

Characteristics of Psychological Stress Processes and Collective Efficacy in Response to Athlete-Athlete Relationship Stressors in Youth Soccer Players

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Interpersonal relationships are one of the stressors in sports activities and are considered to be a psychological variable that affects collective efficacy (CE). However, few previous studies on CE in team sports have examined the effect of the stressor of relationships with teammates on CE. The present study examined the differences in psychological stress processes in response to stressors of relationships with teammates and their relationships with CE in young soccer players from the perspective of competition level. High-level youth soccer players (HL) and low-level youth soccer players (LL) were asked to respond to each of the following five scales: CE, athlete-athlete relationship stressor, cognitive appraisal, coping, and stress response. In psychological stress process, based on competition level differences, the HL group showed significantly higher scores on CE and athlete-athlete relationship stressor compared to the LL group. Furthermore, HL also scored significantly higher on challenge and controllability in cognitive appraisal, problem-solving and positive thinking in coping as compared to LL. On the other hand, LL scored significantly higher on avoidance of coping and on helplessness in stress response. Thus, the results suggest that athlete-athlete relationship stressor does not necessarily have a negative effect on CE and that perceptions and behaviours toward stressors by differences of the competition level.

Keywords: youth soccer player, athlete-athlete relationship stressors, psychological stress processes, collective efficacy, stress management

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1. Introduction

In team sports, it is important to demonstrate high group performance to achieve victory as a team. Uchida et al. (2014) cited collective efficacy as a psychological factor that explains team performance. Collective efficacy is a concept that extends self-efficacy to the group level, and is defined as “the shared beliefs of a group about its integrated ability to systematically perform the actions necessary to achieve a goal” (Bandura, 1997). Previous studies examining the relationship between collective efficacy and team performance have reported that collective efficacy has a positive impact on team performance (Chaw and Feltz, 2008; Gully et al., 2002; Hodge and Carron, 1992; Lirchacz and Partington, 1996).

Kawazu et al. (2012) stated that given that winning

and losing in competitions are uncontrollable, it is important not only to focus on the relationships between performance and collective efficacy but also to enhance collective efficacy in activities such as practice to generate desirable behaviours that lead to team victory from the perspective of application to practical situations. On the other hand, there were studies that have examined what factors that influence collective efficacy (Hampson and Jowett, 2014; Lopes et al., 2015). For example, Lopes et al. (2015) studied the effect of relationships between coaches and players on collective efficacy among young volleyball players, with players on the first through third place teams in a state championship tournament as the medallist group and players on the fourth and lower place teams as the non-medallist group. As a result, the medallist group showed significantly

higher values of collective efficacy and the factors of “commitment” and “closeness” in the coach-athlete relationship than the non-medallist group. In addition, a correlation was found between factors related to “perseverance,” “effort,” and “preparation” in collective efficacy and factors related to “closeness” and “complementarity” in coach-athlete relationship. Furthermore, a study of soccer players also reported a positive correlation between collective efficacy and factors of commitment in coach-athlete relationship (Hampson and Jowett, 2014). This suggests that there are relationships between athletes' confidence in their team and the positive relationships that develop between coaches and athletes, and that athletes' positive perceptions of their relationships with coaches may contribute to collective efficacy.

Although relationships are one of the factors that influence collective efficacy, relationships in team sports include not only coach-athlete relationship (Hampson and Jowett, 2014; Lopes et al., 2015) but also relationships between athletes (e.g., Aoki, 1989; Shibukura and Mori, 2002). In this regard, Shibukura and Mori (2002) pointed out that relationships are one of the stressors in athletic activities, and Aoki (1989) pointed out that one of the main reasons for retiring high school athletic teams is conflict in relationships. However, in fact, some athletes are negatively affected when confronted with some kind of stressor, while others are not. According to Lazarus and Folkman's (1984) trans-action model, which is a representative psychological stress model, in the psychological stress process, people evaluate what

kind of stressor they are facing, think about how they can cope with it, and take action. As a result, various stress responses were observed (**Figure 1**). In other words, the evaluation of the stressor is subjective, and the stress response depends on whether the situation is evaluated as stressful or not.

However, psychological stressors do not necessarily have negative effects. For example, when a stressful event are confronted, It has been reported to have a positive impact on adaptation to stressful events (Park, 2008, 2010) and on mental and physical health (e.g., Bower et al., 1998; Robert et al., 2006) by understanding the reasons and meanings behind the events, and by making meaning, discovering the benefits that can be gained from the events. Such events have been described as stress-related growth (Park et al., 1996), and Shibukura et al. (2008) recently reported that, outside of sports, research on psychological stressors in relation to personal growth (e.g., Affleck et al., 1987; McMillen et al., 1995; Updegraff et al., 2002). In the past, researches on psychological stressors in athletes have examined psychological stressors as factors that negatively affect performance and adaptation to the environment. However, it is important to examine the characteristics of the psychological stress process on relationships between players in order to improve their confidence as a team and to support their adaptation to sporting activities by taking into account that club activities are part of educational activities for young people and that psychological stressors do not necessarily have only negative effects. Unfortunately, most of the

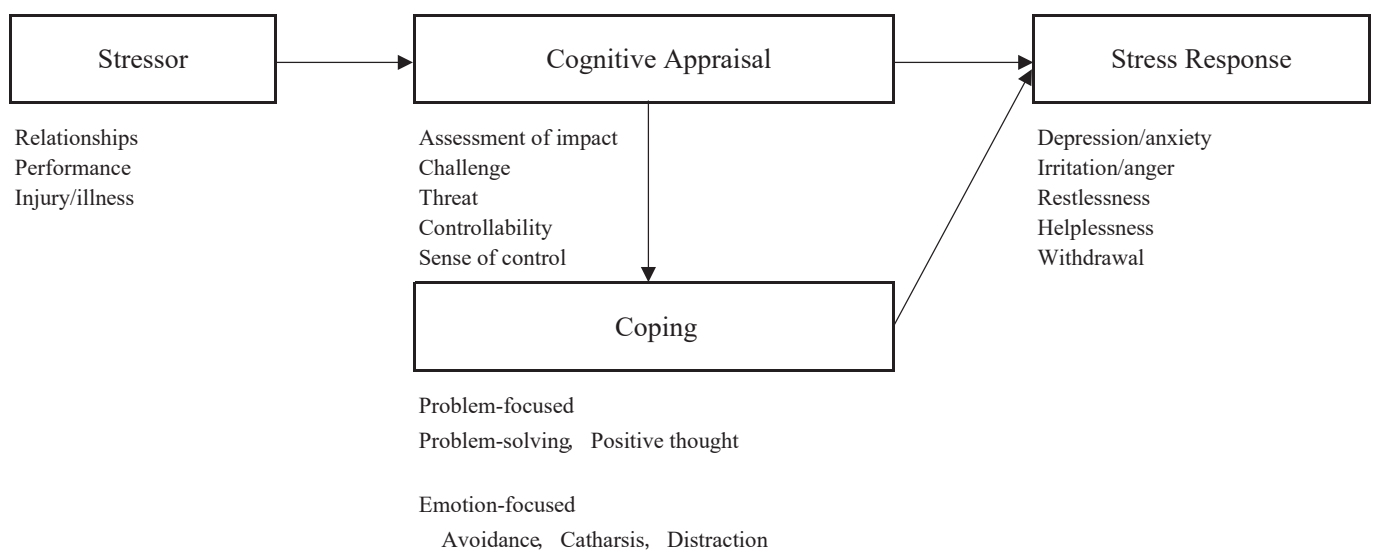


Figure 1 A model of the psychological stress process in young soccer players

research on psychological stress processes in sports has been on competition-related stressors, and there are few studies on relationship stressors (Shibukura and Mori, 2002). In addition, no studies have examined the relationship between collective efficacy and the systematic understanding of psychological stress processes in response to relationship stressors, focusing on the relationships among young soccer players. Furthermore, comparisons should be made according to the characteristics of the subject, based on attributes such as level of competition for the stressors faced by young athletes reflect the characteristics of the sport group to which they belong (Shibukura et al., 2008). The findings about the psychological stress processes of young players, who are undergoing rapid mental and physical development, which may serve as a basic resource for the effective use of stress management as a form of psychological support in the field of coaching from the standpoint of psychological support.

In this study that aimed to examine the characteristics of the psychological stress process in response to collective efficacy and relationship stressors in young soccer players at different levels of competition.

2. Methods

2.1. Participants

There are 332 high school soccer players belonging to five high school soccer teams participating in the prefectural leagues in the U-18 Soccer League and 206 high school soccer players belonging to seven J-League youth teams participating in the top-level league (Premier League) included in the study. In this study, the subjects who played in the top-level high school soccer league were classified as the HL group, and those who played in the prefectural league were classified as the LL group, based on their competition level. The mean age of the study subjects was 16.6 ± 0.9 years, and the mean number of years played was 10.1 ± 2.1 years. The HL group has the highest level of Japanese youth soccer league and has the highest level of competitiveness in Japan. Each team consists of approximately 30 players and practices in its own soccer practice pitch. The average practice time per week was about 12 hours, and the average practice time per session was approximately 2.0 hours. The frequency of activities were about 6 times a week, and

one day of those activities was a match. The LL group had only played at the local level and did not have experience playing at the top level of the Japanese youth soccer league. The teams, which the LLs are belonged consisted of approximately 65 players and practiced mainly at the school ground. The average practice time per week was about 14 hours, and the average practice time per practice was approximately 2.3 hours. The frequency of activities was about 6 times a week, and one day of those activities was a match.

2.2. Survey contents

The theoretical framework for this study is the trans-action model of psychological stress (Lazarus and Folkman, 1984) for interpersonal stressors among athletes in daily sports activities. Therefore, in this study, a psychological scale based on this model was used to evaluate each psychological stress process separately.

2.2.1. Face sheets

To obtain basic information on the survey targets, the questions which were asked to the players about their age, grade, and profile (years of competition, league affiliation, team affiliation, position, whether they are regular players, and activity status).

2.2.2. Soccer's version of collective efficacy

The collective efficacy scale for soccer players created by Miwa (2012) was used. This scale captures shared beliefs among teammates about their ability to succeed in a given behaviour. It includes items on cooperation (6 items, item example: I actively encourage and give positive feedback to the teammates), strategic communication (4 items, item example: I understand the intentions of my teammates), self-awareness and understanding of others (5 items, item example: My teammates understand me), and image sharing (4 items, item example: I can share the image that my teammates have of each other's play). Cronbach's alpha coefficients of these sub-factors ($\alpha = .78-.83$) confirm the reliability of the scale (Miwa, 2012). In addition, Eda et al. (2017) confirmed the conceptual validity of the scale. Respondents were asked to rate each item using a five-point scale ("disagree (1)" to "agree (5)").

2.2.3. Athlete-athlete Relationship Stressor

One of the sub-factors of Shibukura's (2001) stressor scale for high school athletes, the peer factor (7 items, item example: I do not agree with the way other teammates think), was used as a survey item. The Cronbach's alpha coefficient of this factor ($\alpha = .80$) confirms the reliability of this scale (Shibukura, 2001). The validity of the scale was also supported by a study conducted by Shibukura (2001). This scale measures the level of stress toward peers and relationships that one might experience in daily soccer practice and matches. In general, frequency of experience, disgust, and their combined impact (frequency of experience \times disgust) are used as measures of stressors (Kato and Ishii, 1999). However, no specific index has been shown to be superior in explanatory power tests for stress responses (Okayasu et al., 1993). In the present study, considering the burden of the survey targets' responses, the response method used by Kato and Ishii (1999) was adopted and asked the respondents to answer only about disgust, which was used as the athlete-athlete relationship stressor score. Respondents were asked to rate their level of dislike for the events indicated by each item in the last 2-3 months using a four-point scale ("Not at all (0)" to "Very much (3)").

2.2.4. Cognitive appraisal

The cognitive appraisal scale for high school athletes by Shibukura et al. (2008) was used. This scale measures how the stressor faced by an individual is subjectively perceived and evaluated and is a challenge (3 items, item example: I think I will overcome this situation), a threat (3 items, item example: I think this situation threatens me), controllability (3 items, item example: I think I know what to do to eliminate the cause of this situation) and consists of three sub-factors, for a total of 9 items. The Cronbach's alpha coefficients of these sub-factors ($\alpha = .77-.90$) confirm the reliability of this scale (Shibukura et al., 2008). In addition, the content, factorial, and predictive validity were confirmed in a study by Shibukura et al. The present study examined the cognitive appraisal of the relationship stressors among stressors related to sports activities. The response method followed the method described by Shibukura et al. (2008). Athlete-athlete relationship stressor was considered as the target stressors for cognitive appraisal, and the participants were asked

to indicate the extent to which they felt or thought the contents of each cognitive appraisal item in response to the stressor (e.g., the way of thinking of other teammates do not match the way of thinking of themselves) using a four-point scale ("I don't think so at all (1)" to "I think so very much (4)").

2.2.5. Coping

The coping scale for high school athletics from Shibukura and Mori (2002), which was used. This scale is based on a cognitive appraisal after facing a stressor and assesses how individuals deal with it. Problem solving (6 items, item example: try to change the current situation), avoidance (6 items, item example: give up because there is nothing you can do), catharsis (3 items, item example: understanding your feelings), distraction (3 items, item example: do something that refreshes your mood), positive thinking (2 items, item example: think this experience as an opportunity for trials), and consists of five sub-factors, for a total of twenty items. Cronbach's alpha coefficients for these sub-factors ($\alpha = .67-.86$) confirmed the reliability of the scale (Shibukura and Mori, 2002). The content validity of the scale was also confirmed by a study conducted by Shibukura and Mori (2002). Among the factors, problem solving and positive thinking represent problem-focused coping, while avoidance, catharsis, and distraction represent emotion-focused coping (Shibukura and Mori, 2002). Respondents were asked to rate the extent to which they engaged in the thoughts and behaviours indicated by the coping items when confronted with the stressor using a four-point scale ("Never (1)" to "Always (4)").

2.2.6. Stress Response

In this study, to reduce the burden of answering the questionnaire, the procedure of a previous study (Shibukura and Mori, 2002), which was followed and surveyed the top three items with the highest factor loadings in each sub-factor of the Stress Response Scale for High School Athletes (Shibukura and Koizumi, 1999). 15 items were included in this study. The scale consists of five factors: depression/anxiety (item example: feeling anxious), irritation/angry (item example: feeling angry), restlessness (item example: restlessness in behaviour), helplessness (item example: feeling lethargic), and withdrawal (item example: feeling bothered and reluctant to meet others). Reliability analysis was conducted for each

sub-factor to ensure the reliability of the results in the assessment of stress responses. The Cronbach's alpha coefficients for these sub-factors were .76 - .87, which were comparable to the reliability coefficients of the Stress Response Scale for High School Athletes (Shibukura and Koizumi, 1999). The criterion-related validity of the scale was also confirmed by a study conducted by Shibukura and Koizumi (1999). Respondents were asked to rate the degree to which they had recently experienced the emotional, conscious, and behavioural states indicated by each item on a 5-point scale from “never (1)” to “almost always (5)”.

2.3. Procedure

A self-administered anonymous questionnaire survey was conducted using the postal method. The purpose of the survey was explained to the managers of the club teams and high schools that cooperated with the survey. The questionnaires were sent to the organisations that agreed to cooperate with the survey and were distributed to the survey targets through the person in charge of each organisation. As an ethical consideration, the distributed questionnaires included: (1) an explanation of the purpose of the study, (2) protection of personal privacy, (3) the fact that cooperation in the study was voluntary and could be terminated at any time without any disadvantage; and (4) the possibility of immediately withdrawing consent to participate in the study if discomfort or burden was felt. These were explained in writing and orally by the person in charge of each organisation, and only athletes who agreed to the study were asked to respond. Questionnaires were collected and sealed by team leaders. This study was approved by the university research ethics committee.

2.4. Statistical analyses

Multivariate analysis of variance (MANOVA) with HL and LL groups was conducted on the sub-factors of athlete-athlete relationship stressor and collective efficacy, cognitive appraisal, coping, and stress response scales. SPSS (IBM, SPSS for Windows 26.0) was used for all statistical analyses, and the significance level for all statistical analyses was set at 5%. Eta squared (η^2) was used to indicate the effect size of the multivariate analysis of variance. Based on previous studies (Cohen, 1992, 1998; Field,

2005; Tabachnick and Fidell, 2006), the effect size in multivariate analysis of variance was defined as follows: the criteria for effect size are $\eta^2 = 0.01$ small, $\eta^2 = 0.06$ moderate, and $\eta^2 = 0.14$ large.

3. Results

3.1. Athlete-athlete relationship stressor

Table 1 shows the results of the athlete-athlete relationship stress scale. There was a significant difference between the groups in the athlete-athlete relationship stressor scores (HL group: 13.8 ± 4.5 points, LL group: 11.0 ± 5.6 points) ($F(1, 536) = 36.142, p < 0.001, \eta^2 = 0.063$).

3.2. Collective efficacy

Table 1 lists the collective efficacy scores. There were significant differences between the groups in all of the following areas (Cooperativeness: $F(1, 536) = 54.99, p < 0.001, \eta^2 = 0.09$; Tactical communication: $F(1, 536) = 44.41, p < 0.001, \eta^2 = 0.08$; Understanding of self and others: $F(1, 536) = 54.63, p < 0.001, \eta^2 = 0.09$; Image sharing: $F(1, 536) = 30.01, p < 0.001, \eta^2 = 0.05$): Cooperativeness (HL group: 23.1 ± 4.2 points, LL group: 20.1 ± 4.7 points), Tactical communication (HL group: 15.2 ± 2.7 points, LL group: 13.4 ± 3.1 points), Understanding of self and others (HL group: 20.4 ± 3.5 points, LL group: 18.0 ± 3.7 points), and Image sharing (HL group: 14.5 ± 2.8 points, LL: 13.0 ± 3.2 points).

3.3. Cognitive appraisal

Table 1 presents the cognitive appraisal scores. There was significant differences between the groups in Challenge (HL group: 10.6 ± 1.7 points, LL group: 9.7 ± 2.2 points) and Controllability (HL group: 8.1 ± 1.8 points, LL group: 7.5 ± 2.3 points) (Challenge: $F(1, 536) = 28.15, p < 0.001, \eta^2 = 0.05$; Controllability: $F(1, 536) = 10.55, p < 0.001, \eta^2 = 0.02$). There was no significant difference in Threat (HL group: 7.1 ± 2.4 points, LL group: 7.2 ± 2.5).

3.4. Coping

Table 1 shows coping scores. There was significant differences between the groups (Problem solving: $F(1, 536) = 37.77, p < 0.001, \eta^2 = 0.07$, Avoidance:

$F(1, 536) = 33.17, p < 0.001, \eta^2 = 0.06$, Positive thinking: $F(1, 536) = 22.75, p < 0.001, \eta^2 = 0.04$) in Problem solving (HL group: 18.9 ± 3.2 points, LL group: 16.9 ± 3.8 points), Avoidance (HL group: 10.8 ± 3.8 points, LL group: 12.8 ± 3.9 points), and Positive thinking (HL group: 6.3 ± 1.6 points, LL group: 5.5 ± 1.8 points). There were no significant differences between groups in Catharsis (HL group: 7.2 ± 2.2 points, LL group: 7.2 ± 2.2 points) and Distraction (HL group: 8.1 ± 2.0 points, LL group: 8.3 ± 2.3 points).

3.5. Stress response

Table 1 shows the results of stress response scores. There were significant differences between the groups in Helplessness (HL group: 5.6 ± 2.3 points, LL group: 6.4 ± 2.6 points) ($F(1, 536) = 11.37, p < 0.001, \eta^2 = 0.02$), Depression/Anxiety (HL group: 7.6

± 2.9 points, LL group: 7.5 ± 3.5 points), Irritation/Angry (HL group: 8.0 ± 2.7 points, LL group: 7.6 ± 2.9 points), Restlessness (HL group: 6.5 ± 2.4 points, LL group: 6.7 ± 2.7 points), Withdrawal (HL group: 5.7 ± 2.3 points, LL group: 5.9 ± 2.5 points). There was no significant difference in the scores of the HL and LL groups.

4. Discussion

The present study was analyzed the differences in psychological stress processes for collective efficacy and athlete-athlete relationship stressor among young soccer players, depending on their level of competition.

In terms of athlete-athlete relationship stressor, the HL group scored significantly higher on athlete-athlete relationship stressor than the LL group. Kato and Ishii (2003) reported that soccer players who

Table 1 Differences by competition level in each measured variable

		HL	LL	<i>F</i>	<i>p</i>	η^2
	Athlete-athlete relationship stressor	13.8 ± 4.5	11.0 ± 5.6	36.142	.000 ***	.063
Collective Efficacy	Cooperativeness	23.1 ± 4.2	20.1 ± 4.7	54.996	.000 ***	.093
	Tactical communication	15.2 ± 2.7	13.4 ± 3.1	44.411	.000 ***	.077
	Understanding of self and others	20.4 ± 3.5	18.0 ± 3.7	54.63	.000 ***	.092
	Image sharing	14.5 ± 2.8	13.0 ± 3.2	30.062	.000 ***	.053
Cognitive Appraisal	Challenge	10.6 ± 1.7	9.7 ± 2.2	28.151	.000 ***	.050
	Threat	7.1 ± 2.4	7.2 ± 2.5	0.121	<i>n. s.</i>	.000
	Controllability	8.1 ± 1.8	7.5 ± 2.3	10.547	.001 ***	.019
Coping	Problem-solving	18.9 ± 3.2	16.9 ± 3.8	37.772	.000 ***	.066
	Avoidance	10.8 ± 3.8	12.8 ± 3.9	33.166	.000 ***	.058
	Catharsis	7.2 ± 2.2	7.2 ± 2.2	0.055	<i>n. s.</i>	.000
	Distraction	8.1 ± 2.0	8.3 ± 2.3	0.966	<i>n. s.</i>	.002
	Positive thinking	6.3 ± 1.6	5.5 ± 1.8	22.753	.000 ***	.041
Stress Response	Depression/anxious	7.6 ± 2.9	7.5 ± 3.5	0.123	<i>n. s.</i>	.000
	Irritation/anger	8.0 ± 2.7	7.6 ± 2.9	3.090	<i>n. s.</i>	.006
	Restlessness	6.5 ± 2.4	6.7 ± 2.7	0.614	<i>n. s.</i>	.001
	Helplessness	5.6 ± 2.3	6.4 ± 2.6	11.369	.001 ***	.021
	Withdrawal	5.7 ± 2.3	5.9 ± 2.5	1.685	<i>n. s.</i>	.003

*** $p < .001$

play in club activities have various motivations and needs, while those who play in the substructure of J-league clubs are more professionally oriented, have greater involvement in soccer, and have higher levels of psychological stress. In addition, Kato and Ishii (1999) pointed out that many players with high commitment to soccer by spending more time with their teammates, which may lead to conflicts in their relationships. In other words, environmental factors such as the type of group in which they play soccer may have a significant impact on psychological stress, including the relationships for young soccer players. Therefore, the results of the present study support the fact that the HL group is more susceptible to relationship stressors than the LL group, indicating a distinctive difference in relationship stressors in sports activities.

In addition, in terms of collective efficacy, the HL group had significantly higher scores for all items of cooperativeness, tactical communication, understanding of self and others, and image sharing than the LL group. Previous studies have reported that there is a positive association between competition level and collective efficacy (e.g., Gully et al., 2002; Lopes et al., 2015), and the results of the present study support previous research. It is known that groups with high collective efficacy are more tolerant of difficulties, and each member has a strong sense of mission to solve the problems they face and work together to achieve good results (Takada, 2003). Considering the results of the relationship stressors, it is thought that the HL group's exposure to more relationship stressors than the LL group created a momentum to unite in solving the situation, as the result showed increasing collective efficacy.

In each of the psychological stress processes for the relationship stressors, characteristic differences by the level of competition were also shown. First, in the cognitive appraisal, the HL group scored significantly higher on the challenge and controllability items than the LL group. Shibukura et al. (2008) stated that from the perspective of stress management, it is important to be able to evaluate challenges to stressors when looking at growth through stressful experiences. Research on the concept of post-traumatic growth has reported that positive psychological growth occurs through the experience of mental struggle and striving in crisis events and difficult experiences, as people make positive changes in their relationships with others and become aware of their own strength

against difficult events (Tedeschi and Calhoun, 1996). The characteristics of the cognitive appraisal of the HL group may be rooted in their experiences of facing and overcoming various difficult events in the past.

On the coping scale, the HL group scored significantly higher on the problem-solving and positive thinking items than the LL group, indicating a tendency to choose problem-focused behaviour in response to problems. On the other hand, the LL group scored significantly higher on the avoidance item than the HL group, indicating a tendency to choose emotion-focused behaviour in response to problems. The type of coping employed in response to psychological stressors is attributed to cognitive appraisal (Lazarus and Folkman, 1984). It has been reported that when confronting situations, rated as challenging and controllable, people are more likely to act to resolve the stressful situation associated with the problem (Anshel and Delany, 2001; Anshel et al., 2001; Anshel and Kaissidis, 1997). In addition, Shibukura et al. (2008) found that challenge and controllability in cognitive appraisal were positively correlated with problem-solving and positive thinking in coping, and negatively correlated with avoidance. The results of the present study support previous research and indicate how soccer players perceive that stressors influence the coping one may subsequently adopt.

One of the novel findings of this study was that when young soccer players experienced relationship-related stress, there were distinctive differences in the cognitive-behavioural efforts individuals made to cope with the situation depending on their level of competition. LL group players adopted emotion-focused coping, in which they focused on controlling their emotions and tried to cope with stress by controlling their reactions to the stressor rather than the stressor itself. It has been pointed out that emotion-focused coping is more likely to be employed when the controllability of the stressor is low, such as in relationships (Folkman and Lazarus, 1985), and it is thought that the LL group adopted coping behaviours according to the psychological stressors. On the other hand, athletes with a higher level of competition adopted problem-focused coping, in which they focused on solving the cause of the problem and worked constructively to solve the problem, such as devising solutions and making efforts to improve their relationships. As mentioned

earlier, in situations where psychological stressors are difficult to control, emotion-focused coping is generally used to reduce the effects of stresses. However, Shibukura and Mori (2002) showed that problem-solving coping, which focuses on problem solving to improve the relationships between oneself and the problem, is also effective in dealing with psychological stressors related to relationships, which supports the results of this study. Since problem-solving coping leads to the resolution of the problem itself, the fact that problem-focused coping can be used to deal with psychological stressors that are less controllable may be a more effective action for athletes in stressful situations.

Finally, on the stress response scale, the LL group scored significantly higher on the helplessness item than the HL group. Kaizoji et al. (2004) pointed out that controllability in cognitive appraisal influences helplessness in stress responses. Shibukura and Mori (2002) reported that athletes who used problem-focused coping for all stressors had lower helplessness responses than those who used emotion-focused coping. Rossman (1992) stated that the adoption of coping appropriate to the stressor situation is effective for stress responses. The results of the present study can be interpreted in two ways. First, the LL group did not need to use problem-focused coping because they did not have as strong the relationships stressor as the HL group. The other possibility is that the HL group was able to reduce stress responses such as helplessness by applying problem-focused coping to the problems they experienced in their relationships.

These results indicate that athletes who belong to a group with a high level of competition, a common purpose for competing, and a high level of commitment to the sport (J-League youth team) tend to think constructively about problems and make the necessary efforts to solve them, even in difficult-to-control situations, although they feel more aversive stressors in their environment than athletes who belong to a group with a low level of competition and a variety of purposes (high school soccer team). This is because the HL group recognizes that it is not a threat to psychological stressors, but is challenging and controllable (Shibukura et al., 2008), and emotion-focused coping has a short-term effect of reducing stress response, but it is constantly exposed to its psychological stressors unless the essence of the problem is solved (Shibukura and Mori, 2002), suggesting that the HL group may have been

engaged in problem-solving coping. Considering that relationships are unavoidable psychological stressors in team sports, it is important for all soccer players, regardless of their level of competition, to learn problem-focused coping skills in addition to emotion-focused coping, which is generally considered to be effective.

5. Conclusion

This study provides insights into the characteristics of the psychological stress processes on collective efficacy and relationships among young soccer players at different levels of competition. The results of this study provide two practical implications for the psychological support of young soccer players. One is that the cognitive appraisal and coping to be adapted differ depending on whether the athlete strongly feels the psychological stressors related to relationships among athletes or not, problem-focused coping may be more effective in reducing helplessness responses under stressful situations, even for stressors related to relationships that are relatively difficult to control. This suggests that the method of psychological support needs to be changed according to the environment of the players. The other is that one of the psychological support for young soccer players is to help them understand that in group sports, it is inevitable to interact with others who have various ideas; however, because it is difficult to control the words and actions of others, it is important for athletes to understand that they need to acquire and encourage skills to deal with problems flexibly, such as solving the cause of stress itself, or controlling stress by devising ways of thinking and feeling, depending on the situation. For example, players with low challenge ratings are aware that facing and actively engaging with problems can help them learn and grow (McGonigal, 2015), and for players with low controllability, remind them of past problem-solving experiences or make them aware of the problem-solving experiences of their peers, so that they can change their evaluation that the psychological stressors they feel are not serious and can be managed (Shibukura et al., 2008). These psychological support requires advanced and specialised psychological knowledge and skills, it is important to collaborate with experts in psychological support for athletes, such as the Certified Mental Training Consultant in Sport.

Finally, this study examined collective efficacy and each psychological stress process for relationship stressors from the perspective of different levels of competition, however the study was not examined the nature of the relationships. It was not also examined that how relationships among players and their cognitive appraisals and coping strategies affect collective efficacy. Considering that the evaluation of stress and coping strategies changes depending on the relationship with teammates (Nicholls et al., 2016), using statistical methods such as multiple regression analysis, covariance structure analysis, and simultaneous multiple population analysis, a future task would be to test a model that adds collective efficacy to the psychological stress model, and to examine differences in the model depending on the level of competition, in order to understand what influences collective efficacy in the psychological stress processes.

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