it such a waste, you know what am I doing it for really? Yeah, and the going forward, I don't really want to be I suppose, be riding in my 30s, mid 30s, I don't* (Participant 1).

Legg *et al.* (2020) reported that jockey's careers were generally short and those jockeys that had less opportunities to race ride had even shorter careers. Therefore, this idea of a limited career time as a female, and lack of opportunity as a female jockey may contribute to this theme.

> *…I specifically remember, prior to turning professional, acknowledging that I knew how hard it would be. That it would be difficult, I knew how hard it was going to be. But I had no idea it was going to be this hard. I've had some great successes but not on the kind of continuing that I would like* (Participant 8).

These findings reflect what King *et al.* (2021) and Landolt *et al.* (2019) revealed regarding unique jockey's stressors where career uncertainty, workload, and lack of career opportunities, particularly for female jockeys are critical. These findings are also reflective of Arnold and Fletcher's (2012) systematic review of environmental and organisation stressors within high performance sports. Leka and Jain (2010) and King *et al.* (2021) identified that low social support, high psychological demands, effort-reward imbalance, and high job insecurity are acknowledged as strong predictors of mental ill-health. Jockeys are incredibly self-reliant, and self-reliance can also be a barrier to help-seeking among athletes (Gulliver *et al.*, 2012; Kaiser *et al.*, 2015; King *et al.*, 2022).

The concept of fashionable and momentum are described interweavingly by the female jockeys. The short career of a jockey (Legg *et al.*, 2020) also connects to the theme of certain jockeys being perceived as fashionable and getting more opportunities from trainers. It is difficult to establish momentum particularly when a jockey has a lack of control over specific career decisions or horses they ride, particularly for female jockeys where females are often overlooked (Binder *et al.*, 2021). These findings are highlighted in the following passages:

> *Yes, it's very hard to create momentum. And it's very hard to keep momentum. It's not like other sports where you have a particular performance and your kind of on the team the next week because you're playing really well. And it's just funny… things are in fashion* (Participant 7).

This concept of fashionable jockeys, and lack of momentum link specifically to Arnold and Fletcher's (2012) systematic review of athlete stressors, where the environmental and organisation were highlighted as stressors. Female jockeys reported career-related stressors which related to career insecurity, career opportunities, and male jockeys being utilised over female jockeys. This corresponds to previous research by Cosh and Tully (2015) who discussed that athletes often feel ambiguity and uncertainty during their careers from both a financial and career standpoint. Adelman and Moraes (2008) and Williams and Hall (2020) also corroborated that is it more difficult for females to be successful in the racing industry, and that males are often chosen over females for race riding (Binder *et al.*, 2021). Horse racing industry has historically been perceived as a more male dominated environment (Roberts & MacLean, 2012).

> *It's not the same because I am a woman in the industry and I see myself being deferred from, and other lads chosen ahead of me just because I'm a girl, not because of any other reason. I know how good I am. I think because that the girls in the industry tend to be a little less ambitious and so a little less affected by the extremity of disappointment that comes with it* (Participant 8).

These findings agreed with Velija and Flynn's (2010) study that identified that females are often perceived as weaker and are generally less ambitious than their male counterparts due to ingrained stereotypes regarding female jockeys. Roberts and MacLean (2012) discussed that female jockeys are often perceived as physically weaker and less capable than male jockeys, and the overarching findings within this study also identified that female jockeys feel this bias and prejudice within the environment of horse racing. These findings substantiated with Velija and Flynn's (2010) study that identified female jockeys are often perceived as weaker, male jockeys are preferred and provided with more opportunities to race ride than female jockeys.

Regardless of verification between the female jockeys on some stressors, the female jockeys did not describe one stressor consistently. This highlights the discrepancies in the jockey's perceptions towards the stressors identified in the study, and it is the perception of the stresses which is key, this is also identified in the transactional model of stress and coping by Lazarus and Folkman (1984). Their transactional model of stress and coping strategies identified that stress occurs when a person perceives that the demands, they face exceed the personal and social resources they have within them to meet those demands. From an applied perspective, understanding the unique stressors of female jockeys will inform best practice strategies and the nuanced nature of the female jockey in horse.

B. Unique Female Jockeys Coping Strategies

Social support from family, friends and key individuals was identified as the key coping strategy to manage stressors. Social support from these informal networks, encourage, motivate, and support female jockeys, specifically when they are facing challenging times. Nicholls and Polman's (2007) systematic review identified that female athletes are more likely to utilise social support to cope, which is highlighted in the key quotes below. These results have been corroborated by Rosenfeld et al. (1989) and Kristiansen and Roberts (2010).

> *Talking to people. You need a lot of people, good support around you. My family is very good to me. Sometimes I think my family can be biased. Because your mother and father always say the right thing to you. So yeah, having good support around you, good people there for you. And sport psychology as well, it's nice to talk to somebody that doesn't have, I suppose, what's the right way to put it, you just have a different view on things* (Participant 2).

Female jockeys identified specific coping and well-being strategies to manage their stressors, such as exercising, yoga and reflecting on challenging experiences. Both exercising and reflecting on the stressors link to Lazarus and Folkman's (1984) transactional model of stress and coping strategies that utilise emotion focused approaches such as managing their emotions and responses to the perceived stressor. Reflection on a stressor allows the jockey to think about their response and modify their coping behaviour to the stressor. Self-reflection on an initial stressor and reflecting on one's response to a stressor is also a possible mechanism for strengthening resilience (Crane *et al.*, 2019) as seen in the quotes below:

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And it's a constant challenge to keep that tidy, to keep your thoughts in order and remember that you're not defined by racing. Although because we invest everything into it, from my perspective. I've invested everything, everything into it. That if it's not working you feel like a failure. But that's not true because even though it feels that way there's still a lot more to me as a person outside of racing, it's just one small bit (Participant 8).

I ride a lot of long shots or whatever. And I go away everyday thinking I'm going to be a winner. I'm like you never know! And then of course the horse will run true to form, I come home depressed because I'm sad that it wasn't a winner. Even though if you look at the form you pretty much know how the whole race is going to pan out. So, but that's something you can't really avoid I suppose, you just have to get on with it, and move on to the next one (Participant 7).

How jockeys manage these stressors can play an active role in their mental health, performance, and longevity in the sport (King *et al.*, 2020; Lazarus, 2000; Losty *et al.* 2019). Pensgaard and Duda (2003) also highlighted that optimising an athlete's emotions can have a direct influence on performance. There are considerably more dynamic factors and risks in horse racing that are difficult and some uncontrollable such as managing weight (Dunne *et al.* 2022; King *et al.*, 2022; Wilson *et al.*, 2020), injury (Ivarsson *et al.*, 2017; McKay, 2008) and other jockeys/horses falling (Cullen *et al.* 2015; Legg *et al.*, 2020; O'Connor, 2017). If jockeys were trained and educated on managing their emotions, at a minimum to identify unhelpful thoughts and ruminations this may help them to perform, enjoy and cope better within their sport (Nicholls *et al.*, 2016). The jockeys within this study identified positive active coping strategies such as exercising and yoga to manage their stress levels. No jockey identified any maladaptive coping strategy. It is worth noting that this may not be representative of the wider jockey community and these results cannot be generalised.

V. Conclusions and Recommendations

A. Conclusions

Lazarus and Folkman's (1984) transtheoretical model of stress and coping was utilised as a guiding framework to explore the stressors and specific coping strategies of female jockeys. The participants interviewed identified unique stressors that impacted them both personally and professionally, such as a limited time to develop their careers, jockeys being labelled as fashionable and how that impacts their career momentum. Female jockeys also discussed how they felt they had a lack of control over their careers, and that male jockeys were being chosen for race riding over females. The female jockeys felt they were not being awarded the same opportunities are their male contemporaries. This study identified a multitude of stressors, however, individual jockeys' interpretation of stressors may be different, for example some jockeys may feel that pressure to perform is facilitative to their performance others may not. Therefore, the results are unique but may not be generalisable to the wider jockey community. The coping strategies of female jockeys were also explored. In line with Lazarus and Folkman's (1984) transtheoretical model of stress and coping, most of the coping strategies identified by the female jockeys related to regulating their emotions to the stressor, such as social support and exercising, and this is reflective of the gender differences in the coping literature (see Nicholls & Polnam, 2007). This is an interesting conclusion and is possibly representative of the horse racing environment. No female jockeys identified a problem focused coping strategy, for example altering the source of stress, possibly due to the lack of control a jockey has over variables within their environment and opportunity to alter the stress. No single coping strategy was identified, and female jockeys reflected using a variety of strategies and/or a combination of strategies. This finding proposes that female jockeys apply a strategy based on stress appraisal and previous strategies employed. This research was completed retrospectively, and not an actual experience of a stressor, therefore retrospective bias or recall bias may influence responses to the interview questions.

B. Recommendations

A valuable recommendation of stress and coping research within sport and horseracing should be to interpret new data into applied, bespoke, best practice guidelines, and thus educate jockeys and service providers to enable, educate and support female jockeys to cope with performance and environmental stressors. There is currently no data related to the bespoke coping strategies adopted by jockeys. This limits the development of evidence-based best practice guidelines for any member of an interdisciplinary team working with jockeys and it would be a recommendation for future research in this area. Research relating to female jockeys is incredibly limited. Given the recent rise in the profile of specific female jockeys, gender specific research is recommended in psychology and sport science within horseracing. Longitudinal research relating to female jockeys in the industry is needed to investigate career and progression opportunities for women. The practical recommendation of sharing examples of positive role models of female jockeys, who have successfully balanced their careers would highlight what can be achieved and

challenge the beliefs discussed in this research.

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CONFLICT OF INTEREST

Authors declare that they do not have any conflict of interest.

REFERENCES

Adelman, M., & Moraes, F. A. (2008). Breaking their way in: Women jockeys at the racetrack in Brazil. In *Advancing gender research from the nineteenth to the twenty-first centuries*. Emerald Group Publishing Limited.

Andrews, G., & Slade, T. (2001). Interpreting scores on the Kessler Psychological Distress Scale (K10). *Australian and New Zealand Journal of Public Health*, *25*(6), 494-497.

BHA. (2022, June 26). *Female jockeys as good as males, suggests Thoroughbred Horseracing Industries MBA study*. https://www.britishhorseracing.com/press_releases/female-jockeys-good-males-suggeststhoroughbred-horseracing-industries-mba-study.

Binder, A. D., Grimes, P. W., & Winterbotham, R. G. (2021). In the money: Gender and jockey success on the thoroughbred racetrack. *Journal of Sports Economics*, *22*(3), 295-328.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3*(2), 77–101.

Braun, V., & Clarke, V. (2022). Conceptual and design thinking for thematic analysis. *Qualitative Psychology*, *9*(1), 3–26.

Braun, V., & Clarke, V. (2022). *Thematic analysis: A practical guide*. Sage.

Bree, R. T., & Gallagher, G. (2016). Using Microsoft Excel to code and thematically analyse qualitative data: A simple, cost-effective approach. *All Ireland Journal of Higher Education*, *8*(2), 2811–2824.

Brönnimann, A. (2022). How to phrase critical realist interview questions in applied social science research. *Journal of Critical Realism*, *21*(1), 1–24.

Caulfield, M. J., & Karageoeghis, C. I. (2008). Psychological effects of rapid weight loss and attitudes towards eating among professional jockeys. *Journal of Sports Sciences*, *26*(9), 877-883.

Clayton-Hathway, K., & Stumbitz, B. (2020). *Racing home: Working mothers in the horseracing industry*. Oxford Brookes University.

Cosh, S., & Tully, P. J. (2015). Stressors, coping, and support mechanisms for student athletes combining elite sport and tertiary education: Implications for practice. *The Sport Psychologist*, *29*(2), 120-133.

Crane, M. F., Searle, B. J., Kangas, M., & Nwiran, Y. (2019). How resilience is strengthened by exposure to stressors: the systematic self-reflection model of resilience strengthening. *Anxiety, Stress, and Coping*, *32*(1), 1–17.

Cullen, S., O'Loughlin, G., McGoldrick, A., Smyth, B., May, G., & Warrington, G. D. (2015). Physiological Demands of Flat Horse Racing Jockeys. *Journal of strength and conditioning research*, *29*(11), 3060–3066.

Data Protection Act. (2018, June 30). https://www.irishstatutebook.ie/eli/2018/act/7/enacted/en/html.

Dolan, E., McGoldrick, A., Davenport, C., Kelleher, G., Byrne, B., Tormey, W., Smith, D., & Warrington, G. D. (2012). An altered hormonal profile and elevated rate of bone loss are associated with low bone mass in professional horse-racing jockeys. *Journal of bone and mineral metabolism*, *30*(5), 534–542.

Dolan, E., O' Connor, H., McGoldrick, A., O'Loughlin, G., Lyons, D., & Warrington, D. (2011). Nutritional, lifestyle and weight control practices of professional jockeys. *Journal of Sports Sciences*, *29*, 791- 799.

Dunne, A., Warrington, G., McGoldrick, A., Pugh, J., Harrison, M., & Cullen, S. (2022). Body composition and bone health status of jockeys: Current findings, assessment methods and classification criteria. *Sports Medicine-Open*, *8*(1), 1-18.

Fry, J., & Bloyce, D. (2017). 'Life in the travelling circus': A study of loneliness, work stress, and money issues in touring professional golf. *Sociology of Sport Journal*, *34*(2), 148-159.

Gruender, S. A. (2007). *Jockey: The rider's life in American thoroughbred racing*. North Carolina: McFarland & Company.

Gulliver, A., Griffiths, K. M., & Christensen, H. (2012). Barriers and facilitators to mental health help-seeking for young elite athletes: A qualitative study. *BMC Psychiatry*, *12*(157), 1-14.

Irish Horseracing Regulatory Board (2022, June 16). *Jockeys.* https://www.ihrb.ie/5-jockeys.

Ivarsson, A., Johnson, U., Andersen, M. B., Tranaeus, U., Stenling, A., & Lindwall, M. (2017). Psychosocial factors and sport injuries: Meta-analyses for prediction and prevention. *Sports Medicine*, *47*(2), 353-365.

Kaier, E., Cromer, L. D., Johnson, M. D., Strunk, K., & Davis, J. L. (2015). Perceptions of mental illness stigma: Comparisons of athletes to nonathlete peers. *Journal of College Student Development*, *56*(7), 735–739.

King, L., Cullen, S. J., McArdle, J., McGoldrick, A., Pugh, J., Warrington, G., & Losty, C. (2021). Stressors experienced by professional jockeys. *The Sport Psychologist*, *35*(2), 142-154. Retrieved Jul 3, 2022, from https://journals.humankinetics.com/view/journals/tsp/35/2/article-p142.xml.

King, L., Cullen, S., McArdle, J., McGoldrick, A., Pugh, J., Warrington, G., & Losty, C. (2022). Barriers and facilitators to help-seeking for mental health difficulties among professional jockeys in Ireland. *Journal of Clinical Sport Psychology*, *17*(2), 189-209.

King, L., Cullen, S. J., McGoldrick, A., Pugh, J., Warrington, G., Woods, G., & Losty, C. (2021). Mental health difficulties among professional jockeys: A narrative review. *BMJ Open Sport & Exercise Medicine*, *7*(e001078), 1-13.

King, L., Cullen, S. J., O'Connor, S., McGoldrick, A., Pugh, J., Warrington, G., Woods, G., Nevill, A. M., & Losty, C. (2021). Common mental disorders among Irish jockeys: prevalence and risk factors. *The Physician and sportsmedicine*, *49*(2), 207–213.

Kristiansen, E., & Roberts, G. C. (2010). Young elite athletes and social support: Coping with competitive and organizational stress in "Olympic" competition. *Scandinavian Journal of Medicine & Science in Sports*, *20*(4), 686-695.

Landolt, K., O'Halloran, P., Hale, M. W., Horan, B., Kinsella, G., Kingsley, M., & Wright, B. J. (2017). Identifying the sources of stress and rewards in a group of Australian apprentice jockeys. *Qualitative Research in Sport, Exercise and Health*, *9*(5), 583–599.

Lazarus, R. S. (2000). How emotions influence performance in competitive sports. *The Sport Psychologist*, *14*(3), 229-252.

Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. Springer.

Lebel, K., Mumcu, C., Pegoraro, A., LaVoi, N. M., Lough, N., & Antunovic, D. (2021). Re-thinking women's sport research: Looking in the mirror and reflecting forward. *Frontiers in Sports and Active Living*, *3*(746441), 1-13.

Legg, K. A., Cochrane, D. J., Bolwell, C. F., Gee, E. K., & Rogers, C. W. (2020). Incidence and risk factors for race-day jockey falls over fourteen years. *Journal of Science and Medicine in Sport*, *23*(12), 1154-1160.

Legg, K., Cochrane, D., Gee, E., & Rogers, C. (2020). Jockey career length and risk factors for loss from thoroughbred race riding. *Sustainability*, *12*(18), 7443.

Leka, S., Jain, A., & World Health Organization. (2010). Health impact of psychosocial hazards at work: An overview. https://apps.who.int/iris/handle/10665/44428.

López, R. L., & Levy, J. J. (2013). Student athletes' perceived barriers to and preferences for seeking counseling. *Journal of College Counseling*, *16*(1), 19–31.

Losty, C., Warrington, G. D., McGoldrick, A., Murphy, C., Burrows, E., & Cullen, S. (2019). Mental health and wellbeing of jockeys. *Journal of Human Sport and Exercise*, *14*(1), 147-158.

McBride, S. D., & Mills, D. S. (2012). Psychological factors affecting equine performance. *BMC Veterinary Research*, *8*(180), 1-11.

McKay, J., Niven, A. G., Lavallee, D., & White, A. (2008). Sources of strain among elite UK track athletes. *Sport Psychologist*, *22*(2), 143–163.

Nicholls, A. R., & Polman, R. C. (2007). Coping in sport: A systematic review. *Journal of Sports Sciences*, *25*(1), 11-31.

Nicholls, A. R., Taylor, N. J., Carroll, S., & Perry, J. L. (2016). The development of a new sport-specific classification of coping and a meta-analysis of the relationship between different coping strategies and moderators on sporting outcomes. *Frontiers in Psychology*, *7*(1674), 1-14.

Noblet, A. J., & Gifford, S. M. (2002). The sources of stress experienced by professional Australian footballers. *Journal of Applied Sport Psychology*, *14*(1), 1-13.

O'Connor, S., Warrington, G., McGoldrick, A., & Cullen, S. (2017). Epidemiology of injury due to race-day jockey falls in professional flat and jump horse racing in Ireland, 2011 -2015. *Journal of Athletic Training*, *52*(12), 1140–1146.

Pensgaard, A. M., & Duda, J. L. (2003). Sydney 2000: The interplay between emotions, coping, and the performance of Olympic-level athletes. *The Sport Psychologist*, *17*(3), 253-267.

Reardon, C. L., & Factor, R. M. (2010). Sport psychiatry. *Sports Medicine*, *40*(11), 961–980.

Roberts, L., & MacLean, M (2012). Women in the weighing room: Gendered discourse of exclusion in English flat racing. *Sport and Society*, *15*(3), 320–334.

Rosenfeld, L. B., Richman, J. M., & Hardy, C. J. (1989). Examining social support networks among athletes: Description and relationship to stress. *The Sport Psychologist*, *3*(1), 23-33.

Sanjari, M., Bahramnezhad, F., Fomani, F. K., Shoghi, M., & Cheraghi, M. A. (2014). Ethical challenges of researchers in qualitative studies: The necessity to develop a specific guideline. *Journal of Medical Ethics and History of Medicine*, *7*(14), 1-6.

Sarkar, M., & Fletcher, D. (2014). Psychological resilience in sport performers: A review of stressors and protective factors. *Journal of Sports Sciences*, *32*(15), 1419–1434.

Smith, B., Sparkes, A. C., & Caddick, N. (2014). Judging qualitative research. In L. Nelson, R. Groom, & P. Potrac (Eds.), *Research methods in sports coaching* (1st ed.). Routledge.

Smith, J. A., & Osborn, M. (2015). Interpretative phenomenological analysis as a useful methodology for research on the lived experience of pain. *British Journal of Pain*, *9*(1), 41–42.

Unver, S., Atan, T., Cavusoglu, G., Erim, V., & Yamak, B. (2015). A comparison of levels of quality of life, depression and loneliness among athletes with different levels of training. *Educational Research and Reviews*, *10*(2), 130-134.

Velija, P., & Flynn, L. (2010). "Their bottoms are the wrong shape" female jockeys and the theory of established outsider relations. *Sociology of Sport Journal*, *27*(3), 301-315.

Warrington, G., Dolan, E., McGoldrick, A., McEvoy, J., MacManus, C., Griffin, M., & Lyons, D. (2009). Chronic weight control impacts on physiological function and bone health in elite jockeys. *Journal of Sports Sciences*, *27*(6), 543–550.

Williams, J., & Hall, G. (2020). 'A good girl is worth their weight in gold': Gender relations in British horseracing. *International Review for the Sociology of Sport*, *55*(4), 453-470.

Willig, C. (2013). *Introducing qualitative research in psychology: Adventures in theory and method*. McGraw-Hill Education.

Wilson, G., Hawken, M. B., Poole, I., Sparks, A., Bennett, S., Drust, B., Morton, J., & Close, G. L. (2014). Rapid weight-loss impairs simulated riding performance and strength in jockeys: implications for making-weight. *Journal of Sports Sciences*, *32*(4), 383–391.

Wilson, G., Hill, J., Martin, D., Morton, J. P., & Close, G. L. (2020). GB apprentice jockeys do not have the body composition to make current minimum race weights: Is it time to change the weights or change the jockeys?. *International journal of sport nutrition and exercise metabolism*, *30*(2), 101-104.

Wolanin, A., Gross, M., & Hong, E. (2015). Depression in athletes: Prevalence and risk factors. *Current Sports Medicine Reports*, *14*(1), 56–60.

Wolanin, A., Hong, E., Marks, D., Panchoo, K., & Gross, M. (2016). Prevalence of clinically elevated depressive symptoms in college athletes and differences by gender and sport. *British Journal of Sports Medicine*, *50*(3), 167–171.

Wynn Jr, D., & Williams, C. K. (2012). Principles for conducting critical realist case study research in information systems. *MIS Quarterly*, *36*(3), 787-810.