

**STRESS, COPING AND EMOTIONS AMONG MALAYSIAN ELITE TENPIN
BOWLERS: A MIXED METHODS APPROACH**

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ABSTRACT

This research aimed to examine stressors, coping and emotions among Malaysian elite bowlers at pre-competition (PRE) and match days (MD). A total of fifteen elite bowlers completed diary packs on three occasions reporting stressors, coping strategies, coping effectiveness, emotions and its intensity and twelve of them were interviewed. One of the competitions was categorized as minor (MIN), whereas two as major competitions (MAJ). Data analyses used both quantitative and qualitative methods. Findings from diary revealed five stressors reoccurred over time. Additional three stressors were probed via interviews which did not report in diary. Problem-focused coping were the most reported strategies but only effective at different contexts; emotion-focused coping (*EFC*) was preferred at MD but only effective at PRE; while avoidance coping was the least reported and rated effective in MIN but not MAJ. Participants used more *EFC* in both gain- and loss-relational meanings. Positive emotions were associated with effective coping, and vice versa. Participants reported better social support coped effectively with positive emotions. In conclusion, bowlers employed different coping strategies at different contexts, but not all were effective. Overall results provide support to Lazarus' (1999) stress and coping transactional model. Findings suggest that sport practitioners should look into individual appraisal, practice effective coping strategies and regulate positive emotions for better competition outcome.





TEKANAN, MENANGANI DAN EMOSI DI KALANGAN PEMAIN *TENPIN BOWLING* ELIT MALAYSIA: SATU PENDEKATAN KAEDAH CAMPURAN






ABSTRAK

Kajian ini mengkaji tekanan, kaedah menghadapi serta emosi pemain boling elit Malaysia semasa pra-pertandingan (PRA) dan pertandingan (MD). Seramai lima belas pemain elit melengkapkan pek diari yang melaporkan jenis tekanan, strategi menghadapi, keberkesanan, emosi dan intensiti dalam tiga pertandingan yang disertai. Seramai dua belas pemain ditemuramah. Satu pertandingan dikategorikan sebagai 'minor' (MIN) sementara dua pertandingan dikategorikan sebagai 'major' (MAJ). Analisis kuantitatif dan kualitatif digunakan. Dapatan dari diari menunjukkan lima jenis tekanan yang berulang dari masa ke masa. Tiga jenis tekanan tambahan yang tidak dilaporkan dalam diari didapati melalui temubual. Strategi masalah-fokus adalah strategi yang paling kerap dilaporkan tetapi hanya berkesan pada konteks berlainan; strategi emosi-fokus (*EFC*) disukai di MD tetapi hanya berkesan pada peringkat PRA, sementara strategi mengelak paling kurang dilaporkan dan dinilai berkesan dalam MIN tetapi tidak dalam MAJ. Peserta menggunakan lebih *EFC* dalam membuat penilaian tentang sesuatu situasi samada ianya menguntungkan atau sebaliknya. Emosi positif juga dikaitkan dengan menangani tekanan secara berkesan dan sebaliknya. Peserta yang melaporkan sokongan sosial yang lebih baik dapat menangani tekanan secara berkesan dengan emosi positif. Kesimpulannya, pemain menggunakan strategi yang berbeza dalam konteks yang berlainan, tetapi tidak semuanya berkesan. Keputusan keseluruhan memberikan sokongan kepada model menangani tekanan *transactional* Lazarus (1999). Penemuan kajian mencadangkan pengamal sukan perlu melibatkan penilaian individu, mengamalkan strategi menangani secara berkesan dan mengawal emosi positif untuk hasil pertandingan yang lebih baik.



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CHAPTER 1

INTRODUCTION



Competitive sport is stressful; it places individual under tremendous pressure both physically and mentally (Dale, 2000) and may impact on athletes' performance (Nicholls & Polman, 2007a). Lazarus (2000a) claimed that stress is one of the main contributing factors that cause decreased performance. On the other note, coping is the process dealing with stressful situations (White, 2008). In order to perform successfully in sport, the ability to cope with stress is crucial (Anshel, Sutarso, & Juvenville, 2009; Nicholls & Polman, 2007b). There are an increasing number of athletes turning to sport science in general and sport psychology in particular to deal with these stressful encounters and optimize performance.



In this study, researcher is interested to investigate stress and coping in tenpin bowlers of Malaysia elite team. In a much earlier research, Thomas, Schlink, and Over (1996) studied tenpin bowlers' psychological and psychomotor skills agreed that most coaches and athletes now acknowledge that psychological factors make an important contribution to sport performance. Stress coping research in sport has gained popularity among researchers in recent years (Anshel & Sutarso, 2007) but yet in tenpin bowling.

In general, research in tenpin bowling is surprisingly scarce (Razman, Cheong, Wan Abas, & Abu Othman, 2012; Razman, Wan Abas, & Abu Othman, 2010). Very little research is done on tenpin bowling, especially in the psychological aspect. A few of the latest scientific literature were found in sport engineering, physiology and biomechanical aspects (Razman et al., 2012; Young, Sherk, & Bemben, 2011; King, Perkins, Churchill, McGinnis, Doss, & Hickland, 2011; Razman et al., 2010; Wilson, Slowinski, & Jalil, 2010; Wilson & Jalil, 2010; Tung, Senanayake, & Flyger, 2009). As for sport psychological context for tenpin bowling, researcher found Mesagno, Marchant and Morris (2008) studied Australian tenpin bowlers on choking but they did not investigate stress and coping.

Referring to other sports, there has been an increased number of research investigated stressors and coping among elite athletes, from both qualitative and quantitative perspective (e.g. Nicholls, Jones, Polman, & Borkoles, 2009; White, 2008; McKay, Niven, Lavallee, & White, 2008; Thelwell, Weston, & Greenlees, 2007; Anshel & Sutarso, 2007; Vredenburg, 2007; Nicholls, Holt, Polman, & Bloomfield, 2006). This suggests that studies in stress and coping are important particularly for tenpin bowling since it is scarce. Understanding about the stressors encountered, the

implementation of different coping strategies and each of its effectiveness not only a gain for athletes and coaches, but will also help sport psychologists develop better intervention programs.

Stress has been defined as the “quality of experience, produced through a person-environment transaction that, through either over arousal or under arousal, results in psychological or physiological distress” (Aldwin, 2007, p.24). It consists of two types: chronic and acute stresses. Chronic stresses usually happen over a long period of time that is perceived either as threatening, harmful, or challenging. Ultimately, according to Anshel, Brown and Brown (as cited in Anshel, 2001), acute stress defines as sudden exposure to stimuli, such as receiving wrong call from referee or official, making a wrong or bad mental or physical decision, play badly due to external environment, experiencing pain or injury, or observed an opponent’s play well. It is perceived as highly intense that usually results in low psychological and psycho-physiological functioning and poor performance. For instance, it is quoted: ‘I felt that Chong Wei seemed to be a bit under pressure today. He was making a lot of unforced errors, which probably caused him to play safe in his shots,’ commented the newly crowned champion Simon Santoso after winning Singapore Open 2014. Retrieved from <http://www.badzine.net/news/singapore-open-finals-%E2%80%93-simon-found-his-%E2%80%93-wei%E2%80%93-back-to-superseries-title/29779/>.

A lot of work in the field of stress, emotions, and coping process is done in Lazarus’ research and theoretical efforts in these topics more than 50 years ago (Lazarus, 2000b). Earlier, Lazarus’ work (e.g. 1984; 1999b) on stress and coping referred harm, threat, challenge and benefit as stress appraisals, it was later renamed as

relational meanings. Over the years, the definition of each stress appraisal or relational meanings remain unchanged. In 2000, Lazarus (2000a) proposed a revised concept which named as two-factor schematization of relational meanings. This model categorized threat and harm as loss relational meanings, whereas challenge and benefit as gain relational meanings. Both 2 types of gain- loss relational meanings can be either already happened (past) or going to or may happen (future). It is important to understand about relational meanings according to different athletes because the same stressor can have different appraisals (relational meanings) by different individuals (Nicholls, et al., 2011), and it affects the decision of athletes' on coping strategies.

In order to perform successfully under high level of pressure, athletes are required to have the ability and skills to cope with stress (Lazarus, 2000a). Hence, coping is relevant in many athletic situations (Olusoga, Butt, Maynard, & Hays, 2010). According to Crocker, Kowalski and Graham (as cited in Nicholls, Holt, & Polman, 2005), coping process involves cognitive, affective, and behavioral efforts to deal with both internal and external demands. Sport related coping research in the literature has taken two main directions. One of the directions examined athletes' preferred coping method, which referred as coping style. Coping style refers to athlete's usual coping responses to particular stressors or stressful scenarios that previously experienced in sport competition. On the other hand, a coping strategy is a measure of state in coping response. It reflects an athlete's actual coping responses following a particular stimuli or stress appraisal (Anshel, Raviv, & Jamieson, 2001). Coping styles are more predictable than strategies because they reflect dispositions, preferences, and tendencies, and therefore, are more likely than strategies to reflect an athletes' gender or culture (Hoedaya & Anshel, 2003).

Strategies to cope with stresses are either to regulate emotional distress; to temporary block out the stressor or solve the problem that causes distress (Polman, 2012). Specific coping strategies are often classified into higher-order dimensions includes problem-focused coping, emotion-focused coping and avoidance coping (Allen, Frings, & Hunter, 2012). Coping strategies that regulate emotional distress (such as deep breathing, visualization, and acceptance) are categorized as emotion-focused dimension. Strategies that solve or manage problems (e.g. goal setting, planning, and time management) are referred to as problem-focused coping strategies (Lazarus, 1999b). More recently it has also been suggested that there is a third higher order coping dimension: avoidance coping. Avoidance coping are cognitive (blocking) or behavioral (walking away) attempts to deal with the stressor (see Nicholls & Polman, 2007a for a review).

It has been well established that elite athletes have to have a set of effective coping skills in order to manage competitive stressors (Dugdale, Eklund, & Gordon, 2002). Unable to cope with stressors effectively is a significant factor in high level athletic performance as athletes fail to function optimally under tremendous pressure (Lazarus, 2000a). Coping effectiveness can be considered in terms of short-term outcomes, of whether or not an individual was able to manage a specific stressor, or long-term outcomes such as general adaptation over time. Coping with short-term outcomes is most relevant to performance-related coping research. Despite the notion of the importance of coping effectiveness, it has not been extensively examined (Folkman & Moskowitz, 2004). This phenomenon is not uncommon because coping effectiveness is naturally difficult and complicated in performance stress and coping

research (Lazarus, 2000b; Somerfield & McCrae, 2000). It is also suggested that qualitative research may help provide a basis for understanding coping effectiveness (Lazarus, 1999b, 2000b; Somerfield & McCrae, 2000; Ntoumanis & Biddle, 1998; Somerfield, 1998).

In early research on coping, emotions are said to generate throughout the process of coping (Folkman, 1992). However, there is no consensus on emotion's definitions among researchers (Jones, Lane, Bray, Uphill, & Catlin, 2005; Lazarus, 2000c). It is generally accepted that emotions trigger by specific causes short duration (Lane & Terry, 2000). Strategies for the management and control of emotions can be found in the sport psychology literature. Most of the coping literature was found focus on the association between anxiety and competitive performance with negative emotions (Hanin, 2000a). Lazarus and Folkman (1984) claimed that threat and loss stress appraisals would generate negative emotions such as anger, anxiety and fear. Vice versa, challenge relational meanings (stress appraisals) would generate pleasurable emotions, e.g. happy, pride and gratitude. Later research suggests that positive affects may facilitate coping to stress by neutralizing the effects of negative emotions (Fredrickson & Branigan, 2005) and enhance coping adaptation (Folkman & Moskowitz, 2004).

Since the 1980's, sport psychology researchers have started focusing on investigating stress, coping strategies and emotions among elite, non-elite performers and non-athletes (Nicholls, 2010a; Nicholls, Holt, & Polman, 2005; Lazarus, 1999a; Folkman, 1997; Moskowitz, Folkman, Collette, & Vittinghoff, 1996; Anshel, 1996;

Lazarus & Folkman, 1984). However, many researchers did not investigate stress, coping and emotion together and its relationship (Nicholls, Jones et al., 2009).

Lazarus (1999) proposed that researchers must consider both the stimulus and the response as stress, coping, and emotion belong together and form a conceptual unit. These psychological constructs should be examined together in order to be accurate. Hence, the purpose of the study is to examine stressors, coping, coping effectiveness, emotion and its intensity during training and competitions in 3 different competitions, and to explore past coping experience during stressful events among a sample of Malaysia national elite bowlers. At the end of the study, researcher merge both the quantitative and qualitative data to provide a better understanding of the whole study.

1.2 Problem Statement

Over the years, when Malaysian athletes failed to achieve expectations, they are labeled as low in quality compare to their international counterparts (Omar-Fauzee, Wan Daud, Abdullah, & Abdul Rashid, 2012). Low quality is a broad term which might not help to identify the root in order to solve any problems. Researcher intended to look into stress and coping to investigate the stressors that pressurized athletes before and during games, as well as how do they cope for successful performance, and vice versa. By understanding the stressors, bowlers' coping responses and emotions, sport practitioner will have better understanding of the whole phenomena. This is supported by the quotes quoted by bowlers: *'I struggled on the lanes. I was left with a single pin still standing every time. So I just tried to spare everything as opponent was hitting strikes after*






strikes.. I just wanted it too much and it showed. I realized it at the end, but it was too late. It's not the perfect ending I'd hoped for.' Retrieved from <http://www.thestar.com.my/Sport/Bowling/2015/06/14/Rafiq-close-bowling-competition-with-Masters-silver/>. And *'It is difficult to always be at the top. There are many times I felt like giving up. In the last few years I've had a lot of injuries and sometimes it's hard to stay positive and keep going.'* Retrieved from <http://www.channelnewsasia.com/news/sport/sea-games-malaysian/1915740.html>

Besides the earlier stated research done on tenpin bowling in the biomechanical perspective, the area of sport psychology is not yet well researched. Researcher managed to trace a study by Omar-Fauzee and associates (2009) investigated a group of Malaysian athletes recruited from various sports and different levels, with a small number (not stated in the article) of tenpin bowlers. However, researchers of that study did not study stress and coping as a conceptual unit as suggested by Lazarus (1999) and Nicholls, et al. (2009). Moreover, Omar-Fauzee et al. (2009) only employed quantitative method using questionnaire to explore coping strategies used, which might not fully explore stress and coping.






As a sport, tenpin bowling has been played since ancient times and it is widely accepted as a sport at a recreational level in many countries (Young et al., 2011). Though is a non-Olympic sport, it is recognized as a competitive sport with its acceptance into the Commonwealth (since 1998) and Asian Games (since 1978) as a medal sport. In Malaysia, it is identified as a world class sport which has been contributed quite a number of medals to the country in many high level tournaments

(Holloway Cheah, personal communication, 2009). Yet, limited research was done in relation to sport psychology on Malaysia tenpin bowlers.

In addition, determining cultural differences in stress and coping is important (Anshel & Si, 2008). Previous coping research have examined sport related coping among athletes from Korea (Yoo, 2000; Kim & Duda, 2003), Indonesia (Hoedaya & Anshel, 2003) but yet fully explored among Malaysian athletes. Results of the above studies indicated that athletes' coping responses to both chronic and acute stressors were cultural related. Although current study is not aimed to compare differences between different cultures, but it serves as an important 'baseline' data for Malaysian elite bowlers, particularly in the South-East Asia region.

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The overall intent of the study is to examine stress, coping, coping effectiveness, emotions and its intensity among Malaysian elite tenpin bowlers. As mentioned earlier in the chapter, stress and coping research among elite athletes has been increased from both qualitative and quantitative approaches (i.e. Nicholls, Jones, et al., 2009). However, most researchers used only either quantitative or qualitative method. Furthermore, there is a lack of investigation of stress, coping, coping effectiveness and emotions as a conceptual unit. In the present study, researcher employ mixed method design using both quantitative and qualitative approaches to investigate stress, coping and emotions as a whole. By employing a mixed method design, numeric results could be obtained from quantitative data (i.e. type of stressors, frequency of occurrence, coping strategies employed and its frequency) and follow up by exploring participants' view to add depth via qualitative method. Combining both the quantitative and qualitative data offers better understanding of the present study as a whole by merging

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both quantitative (number results) and qualitative (additional views and information probed via interviews) data. As the voices of participants are not always directly heard from quantitative research alone, hence qualitative method makes up for this limitation (Creswell, 2007).

1.3 Objectives

1. Objective 1 is to identify the differences of stressors, coping strategies, coping effectiveness and emotions (and their intensity) during pre-competition training over 3 competitions using the self-report diary method.



2. Objective 2 is to identify the differences of stressors, coping strategies, coping effectiveness and emotions (and their intensity) during match days over 3 competitions using the self-report diary method.

3. Objective 3 is to compare pre-competition and match days of minor (competition 1) and major competitions (combined of competition 2 and 3) in term of coping strategies, coping effectiveness and emotions (and their intensity) using the self-report diary method.

4. Objective 4 is to explore past stress experiences, the coping strategies used, coping effectiveness and the accompanying emotions through interviews using Interpretive



Phenomenological Analysis (IPA; Smith, 1996; Smith & Osborn, 2003) according to participants' loss and gain relational meanings.

5. To converge both the data from self-report diaries (quantitative) and interviews (qualitative) to provide a better understanding of the research problem.

1.4 Research Questions

1. What are the frequencies (in percentage) of reported coping and emotion dimensions, mean rating of coping effectiveness and emotion intensity in pre-competition over the 3 competitions?

2. What are the frequencies (in percentage) of reported coping and emotion dimensions, mean rating of coping effectiveness and emotion intensity in match days over the 3 competitions?
3. Is there any significant difference in coping dimensions, coping effectiveness, emotion dimensions and its intensity between 3 competitions?
4. Is there any significant difference in coping dimensions, coping effectiveness, emotion dimensions and its intensity between pre-competition and match days?