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Coach–autonomy support and youth sport team efficacy mediated by coach–athlete relationship

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In most previous research on the relationships between coach–autonomy support, the coach–athlete relationship, and team efficacy in team sports, the focus has been on adult players, limiting the generalizability of the findings to other age groups. Thus, we investigated the mediating role of the coach–athlete relationship in the link between coach–autonomy support and team efficacy in a youth team sports context. Participants were 254 Korean youth athletes. Results showed that coach–autonomy support served as a crucial antecedent of the coach–athlete relationship and team efficacy. Further, the coach–athlete relationship had a significant effect on team efficacy. We also confirmed a partial mediating effect of the coach–athlete relationship in the link between coach–autonomy support and team efficacy in a youth team sports context. Our findings provide insight into the psychological sources of team efficacy in youth team sports.

Keywords
coach–autonomy support; coach–athlete relationship; team efficacy; youth team sports; youth athletes

In sport contexts, perceptions of high energy and vitality are crucial for athletes to improve their athletic performance (Adie, Duda, & Ntoumanis, 2008). Diminished athletic performance is evident when athletes experience a loss of positive energy and feel emotionally and physically exhausted. Coaches are important figures who can affect the physical and psychological functioning of athletes in a sports environment (Adie et al., 2008). Given this, the mechanisms for connecting coach-generated environments with athletic performance have been extensively studied (Huh & Choi, 2017; Lafrenière, Jowett, Vallerand, & Carbonneau, 2011). In particular, researchers have found that athletes' perception of coaching behavior is closely associated with their perceived quality of motivational environments and with the outcome of subsequent exercise (Occhino, Mallett, Rynne, & Carlisle, 2014). Moreover, coaches with an autonomy-supportive coaching style can meet athletes' need for autonomy, competence, and relatedness, and, in turn, nurture the motivations that enhance the athlete's performance (Mageau & Vallerand, 2003).

According to Mageau and Vallerand (2003), *coach–autonomy support* refers to coaches displaying attitudes and behaviors that show they value athletes' self-initiation and involvement in independent problem solving and decision making, and includes coaches' social support, positive feedback, and democratic decision making. This support is likely to promote athletes' positive motivation and meet their needs for autonomy, competence, and relatedness with others (Mageau & Vallerand, 2003). Coaches' autonomy-supportive behaviors elicit athletes' internal motivational resources by allowing their independent activities and respecting their thoughts and emotions (Gillet, Vallerand, Amoura, & Baldes, 2010). Moreover, athletes tend to have passion, dedication, endurance, and enjoyment in regard to achieving a given task when they

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are well aware of coaches' autonomy support (Conroy & Coatsworth, 2007). Thus, we believed that coaches' autonomy support may help to develop a positive coach–athlete relationship in team sports contexts.

Coach–autonomy support is also a significant predictor of *team efficacy*, which is a group's shared belief reflecting each member's perception of the team's capabilities (Lindsley, Brass, & Thomas, 1995). Numerous researchers have focused on the antecedents of team efficacy in the strong relationship between team efficacy and team performance (Myers, Feltz, & Short, 2004). Among them, Hampson and Jowett (2014) found that coach–autonomy support positively affects the team efficacy of football players, leading these authors to suggest that coaches' autonomy-supportive leadership is a determinant of athletes' perceived team efficacy. Additionally, Price and Weiss (2013) revealed that coaches' autonomy-supportive behaviors are closely related to team efficacy among women soccer players.

Young athletes spend a significant amount of their time in sport contexts, which can help with their physical, psychological, and social development (Balaguer, Castillo, Cuevas, & Atienza, 2018). These athletes need to take ownership of their decisions to grow into successful adults; however, they often lack the necessary self-determination because they are trained to follow instructions and work within a set routine (Coatsworth & Conroy, 2009; Lafrenière et al., 2011). Ryan and Deci (2000) suggested that young athletes are likely to experience high-quality performance when they participate and practice in an autonomy-supportive atmosphere. Young athletes who perceive that their coaches have created an autonomy-supportive environment are more likely to own their behaviors, build positive relationships with their coaches, and feel competent in their sports performance (Mageau & Vallerand, 2003). Consequently, creating an autonomy-supportive atmosphere in a sport setting allows young athletes to take responsibility for their progression as athletes and realize their personal development as individuals.

Although numerous scholars have demonstrated the impact of coach-created autonomous environments on athletic performance in adult team sports contexts (e.g., Hampson & Jowett, 2014; Jowett, Shanmugam, & Caccoulis, 2012; Lafrenière et al., 2011; Mageau & Vallerand, 2003), comparatively few have investigated these relationships in predicting young athletes' team sports performance. Thus, we conducted our study in the context of Korean youth team sports, and proposed the following hypotheses:
Hypothesis 1: Coach–autonomy support will have a significant positive impact on the coach–athlete relationship in a youth team sports context.
Hypothesis 2: Coach–autonomy support will have a significant positive impact on team efficacy in a youth team sports context.
Hypothesis 3: The coach–athlete relationship will have a significant positive impact on team efficacy in a youth team sports context.
Hypothesis 4: The coach–athlete relationship will have a significant positive mediating role in the relationship between coach–autonomy support and team efficacy in a youth team sports context.

The research model is shown in Figure 1.

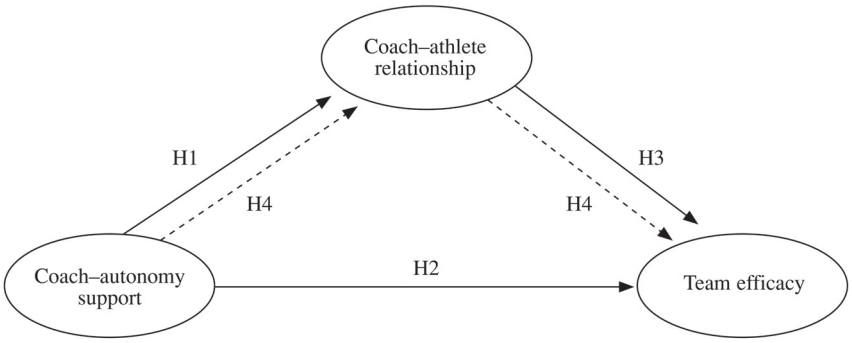

Figure 1. Research model.

Method

Participants and Procedure

We collected data from student athletes attending one of 10 high and middle schools located in Seoul, South Korea. We contacted the coaches at these schools by telephone and received permission to attend a team meeting to give the athletes a brief introduction to the purpose of the study and distribute informed consent forms for both athletes themselves and their parents, because the athletes were under 18 years of age. During a second visit we retrieved the informed consent forms and then asked the participants to complete the survey, which we collected immediately after completion. There was no incentive for participating in the study. Of the 227 surveys we distributed, 225 valid responses were returned. The participants ranged in age from 14 to 18 years (M = 16.45 years, SD = 1.67). Other demographic details are presented in Table 1.

Table 1. *Participants' Demographic Characteristics*

Factors	Category	Frequency
Gender	Boy	165 (73.4%)
	Girl	60 (26.6%)
Type of team sport participated in	Soccer	93 (41.3%)
	Volleyball	42 (18.7%)
	Basketball	49 (21.8%)
	Baseball	41 (18.2%)
Current education level	Middle school	124 (55.1%)
	High school	101 (44.9%)
Athletic career duration	Less than 4 years	66 (29.3%)
	4–8 years	92 (40.9%)
	8 years or longer	67 (29.8%)

Measures

The survey items, except demographics, were adapted from previous studies and were measured on a 7-point Likert-type scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Because the original scales were developed in English, we used back-translation to ensure translation accuracy (Brislin, 1990). A native Korean speaker who was fluent in English translated the original scales into Korean, then a scholar

who was also fluent in both English and Korean converted the translated version back into English. No discrepancies between the two versions were found. After the translation process, three sport marketing professors with 10–14 years of research experience examined the relevance and word clarity of the survey items.

Coach–autonomy support was measured with six items (α = .93) taken from the Sport Climate Questionnaire developed by Deci (2001). A sample item is "My coach encourages me to ask questions." We used 10 items from the Coach–Athlete Relationship Questionnaire (Jowett & Ntoumanis, 2004) to assess three dimensions of the coach–athlete relationship: commitment (three items, α = .85; e.g.," I feel committed to my coach"), complementarity (three items, α = .92; e.g., "When I am coached by my coach, I feel at ease"), and closeness (four items, α = .96; e.g., "I like my coach"). Team efficacy was measured with 16 items adapted from the scale developed by Yoo and Lim (2009), which has four dimensions: cohesion (five items, α = .93; e.g., "Our team resolves conflict between players"), trusting coach (four items, α = .95; e.g., "I trust my coach"), preparation (two items, α = .88; "Our team has been training hard"), and competency (four items, α = .75; "Our team has won a lot against strong teams").

Data Analysis

We conducted descriptive analysis, reliability analysis, confirmatory factor analysis, and structural equation modeling analyses with maximum likelihood estimation using SPSS 23.0 and Amos 23.0. Indices utilized to assess the model fit (Bollen, 1989; Hair, Black, Babin, & Anderson, 2010) were chi square (χ^2), comparative fit index (CFI; ideal level > .90), normed fit index (NFI; ideal level > .90), Tucker–Lewis index (TLI; ideal level > .90), root mean square error of approximation (RMSEA; ideal level < .08), and standardized root mean square residual (SRMR; ideal level < .08).

Results

Descriptive Statistics

The results of the descriptive statistical analyses (see Table 2) reveal that skewness and kurtosis values were within the acceptable ranges (Hair et al., 2010). Tolerance (ranging from .21 to .79) and variance inflation factor (ranging from 1.26 to 4.56) values were measured to check multicollinearity, and the results show that multicollinearity was not a concern (Hair et al., 2010).

Table 2. *Descriptive Statistics, Internal Reliability, and Correlations of Variables*

Factors	*M*	*SD*	Skewness	Kurtosis	α	1	2	3
1. Autonomy support	4.69	0.05	-0.56	0.75	.92	1		
2. Coach–athlete relationship	5.20	0.05	-0.55	1.04	.96	.70**	1	
3. Team efficacy	5.11	0.04	0.01	-0.52	.92	.61**	.73**	1

Note. ** $p < .01$.

Measurement Model Tests

The confirmatory factor analysis results show an acceptable fit of the measurement model according to the cut-off points recommended by Hair et al. (2010), $\chi^2 = 1312.23$, $df = 51$, CFI = .93, NFI = .90, TLI = .92, RMSEA = .06, SRMR = .04. Composite reliability values ranged from .86 to .94, and average variance extracted values ranged from .51 to .66, verifying that the model had good convergent validity (Fornell &

Larcker, 1981). Because all average variance extracted scores were higher than the squared correlations of all pairs of variables, the model's discriminant validity was also supported (Fornell & Larcker, 1981). Therefore, construct validity was adequate.

Structural Equation Modeling

The structural equation modeling results (see Table 3) show an adequate model fit to the data, $\chi^2 = 1314.94$, $df = 444$, CFI = .93, NFI = .90, TLI = .91, RMSEA = .06, SRMR = .05. Coach–autonomy support had a significant positive impact on the coach–athlete relationship and team efficacy, and the coach–athlete relationship had a significant positive effect on team efficacy.

Table 3. *Path Coefficients Between Coach–Autonomy Support, Coach–Athlete Relationship, and Team Efficacy*

	Path	Estimate	*SE*	*p*
H1	Coach–autonomy support → Coach–athlete relationship	.73	.05	.001
H2	Coach–autonomy support → Team efficacy	.36	.05	.001
H3	Coach–athlete relationship → Team efficacy	.07	.02	.009

Last, we estimated the 95% confidence interval of the indirect effect based on 5,000 bootstrapping resamples to confirm the mediating role of the coach–athlete relationship in the link between coach–autonomy support and team efficacy. For small-to-moderate samples, bootstrapping methods are recommended to estimate indirect effects (Shrout & Bolger, 2002), and if the 95% confidence interval does not include the value of zero, the indirect effect is considered significant at $p < .05$. The results in Table 4 show that the coach–athlete relationship mediated the relationship between coach–autonomy support and team efficacy.

Table 4. *The Mediating Effect of the Coach–Athlete Relationship in the Link Between Coach–Autonomy Support and Team Efficacy*

Path	β	*p*	Bias-corrected 95% CI	
			LL	UL
CAS → CAR → TE	.26	.001	.19	.36

Note. CAS = coach–autonomy support, CAR = coach–athlete relationship, TE = team efficacy, CI = confidence interval, LL = lower limit, UL = upper limit.

Discussion

We proposed and tested a model to show how coach–autonomy support affects the coach–athlete relationship and team efficacy in a youth team sports context. Results reveal that greater coach–autonomy support directly predicted athletes' positive perceptions of the coach–athlete relationship, as well as enhancing team efficacy both directly and indirectly through the mediator of coach–athlete relationship. Consequently, our results support the proposed model.

Our findings have several theoretical and practical implications. First, coach–autonomy support matters in regard to the coach–athlete relationship for young athletes playing team sports. Results show that coach–autonomy support positively predicted the coach–athlete relationship. Martin, Jackson, Richardson, and Weiller (1999) pointed out that athletes in both early adolescence (10–13 years old) and late adolescence (14–17 years old) prefer coaches who engage in training and instruction, give positive feedback, and display more democratic (vs. dictatorial) behavior. Moreover, Coatsworth and Conroy (2009) reported that coaches' autonomy support via process-focused praise is a significant predictor of competence and relatedness need satisfaction in the relationship between coaches and youth swimmers. Coaches are often considered as experts and role models by young athletes, and within the sporting situation coaches also interact more with the athletes than do other influential agents, such as parents and teachers, the impact of which is consistently strong and positive from early to late adolescence (Chan, Lonsdale, & Fung, 2012). When coaches in positions of authority provide young athletes with autonomy support and respect their perspective, young athletes may take responsibility for their own decisions and build strong ties with the coaches. Thus, our findings confirm that coach–autonomy support is an important predictor of positive coach–athlete relationships in the context of youth team sports.

Second, we found that young athletes' perceptions of coach–autonomy support were significantly associated with team efficacy, which is in line with the findings in previous research (Hampson & Jowett, 2014; Høigaard, de Cuyper, Fransen, Boen, & Peters, 2015; Price & Weiss, 2013). For example, Høigaard et al. (2015) found that perceived democratic coaching behavior is the most significant predictor of team efficacy among handball players, and they concluded that, as democratic coaches encourage and appreciate each player's point of view, the athletes in the team believe that democratic coaches allow them to contribute to important team development processes, such as goal setting, and, consequently, the athletes show heightened team efficacy perceptions. Likewise, it is plausible that when coaches show autonomy support that empowers young athletes with choices and decision-making opportunities and conveys trust in their abilities, the athletes are likely to feel highly competent about their athletic performance because they feel secure and emotionally stable (López-Walle, Balaguer, Castillo, & Tristán, 2012). Collectively, our findings suggest that coaches should focus on utilizing interpersonal behaviors to create an autonomy-supportive environment that meets young athletes' basic needs for autonomy and competence.

Third, in line with the findings of previous researchers (Coatsworth & Conroy, 2009; Vieira et al., 2015), we found that the coach–athlete relationship had a significant impact on perceived team efficacy among youth athletes playing team sports. In team sports contexts, researchers have found that the coach's relationship with each player is closely related to team efficacy and team performance (Coatsworth & Conroy, 2009; Vieira et al., 2015). Given this, Coatsworth and Conroy (2009) reported that coaches' praising of the autonomous behavior of young athletes increases the athletes' perceived competence and pride, which has a positive impact on the outcome of their goal setting and reflection of their identity. Moreover, Vieira et al. (2015) found that the perceived coach–athlete relationship significantly influences the team efficacy of young volleyball players and concluded that the greater the closer the athletes feel, the greater the commitment they have to the coach, and the more they perceive that the coach trusts, respects, and appreciates them, the greater is the players' perception of team efficacy. Thus, the coach–athlete relationship is an important psychological source of team efficacy in the youth sports context, and coaches of youth sports teams should strive to strengthen their psychological bonds with the athletes by showing respect for and trust in them as a way to improve team efficacy.

Finally, our finding that coach–autonomy support indirectly predicted team efficacy through the coach–athlete relationship extends the findings of prior studies (Jowett et al., 2012; Mageau & Vallerand, 2003) in which it has been reported that the coach–athlete relationship has a partial mediating role in the relationship between coach–autonomy support and team efficacy. Our results indicate that young athletes showed improved team efficacy when coaches provided an autonomy-supportive environment, via the athletes' building positive relationships with their coaches. It should be noted that in a sports setting where

authority is clearly defined, it has been found that young athletes often expect their coaches to play a role in directing and making decisions, and to be authoritative (Lafrenière et al., 2011). However, when coaches show autonomy-supportive coaching behaviors by offering young athletes a rationale for tasks and encouraging them to take ownership of their decisions, the athletes feel understood and trusted by their coaches, which increases the likelihood of their developing positive and strong emotional ties with the coaches, resulting in increased team efficacy (Lafrenière et al., 2011; Mageau & Vallerand, 2003). Thus, our findings suggest that, to build a positive coach–athlete relationship and improve the team efficacy, coaches working in youth team sports contexts need to show young athletes respect and trust as persons and avoid using punishments or criticisms that are directed toward the athletes.

There are limitations to this study that should be addressed. First, we examined the relationships between coach–autonomy support, the coach–athlete relationship, and team efficacy from the perspective of athletes only. Thus, it could be appropriate to conduct future research in which both coaches' and athletes' perspectives are considered when exploring the relationships between these three psychological elements. Second, the data were collected from youth athletes playing a limited range of sports, and who were enrolled at one of 10 high and middle schools in South Korea. If this study is replicated, a focus on groups of youth athletes who participate in other team sports and live in other countries with different cultural dimensions (e.g., collectivism and power distance), should be considered to improve the external validity of the findings.

References

Adie, J., Duda, J., & Ntoumanis, N. (2008). Autonomy support, basic need satisfaction and the optimal functioning of adult male and female sport participants: A test of basic needs theory. *Motivation and Emotion, 3,* 189–199.
https://doi.org/10.1007/s11031-008-9095-z

Balaguer, I., Castillo, I., Cuevas, R., & Atienza, F. (2018). The importance of coaches' autonomy support in the leisure experience and well-being of young footballers. *Frontiers in Psychology, 9,* 840.
https://doi.org/10.3389/fpsyg.2018.00840

Bollen, K. A. (1989). A new incremental fit index for general structural equation models. *Sociological Methods & Research, 17,* 303–316.
https://doi.org/10.1177/0049124189017003004

Brislin, R. W. (1990). *Applied cross-cultural psychology*. Newbury Park, CA: Sage.

Chan, D. K., Lonsdale, C., & Fung, H. H. (2012). Influences of coaches, parents, and peers on the motivational patterns of child and adolescent athletes. *Scandinavian Journal of Medicine & Science in Sports, 22,* 558–568.
https://doi.org/10.1111/j.1600-0838.2010.01277.x

Coatsworth, J. D., & Conroy, D. E. (2009). The effects of autonomy-supportive coaching, need satisfaction, and self-perceptions on initiative and identity in youth swimmers. *Developmental Psychology, 45,* 320–328.
https://doi.org/10.1037/a0014027

Conroy, D. E., & Coatsworth, J. D. (2007). Assessing autonomy-supportive coaching strategies in youth sport. *Psychology of Sport and Exercise, 8,* 671–684.
https://doi.org/10.1016/j.psychsport.2006.12.001

Deci, E. L. (2001). *The Sport Climate Questionnaire*. Retrieved from **https://bit.ly/2Ypf523**

Fornell, C., & Larcker, D. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research, 18,* 39–50.
https://doi.org/10.2307/3151312

Gillet, N., Vallerand, R., Amoura, S., & Baldes, B. (2010). Influence of coaches' autonomy support on athletes' motivation and sports performance: A test of the hierarchical model of intrinsic and extrinsic motivation. *Psychology of Sport and Exercise, 11,* 155–161.
https://doi.org/10.1016/j.psychsport.2009.10.004

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis* (7th ed.). Upper Saddle River, NJ: Prentice Hall.

Hampson, R., & Jowett, S. (2014). Effects of coach leadership and coach–athlete relationship on collective efficacy. *Scandinavian Journal of Medicine & Science in Sports, 24,* 454–460.
https://doi.org/10.1111/j.1600-0838.2012.01527.x

Høigaard, R., de Cuyper, B., Fransen, K., Boen, F., & Peters, D. M. (2015). Perceived coach behavior in training and competition predicts collective efficacy in female elite handball players. *International Journal of Sport Psychology, 46,* 321–336.
https://doi.org/10.7352/IJSP.2015.46.321

Huh, J.-Y., & Choi, H.-H. (2017). Effect of coach-athlete relationship maintenance on the relationship between coaching behaviors and team efficacy in professional soccer athletes [In Korean]. *Korean Wellness Society, 12,* 261–273.
https://doi.org/10.21097/ksw.2017.11.12.4.261

Jowett, S., & Ntoumanis, N. (2004). The Coach–Athlete Relationship Questionnaire (CART-Q): Development and initial validation. *Scandinavian Journal of Medicine & Science, 14,* 245–257.
https://doi.org/10.1111/j.1600-0838.2003.00338.x

Jowett, S., Shanmugam, V., & Caccoulis, S. (2012). Collective efficacy as a mediator of the association between interpersonal relationships and athlete satisfaction in team sports. *International Journal of Sport and Exercise Psychology, 10,* 66–78.
https://doi.org/10.1080/1612197X.2012.645127

Lafrenière, M.-A. K., Jowett, S., Vallerand, R. J., & Carbonneau, N. (2011). Passion for coaching and the quality of the coach–athlete relationship: The mediating role of coaching behaviors. *Psychology of Sport and Exercise, 12,* 144–152.
https://doi.org/10.1016/j.psychsport.2010.08.002

Lindsley, D. H., Brass, D. J., & Thomas, J. B. (1995). Efficacy-performance spirals: A multilevel perspective. *The Academy of Management Review, 20,* 645–678.
https://doi.org/10.2307/258790

López-Walle, J., Balaguer, I., Castillo, I., & Tristán, J. (2012). Autonomy support, basic psychological needs and well-being in Mexican athletes. *The Spanish Journal of Psychology, 15,* 1283–1292.
https://doi.org/10.5209/rev_sjop.2012.v15.n3.39414

Mageau, G. A., & Vallerand, R. J. (2003). The coach–athlete relationship: A motivational model. *Journal of Sport Sciences, 21,* 883–904.
https://doi.org/10.1080/0264041031000140374

Martin, S. B., Jackson, A. W., Richardson, P. A., & Weiller, K. H. (1999). Coaching preferences of adolescent youths and their parents. *Journal of Applied Sport Psychology, 11,* 247–262.
https://doi.org/10.1080/10413209908404203

Myers, N. D., Feltz, D. L., & Short, S. E. (2004). Collective efficacy and team performance: A longitudinal study of collegiate football teams. *Group Dynamics: Theory, Research, and Practice, 8,* 126–138.
https://doi.org/10.1037/1089-2699.8.2.126

Occhino, J. L., Mallett, C. J., Rynne, S. B., & Carlisle, K. N. (2014). Autonomy-supportive pedagogical approach to sports coaching: Research, challenges and opportunities. *International Journal of Sports Science & Coaching, 9,* 401–415.

https://doi.org/10.1260/1747-9541.9.2.401

Price, M. S., & Weiss, R. M. (2013). Relationships among coach leadership, peer leadership, and adolescent athletes' psychosocial and team outcomes: A test of transformational leadership theory. *Journal of Applied Sport Psychology, 25,* 265–279.
https://doi.org/10.1080/10413200.2012.725703

Ryan, R. M., & Deci, E. L. (2000). Intrinsic and extrinsic motivations: Classic definitions and new directions. *Contemporary Educational Psychology, 25,* 54–67.
https://doi.org/10.1006/ceps.1999.1020

Shrout, P. E., & Bolger, N. (2002). Mediation in experimental and nonexperimental studies: New procedures and recommendations. *Psychological Methods, 7,* 422–445.
https://doi.org/10.1037/1082-989X.7.4.422

Vieira, L. L. J., Ferreira, L., Cheuczuk, F., Flores, P. P., Vissoci, R. N. J., Rocha, F. F., ... Vieira, F. L. (2015). Impact of coach-athlete relationship on the collective efficacy of young volleyball players. *Revista Brasileira de Cineantropometria & Desempenho Humano, 17,* 650–660.
https://doi.org/10.5007/1980-0037.2015v17n6p650

Yoo, J., & Lim, S. (2009). Development and validation of the Collective Efficacy Questionnaire for Soccer [In Korean]. *Korean Journal of Sport Psychology, 20,* 17–31. Retrieved from **https://bit.ly/36lf2au**