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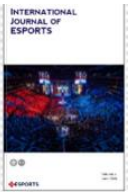

High e-Performance: Esports players' coping skills and strategies

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Abstract

Aims: This paper investigates esports players' coping skills and strategies to enhance their physical and mental health during their esports career.

Methods and Results: A total of 33 esports players – professional (n=21), semi-professional (n=6), amateur (n=4), and retired players (n=2) – participated in this study. Semi-structured interviews were carried out to identify participants' coping skills and strategies. Thematic analysis was applied to analyse the data where three main themes were identified: life balance, social support, and sleep management. Life balance, through taking a break and participating in other activities, was named as a coping strategy to enhance their health and wellbeing. Social support was integral in creating coping strategies for esports players to ensure positive wellbeing, not only during their career but also after. Lastly, sleep management was recognized as a key coping skill to manage both training loads and competition pressure.

Conclusions: These findings suggest that the identified coping skills and strategies could be applied within bigger esports communities due to the range of participants included. Those coping skills/ strategies should be also considered when professional teams develop support initiatives to ensure players' wellbeing and welfare.

Keyword: esports, players' physical health, players' mental wellbeing, coping skills and strategies, support scheme development

Highlights

- Key coping strategies identified were life balance, time management, social support and sleep management that were all employed by players.
- Life balance was named as a coping strategy to ensure their health and wellbeing by taking a break and doing something else, which was highly recommended by players.
- Social support was integral in coping strategies of esports players to ensure their wellbeing not only during their esports career but also after their esports career.
- Lastly, sleep management was recognised as a key coping skill to manage both training loads and competition pressure.

Introduction

The esports industry has dramatically grown and esports itself is being recognized as a global phenomenon, (Himmelstein et al., 2017) attracting young people to the industry to compete as professional players similar to those in traditional high-performance sports (Smith et al., 2019). Taylor (2012) reported that professional leagues have been formed worldwide and strongly established in Asia, Europe, and North America. Similar to traditional sport, many young people who play esports pursue this as a career (Smith et al., 2019). However, researchers have identified issues with establishing esports as a career such as the general absence of league systems due to a lack of opportunity for players to generate stable income. (Holden & Baker, 2019). These issues can be defined as organizational stressors, which requires coping skills/strategies to manage (Fletcher et al., 2006). The psychological aspects of esports such as players' stressors and coping strategies related to performance, (Smith et al., 2019) as well as the psychological and physiological stress that players experience (Leis & Lautenbach, 2020) have been considered by some researchers. Pereira et al. (2019) revealed that little is known about the psychological and physiological demands that esports players experience and its long- and short-term effects. Thus, they concluded the need to develop effective strategies to address screen time, physical activity levels, injuries, and training environment.

At an individual level, Taylor (2012) argued that professional esports players have many features in common with traditional athletes such as rigorous training, competing at international tournaments while complying with the rules of each tournament, national associations, and governing bodies. It was recently reported that esports requires not only fine-motor coordination but also perceptual-cognitive skills for high-performance (Pedraza-Ramirez et al., 2020), which is contradictory to previous findings of lack of physicality (Jenny et al., 2017). Johnson and Woodcock (2021) revealed that esports players need to make heavy commitments to enhance their skills to be eligible to participate in high level competitions. Since use of coping strategies in competitive situations has shown to have a more positive impact on athlete performance (Nicholls et al., 2016) and health (Cumming et al., 2012), it is critical to identify esports athletes' coping strategies to enhance their health and wellbeing and manage stressors caused by training and competitions.

Calmeiro et al. (2014) found both elite and non-elite athletes applied coping skills/strategies to manage pressures faced in competition settings. In esports, players are required to develop game-specific knowledge and strategies, stay motivated and focused, and keep fine motor control (Pedraza-Ramirez et al., 2020). This is all while managing both physical and psychological stress associated with high level of training and competitions (e.g., Himmelstein et al., 2017; Smith et al., 2019). While it is critical for better performance, how players manage their overall physical and mental wellbeing along with their demanding training and competing schedule has been under researched. Lazarus and Folkman (1984) have defined coping as the cognitive and behavioural efforts to manage specific demands that are appraised as stressful. Use of coping strategies in competitive situations were shown to have a more positive impact on athlete performance (Nicholls et al., 2016) and health (Cumming et al., 2012). Coping has been predominantly understood from the transactional process perspective (Nicholls & Polman, 2007). This considers both personal factors and an individuals' understanding of the given situation or specific context that requires coping (Kristiansen & Roberts, 2010). It was found that athletes could experience competitive and organizational stressors that they need to manage with different coping skills/strategies (Nicholls & Polman, 2007).

Further, Kristiansen and Roberts (2010) noted that social support in the competitive sport setting can be from staff of sports organizations/governing bodies as well as family, friends, coaches, and teammates. Lazarus and Folkman (1984) proposed two different types of coping: 1) problem-focused coping such as goal setting, time management, and problem solving, and 2) emotion-focused coping, where individuals attempt to control their emotional distress, by changing the stressors and demands that caused the distress. Coping strategies that athletes apply have been found to significantly influence their psychological status, with those who mainly utilize emotion-focused and avoidance coping likely to experience greater cognitive anxiety (Hammermeister & Burton, 2001).

Within the Transactional Model applied in the present study, it is also critical to understand two different types of appraisals that athletes engage in to manage their stressors and stressful situations: primary and secondary appraisals (Lazarus & Folkman, 1984). In the process of primary appraisal, athletes evaluate if the stressors/stressful situations have an influence on their "values, goal commitments, beliefs about self and world, and situational intentions" (Fletcher et al., 2006, p. 17), while secondary appraisal involves evaluation of how possibly they can cope with/ have control over the situations (see Fletcher et al., 2006 for further details). Smith et al. (2019) investigated coping skills/strategies to deal with stressors, while this current study focusses on their coping skills/strategies to enhance their health and wellbeing. The present study, therefore, aims to identify esports players' coping skills and strategies to enhance their positive physical and mental health. Thus, Lazarus and Folkman's (1984) transactional model of stress and coping was applied as a theoretical framework.

Methods

The present study applied a qualitative approach to better understand esports players' coping skills and strategies to enhance their mental and physical health. Our study is in line with the interpretivist paradigm that researchers make an effort on understanding and identifying how individuals make sense of their experience related to what has happened to them (Mallett & Tinning, 2014). Thus, we have adopted both relativist ontology and subjectivist epistemology for our inquiry that supports the perception that social world can be constructed by each individual's "subjectivities, interests, emotions, and values" (Sparkes, 1992, p. 5). We considered such philosophical approaches suit exploring and having an in-depth insight into esports players' coping skills and strategies to enhance their positive physical and mental health. Accordingly, semi-structured interviews were facilitated as a meaning-oriented methodology to better understand each participant's subjective experiences (McArdle et al., 2012). Moreover, the lead author who has conducted all semi-structured interviews has experienced interviewing a number of both active and retired high-performance athletes on the topic of sport career transitions and athletes' wellbeing and welfare. In particular, her experiences as a female researcher investigating male high-performance athletes' experiences (e.g., Judo, Cycling, Gymnastics, Swimming, Wrestling, etc.) has contributed to better understanding the esports players who are also engaged in a competitive setting as well as a male-dominated circle of esports, which helped develop a good rapport with the participants relatively quickly.

We confirmed that the present study complies with the Declaration of Helsinki and the research team obtained the ethical approval from their institution. In addition, all participants or guardians gave informed consent to take part in the study.

Participants

A total of 33 esports players at different stages of career – professional (n=21), semi-professional (n=6), amateur (n=4), and retired players (n=2) – participated in this study. All players have competed at international competitions and two won the world championships in their games. The research team has consulted with five different stakeholders in the esports industry and two academics in transitional sport to define professional, semi-professional, and amateur esports players. Due to an unclear definition in the esports industry or literature, the research team defined their level based on group discussion and consensus. It was also observed that the semi-professional and amateur players defined themselves based on their ranking and tier/league they played for. Since each game has different tiers and league systems, this posed a challenge to define. However, for the present study, professional players are defined as players who play esports full-time in a top tier/league in their game and who are affiliated to professional teams. Semi-professional players are defined as players who play esports part-time in a lower tier/league than professional players and who have other forms of paid employment. Amateur players are defined as players who play esports part-time in a lower tier/league than semi-professional players. Their experience of competing at an international tournament distinguishes them from causal players. The nationalities of the participants include Australia, Bulgaria, China, Finland, Georgia, Germany, Italy, Japan, Philippines, Saudi Arabia, South Korea, Slovakia, Singapore, South Africa, Sweden, Thailand, Tunisia, and U.S. The games played included both individual (Street Fighter, Tekken, and Pro Evolution Soccer [PES]) and team games (League of Legends and Dota 2). A total of 33 participants in this study were male (32 males and 1 female). Only thirteen of the participants specified their ages (see Table 1), others only indicated they were over 18-year-old/ in their 20s. A total of 33 participants, over 18 gave informed consent, one player, under 18-year-old, gave informed consent through agreement of his team manager, who acted as his guardian. We used code names of 'Professional' for professional players, 'Semi' for semi-professional players, 'Amateur' for amateur players, and 'Retired' for retired players. The participant information is presented in Table 1.

Table 1. Participant Information

Code Name	Gender	Nationality	Age	Level
Professional 1	Male	U.S.	28	Professional
Professional 2	Male	Finland	Unknown	Professional
Professional 3	Male	Italy	Unknown	Professional
Professional 4	Male	Italy	Unknown	Professional
Professional 5	Male	Sweden	24	Professional
Professional 6	Male	Japan	Unknown	Professional
Professional 7	Male	Japan	Unknown	Professional
Professional 8	Male	Japan	26	Professional
Professional 9	Male	China	Unknown	Professional
Professional 10	Male	Philippines	Unknown	Professional

Professional 11	Male	Philippines	Unknown	Professional
Professional 12	Male	Sweden	20	Professional
Professional 13	Male	Germany	Unknown	Professional
Professional 14	Male	Japan	Unknown	Professional
Professional 15	Male	Singapore	21	Professional
Professional 16	Male	Singapore	21	Professional
Professional 17	Male	Bulgaria	Unknown	Professional
Professional 18	Male	Singapore	29	Professional
Professional 19	Male	Japan	Unknown	Professional
Professional 20	Male	South Korea	32	Professional
Professional 21	Male	South Korea	27	Professional
Semi 1	Male	Slovakia	26	Semi-professional
Semi 2	Male	Thailand	22	Semi-professional
Semi 3	Male	Georgia	Unknown	Semi-professional
Semi 4	Male	Saudi Arabia	Unknown	Semi-professional
Semi 5	Female	South Africa	Unknown	Semi-professional
Semi 6	Male	U.S.	36	Semi-professional
Amateur 1	Male	South Africa	17	Amateur
Amateur 2	Male	Georgia	Unknown	Amateur
Amateur 3	Male	Australia	Unknown	Amateur
Amateur 4	Male	South Korea	Unknown	Amateur
Retired 1	Male	China	Unknown	Professional
Retired 2	Male	China	Unknown	Professional

Procedure

Semi-structured interviews were applied to investigate the participants' insights into the research topic (Pezalla et al., 2012). The interview questions were developed by reviewing the literature and reflecting on the research questions in this study (Mason, 2004). The interview questions were reviewed by an expert in esports who is working for an international sport organisation and works with key stakeholders in the esports industry. The interview topics include: 1) background of esports career including games they play, length of their career, player status (pro/semi-pro/amateur) (i.e., can you tell me about your esports game and level of your performance at the moment? how long have you played the game?); 2) general experience of competing as an esports player (i.e., can you tell me about your experience as an esports player

such as positive/negative aspects?); 3) challenges and difficulties in relation to esports career (training and competing) (i.e., can you tell me about any challenges an difficulties that you have faced during your esports career?),; and 4) coping skills and strategies that they have applied to enhance their physical and mental health and wellbeing (i.e., can you tell me about your coping skills or strategies that you have used to enhance your physical and mental health and wellbeing alongside your esports career?). Following the institutional ethical approval, key stakeholders such as game publishers, sponsors, national esports associations, and event organizers were contacted to recruit participants at different levels. Some stakeholders invited the lead author to international esports tournaments where only professional players competed and players at all levels competed; others contacted some professional teams and arranged individual interviews for the study. To conduct face to face interviews, the lead author was invited to three major international esports competitions where top-tier professional players competed (ESL ONE 2019 in Hamburg, Germany and League of Legends Worlds Final 2019 in Paris, France) and players at all levels competed all together (IESF World Championship 2019 in Seoul, South Korea) as well as a number of esports fans attended to support the players. The interviews were conducted between October and December 2019 as well as in various places at participants' convenience where their anonymities were ensured (e.g., game houses, conference/meeting rooms). Two retired players and one professional player in China were interviewed via a video call.

A total of 22 interviews were conducted in English. Professional translators helped interview players from China (n=3) and Japan (n=5), whilst players from South Korea (n=3) were interviewed in Korean by the lead author who is bilingual. Each interview lasted between 7 and 61 mins and the total time of interview is 547 minutes (approximately 9 hours); the average time is 17 mins. Some interviews at the competitions had to be shorter than 10 mins as they were conducted during a short break in competition. However, the lead author made sure that the players answered all key questions within the time frame.

Data Analysis

Thematic analysis was applied to analyse the data collected. Thematic analysis is considered to offer a flexible and useful research tool for qualitative research (Braun & Clarke, 2006). All interviews were audio recorded and transcribed verbatim, which allowed the author to better understand each account and the flow of how each participant answered (Thomas & Hodges, 2010). Each interview transcript was read multiple times by the lead author to ensure her familiarity with the participants' narratives, which is part of the first phase of thematic analysis. The process of thematic analysis was then followed. First, the authors identified initial codes while reading and re-reading the transcripts. Secondly, the initial codes were collated to develop themes. Thirdly, the themes were reviewed, and a thematic map of the analysis was generated. Lastly, each theme was refined, defined, and named. The confirmed themes were conceptualized based on the transactional model (Lazarus & Folkman, 1984).

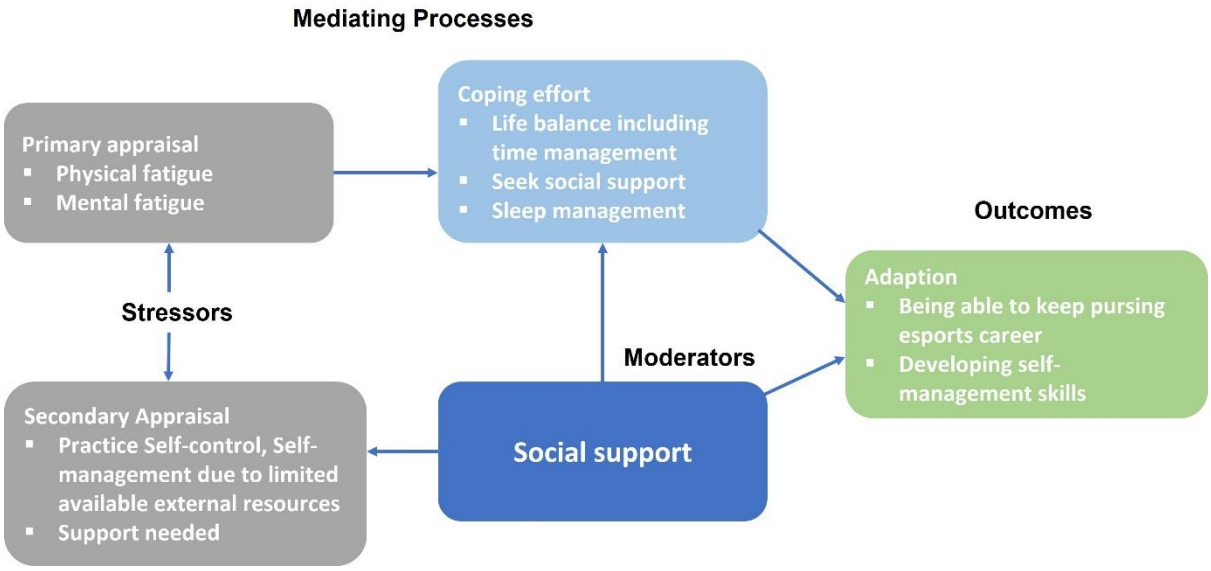
To ensure the methodological rigor and trustworthiness of the qualitative data analysis, the authors reviewed each phase of the thematic analyses and the findings for each theme based on the checklist developed by Braun et al. (2016). The checklist promotes "a thorough and systematic process and highlights the importance of the active role of the researcher" (p.17). During this process, the lead author kept a research journal ensuring a self-critical and reflexive approach to the present study; she also documented the analytical procedures by developing an

audit trail that was shared with and reviewed by the second author who acted as a critical friend (Brown et al., 2018).

Results

The conceptualized results are presented in Figure 1. Both physical and mental fatigue were identified as stressors in primary appraisal. Thus, in secondary appraisal, they made an effort in regard to practicing self-control and developing self-management skills to overcome possible issues caused by such physical and mental fatigue, as well as identified that they needed support along with self-care. As coping efforts/strategies, there are three key themes identified: Life Balance, Seek Social Support, and Sleep Management. Throughout the three main themes, social support played a role as a moderator in reinforcing their coping effort, which helped them adapt the circumstances they faced (e.g., a lack of external support). As a result, they were able to keep pursuing their esports career and develop self-management skills to balance their life and career.

Figure 1. Diagram of Transactional Model of Stress and Coping Skills of esports Players



Life Balance – Problem-Focused Coping

Most players identified they managed their mental and physical health by balancing their lifestyle. They highlighted that it was crucial to have a break from playing games and have a positive distraction: "Stop playing and do something else for a change" (Professional 3). In relation to positive distraction, Professional 4 noted,

> "My secret is just to do many things. For example, during a day, try to separate things and do sports, teaching, learning, whatever. Playing the piano for example. So, I do many things and I think the secret is to - for a good mental balance and development is to do things properly. Concentration but separately."

Professional 20 also emphasised self-care as well as balance: "taking care of yourself and trying to practice long hours because you didn't make it to a tournament which also harms you and makes you play worse, and you just have to always keep in mind the balance".

Time management skills were also highlighted as a way to keep the balance. Some of the professional players in their early 20's, semi-professional players, and amateur players managed their dual careers, those being either esports and study (e.g., high school and universities) or esports and work. To advance their performance in esports, they need to invest time in training, but student-players wanted to complete their education for their life after esports and semi-professional and amateur players wanted to work to make a living to be able to continue their careers in esports. Professional 18 commented, "it's really about time management, you need to manage time well, and you need to plan your schedule, you need to plan time for studies, plan time for training for a game". Professional 9 also shared the view, "Probably one of my main issues is that time is quite limited, but I cannot increase time itself physically, so what I can do is to raise the efficiency of my practice". Semi 6 highlighted the importance of having dual careers – esports and study – for young players and demonstrated that it was beneficial to have dual careers:

> "I mean studying and having a degree is very important, but you can still do that and play. [...] I got my bachelor's degree while I'm playing. Actually, playing helped me, it was kind of my second job, and it helped me go to the school."

Seek Social Support – Emotion-Focused Coping

Seeking social support was also identified as one of the important coping skills for esports players to deal with stress and difficulties that affected their mental and physical health. The social support providers included coaches, family members, friends, and people from their game communities. Professional 13 noted, "Sometimes I just have a rest and go back to my family". Semi 5 also commented, "I'll go out with my family. [...] You'd need your family to support you and whoever else that's with you or living with you". Professional 17 was with his parents at a competition at the time of the interview and noted that his parents have been very supportive of his esports career, which is not very common in his country. In the case of Professional 21, he talked about his difficulties and struggles to his friends, manager, and management team to get their insights and advice. Professional 20 noted that he sought help from his coach as he had a good relationship with him. He also sought support from others:

> "For me, after negative criticism, I like to talk to family even, some close friends, you know tell them I'm concerned about something, and they help me out a lot. Like very close people help in these situations, to remind you like it's not true and help you deal better with it."

Some players discussed they had to make an effort to get their parents to understand what an esports career was to receive parental support. Professional 15 remarked that his parents were not supportive at all at the beginning, but they started to provide their support when they attended one of his competitions and saw the potential of their son's esports career. Amateur 3 also discussed, "they don't quite understand the concept of professional gaming and stuff like that. But they're slowly getting there. I'm teaching them to understand." The only female player (Semi 5) in this study shared the same experience regarding the changes of parents' perspective on esports:

> "Well, at first my mum wasn't very happy about it, but now she's very supportive. As for the people in [her country], there are a few parents that say it's not a good thing, it

distracts the child. But most of the parents are supportive as long as the child's doing well in school."

In this sense, Professional 16 mentioned that his parents are fine with his esports career as long as he has a backup plan such as competing his degree while training and competing. As Semi 5 discussed the changes of parents' perspective, Semi 6 also highlighted, "It's getting better. We used to hide from our parents, not tell them that we're going to a competition. Now the parents come with the children. They come with their kids and watch them and support them". On the other hand, some players discussed lack of social support from their families who did not appreciate their career as esports players: "I would appreciate something coming from my family because they still don't pretty much get it. I think family is most important and friends who support you" (Semi 1).

Sleep Management – Problem-Focused Coping

Good sleep was highlighted as a crucial factor for better performance and good health in daily life. Professional 19 noted, "you have a better sleep cycle, you won't sleep passed the hours, so definitely help your sleep cycle. If your body is healthy then I feel like it impacts everything, definitely boosts your performance and your mental health". However, he further commented that he sometimes could not help giving up his time for sleep to make up training time after he spent time on his study to balance two commitments. Professional 18 shared the same view, "In the end you might see it as I'm wasting time, I should be studying, I should be training, but I know in the end sleep is important, rest is important, you need to maintain your health and everything". Professional 8 also commented that the first thing he did when he physically felt tired is to sleep. He especially emphasised 'good sleep', which helped him play games and continue his professional career for a long time. In relation to this, Semi 6 discussed that he would appreciate help from a sleep therapist: "I think most of it is mental. Like you have a mental, you have a sleep therapist, stuff like that should... [...] Of course. Sleep is very important you know".

Although only one player mentioned that meditation was his key coping strategy to keep up his mental health from stress caused by heavy training and high-pressured competitions as well as to have a good sleep, it is worth noting that he is one of the top players in his game across the world. He discussed that he spared some time for meditation on a daily basis and remarked that it helped him better perform as well as stay calm and healthy in daily life.

Discussion

The present study sought to identify common coping strategies that players have applied to enhance their mental and psychological health whilst continuing to pursue their esports career. This paper presents original findings related to esports players' coping skills and strategies to enhance their physical and mental wellbeing from an extensive range of participants. The findings in this study include some significant contributions to both literature and practice. This study found that life balance, sleep management and social support were key coping strategies with participants using both problem-focused (Life Balance and Sleep Management) and emotional-focused coping (Social Support). It was noticeable that players highlighted the importance of problem-focused coping through life balance and time management skills to enhance their health and wellbeing as well as quality of performance. This

finding is consistent with evidence in previous studies that problem-focused coping predicted positive impact (Ntoumanis & Biddle, 1998). Smith et al. (2019) found esports players' stressors was the challenge to keep life balance (e.g., between esports career and life outside esports) and manage lifestyle (e.g., frequent travels to compete abroad). However, it is interesting that the participants in the current study identified life balance as a coping strategy to enhance their health and wellbeing, similar to that of traditional sports (Johnson & Podlog, 2014). Career assistance programmes for high-performance athletes provided by sport governing bodies recognised time management as a key transferrable skill (Hong & Coffee, 2018). In this context, structured support programs or schemes to assist esports players in the importance of developing transferrable skills in particular time management, for their esports career and overall wellbeing are needed. Time management skills are also considered as a key factor to enable high-performance athletes to balance between sport and academic commitments (Macquet, 2010), which some of the players in this study who attend universities experienced. In this sense, a balanced lifestyle by managing dual careers (e.g., study or work and esports) was considered as important. Many esports players start their professional career at an early age between 16 and 20 years old as there is no age restriction to play professionally. This may encourage some players to drop out of their public education to focus on their esports career (Hattenstone, 2017). This issue is also reported in the context of traditional sports in adolescent athletes with dual careers who prioritized sport over education (Cosh & Tully, 2014). Given that many esports players are in the age group attending either secondary schools or universities, guidelines on dual careers of esports players may need to be developed. This would raise awareness of players' challenges and need of support from stakeholders such as teams, federations, sponsors, educational institutions, and parents to enhance their wellbeing, during and after their esports career. This highlights the need for managing dual careers and the skills required to balance different commitments, to ensure overall health and wellbeing, which is evidenced in this study.

Social support also functioned as a key coping strategy in this study (emotional-focused coping; Lazarus & Folkman, 1984) as well as a moderator. This supports research in traditional sport that found social support helped athletes to cope with stressors caused by high demands of training and competition pressure (Rees et al., 2007). The evidence in the present study shows that emotion-focused coping is a critical strategy and plays a role in moderating challenges and stressors while positively impacting on the outcomes (see Figure 1). Rees and Hardy (2004) also suggested the stress-buffering hypothesis that high levels of social support are related to reduced risk of symptoms in mental health such as depression, highlighting the role social support plays in moderating stressors. As evidenced by Kristiansen and Roberts (2010), they emphasised that adolescent athletes need social support to keep pursuing their competitive sport career long-term. This is relevant to esports players as the findings in this study demonstrated that players seek social support to continue their esports career and enhance their health and wellbeing.

While players received support from different individuals, support and understanding from parents were highlighted. As such, the importance of parental support for young people's participation and success in sport has also been emphasised in traditional sport settings (e.g., Wylleman et al., 2000). There have been a number of studies conducted on the topics of parental involvement, pressure, and support in youth sport (Dorsh et al., 2016). Whilst parental involvement and pressure is beyond the scope of the current study, these findings were relevant to the findings in the present study. Parental support has been related to positive outcomes, including children's enjoyment and enthusiasm in sport (Hoyle & Leff, 1997). Similarly, players in this study also confirmed that support and understanding from their parents can keep them

motivated and engaged in esports and some of them identified that their parents attended competitions to support them, and therefore their career, in esports. This provides an insight into further research in esports related to parental support as research in traditional support has been established.

Good sleep management was considered as problem-focused coping because the players seek solution by changing and enhancing their behaviours based on Lazarus and Folkman's (1984) proposal of two different type of coping. This is also recognised to manage both training loads and competition pressure. In general, sleep offers different psychological and physiological functions that enable individuals to recover from fatigue (Nédélec et al., 2015). Smith et al. (2019) identified that players had trouble with a bad sleeping pattern due to the demands of training. Sleep restriction can influence performance and is connected to reduced reaction time and slower visual information processing. This could lead to poorer performance, a competitive disadvantage, (Bonnar et al., 2019) as well as poorer mental health (de Rezende et al., 2014). In a traditional sports context, sleep is considered as one of the key factors to impact an athletes' performance (Kirschen et al., 2018). Esports players need to make heavy commitments to enhance their skills to qualify for high level competitions (García-Lanzo & Chamarro, 2018; Johnson & Woodcock, 2021) like high-performance athletes in traditional sport. Thus, esports players should be encouraged to develop such skills to manage their training and competitions in a healthy way. Researchers also found that the recovery provided by good quality sleep contributed to athletes' quality of training and performance (Juliff et al., 2015). While the need for adequate and quality sleep is highlighted for high-performance athletes in traditional sport, they often experienced sleep disturbances caused by a number of risk factors (Robert et al., 2018). Likewise, there are similar risk factors for esports' players' sleep disturbances: caffeine use, air travel, pre-competition and competition nights, evening use of light emitting devices, sleep disorders, and performance enhancing substances (Bonnar et al., 2019). As the findings in this study showed, therefore, the importance of sleep management should be highlighted for esports players' healthy career and wellbeing.

It should be noted that the coping skills/strategies were examined based on the Transactional Model (Lazarus & Folkman, 1984) with the empirical evidence clearly conceptualized within the model (see Figure 1), another significant addition to the literature. The findings also provide some practical implications to the esports industry. There have been support services and programmes developed for high-performance athletes in traditional sport to assist athletes in developing transferrable skills (Hong & Coffee, 2018), which is lacking in esports. The need for structured support programmes or schemes for esports players should be further investigated. Considering esports players start at an early age, such programmes will also help develop essential skills for other career pathways if and when they face transitions to non-esports careers. It should be recognised that findings were drawn from the extensive narratives of a range of players at different levels across the world, which suggests that the identified coping skills and strategies could be applied to a bigger population within esports communities. The key stakeholders in the esports industry can use the evidence from this study to help develop schemes to support esports players. This could help promote the importance of developing key coping skills and strategies for esports communities to enhance health, wellbeing and performance.

The present study is subjected to some limitations. The participants in this study were all male apart from one female (Semi 5) and some interviews were too short to obtain some in-depth narratives due to the given circumstances. While it was beyond the scope of the present study, the participants' level of physical activity and status of mental health and wellbeing were

not measured to have a comprehensive understanding of relationship between their practice and perception related to physical and mental wellbeing. Since male and female players may use different coping strategies, the findings in this study can mainly be applied to male esports players. This gender imbalance should be addressed in a future study by investigating more narratives from female players. This may be related to how we recruited our participants. We only reached out to some key stakeholders within our network. However, researchers can reach out to broader communities and special affiliation groups to recruit more female players. The length of interviews conducted at the competitions were relatively short, which may have limited the depth of narratives that researchers collected. Due to the preparation schedule at tournaments, it was not possible to hold players for longer interviews. To be able to collect in-depth narratives, interviews should be arranged off season. Additionally, future studies can collect further demographic information such as an exact age of each player, length of esports career and educational attainment to gain a broader insight into the topic. The findings were related to their physical and mental wellbeing, but there were no objective measures of these. Three more coping strategies have been proposed in other research: avoidance coping (e.g., disengaged from stressors), approach coping (e.g., planning), and appraisal focused coping (e.g., re-evaluating and re-structuring the environment) (Nicholls & Polman, 2007). However, for the purpose of this study only two types of coping were adopted, problem-focused and emotional-focused, which is consistent with previous studies (Kowalski & Crocker, 2001). Future research should investigate players' level of physical activity as well as status of mental health and wellbeing, with associated measures. In addition, the age of each participant was not specifically identified in this study. As evidenced in literature, there may be difference in the use of coping strategies between younger and older players. Thus, future studies can focus on how coping strategies vary across age groups of players. Likewise, based on a clear definition of each level, which should be clarified by scholars and key stakeholders, future studies can identify similarities and difference between players at different levels.

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Declaration of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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