JAPANESE TRANSLATION AND PSYCHOMETRIC EVALUATION OF THE REVISED LEADERSHIP SCALE FOR SPORT

By

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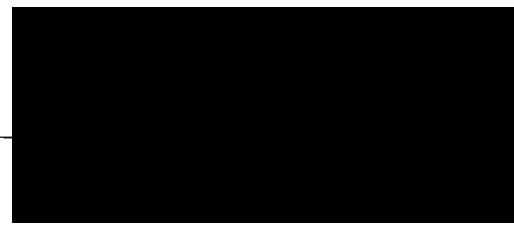
STUDENT DECLARATION

"I, Yoriko Yashiro, declare that the PhD thesis entitled 'Japanese Translation and Psychometric Evaluation of the Revised Leadership Scale for Sport' is no more than 100,000 words in length, exclusive of tables, figures, appendices, references, and footnotes. This thesis contains no material that has been submitted previously, in whole or in part, for the award of any other academic degree or diploma. Except where otherwise indicated, this thesis is my own work."

Signature  Date 28 March 2008

ABSTRACT

Despite a number of leadership definitions based on a various perspectives in mainstream psychology, the most popular definition of leadership used in sport leadership studies is, "the behavioural process of influencing individuals and groups toward set goals" (Barrow, 1977, p. 232). The Multidimentional Model of Leadership (MML; Chelladurai & Carron, 1978) was developed to explain sport leadership. Although the Leadership Scale for Sport (Chelladurai & Saleh, 1980) has been widely used in sport leadership investigations, several researchers have identified limitations associated with the LSS. Given these shortcomings, Zhang, Jensen, and Mann (1997) developed the Revised Leadership Scale for Sport (RLSS). No independent studies, however, have systematically investigated the psychometric properties of the RLSS. The three interconnected studies in this dissertation were designed to develop the Japanese version of the RLSS (JRLSS) and to examine the psychometric properties of the JRLSS.

The primary purpose of Study 1 was to to carefully translate the Revised Leadership Scale for Sport into the Japanese language. The guidelines advocated by Geisinger (1994) was utilised for translation. An accredited professional translator and I independently adapted the 60 RLSS items in the Japanese language based on the literal translation method. Two experienced Japanese sport psychology professors then provided expert feedback on item construction and wording. A discussion between the professional translator and I resulted in adjustments to 47 of the 1116 words originally translated. Moreover, the recommended modifications from Japanese sport psychology professors based on cultural content and readability of the wordings were taken into consideration and resulted in further minor adjustments.

Five types of typical translation difficulties were encountered including: (a) a few Japanese words that did not fully capture the intended meaning of the parallel English wording, (b) a few English words that have several alternative meanings, (c) literal translation that initially resulted in slightly different meanings due to the sport context, (d) difficulty in determining the use of *Katakana* characteristics inherent to the Japanese language, and (e) some difficulties selecting the most appropriate wording among several vocabulary options.

To follow guided validation procedures, Study 2 was focused on providing descriptive statistics for the JRLSS, followed by an examination of internal consistency estimates, content validity, and face validity of the JRLSS. To examine internal consistency estimates of the JRLSS, 154 university athletes completed the demographic questionnaire, the athletes' preference version of the JRLSS, and the athletes' perception version of the JRLSS in that order. To investigate content validity, five Japanese sport psychology professors participated in an item sorting procedure whereby they categorised each JRLSS item into the factor they believed was the most appropriate in relation to the six leadership behaviour dimensions. To assess face validity, thirty Japanese university female athletes rated the degree of the representativeness of all items to the six factors. Forty-six of the 60 JRLSS items were content valid, whereas only eighteen items met the acceptable criterion of face validity. Moreover, the alpha coefficients of the athletes' perception version in Study 2 were fairly consistent with the previous findings of the study by Zhang et al. Moreover, the internal reliability of the JRLSS was acceptable with the exeption of the *autocratic behaviour* factor in the athletes' perception version.

In Study 3, construct validity and criterion validity of the JRLSS were tested with a larger sample size. Again, internal consistency estimates of both versions were generally above the guideline level of .60 or .70, except for *autocratic behaviour* in both versions, and three dimensions that were marginal (i.e., *teaching and instruction*, *social support*, and *situational consideration*) in the preference version. Based on confirmatory factor analysis (CFA), the construct validity of the JRLSS was partially supported in the full six-factor model. Furthermore, based on further testing using one-factor congeneric models, a better fitting model was identified. In addition, significant differences in some of the factors were identified based on gender, level of competition, and sport types. Implications for theory and future research are also discussed primarily in terms of further refining the JRLSS and recommendations for ensuring external validity that is more widely considered by researchers.

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CHAPTER 1

INTRODUCTION

Leadership is a critical component to enhance and sustain optimal sport performance (Chelladurai & Riemer, 1998; Gould, Hodge, Peterson, & Petlichkoff, 1987; Vealey, 2005) and athlete satisfaction (Riemer & Chelladurai, 1995). A coach is typically responsible for making final decisions regarding several team matters, such as strategy, tactics, and team personnel (Loughead, Hardy, & Eys, 2006). Given the fundamental nature of coaching, most leadership studies in sport have focused on coaching behaviours (Loughead et al.). Due to the complexity of the leadership construct, however, leadership research in sport remains sparse and sporadic (Chelladurai & Riemer; Loughead et al.).

In recent years, very few sport leadership investigations have been published with comparison to mainstream psychology, where a number of theoretical frameworks have been advanced to develop the concept of leadership (Northouse, 2004). As early as the 1920's (Griffith, 1926), sport psychologists recognised the importance of leadership as a sub-field within sport psychology. Perhaps, the most productive period of leadership study was the mid 1970's to the mid 1990's, when sport psychologists carried out numerous studies to discover personal traits, behavioural attributes, and situational determinants (e.g., Chelladurai & Carron, 1978; Chelladurai, 1984; Danielson, Zelhart, & Drake, 1975, Liukkonen & Salminen, 1990; Riemer & Chelladurai, 1995; Serpa, 1990). The number of published leadership studies in sport, however, has gradually declined and, at present, very few sport leadership studies in coaching are being published.

Chelladurai and Riemer (1998) indicated that one of the most critical issues in sport leadership research is how variables are derived from a theory or model and

then operationalised and measured. For over two decades, perhaps, the most prominent leadership theory in sport is the Multidimensional Model of Leadership (MML; Chelladurai & Carron, 1978), which comprises elements of several leadership theories from other disciplines. According to Chelladurai and Carron, leadership effectiveness is determined by the degree of congruence between the coach's actual behaviour, required behaviour, and preferred behaviour. To test the variables derived from the MML, Chelladurai and Saleh (1980) developed the Leadership Scale for Sport (LSS). Although a number of researchers (e.g., Bennet & Maneval, 1998; Chelladurai & Carron, 1981; Dwyer & Fischer, 1988b) have systematically tested the MML using the LSS; the findings have been equivocal.

With the gradual recognition of shortcomings associated with the LSS, Zhang, Jensen, and Mann (1997) developed the Revised Leadership Scale for Sport (RLSS). Many researchers, however, have not yet made the transition to using the RLSS in leadership investigations. In fact, a number of researchers (Baric & Horga, 2003; Sherman, Fuller, & Speed, 2000; Sullivan & Kent, 2003) employed the LSS after the RLSS had been published. None of these cited studies indicated any particular reasons why they utilised the LSS instead of the RLSS. Possibly, these researchers were unaware of the RLSS. It should be incumbent on researchers to either use the latest and most sophisticated measurement tools or provide a persuasive argument otherwise. Despite the RLSS being a newer instrument it may not necessarily be more "sophisticated" than the LSS. The RLSS is comprised of six sub-scales five of which are predicated on the LSS. As Chelladurai has stated, there is a lack of studies comparing these two scales. In regard to why there has been a decrease in leadership research activity in sport, there is no obvious reason for this decline. As Chelladurai and Riemer (1998) stated, there might be a measurement issue associated with the

LSS; that is, the measurement of the MML might not conceptually capture all the relevant variables of coaching behaviours. To this extent, the question would be one of external validity or practicality of the LSS and the RLSS.

Despite the decrease in leadership research based on the MML and using the LSS and RLSS, I focus, in this dissertation, primarily on the MML for two main reasons. First, at the start of my dissertation, besides the Mediational Model of Leadership (Smoll, Smith, Curtis, & Hunt, 1978; Smoll & Smith, 1989), the MML represented the only genuine leadership model specific to sport that has been developed, systematically tested, and widely used, typically by employing the Leadership Scale for Sport (LSS; Chelladurai & Saleh, 1980) or the Revised Leadership Scale for Sport (RLSS; Zhang et al., 1997). Although several leadership models in sport have been advanced, Dupuis, Bloom, and Loughead (2006) proposed that the Multidimensional Model of Leadership as the most noteworthy. Second, despite the availability of the newer version RLSS, researchers have not widely tested this instrument. Before concluding that the RLSS is underutilised, researchers must first provide sound psychometric evidence that is reliable and valid (Tkachuk, Leslie-Toogood, & Martin, 2003).

Apart it from the need to provide sufficient psychometric evidence, researchers need to evaluate how applicable measures are to given sport situations. A number of researchers (e.g., Chelladurai, Imamura, Yamaguchi, Oinuma, Miyauchi, 1988; Chelladurai, Malloy, Imamura, Yamaguchi, 1987) have paid attention to investigating cultural differences in leadership between Japan and other countries (i.e., Canada), using the LSS. Although the LSS has been translated into Japanese and used for several investigations of Japanese leadership behaviours, no research has translated and developed the RLSS into the Japanese language. Before providing

psychometric evidence of the RLSS with a Japanese athletic population, it was necessary to first translate the RLSS into Japanese language. Overall, the purpose of the present dissertation was to investigate whether the RLSS is psychometrically robust after translating the measure into Japanese.

Aims of the Dissertation

The present dissertation consists of three aims that are tested in three studies. In detail, the aims of the three studies were:

1. Translate the RLSS into Japanese language.

2. Assess the resultant Japanese version of the RLSS by conducting. preliminary testing.

3. Evaluate the psychometric properties of the JRLSS.

Findings from this present dissertation may contribute to the sport leadership literature in several ways. First, the translation of the Revised Leadership Scale for Sport (RLSS) to Japanese will provide a contemporary leadership instrument for Japanese sport psychologists in research and applied settings. Second, the reported psychometric properties from the current data will provide current sport leadership data relevant to the Japanese sport culture. Third, psychometric testing may potentially lead to improvements in testing the MML model

Organisation

From the outset of my Masters degree, my supervisor and I discussed whether the RLSS sufficiently captured the majority of sport leadership behaviours including the depth and breath of leadership behaviours. We were concerned that the RLSS might only capture a portion of the diverse range of sport leadership behaviours. Nevertheless, a logical starting point for leadership studies in sport is the work of Chelladurai. Being a native of Japan, I was interested in investigating leadership

behaviours from the Japanese perspective. Hence, the decision to translate the RLSS into Japanese language was made. My supervisors agreed that translating the RLSS into Japanese and conducting preliminary psychometric testing with a Japanese sport population was required. After further discussions, we felt the work would be unfinished without performing confirmatory factor analysis (CFA). CFA is nowadays virtually a mandatory validation process before any new or revised psychological tests are publishable.

As alluded to earlier, the JRLSS may include leadership behaviours not applicable to Japanese sports culture or may not necessarily identify leadership behaviours essential in the Japanese sports culture. Unfortunately, no researchers have specifically evaluated the aspects of external validity with the RLSS. Thus, after carrying out CFA procedures, I have included recommendations regarding further research to better establish external validity.

Chapter 2, the review of literature, addresses theoretical leadership development in a number of disciplines and sport psychology. Studies used to test each leadership model are also reviewed. Despite the availability of a Japanese version of the Leadership Scale for Sport (JLSS; Chelladurai, Imamura, & Yamaguchi, 1985), the RLSS has not been translated and systematically tested in Japanese. Thus, Chapter 3 reports on the results of Study 1, consisting of translating the RLSS into Japanese. The accredited professional translator and I worked together to translate the RLSS items into Japanese. The development of the Japanese version of the Revised Leadership Scale for Sport (JRLSS) was an integral part of the current dissertation.

In Chapter 4, I report on Study 2, in which preliminary testing of the JRLSS with a Japanese sport population was conducted. Before using the JRLSS with larger

samples, it is necessary to demonstrate that the RLSS was correctly translated and was also internally reliable. Furthermore, to ensure the JRLSS measures what it is intended to measure (Cicciarella, 1997), I report on the results of content and face validity assessment procedures.

In Chapter 5, I report on the results of Study 3 that consisted of an additional quantitative re-examination of the modified translated version of the JRLSS with a larger sample size. The re-examination was deemed necessary based on feedback from participants who expressed some concerns about the readability of a small number of items. I, therefore, slightly modified the JRLSS with the assistance of a second professional translator. In addition to basic internal reliability testing (i.e., alpha coefficients), additional procedures were carried out to examine specific latent constructs and the assumption the JRLSS is underpinned by six primary factors. As a consequence, confirmatory factor analysis (CFA) was conducted based on the data derived from a sample of 368 university athletes.

Chapter 6 includes the general discussion suggesting implications and recommendations for sport leadership research. In particular, there is a focus on the external validity issues.

Incidently, overseas reviewers might notice some slight differences in conventions of spelling between for example, U.S spelling and Australian spelling of particular words (e.g., behavior vs behaviour).

CHAPTER 2

REVIEW OF LIETERATURE

Leadership is widely recognised as significant contributor to successful sport performance (Chelladurai & Riemer, 1998; Gould et al. 1987) and athlete's satisfaction (Riemer & Chelladurai, 1995). To date, the majority of research in sport leadership has focused on the coach, specifically by identifying personality traits, behavioural attributes, and situational determinants (Chelladurai, 1984; Dupuis et al., 2006). Coaches have received the most attention from sport leadership researchers because of the variety of significant responsibility they assume. For example, coaches take responsibility for making final decisions in numerous team related issues such as strategy, tactics, and team personnel (Loughead et al., 2006). Coaches also fulfil multiple roles such as setting goal priorities, skill development, tactical analysis, and adjusting their behaviours to meet individual needs (Smoll & Smith, 1989). Coaches often develop significant relationships with athletes, assistant coaches, and managers (Balague, 1999; Jowett, 2003). Moreover, the direct influence of coaches on those they coach has been widely reported particularly in sport involvement, enjoyment, and withdrawal (Barnett, Smoll, & Smith, 1992; Liukkonen, 1999), athletes' perception of their ability and skills (Balaguer, Duda, Atienza, & Mayo, 2002; Black & Weiss, 1992; Horn, 1985; Lam, 1996; Sarrazin, Guillet, & Cury, 2001), motivation (Alfermann, Lee, & Würth, 2005; Amorose & Horn, 2000; 2001; Hollembeak & Amorose, 2005; Mageau & Vallerand, 2003), coach-athlete relationship (Jowett & Cockerill, 2002; Lyle, 1999; Prapavessis & Gordon, 1991), team cohesion (Carron, Colman, Wheeler, & Stevens, 2002; Gardner, Shields, Bredemeier, & Bostrom, 1996; Williams & Widmeyer, 1991), and self-esteem (Smith & Smoll, 1990; Smoll, Smith, Barnett, & Everett, 1993). It is evident that

coaches have an enormous influence on athletes' physical and psychological status (Chelladurai, 1990; Reinboth, Duda, & Ntoumanis, 2004; Serpa, 1999; Smith & Smoll, 1996). Thus, sport psychologists (Gould, Guinan, Greenleaf, Medbery, Peterson, 1999; Smoll & Smith) unilaterally attest to the importance of leadership in the form of coaching.

Researchers have sought to understand leadership in a variety of disciplines such as psychology, history, philosophy, education, political science, theology, industry, and sport (Klenke, 1993). Particularly, leadership has been heavily investigated in business and organisational psychology (Chelladurai, 1984). Although a number of researchers have attempted to develop a universal conceptualisation of leadership, exactly what constitutes leadership has not been universally agreed upon in the literature (Bryman, 1992; Yukl, 1994). A definitive conceptualisation has not eventuated, perhaps due to the complexity of the leadership construct. Burns (1978) stated, "Leadership is one of the most observed and least understood phenomena on earth" (p.3). Bass (1990) pointed to a redundancy in leadership studies by stating, "An enormous amount of original, creative research [in leadership] has been coupled with a wasteful repetition of tests of shopworn hypotheses and a general disregard for negative results" (p. 913).

Leadership in sport has also received some attention from researchers, yet much remains to be understood. Chelladurai and Riemer (1998) stated that leadership research in the athletic context has been sparse and sporadic. Despite the general agreement on its importance, leadership in sport remains relatively under-researched compared to other fields. Murray (1986) indicated, "There is a paucity of research and conceptual literature about leadership in sport situations even though coaching requires one to be a leader" (p. 93). Although previous researches have provided a

number of insights into leadership in a variety of fields, there are ongoing issues associated with the ambiguity of conceptualising leadership such as the lack of a clear and consistent definition of leadership (Loughead et al., 2006) and lack of stability in the operation of variables underlying theory (Chelladurai & Riemer). For a number of decades, despite more than 350 leadership definitions and thousands of empirical examinations on leadership conducted in a wide variety of disciplines, "there appears to be little consensus of an accepted characterization of leadership" (Mondello & Janelle, 2001, p. 40).

General Definitions of Leadership

Purposes of definitions include ascertaining the object being investigated, identifying a structure for practical use, and providing a foundation for the development of theory (Bass, 1981). Stogdill (1974) indicated, "There are almost as many definitions of leadership as there are persons who have attempted to define the concept" (p. 259). In fact, approximately 65 different taxonomies have been used to define leadership over the last five decades (Fleishman, Mumford, Zaccaro, Levin, Korotkin, & Hein, 1991). Janda (1960) stated, "Leadership is a word taken from the common vocabulary and incorporated into the technical vocabulary of a scientific discipline without being precisely redefined. As a consequence, it carries extraneous connotations that create ambiguity of meaning" (p. 3). Burns (1978) indicated that this lack of an unequivocal definition of leadership is exacerbated by academics in separate disciplines and sub-disciplines pursuing different and often unrelated questions.

In mainstream psychology, many of the accepted leadership definitions are extremely diverse. The definition of leadership has often been determined by researcher's individual perceptions and approaches (Yukl, 1994). To organise a wide

range of leadership definitions, Stogdill (1968) provided eleven perspectives on leadership. Although leadership definitions seem to be somewhat outdated, researchers tend to adapt definitions from one or more of Stogdill's major eleven perspectives. These perspectives are namely *universal phenomenon*, *induce compliance*, *exercising influence*, an *act* or *behaviour*, *persuasion*, *differential power relationships*, an instrument of *goal achievement*, *an emerging effect of interaction*, *a differentiated role*, and the *initiation of structure*.

Specifically, the u*niversal* phenomenon of leadership implies that, although leadership is difficult to define, people, no matter which cultural background, acknowledge the universality of leadership in many contexts. Baker and Coy (2005) proposed that the term leadership in English-speaking countries originated from *loedan*, an Anglo-Saxon word, that means 'a way, road, path or journey.' From the perspective of the *universal phenomenon*, leadership exists among all people regardless of culture (Smith & Krueger, 1933).

In perceiving leadership as the ability to *induce compliance*, researchers consider leadership as "a unidirectional exertion of influence and as an instrumentality for molding the group to the leader's will" (Bass, 1981, p. 9). With *induced compliance*, there is little space for the rights, desires, and needs of group members. Leadership is centered on coerciveness and authoritarianism. Some behavioural scientists tend to refute this authoritarian concept that disregards the contribution of subordinates from leadership definition (Bass). Bass, however, believes that we cannot avoid the fact that leadership is generally authoritarian, directive, and even coercive in nature.

E*xercising influence* implies that leadership is subject to social influences, whereby a leader intentionally influences group members in order to structure the

activities and relationships within the group. For example, some researchers (e.g., Cartwright, 1965; Hollander & Julian, 1969) asserted that "influence" is synonymous with leadership. For example, Tannenbaum, Weschler, and Massarik (1961) indicated that leadership is "interpersonal influence, exercised in a situation, and directed, through the communication process, toward the attainment of a specified goal or goals" (p. 24). Two underlying themes that follow from this perspective are: (a) leaders and followers influence each other in a reciprocal manner; and (b) leadership might be inferred either through leader behaviours or the consequences of followers' behaviours (Chelladurai & Carron, 1978). Researchers generally support this perspective because of the implication that a mutual relationship between a leader and group members without domination, control, or induction of compliance on the leader's side (Bass, 1981).

Leadership has also been viewed as an *act* or *behaviour*. Behaviour in leadership generally refers to the particular acts in which a leader engages when directing and coordinating the work of group members (Fiedler, 1967). For example, Hemphill & Coons (1957) described leadership as "behavior of an individual when he is directing the activities of a group toward a shared goal" (p. 7). Bass indicated that a number of researchers have taken this perspective especially to identify particular leadership behaviours that lead to group success.

With the *persuasion* perspective, researchers perceive a leader as a determining factor in the relationship within a group but exclude the aspect of coerciveness (Bass, 1981). For example, Reuter (1941) indicated leadership as one's ability to persuade or direct others without a use of the status or power of formal office or external circumstances. This perspective also directly involves the aspect of influence in leadership. Researchers who are against the concept of authoritarianism tend to

support this perspective because *persuasion* is a powerful tool in establishing expectation and belief (Bass).

Differential power relationships among group members is underpinned by the notion that leadership is a type of power relationship whereby a group member has the right to prescribe behaviour patterns on another group member (Janda, 1960). Power is "a resultant of the maximum force which A can induce on B minus the maximum resisting force which B can mobilize in the opposite direction" (Bass, 1981, p. 11). Leadership occurs when a member controls or changes the behavioural patterns of other members. Bass stated that many leaders, who are committed to building trust, openness, and participatory approaches, admit that the power relationship is important in understanding leadership.

Leadership has also regarded as an instrument of *goal achievement*. Bass (1981) indicated that several researchers view leadership in terms of the instrumental value for group achievement of goals and satisfaction of needs. Rauch, Behling, and Schriesheim (1984) stated that leadership is "the process of influencing the activities of an organized group toward goal achievement" (p. 46). In many fields, leadership effectiveness is partly and sometimes solely based on group accomplishment toward a set goal. In a sense, the outcomes from group performance are important from a leadership perspective. Some researchers perceived leadership as an *emerging effect of interaction* rather than a cause or control of group action (Bass). For example, Pigors (1935) stated that leadership is a process of mutual stimulation that controls human energy in the pursuit of a common cause by the successful interplay of individual differences. Quite simply, leadership does not exist unless other members of the group acknowledge and confer a person as a leader.

The leadership perspective as *a differentiated role* means that each member of a group plays a different role based on the degree of influence and has different contributions to the achievement of a group goal (Newcomb, Turner, & Converse, 1965). When group members acknowledge a particular individual as a dependable contributing source of goal achievement, that individual becomes a leader of that group. Thus, group members play a role based on their expectations toward themselves and from other members (Sherif & Sherif, 1956). Researchers who support perspective of the *initiation of structure* focus on the differentiation and maintenance of role structures within a group. For instance, Stogdill (1974) defined leadership as "the initiation and maintenance of structure in expectation and interaction" (p. 411). Bass (1981) also urged that we have to appreciate the persons, resources, and tasks within the differentiated roles if structure is the consistent pattern of differentiated role relationships in a group.

Leadership definition in sport

Researchers in sport psychology utilise several leadership definitions, however, these definitions follow similar lines. The most popular definition of leadership is, "The behavioural process of influencing individuals and groups toward set goals" (Barrow, 1977, p. 232). Similarly, Murray (1986) combined the definitions of Stogdill (1974) and Barrow by stating that leadership is "the behavioural process of influencing the activities of an organized group toward specific goals and the achievement of those goals" (pp. 93-94). In addition, Loughead et al. (2006) and Dupuis et al. (2006) have used a more recent definition of leadership developed by Northouse (2004), "A process whereby an individual influences a group of individuals to achieve a common goal" (p. 3). Although these leadership definitions

used in sport are different in terms of wording, the underlining emphasis is that leadership is an influencing process.

Despite a number of leadership definitions being based on various perspectives in mainstream psychology, sport leadership definitions generally have four common components (Northouse, 2004). These four components central to leadership are: (a) leadership as a process, (b) leadership involving influence, (c) leadership occuring within a group context, and (d) leadership involving goal attainment. Two of these four leadership components are consistent with two of Stogdill's perspectives in understanding leadership, namely, *the exercise of influence* and *an instrument of goal achievement.*

For the present dissertation, I used Barrow's definition simply because the Multidimensional Model of Leadership (Chelladurai & Carron, 1978) was developed based on the definition proposed by Barrow (1977). Chelladurai and Saleh (1980) claimed that, although the managerial functions of coaches vary (e.g., planning, organising, allocating budget, scheduling, recruiting, public relations, leadership), the functions included in Barrow's definition are significant in an athletic context.

Historical Review of Leadership Theories in Sport and Mainstream Psychology

Researchers in sport psychology have historically followed the trends and patterns of leadership theories developed in mainstream psychology. From an historical perspective, the study of leadership in sport began in the 1920s when Griffith (1926) proposed that one of the tasks of sport psychologists was to observe and identify the principles that the best coaches followed in developing athletic teams. The dominant focus areas in sport psychology between the 1940s and 1970s, however, were on motor behaviours, personality and sport, exercise and mental health, and the academic performance of athletics (Landers, 1995). When American

sport psychology gradually made a transition from predominantly theorietical investigations to applied practice, leadership studies were, however, still not prominent. Chelladurai and Carron (1978) described leadership as having received minimal and peripheral attention in sport psychology.

From the 1970's to 1980's, sport psychologists started to investigate leadership behaviours more consistently. Trait theory dominated leadership studies in sport, reflecting established trends in mainstream psychology. Northouse (2004) explained that trait theory is based on the perspective that great leaders possess universal personality traits and characteristics conducive to leadership excellence. Specifically, the focus of research was on identifying the innate qualities and characteristics that distinguished great leaders from subordinates. Researchers in mainstream psychology and other fields including political and military examined so-called great leaders (Northouse). Researchers in sport psychology (e.g., Hendry, 1969; Lenk, 1977; Penman, Hastad, & Cords, 1974) also studied certain traits or behaviours focusing on identifying personality traits and characteristics coaches possess to distinguished effective leaders from non-effective leaders. The belief in the innate nature of leadership characteristics has been referred to as the "great man theory" (Carlyle, 1907)

Researchers gradually started disregarding or at least moving away from trait theories in mainstream psychology. Based on the extensive review of trait studies, Stogdill (1948) concluded that despite the importance of individual differences in identifying effective leaders no single trait would be a universal predictor of an effective leader because of a various situations where leaders functioned. In turn, personality traits related to leadership in one situation may not necessarily apply in other situations (Barrow, 1977). Although this view was not immediately recognised

(Chemers, 2000), nowadays, it is widely held that the complexity of leadership cannot be explained by simply identifying the personality traits that a great leader possesses (Horn, 1992).

Despite the decline of leadership studies based on trait theory, a number of researchers (i.e., Chelladurai & Carron, 1978; Fiedler, 1967; House, 1971; House & Mitchell, 1974) still believed that personality traits play a role in leadership. Lord, de Vader, and Alliger (1986), for example, strongly argued that researchers over generalised that personality traits are not related to leadership effectiveness. In their study (Lord et al.), a strong correlation between personality traits and individual perception of leadership was found. In recent years, interest in trait approach has increased among researchers (i.e., Bryman, 1992). As a consequence, there has been a refocus on examining traits of leadership in the category of visionary and charismatic leadership (see Bass, 1990; Bennis & Nanus, 1985; Nadler & Tushman, 1989).

Given that traits fail to predict leadership in mainstream psychology, researchers shifted their focus to studying leader behaviour (Chemers, 2000). A number of researchers (e.g., Bales & Slater, 1955; Kahn, 1951; Lewin, Lippitt, & White, 1939), for example, observed the effects of leadership style (i.e., autocratic vs. democratic) in relation to the atmosphere of small groups, analysed the interaction process and the follower's perception on the behavioural styles of their supervisors. The common focus in these studies was to identify certain patterns of leader behaviour that led to high productivity or morale (Chemers). Similarly, the strong focus of researchers in sport around the 1970's was on identifying behaviours of the effective leader, that is, "the kind of activities that the leader engages in in carrying out the process of leadership" (Chelladurai & Carron, 1978, p. 7). In athletics, for

example, Danielson, Zelhart, and Drake (1975) investigated sport-specific leader behaviours using 140 of the 150 original items of Leadership Behaviour Description Questionnaire (LBDQ; Halpin & Winer, 1957). Danielson et al. found that leadership behaviour of hockey coaches are perceived to be more communicative than dominating. This result was inconsistent with general research findings in mainstream psychology suggesting that the characteristics of coaching behaviours are dominant, aggressive, and authoritative. The focus on identifying specific behavioural patterns of leaders in relation to effective leadership, however, has since declined.

There has been gradual recognition that effective leadership is a function of multiple variables such as situational and individual factors rather than a single factor such as personality or behavioural. A number of more sophisticated and complex leadership theories were developed in mainstream psychology. In particular, leadership frameworks such as contingency theory (Fiedler & House, 1988), normative decision theory (Vroom & Yetton, 1973), path-goal theory (Evans, 1970, House, 1971, House & Dessler, 1974, House & Mitchell, 1974), situational theory (Blanchard, Zigarmi, & Nelson, 1993; Blanchard, Zigarmi, & Zigarmi, 1985; Hersey & Blanchard, 1977 ; 1988), adaptive-reactive theory (Osborn & Hunt, 1975), and equity theory (Adams, 1965) become the basis for leadership models developed in sport.

One of the dominant leadership theories from the 1960s to 1970s was contingency theory (Fiedler & House, 1988). Fiedler (1967) investigated leadership styles, the situational context, and leader effectiveness, with a number of leaders who worked mostly in military organisations. As a result of extensive research focusing on personality variables and group characteristics, Fiedler developed contingency

theory. The underlying theme of contingency theory is that effective leadership is *contingent* on matching leadership style to situational favourableness. That is, leadership styles are not generically effective across all situations (Rice & Kastenbaum, 1983). Leadership style is assessed by the affective reaction of a leader to their least preferred co-worker with a series of bipolar items (the Least Preferred Co-Worder scale: LPC). Leadership style was divided into two types such as task-oriented (i.e., low LPC scores) and relation-oriented (i.e., high LPC scores). Task-oriented leaders concern themselves primarily with achieving goals, whereas relation-oriented leaders place more value on building close interpersonal relationships with followers. Situational favourableness is determined by three factors, leader-member relationship, task structure, and position power. Leader-member relationship refers to the group atmosphere and the level of followers' confidence, loyalty, and attraction to a leader. Task structure relates to how clearly the requirements of the task are stated, how many alternative paths to accomplish the task are available, how clearly completion of the task can be verified, and how many exact solutions to task are available. Position power refers to leader's authority for rewarding or punishing to followers. Based on contingency theory, task-oriented leaders become most effective when leaders have a high degree of control and influence (i.e., highly favourable in situation) or when leaders have a relatively low degree of control and influence (i.e., highly unfavourable in situation) (Fiedler & Mahar, 1979). Conversely, the Contingency Theory predicts that relation-oriented leaders tend to perform best in situations where they have a moderate degree of control and influence (i.e., intermediately favourable in situation).

Northouse (2004) provided several strengths and limitations of contingency theory. The strengths include: (a) contingency theory was developed from empirical

research; (b) the involvement of situational factors to personality variables added a new perspective to the understanding of leadership; (c) contingency theory is predictive because researchers can identify the leadership type that is most effective under given circumstances; (d) leaders are not required to match with every situations because leadership style is contingent on favourable conditions; and (e) the data derived from assessment tools based on contingency theory (i.e., LPC) enables organisations to establish leadership profiles.

Although it provides useful information and has received substantial support, there are several shortcomings associated with contingency theory: (a) researchers have not yet provided a full explanation why particular leadership styles are more effective in certain situations; (b) researchers are required to use several measurement tools to examine leadership styles and three factors (i.e., leader-member relations, task structure, and position power) to determine optimal circumstances; and (c) researchers have not provided suggestions or solutions for when a leadership style does not match a situation (Northouse, 2004). Because contingency theory is based on aspects of personality traits and situational variables, it does not flexibly alternate leadership styles to fit given situations (Northouse). Perhaps due to these limitations, research based on contingency theory has been declining in recent decades.

Normative decision theory (Vroom & Yetton, 1973) was derived from a contingency approach but working more on a deductive theoretical base (Chemers, 2000). Vroom and Yetton focused on leadership effectiveness derived from decision making strategies of leaders integrated with situational factors. In the model, leaders are categorised in various leadership styles from autocratic (i.e., leaders making the decision by themselves without follower's input), to consultative (i.e., leaders

making the decision after taking follower's opinion into consideration), and to group or participative styles (i.e., leaders and groups make the decision together with equal weight) (Chemers). Based on normative decision theory, it is hypothesised that the most effective decision making style depends on the clarity and structure of the task, the degree of support from the followers in a group or an organisation, the degree of conflict among subordinates, and the time frame in which for leaders make decisions. Leaders, for instance, might take the time-efficient autocratic style when the task is clear and the followers are supportive. Conversely, leaders are best to use a consultative style when the task is unclear. The participative style seems the best for leaders when the followers are not supportive. Although the normative decision model lacks extensive empirical research, existing literatures generally support its basic hypothesis (Field & House, 1990).

In the athletic context, Chelladurai and Haggerty (1978) extended the normative decision theory to develop the normative model of decision styles in coaching. Chelladurai and Haggerty proposed that coaches in sport should take the nature of the problem and the situation into consideration in their decision-making. The model consists of three types of decision-making styles; autocratic, participative, and delegative. The autocratic decision style occurs when the coach makes a final decision. The participative decision style refers to when the group including the coaches make the actual decision collectively. The delegative decision style occurs when the coach allows other members of the group to make the decision without being involved in the decision making process (Chelladurai & Riemer, 1998). Similar to the original normative decision theory, Chelladurai and Riemer claimed that the model and the model testing instrument have not been examined extensively to make judgments considering the validity in athletic context.

Another major theory of leadership in mainstream psychology is path-goal theory where the focus is on leadership behaviours across different situations (Evans, 1970, House, 1971, House & Dessler, 1974, House and Mitchell, 1974). Path-goal theory emphasises the relationship among leadership style, the subordinate's characteristics, and work settings. Path-goal theory originated from expectancy theory (Vroom, 1964). Briefly, expectancy theory is based on the principle that the attitude (i.e., satisfaction) and behaviour (i.e., performance) of subordinates can be determined by the degree to which subordinates perceive the job or behaviour leading to various outcomes (i.e., expectancy) and the evaluation of these outcomes (i.e., valences). Based on path-goal theory, the motivational functions of leaders are to: (a) increase reward (e.g., payoffs) to subordinates for work-accomplishment, (b) clarify the path to goal-attainment, (c) remove obstacles (i.e., uncertainties, frustrations, or threats to work toward a set goal), and (d) increase the opportunities for subordinate's satisfaction (Wofford & Liska, 1993).

House and Mitchell (1974) indicated that the effectiveness of leaders can be determined by the interaction of the four types of leader behaviours (i.e., *directive*, *supportive*, *participative*, and *achievement-orientation*), situational variables such as environmental characteristics (i.e., task structure), and subordinate characteristics. According to Northouse (2004), *directive* leadership refers to leaders' behaviour that sets a standard of performance expected of subordinates and sets the task rules and regulations. For example, *directive* leaders clarify goals (i.e., expectancy), paths (i.e., ways to achieve the goal), and responsibility (i.e., the deadline to accomplish the given task). *Directive* leadership behaviour is effective and also enhances subordinate's satisfaction most when the task demand is ambiguous and unstructured. Conversely, *directive* leadership style may not be effective under the

circumstance where goals, paths, and responsibility are already clear to subordinates (Northouse). Northouse indicated that *directive* leadership style is best suited to subordinates who are rigid and authoritarian and prefer clear task structure.

Supportive leadership refers to a style whereby the leader is approachable and is attentive to the well-being and personal needs of followers. Northouse (2004) asserted that *supportive* leadership style is most appropriate for subordinates who prefer affiliation. Moreover, a *supportive* leadership style is effective when subordinates are dealing with stressful, frustrating, and dissatisfying tasks. *Participative* implies leadership behaviour involving subordinates in the process of a decision-making. House (1996) hypothesised that *participative* leadership enhances subordinate's satisfaction and motivation when subordinates are highly ego-involved in decision making tasks and also when the task demands are ambiguous and unstructured. *Participative* leadership is apparently effective for subordinates who resist authority and who need high independence and self-control (Northouse). *Achievement-oriented* leadership can be used by leaders to challenge subordinates to strive for higher standards of performance and develop more confidence in their ability to respond effectively to challenging goals. *Achievement-oriented* leadership is effective for enhancing subordinates' performance under circumstances where tasks are ambiguous and non repetitive. In summary, path-goal theory, therefore, provides an explanation of the ways that leaders can help subordinates by choosing appropriate behaviours that match the subordinates' needs. Northouse described the essence of path-goal theory as "to be effective, leaders need to help subordinates by giving them what is missing in their environment and by helping them compensate for deficiencies in their abilities" (p. 129).

Northouse (2004) indicated that there are several identified strengths and weaknesses of path-goal theory. The strengths include: (a) path-goal theory adds the perspective of exploring the relationship among leadership behaviour, subordinate's satisfaction, and performance; (b) path-goal theory was the first leadership theory that involved a motivational function of leaders; and (c) path-goal theory is practical because recommendations are given for how leaders can help subordinates. Leaders can thereby identify what is lacking in situations and assist subordinates accordingly. Despite the support for path-goal theory, researchers have also raised a number of concerns. Path-goal theory is relatively complex and, consequently, it is challenging to implement path-goal theory in organisational contexts. Path-goal theory has been partially, but not fully supported by empirical studies (House & Mitchell, 1974; Indvik, 1986; Schriesheim & Kerr, 1977; Schriesheim & Schriesheim, 1980; Wofford & Liska, 1993). Furthermore, although path-goal theory possesses the unique aspect of including a motivational function in leadership, the relationship between leadership and motivation is not fully expounded.

Another widely recognised theory is situational theory (Blanchard et al., 1993; Blanchard et al., 1985; Hersey & Blanchard, 1977; 1988). The basic principle underlying situational theory is that different situations demand leaders to adapt their style. Northouse (2004) described that situational leadership theory consists of two main components that are similar to path-goal theory, *directive* (i.e., task-oriented) and *supportive* (i.e., relationship-oriented). The *directive* leadership style is based on one-way communication, whereas the *supportive* behaviour is based on two-way communication. Leaders first assess subordinates' ability and task commitment, and then adjust their style to being directive or supportive to match the needs of subordinates. According to Hersey and Blanchard, the maturity level of subordinates

in terms of accomplishing a specific task is a determining factor for leadership behaviour. Maturity in this context is defined as "the capacity to set high but attainable goals (achievement motivation), willingness and ability to take responsibility, and education and/or experience of an individual or a group" (Hersey & Blanchard, p. 161).

With situational theory, leadership styles are further divided into four approaches (Northouse, 2004). In the *directing* approach (i.e., a *high directive - low supportive*), leaders primarily emphasise their communication on goal-achievement behaviours. In the *coaching* approach (i.e., *high directive - high supportive*), leaders communicate primarily on both goal achievement and maintenance of subordinates' social and emotional needs. In the *supporting* approach (i.e., *high supportive - low directive*), leaders exclusively focus on providing support such as listening, praising, asking for input, and providing feedback. In the *delegating* approach (i.e., *low supportive - low directive*), leaders provide less task input and social support.

Blanchard et al. (1985) discussed how the effectiveness of leadership styles is determined by the development level of subordinates including their competence and commitment to accomplish a given task. Researchers have identified four levels of subordinate's development that increasing linearly from D1 to D4. D1 refers to subordinates being low in competence and high in commitment. Specifically, these subordinates lack familiarity and knowledge in a given task but are excited about the challenge of a task. D2 is where subordinates have obtained some competence but have low commitment to the task. D3 is where subordinates maintain moderate to high competence but lack commitment. These subordinates have developed the skills for the task but are anxious about whether they can accomplish the task. D4 refers to subordinates attaining both high competence and high commitment to a task.

Northouse indicated that these subordinates have maximised their skill to perform the task and are motivated to accomplish the task. Leaders are required to identify where subordinates are on the developmental continuum and adjust their style accordingly. Specifically, leaders are required to perform high levels of *supportive* behaviour and relatively low level of *directive* behaviour as subordinates increase their developmental level. Leaders then have to shift their leadership behaviour from *supportive* to *directive* as subordinates reach moderate level of development. Finally, leaders reduce both *supportive* and *directive* behaviours to maximise the effectiveness as some subordinates progress or attain above average levels of development.

There are several advantages and disadvantages of situational leadership theory. The strengths include: (a) a well-known and frequently used theory with evidence that a number of business organisations (i.e., 400 of the Fortune 500 companies) utilised situational theory in leadership training and development programs; (b) practical use because situational leadership is relatively easy to understand, instinctively sensible, and easily applied in a wide range of settings; (c) prescriptive because the theory provides useful information on what leaders should and should not do in various situations; (d) a focus on leader flexibility in adapting their leadership style to the changing needs of subordinates; and (e) new insights in leadership research whereby leaders are required to treat subordinates differently based on individual needs and task requirements (Northouse, 2004). Conversely, the negative aspects of situational leadership theory are: (a) the lack of published studies to confirm the assumptions and proportions of the situational theory; (b) ambiguous conceptualisation in measuring the competence and commitment of subordinates in relation to the level of development; (c) inconsistent findings to support the basic

model prescriptions; and (d) leaders may find it difficult to adjust their style to match the individual needs and task requirements within a group. Despite several criticisms, the situational leadership approach has been widely used in various types of organisational setting (Northouse).

Another leadership theory that is more easily related to sport contexts model is the adaptive-reactive leadership theory (Osborn & Hunt, 1975). The basic premise of adaptive-reactive theory is that leaders *adapt* to the situations and conditions of the organisational system and *react* to the needs, desires, and pressures of subordinates. Adaptive-reactive theory includes a set of variables namely *macro-variables* and *micro-variables*. *Macro-variables* are constituted in the organisational system such as unit size, level of technology, and formal structure. *Micro-variables* are comprised of personality differences and task demands such as structure and degree of ambiguity. Osborn and Hunt indicated that the *macro-variables* influence leadership behaviour because, for example, the size of a group and the level of technology determine the way leaders implement different formal structure. *Micro-variables* such as task demands and personality characteristics of subordinates, conversely, determine the influence of leadership behaviour. The adjustment of leadership behaviour depending on subordinates' task level and ability, for instance, influences performance outcome.

A final leadership theory proposed in general psychology is equity theory (Adams, 1965). The basic principle of equity theory is the exchange relationship between effort and outcome should be fair and equal. The exchange ratio between effort and outcome should be equal to that of other members or of previous experience. If individuals perceive that the exchange relationships are unequal or unsatisfactory, they may attempt to readdress this perceived inequity by intentionally

reducing effort, avoiding the situation, or cognitively distorting comparisons (Bretz & Thomas, 1992). Equity theory has been criticised because most studies have been conducted in laboratory settings with poor study designs that in some instances threatened the self-esteem of participants, in turn, leading to a compensatory equalization bias (Mowday, 1987). Thus, researchers have not fully examined the effects of perceived inequity on maintained repetitive performance (Bretz & Thomas).

Many of the leadership studies in sport have been also developed utilizing the theoretical frameworks existing in general psychology and businesses. For example, based on Path-goal theory, it was hypothesised that athletes who participates in highly variable and interdependent sports (e.g., soccer and basketball) would prefer a more structured and autocratic leadership behaviour than athletes who participates in more predictable and independent sports (e.g., shooting and diving) (Bolkiah & Terry, 2001). A few researchers (Capitao, 1995; Terry & Howe, 1984) have provided partial support for the applicability of path-goal theory to the sport leadership process. The results derived by Terry and Howe, for instance, demonstrated that athletes involved in independent sports indicated a greater preference for democratic behaviour and less autocratic behaviour than athletes involved in interdependent sports. Bolkiah and Terry then found that task variability did not influence the preference of athletes for leadership behaviour, whereas task interdependence and an interaction between variability and interdepence had an effect on leadership behaviours. Specifically, athletes involved in independent sports showed greater preference for democratic behaviour and social support than athletes in interdependent sports. Thus, the path-goal theory has been partially supported

whereby task interdependence has influenced leadership behaviour whereas task variability did not result in clear effects.

Unique Aspects of Sport

Leadership theories derived from general psychology are not necessarily fully transferable to sport because sport is unique in several ways. First, according to Chelladurai (1984), the coach has almost total control and influence on athletes at nearly all levels (e.g., youth sport, club sport, university sport). Second, athletic training requires an enormous time commitment to prepare for competition (Zhang et al., 1997). Third, unlike other organizations, winning and losing in sport is definitive. Fourth, sport teams are organized for a prescribed period of time (Zhang et al.). Fifth, the level of athletic competition falls into a wide range from recreational to Olympic (Russell, 1993). Leaders in athletic contexts must also adapt their leadership styles based on the level of the sport.

A number of researchers (e.g., Alfermann et al., 2005; Chelladurai, 1990; Cumming, Smith, & Smoll, 2006;) indicated that, over twenty five years, the majority of leadership studies in sport have been conducted based on two major theoretical frameworks, namely the Mediational Model of Leadership (Smith & Smith, 1989; Smoll, Smith, Curtis, & Hunt, 1978) and the Multidimensional Model of Leadership (MML; Chelladurai & Carron, 1978).

Mediational Model of Leadership

Based on social learning theory (Bandura, 1969; Mischel, 1973), Smoll et al. (1978; Smoll & Smith, 1989) developed the Mediational Model of Leadership that is a cognitive-behavioral model in youth sports. In the Mediational Model of Leadership, it was hypothesized that athletes' perception and recall of coach's behaviours influence athlete's reactions to coach behaviours (Smoll & Smith; Smoll

et al.). Smoll and Smith (1989) also stated, "a truly comprehensive model of leadership requires that consideration be given not only to situational factors and overt behaviours, but also the cognitive processes and individual difference variables which mediate relationships between antecedents, leader behaviours, and outcomes" (p. 1532). In turn, the focus of the Mediational Model of Leadership is on athlete's cognitive aspects such as player's perceptions, recall, and reactions. Smoll and Smith also included situational and individual difference variables that effect coach behaviours, player's perceptions and recollections of coach behaviour, and player's evaluative reactions.

In the Mediational Model of Leadership, Smoll and Smith (1989) stated that coach behaviours influence athlete's perception and recall that in turn effect their evaluative reactions. The coach perceives the player's attitudes derived from player's evaluative reactions. Thus, all four central elements of the Mediational Model of Leadership (e.g., coach behaviours, player perception and recall, players' evaluative reactions, and coach perception of player's attitudes) coalesce. Specifically, coach individual difference (e. g., coaching goals and motives, behavioural intentions, instrumentalltles, perceived coaching norms and role conception, interred player motives, self-monitoring, and sex) are assumed to influence coach behaviours and coach perceptions of player attitudes. Player individual difference (e.g., age, sex perceived coaching norms, valence of coach behaviours, sport-specific achievement motives, competitive trait anxiety, general self-esteem, athletic self-esteem) are proposed to effect player's perception and recall as well as player's evaluative reactions. Finally, situational factors (e.g., nature of the sport, level of competition, practice versus game, previous success and failure, present game and practice

outcome, and intrateam attraction) are hypothesised to effect coach behaviours and coach perception of player's attitudes.

Coaching Behavior Assessment System

To systematically investigate coaching behaviour with the Mediational Model of Leadership, Smith, Smoll, and Hunt (1977) developed the Coaching Behavior Assessment System (CBAS). Specifically, CBAS was designed to measure coaching behaviours in twelve categories and two subdivided categories (i.e., reactive, spontaneous) using a coding system for observing and recording coaching behaviours during practices and games (Smith et al.). The behavioural categories and two subdivided categories are presented in Table 2.1.

Table 2.1

Responses Categories of the Coaching Behavior Assessment System (CBAS)

Class I. Reactive Behaviors	
Responses to desirable performance	
Reinforcement (R)	A positive, rewarding reaction (verbal or non-verbal) to a good play or good effort
Nonreinforcement (NR)	Failure to respond to a good performance
Responses to mistakes	
Mistake-Contingent Encouragement (EM)	Encouragement given to a player following a mistake
Mistake-Contingent Technical Instruction (TIM)	Instructing or demonstrating to a player how to correct a mistake he/she has made
Punishment (P)	A negative reaction, verbal or nonverbal, following a mistake
Punitive Technical Instruction (TIM+P)	Technical instruction following a mistake which is given in a punitive or hostile manner
Ignoring Mistakes (IM)	Failure to respond to a player mistake
Responses to misbehavior	
Keeping Control (KC)	Reactions intended to restore or maintain order among team members

Table 2.1 (Continued).

Responses Categories of the Coaching Behavior Assessment System (CBAS)

Class II. Spontaneous Behaviors	
Game-related	
General Technical Instruction (TIG)	Spontaneous instruction in the techniques and strategies of the sport (not following a mistake)
Game-related	
General Encouragement (EG)	Spontaneous encouragement which does not follow a mistake
Organization (O)	Administrative behavior which sets the stage for play by assigning duties, responsibilities, positions, etc.
Game-irrelevant	
General Communication (GC)	Interactions with players unrelated to the game

Note. From Smith, Smoll, & Hunt, 1977, *Research Quarterly*, 48, 401-407.

In order to test athlete-perception of coaching behaviours, Smith, Smoll, and Curtis (1978) also developed the CBAS Perceived Behavior Scale (CBAS-PBS). The CBAS-PBS is a slightly modified version to investigate the coache's perception of their own behaviour. The CBAS has been tested by a number of researchers and is generally considered a valid and reliable instrument. The specific target population for use of the CBAS, however, is the leadership characteristics of youth sport coaches. Some researchers have raised concerns about the applicability of the CBAS to reliably investigate the leadership characteristic of experienced coaches working with more mature athletes (Mondello & Janelle, 2001).

Multidimensional Model of Leadership

Given the unique aspects of sport, Chelladurai and Carron (1978) developed the Multidimensional Model of Leadership (MML), a theory specific to sport. Chelladurai and Carron constructed the multidimensional model by adoping and

extending the combined elements of existing leadership theories such as contingency theory (Fiedler, 1967; Fiedler & House, 1988), path-goal theory (Evans, 1970; House, 1971; & House & Dressler, 1974; House & Mitchell, 1974), adaptive-reactive theory (Osborn & Hunt, 1975), equity theory (Adams, 1965), and discrepancy model of leadership (Yukl, 1971). Overall, the MML is a comprehensive re-illustration of 1950's Ohio State Leadership Studies. The latest version of the MML (Chelladurai, 2007) is presented in Figure 2.1. The basic tenet of the MML is that performance outcome and member satisfaction is influenced by the level of congruency among three aspects of leadership: *required behaviour*, *preferred behaviour,* and *actual behaviour*. In addition, situational, leader, and member characteristics are antecedents that influence the three facets of leadership behaviour.

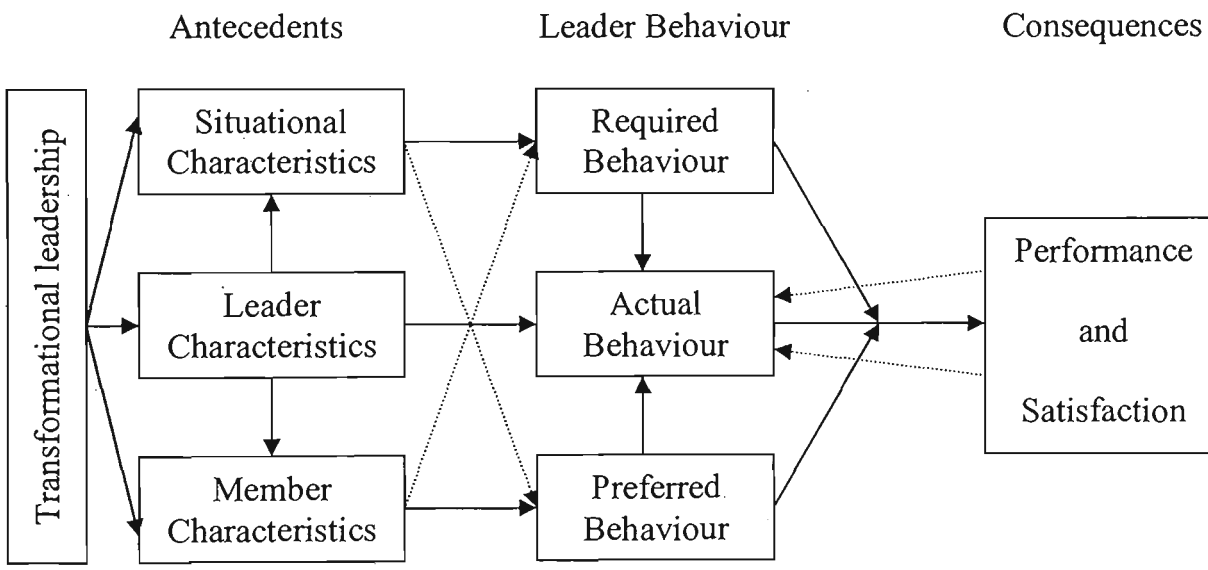

Figure 2.1. The Multidimensional Model of Leadership from Chelladurai (2007).

Required leader behaviour indicates that leaders behave based on the demands of the situation and member characteristics. Specifically, Chelladurai (1990) proposed that situational characteristics include organisational goals and structures (e.g., the professional versus high school teams), group tasks and technology provided within the organisation, social norms, cultural values, and government

regulations. The hypothesis of situational variables influencing the *required leadership behaviour* originated from the Osborn and Hunt's (1975) adaptive-reactive theory. Chelladurai and Carron (1978) added a few additional variables (e.g., organisational goals, normative forces, group tasks) from the original *macro-variables* (e.g., unit size, level of technology, formal structure), a feature of adaptive-reactive theory.

Member characteristics are also believed to determine *required leadership behaviour* in the MML. Member characteristics include gender, age, intelligence, performance ability, experience in sport, and personality dispositions. For example, if individuals lack the ability to perform valid decision-making in accordance to the given situation or task, the leader will be required to decide for them. The hypothetical influence of member characteristics on *required leadership behaviour* was derived from situational theory (Hersey & Blanchard, 1977). As the maturity level and the ability of a member increases, coaches are required to alternate their leadership styles.

Preferred leadership behaviour refers to leader's behaviours that are preferred by group members. Similar to *required leadership behaviour*, *preferred leadership behaviour* is also influenced by situational and member characteristics. Situational characteristics are believed to affect *preferred leadership behaviour* to the extent that athletes face situational demands and constraints (Chelladurai & Riemer, 1998). Member characteristics also influence *preferred leadership behaviour*. Specifically, individual differences in ability, personality traits, need for achievement, need for affiliation, and subordinates' cognitive processes affect preferences that athletes have for a leader's behaviour (Chelladurai & Riemer). *Preferred behaviour*, therefore, is heterogeneous across all members.

Actual leader behaviour indicates how leaders behave depending on individual characteristics, *required leadership behaviour*, and *preferred leadership behaviour.* Leadership characteristics include leader's personality, ability, and experiences. The influence of leader characteristics on *actual behaviour* originated from contingency theory and adaptive-reactive theory where personality aspects such as task-oriented and interpersonal oriented are thought to influence the way leaders behave (Chelladurai & Carron, 1978). For example, coaches who value goal accomplishment (i.e., task-oriented) favour adaptive behaviour, whereas coaches who value interpersonal relationships with athletes tend to favour reactive behaviour based on the needs of athletes. In addition, Chelladurai proposed that the *actual leader behaviour* is comprised indirectly from the adaptive behaviour (i.e., *required behaviour*) and the reactive behaviour (i.e., *preferred behaviour*). Moreover, performance outcome and member satisfaction also influence *actual leadership behaviour.* For example, leaders might alternate their *actual leadership behaviour* based on the results of group performance and the degree of member satisfaction.

According to Chelladurai and Carron (1978), the two most salient consequences in athletic participation are satisfaction and performance. Satisfaction refers to "the degree to which the subordinate(s) is satisfied with the leadership he/she has experienced; it is a function of the extent to which the member sees the leader as contributing to the fulfilment of his/her needs and motives" (Chelladurai & Carron, p. 69). Performance is "output of the athlete or team relative to the output of competitors or relative to one's own previous output" (Chelladurai & Carron, p. 69). In the MML, Chelladurai and Carron indicated that the degree of congruence between required and actual leader behaviours influences performance outcome, and the level of congruency between *actual* and *preferred* leader behaviour determines

member satisfaction. Chelladurai and Carron provided several hypotheses derived from the MML (see Table 2.2).

Table 2.2

Relationship between Leader Behavior Congruence, Performance, and Satisfaction

Leader Behaviour			Outcome
Required	Actual	Preferred	
+	+	+	Ideal
–	–	–	Laissez Faire
+	–	+	Removal of Leader
+	+	–	Performance
–	+	+	Satisfaction

Note. From Chelladurai & Carron, 1978.

A whole series of scenarios are predicted on the interplay between the various aspects of the MML. For instance, when all three leadership behaviours (i.e., *required*, *actual*, and *preferred* behaviours) are congruent, both performance and satisfaction will be enhanced (i.e., ideal environment). Conversely, if the three leadership behaviours are not congruent, a chaotic situation may occur. In addition, when leader *required* and athlete *preferred* behaviours are congruent but *actual leader behaviour* is not congruent, leaders will not function effectively. Moreover, when *required* and *actual* behaviours are congruent, however, *preferred* behaviour is not congruent, performance will be enhanced whereas satisfaction will be diminished. Finally, when *actual behaviour* and *preferred behaviour* are congruent, satisfaction will be enhanced regardless of performance improvements. Although some researchers have found contradictory results (e.g., Riemer & Toon, 2001; Weiss & Friedrichs, 1986), the MML has remained the guiding model for theoretical explanations of leadership behaviour in sport for more than 20 years. Weiss and

Friedrichs indicated, "...it is the only leadership model that utilized research findings from sport in its formulation" (p. 334).

Chelladurai (1999; 2007) has added a new component to the original Multidimensional Model of Leadership (MML), termed transformational leadership (see Figure 2.1). Chelladurai (2007) stated, "In the transformational process, coaches are expected to (a) incite the higher order needs of members, (b) motivate them to perform beyond expectations, (c) express confidence in members, and (d) empower them" (p. 122). According to Chelladurai, it is necessary to include the aspect of transformational leadership because leadership behaviours influence athletes's transformation personally and situationally. Leaders, for example, play an important role in facilitating athlete's progress in physical, mental, and emotional capabilities that lead to performance excellence. In the pursuit of performance excellence athletes are transformed from being easy-going and playful to dedicated, committed, and hardworking (Chelladurai). In the modified MML, Chelladurai proposed that transformational leadership influences all three antecedents such as situational, member, and leader characteristics. Chelladurai announced that the Leadership Scale for Sport (LSS; Chelladurai & Saleh, 1980) did not capture the aspect of transformational leadership in the subscale structure. Additional investigations of the relationship between transformational leadership and three antecedents of the MML may be necessary to support the modified MML in the future.

Leadership Scale for Sport

To test the Multidimensional Model of Leadership, Chelladurai and Saleh (1980) developed the Leadership Scale for Sport (LSS). Due to the uniqueness of sport, Chelladurai and Saleh claimed the necessity of identifying and describing the dimensions of leader behaviour in sport and to establish a valid scale for systematic

sport leadership investigation. Chelladurai and Saleh first proposed the need for verification of whether the items and dimensions comprised in the existing leadership measurements are equivalent to the sport context.

At the initial stage of the scale development, Chelladurai and Saleh (1978) developed 99 new items from the following leadership scales, Leader Behavior Description Questionnaire (Halpin & Winer, 1957), Supervisory Behavior Descrption Questionnaire (Fleishman, 1957a), Leadership Opinion Questionaire (Fleishman, 1957b), and Leader Behavior Description Questionnaire-Form XII (Stogdill, 1963). Chelladurai and Saleh then administered the 99-item questionnaire to 160 Canadian physical education students, using a 5-point Likert-scale. Each item began with the phrase of "The coach should...." Data were analysed with principal factor analysis with varimax rotation (Chelladurai & Saleh).

Based on the several solutions with different factor numbers for extraction, a five-factor solution appeared to best fit the data. These five factors were named as *training*, *democratic behavior*, *autocratic behavior*, *social support,* and *rewarding behavior* (see Table 2.3). Thirty-seven of the 99 items had high loadings (> .40) on one factor and low loading (30 or less) on the other four factors. Chelaldurai and Saleh claimed that, at this stage, the proposed 99 items did not include the teaching aspect of leadership even though the items in *training* dimension reflected, at least to degree aspects of teaching behaviour. Chelladurai and Saleh (1978) developed seven additional items that reflected teaching behaviour of coaches within the second stage of scale development. Furthermore, Chelladurai and Saleh added six new items to the social support dimension. These six items were closely related to the "consideration" (Halpin & Winer, 1957) and interpersonal relations aspects discussed in contingency theory (Fiedler, 1967). With a total of 50 items representing five leadership

dimensions, Chelladurai and Saleh administered the revised scale to a total of 325 participants from Canadian universities.

Table 2.3

Dimensions of Leader Behaviour in Sport

Dimension	Description
Training and Instruction	Coaching behaviour aimed at improving the athletes' performance by emphasizing and facilitating hard and strenuous training; instructing them in the skills, techniques and tactics of the sport; clarifying the relationship among the members; and by structuring and coordinating the members' activities.
Democratic Behaviour	Coaching behaviour that allows greater participation by the athletes in decisions pertaining to group goals, practice methods, and game tactics and strategies.
Autocratic Behaviour	Coaching behaviour that involves independent decision making and stresses personal authority.
Social Support	Coaching behaviour characterized by a concern for the welfare of individual athletes, positive group atmosphere, and warm interpersonal relations with members.
Positive Feedback	Coaching behaviour that reinforces an athlete by recognizing and rewarding good performance

Note. From Chelladurai, 1989.

Participants were specifically asked to respond based on their current sport and perceptions of their coach's actual leadership behaviours. Again, using factor analysis, Chelladurai and Saleh first extracted five factors and confirmed the factor structure proposed from their earlier study. Based on these results, Chelladurai and Saleh retained 40 of the 53 items. In summary, the original LSS consists of 40 items that are typically used in three parallel forms: (a) athlete's perception of leader

behaviour, (b) athlete's preference for leader behaviour, and (c) coaches' perception of their behaviour. These three forms differ only in the preamble and target audience.

Psychometric Properties of the LSS

Several researchers have tested the psychometric properties of the three versions of the LSS. A number of researchers (Bennett & Maneval, 1998; Brooks, Ziatz, Johnson, & Hollander, 2000; Chelladurai & Carron, 1981; Chelladurai et al., 1988; Chelladurai & Saleh, 1980; Dwyer & Fischer, 1988b; Dwyer & Fischer, 1990; Gardner, Shields, Bredemeier, & Bostrom, 1996; Hastie, 1993; Isberg & Chelladurai, 1990; Keehner, 1988; Loughead & Hardy, 2005; Shields, Gardner, Bredemeier, & Bostrom, 1997; Sullivan & Kent, 2003) have investigated the internal reliability of the three LSS versions using coefficient alphas (see Table 2.4).

Most studies have reported adequate level of internal reliability, that is, above .70 (Nunnally & Bernstein, 1994). When researchers (Brooks et al., 2000; Dwyer & Fischer, 1988a) have investigated the internal reliability of the LSS with smaller samples, however, the coefficient alphas has falled below .70. In most studies where researchers administered the athletes' preference and perception versions, the perception version of the LSS produced better internal reliability compared to the preference version. Several researchers have suggested interpreting the *autocratic behaviour* factor with caution due to low internal reliability. Cronbach's alphas in *autocratic behaviour* have consistently been below the acceptance level of .70 in most studies using the preference version of the LSS, except in the study by Chelladurai and Saleh (1980).

Findings from the athletes' perception version, have been somewhat variable within a modest range. Some researchers (Chelladurai & Saleh, 1980; Hastie, 1993; Keehner, 1988; Loughead & Hardy, 2005) have reported alpha coefficients higher

than .70. Other researchers (Gardner et al, 1996; Shields et al., 1997) reported coefficient alphas above .60 and have considered those acceptable. Similar to the preference version, a number of researchers have proposed caution when using the *autocratic behaviour* factor.

Use of the coach's perception version of the LSS has been limited in comparison to the other two versions. The results derived from Bennet & Maneval (1998) showed that all leadership behaviour factors except for *autocratic behaviour* obtained acceptable alpha coefficients indicating internally reliable. Other findings (Dwyer & Fischer, 1988b; Sullivan & Kent, 2003), however, have indicated that *autocratic behaviour* and *social support* sometimes fall below the minimum accepted alpha level of .60. Furthermore, all leadership dimensions with the coach's perception version failed to achieve an alpha of .60 in Brooks et al. (2000) study. These inconsistent findings in terms of internal reliability should guide researchers in being conscious not to automatically assume the LSS is internally consistent across all factors (e.g., Chelladurai, 1993; Kozub & Pease, 2001; Jambor & Zhang, 1997; Schliesman, 1987; Sullivan & Kent). Fundamental and ongoing issues associated with the LSS is that, even though researchers have drawn attention to problems associated with the *autocratic behaviour* factor for several decades, few if any have investigated the cause of the problem and suggested a viable solution.

To further test reliability, Chelladurai and Saleh (1980) also used test-retest reliability and reported test-retest reliability estimates of .72 for *training and instruction*, .82 for *democratic behaviour*, .76 for *autocratic behaviour*, .71 for *social support*, and .79 for *positive feedback.* Moreover, Martin, Jackson, Richardson, and Weiller (1999) conducted test-retest reliability based on a 1-month interval analysis with youths and their parents and ranged from .60 to .93, and indicated adequate

stability over time. Although Chelladurai (1990) claimed to confirm test-retest reliability of the LSS, the sample size was relatively small in both studies (Chelladurai & Saleh; Martin et al., 1999).

Several researchers have investigated the construct validity of the LSS. There are several methods to test construct validity such as content validity, convergent validity, and discriminant validity. Chelladurai and Saleh (1980) reported confirming the content validity of the LSS. Chelladurai (1990) confirmed content validity by investigating the consistency of proposed factors of the LSS with earlier descriptions of leadership behaviour. For example, Chelladurai and Saleh claimed that 13 items involved in *training and instruction* represent a coaching task-oriented function that assists athletes to reach their potential. The *training and instruction* dimension of the LSS was similar to the competitive training factor introduced by Danielson et al. (1975).

Nine items in the *democratic behaviour* factor reflect the coaching function of allowing athletes' participation in making decision. Five items in the *autocratic behaviour* dimension represent the leaders' behaviour of keeping a certain distance from the athletes and possessing coach's authority in managing athletes. Chelladurai and Saleh indicated that the *democratic* and *autocratic* behaviour factors represent leaders' decision-making style. The decision-making function of leadership in the LSS was derived from path-goal theory (House & Dessler, 1974). The eight items in the *social support* dimension reflect the coaching function of meeting the athletes' interpersonal needs. The *social support* function of leadership is not directly related to athletes' performance and is not necessarily related to athletic situations and is similar to socially oriented behaviour as measured in other leadership scales from the

mainstream psychology (Bowers & Seashore, 1966; Danielson et al., 1975; House & Dessler).

Table 2.4

Internal Consistency Estimates across Studies Using the Leadership Scale for Sport

Authors	Year	Population	Version	T&I	DEM	AUT	SS	PF
Bennet & Maneval	1998	Dixie youth basketball coaches	CPE	.82	.81	.58	.76	.81
Brooks, Ziatz, Johnson, & Hollander	2000	Strength and Conditioning coaches of NCAA Division 1A	CPE	.45	.48	.56	.40	.43
Chelladurai & Carron	1981	Youth	PR	.83	.68	.48	.77	.78
Chelladurai et al.	1988	Canadian athletes	PR	.77	.67	.55	.78	.77
			PE	.88	.75	.59	.84	.91
		Japanese athletes	PR	.81	.72	.55	.72	.73
			PE	.89	.81	.57	.84	.81
Chelladurai et al.	1987	Canadian athletes	PR	.77	.79	.48	.79	.79
		Japanese athletes	PR	.78	.66	.63	.74	.77
Chelladurai & Saleh	1980	Varsity athletes	PR	.83	.75	.45	.70	.82
			PE	.93	.87	.79	.86	.92
		PE students	PR	.76	.77	.66	.72	.79
Dwyer & Fischer	1988b	Wrestling coaches	CPE	.86	.67	.04	.57	.75
Dwyer & Fischer	1990	Wrestling	PE	.86	.81	.52	.77	.82
Gardner et al.	1996	Basketball and softball athletes	PE	.88	.83	.65	.81	.85

Table 2.4

Internal Consistency Estimates across Studies Using the Leadership Scale for Sport

Authors	Year	Population	Version	T&I	DEM	AUT	SS	PF
Hastie	1993	Australian and Canadian high school athletes	PR	.72	.75	.74	.76	.73
Isberg & Chelladurai	1990	Swedish Athletes	PR	.78	.77	.44	.60	.57
			PE	.88	.72	.54	.86	.77
Keehner	1988	Fitness Club Members	PE	.99	.97	.93	.97	.98
Loughead & Hardy	2005	Canadian athletes from team sports	PE	.92	.89	.89	.87	.83
Shields et al.	1997	Baseball and softball athletes	PR	.85	.84	.62	.78	.85
			PE	.88	.83	.65	.81	.85
		Head coaches	CPE	.83	.78	.62	.78	.68
Sullivan & Kent	2003	University coaches	CPE	.83	.79	.34	.51	.83

Note. PR = athletes' preference version, PE = athletes' perception version, CPE = coaches' perception version. Alpha value > .70 is set for acceptable criteria.

Five items in the *positive feedback* dimension reflect coaching behaviour based on appreciation and complimenting the athletes for their contribution and performance irrespective of the results of competitions. The *positive feedback* factor is thought to be important in maintaining the motivational level of athletes that, in turn, affects athletes' performance (Oldham, 1976). The *positive feedback* function of leadership is consistent with the premise of path-goal theory that reward is necessary for effective and satisfying performance (House & Dessler, 1974). Although Chelladurai and Saleh claimed evidence for content validity, it should be noted that independent researchers had not carried out rigorous content validity procedures such as testing by a panel of experts.

Another method to confirm construct validity is to test for convergent and discriminant validity of a scale. Although there is not a great deals of published literature where researchers have examined convergent and discriminant validity of the LSS, the few studies conducted have produced varying results. For instance, Chelladurai (1990) and others (e.g., Chelladurai, 1986; Chelladurai & Carron, 1981; Chelladurai et al., 1985; Dwyer & Fischer, 1988a, Keehner, 1988) have summarised item-to-total correlations. Based on the published literature, Chelladurai concluded that the LSS was satisfactory in regard to convergent and discriminant validity. A more recent study by Cumming et al. (2006) produced equivocal results in relation to previous findings. Specifically, the results from Pearson product moment correlation analysis indicated that four leadership dimensions (i.e., *trainining and instruction*, *democratic behaviour*, *social support*, *positive feedback*) were significantly correlated with one another with positive intercorrelations ranging from .32 to .61. The *autocratic behaviour factor* consisted of low and nonsignificant negative correlations with *training and instruction*, *democratic behaviour*, and *social support*,

whereas the *autocratic behaviour* factor was negatively correlated -.30 with *positive feedback*. The *autocratic behaviour* factor, thus, seemed to be the closest to a statistically independent dimension (Cumming et al.). The highest correlation of .61 indicates a shared variance of less than 38% and thus the LSS subscales are sufficiently independent of each other.

Researchers have investigated the construct validity of the LSS using factor analysis. Chelladurai and Saleh (1980) examined the factor loadings in the three versions by using a five-factor extraction. In their study, the factor loadings appeared to be stable across the three different versions. The percentage of variance explained by the five-factor solutions was 41.2% of the total variance of the preference version for physical education students, 39.3% of the total variance of the preference version for athletes, and 55.8% of the total variance for the perception version for athletes. Chelladurai (1990) claimed that the five factors proposed in the LSS represented a limited amount of explained variance. To my knowledge, no researchers have suggested minimum criteria for the percentage of the total variance of proposed factors. Chelladurai, however, have cautioned that the limited amount of variance is a source of concern. Crespo, Balaguer, and Atienza (1994) explained the factor structure of Spanish version of the LSS using 120 tennis coaches, and were unable to confirm 5-factor structure of the LSS. Rather, Crespo et al. report a 4-factor structure namely, *relationship-oriented behaviour*, *task-oriented behaviour*, *democratic behaviour*, and *autocratic behaviour*. Moreover, Chelladurai and Riemer (1998) conducted confirmatory factor analysis using data from 217 collegiate football players for the perception version and 317 for the preference version of the LSS. A summary of the results are indicated in Table 2.5. Chelladurai and Riemer claimed that the overall fit of the LSS in both versions was adequate. First, the ratio of the

degrees of freedom and the chi-squre values is shown to be appropriate (i.e., $1.0 < \chi^2/df < 3.0$). Second, Chelladurai and Riemer suggested that the Root Mean Square Error of Approximation (RMSEA) was .060 (preference version) and .062 (perceived version) thus demonstrating an acceptable model fit.

Table 2.5

A Summary of Goodness of Fit Results of the CFA on the LSS

Model	χ^2 (df)	q	C2/df	TLI	D^2	RMSEA
PR (n = 247)	1376.39 (730)	.90	1.89	.77	.78	.060
PE (n = 180)	1228.36 (730)	.90	1.68	.83	.85	.062

Note. From Chelladurai & Riemer (1998).

The other two indices such as Bollen's fit index and Tucker Lewis Index, however, did not reach the adequate level (i.e., minimum > .90 and preferably > .95). Based on these results from the CFA, it can be concluded that the construct validity of the LSS has been partially supported. To support Chelladurai and Riemer's findings, Trail (2004) also provided the evidence for partially adequate construct validity of the LSS. Trail indicated that, although RMSEA and the ratio of chi-square and degree of freedom were acceptable (RMSEA -= .58, $\chi^2/df = 1.65$), the results from the data using high school basketball players was not a strong fit using the perception version of the LSS. Overall, several studies have partially supported the construct validity of the LSS and additional research is most likely required.

Situational Characteristics

A number of researchers have tested the Multidimensional Model of Leadership using the LSS (see Figure 2.2). The majority of these studies have been descriptive in nature (Chelladurai & Riemer, 1998). A number of researchers have

examined the influence of the three antecedent variables (i.e., situational, leader, and member characteristics) on preferred or perceived leadership behaviours. According to Erles (1981), organisational goals significantly influences the preference of athletes in leadership behaviours. Specifically, Erles examined differences in athlete's preferences for leadership behaviours based on the organisational goals of intercollegiate and intramural hockey teams. Erles found that when the organisational goal is higher, athletes preferred high levels of *training and instruction* and *social support* and less *positive feedback* and *democratic behaviour*. Similarly, researchers (e.g., Chelladurai, 1978; Chelladurai & Carron, 1981; Kim, Lee, & Lee, 1990; Liukkonen & Salminen, 1989; Serpa, 1990) have provided evidence that task types influence *preferred* leadership behaviour. For instance, Chelladurai and Carron investigated the relationship between task dependence and task variability with athletes' preferences for leadership behaviour. They found that both task dependence and variability had a significant relationship with the athletes' preference for leadership behaviour in *training and instruction*, *democratic behaviour*, and *autocratic behaviour*.

There have been equivocal findings from investigations of the influence of sport types on leadership behaviours. Some studies (e.g., Chelladurai & Saleh, 1978; Chelladurai et al., 1987; Kang, 2003) have found a significant difference in athletes' leadership behaviour preferences based on sport types (e.g., open versus closed, traditional versus modern, and team versus individual). For example, Chelladurai and Saleh found that athletes involved in team sports (i.e., interdependent) preferred *training and instruction* to athletes involved in individual sports (i.e., independent). Moreover, they reported that athletes involved in closed sports showed the greatest level of preference for *training and instruction*. Chelladurai et al. found that the

Japanese athletes in modern sports (i.e., basketball and volleyball) preferred greater *democratic behaviour* and less *autocratic behaviour* compared to the Japanese athletes in traditional sports (i.e., *judo* and *kendo*). It is difficult to tell if this difference related to personal differences or was an artifact of involvement in a particular sport. Kang found that athletes in individual sports preferred greater *democratic behaviour* than athletes in team sports, whereas athletes in team sport preferred greater *training and instruction* than athletes in individual sports. The results derived from Ipinmoroti (2002), however, indicated that type of sport did not predict coaches' *required* leadership behaviour. Specifically, a total of 261 coaches, involved in either team or individual sports, evaluated their own leadership behaviour based on the coach's perception version of the LSS. Ipinmoroti found no significant difference in their own leadership behaviour based on sport types (i.e., team or individual sport).

Culture was found to influence both preferred and perceived leadership behaviours when there is a substantial cultural difference. A number of researchers (e.g., Bolkiah & Terry, 2001; Chelladurai et al., 1988; Chelladurai et al., 1987; Kang, 2003; Numata, 2002) have found that culture influenced leadership behaviours when comparing Western English speaking and non English speaking countries. For example, Kang found that culture influences athletes' preference for leadership behaviour. Kang investigated the difference in preferred leadership behaviour using American (n = 65) and Korean (n = 164) collegiate athletes who completed the athletes' preference version of the LSS. Kang reported the following differences: (a) American athletes preferred significantly greater *training and instruction*, *social support*, and *positive feedback* than Korean athletes; (b) Korean athletes preferred significantly higher level of *autocratic behaviour* than American athletes. Similarly,

Bolkiah and Terry investigated the relationship between athlete's preference for leadership behaviour and multiple variables (i.e., age, gender, and culture). In the study by Bolkiah and Terry, the participants were 159 athletes (110 males, 49 females) from Brunei Darussalam and 220 university and English club athletes (156 males, 64 females). They did not find significant differences for age and gender, but found a significant difference for culture. Specifically, Bruneian athletes preferred more *training and instruction*, *democratic behaviour*, and *social support* behaviour than British athletes. It is, thus, evident that culture can affect athletes' preferences for leadership behaviour substantially.

In specific reference to comparisons between Western countries and Japan, significant differences have been reported. Chelladurai et al. (1987) found substantial differences in athletes' leadership behaviour preferences between Japan and Canada. Chelladurai et al. divided participants into three groups, Canadian athletes, Japanese athletes in traditional sports such as *judo* and *kendo*, and Japanese athletes in modern sports such as basketball and volleyball. The results revealed that: (a) the Japanese athletes in modern sports preferred greater *democratic behaviour* compared to Canadian athletes and the Japanese athletes in traditional sports, whereas, the Japanese athletes in traditional sports preferred more *autocratic behaviour*; (b) the Japanese athletes in both groups preferred more *social support* than Canadian athletes; and (c) the Canadian athletes preferred more *positive feedback* than Japanese athletes in traditional sports. These results indicated that both sport types and culture influence athlete's preference for leadership behaviours.

Chelladurai et al. (1988) also investigated cultural influence with both preferred and perceived leadership behaviours, using the data from 115 Japanese and 100 Canadian student athletes. Chelladurai et al. reported that the Japanese athletes

preferred greater *autocratic behaviour* and *social support* and less *training and instruction* behaviour than the Canadian athletes. Moreover, the Japanese athletes perceived more *autocratic behaviour* in their coaches' behaviour, whereas the Canadian athletes perceived more *training and instruction*, *democratic behaviour*, and *positive feedback* behaviours in their coaches' leadership behaviours. Importantly, these differences in athlete's preference for and perception of leadership behaviour led to greater satisfaction and performance with the Canadian athletes compared to the Japanese athletes. Overall, these findings strongly support Chelladurai and Carron's hypothesis that culture influences the preference for and perception of leadership behaviour, particularly in comparing Canadian and Japanese leadership behaviours.

When cultural differences are minimal, results have been inconsistent. Researchers (e.g., Terry, 1984) did not found substantial cultural difference in either preferred or perceived leader behaviours, when comparing Western or European countries, probably because of the cultural similarities. Terry (1984), for instance, compared athletes' preferences on the LSS five factor dimensions between Canada (n = 58), U.S.A (n = 29), and Great Britain (n = 48) and reported no significant difference in leadership behaviours among athletes from these three countries. Conversely, when Hastie (1993) compared the athletes' preferences for leadership behaviour between Australian (n = 80) and Canadian (n = 100) high school athletes, he found a significant difference on *democratic behaviour*. Australian athletes scored higher on the *democratic behaviour* factor than Canadian athletes. Although cultural differences between Western countries (i.e., Australia and Canada) seem to be smaller than cultural differences between Western and Asian countries, the results

from the study by Hastie were consistent with the previous findings (e.g., Bolkiah & Terry, 2001; Chelladurai et al., 1988; Hastie; Kang, 2003; Numata, 2002).

Leader Characteristics

Compared to situational variables, research on the influence of leader characteristics on actual leader behaviour is limited. Chelladurai and Carron (1978) hypothesised that leader characteristics directly influence the leader's actual behaviour, however, there is no direct measurement to assess actual leadership behaviour. For instance, actual leader behaviour can only be measured by systematic observation rather than coach's perceptions. The coach's perception of their behaviour while important is strictly subjective measure of perception. Thus, there is very little literature that investigating the relationship between leader characteristics and *actual* behaviour.

Despite the lack of investigation on the influence of leader characteristics on actual leadership behaviour, previous studies have found a significant difference in perceived leadership behaviour based on leader variables such as coach ability, experience, and status. For example, the coach's status appears to influence perceived leader behaviour. Mondello and Janelle (2001) investigated differences in leadership behaviour based on coach status specifically comparing perceived leadership behaviours of head coaches (n = 13) and assistant coaches (n = 24). The findings revealed that head coaches were perceived to be more *socially supportive* than assistant coaches. Based on the findings from previous studies, leader characteristics such as coach's ability, experience, and status influence required leader behaviour. As mentioned earlier, additional research, however, is needed to provide evidence whether the MML hypothesis that leader's characteristics influence *actual* leader behaviour is warranted.

Member Characteristics

A number of researchers have investigated the influence of member characteristics on preferred leadership behaviours. The primary gender difference in leadership behaviour appears to be related to decision-making style (e.g., *democratic* and *autocratic behaviour*). Researchers (e.g., Martin et al., 1999; Sherman, Fuller, & Speed, 2000, Wang, 1997) have found that female athletes prefer more *democratic behaviour* than male athletes. Sherman et al. used a sample of 170 male Australian football and baseball players with 142 female Australian basketball and netball players. Although Sherman et al. found that female athletes preferred slightly more *democratic behaviour* and *positive feedback* coaching than males, both rated similar preferences for the majority of leadership behaviours. Martin et al. used the athlete's preference version of the LSS and compared the results of male athletes (n = 151) with female athletes (n = 93) aged between 10 and 18 and found that girls significantly preferred more *democratic behaviour* than boys. Girls were also more likely to prefer a coach who allowed athletes to participate in decision-making in relation to practice and games. Wang also found that males preferred significantly higher *autocratic behaviour* than females. These findings were consistent with the other researches (e.g., Chelladurai, 1993; Chelladurai & Arnott, 1985; Chelladurai, Haggerty, & Baxter, 1989; Eccles & Harold, 1991) demonstrating that females generally prefer a *democratic* and participatory leadership style.

Athletes' personal characteristic is also considered as a predictor of their preference for and perception of leadership behaviour (Chelladurai & Carron, 1978). There is, however, few studies that have investigated the relationship between personality traits and leadership behaviour. Garland and Barry (1988) found that personality traits and leadership behaviours significantly influenced performance.

Specifically, they reported that athletes, who were more group dependance, tough-minded, extroverted, and emotionally stable and perceived their coach as providing more *training and instruction*, *democratic behaviour*, *social support*, and *positive feedback* and demonstrated higher levels of performance than athletes who perceived their coaches as being more *autocratic*.

Few researchers have found a significant difference in athlete's preference for leadership behaviour based on age. Terry and Howe (1984) predicted that, if the Life-cycle theory is applicable in the sport context, age of members would make a significant difference in preferred leadership behaviour, particularly in *training and instruction* (i.e., task-oriented), *social support*, and *positive feedback* (i.e., relationship-orientation). Terry and Howe administered the preference version of the LSS to 80 male and 80 female athletes representing a wide age range. Terry and Howe found no significant differences in the relationship between member's age and preferences for leadership behaviours. Similarly, Martin et al. (1999) compared the results of 239 children who were sub-divided into two groups ranging in age from 10 to 13 representing early adolescent group (n = 113) and from 14 to 18 representing a late adolescent group (n = 126). Analysis of data collected on the preferred version of the LSS revealed no significant differences between the preferences of these two age groups. Regardless of the age, young athletes preferred *democratic behaviour* and *social support*. Moreover, Terry (1984) recruited an additional sample of 160 athletes and found that athletes were homogeneous in their leadership preferences regardless of age.

The relationship between the ability of athletes (i.e., skill level) and leadership behaviours has been also examined in sport literature. Specifically, Terry (1984) investigated the influence of the member's ability on athlete's preference for

leadership behaviour comparing elite athletes (95 males, 65 females) and club athletes (80 males, 80 females). Terry found that elite athletes preferred more *democratic behaviour* and *social support* than club athletes. Terry rationalised that elite athletes prefer more *social support* probably because they often commit long hours to their sport. In sharing long hours together within a team environment, athletes combine their social network with their sporting teammates. Similarly, Chelladurai (1978) proposed that athletes may neglect social interactions outside their sport by relying mostly on team members or coaches *social support*. Overall, researchers have shown that the majority of member characteristics influence the preferred leadership behaviour except for member's age.

Chelladurai and Carron (1978) also proposed that member characteristics influence required leadership behaviours with the MML. Researchers have not yet investigated the relationship between member characteristics and required leader behaviours. Chelladurai and Riemer (1998) candidly stated that required leader behaviour has not been sufficiently investigated and only one attempt (i.e., Chelladurai, 1978) has been made to operationalise this variable. Indeed, Chelladurai and Riemer insisted on developing measures of required leadership behaviour considering an organisational context, competitive level, sport types; essentially an enormous task. Thus, to test the relationship between member characteristics and required leader behaviour, the development of another instrument might be necessary.

Member Satisfaction

Chelladurai and Carron (1978) proposed that the degree of congruence among three leadership behaviours (i.e., required, actual, and preferred behaviours) directly influences the level of performance outcome and member satisfaction. Several researchers (Chelladurai, 1984; Eichas, 1994; Riemer & Chelladurai, 1995; Riemer

& Toon, 2001; Schliesman, 1987) have investigated the relationship between the level of discrepancy in athlete preferences and perceptions of coaching behaviour and satisfaction. Generally, the hypothesis of the MML has been supported by a number of studies (e.g., Chelladurai; Chelladurai et al., 1988; Horne & Carron, 1985; Riemer & Chelladurai, 1995; Schliesman, 1987). For example, Chelladurai's (1984) investigation had 196 varsity athletes completing the athletes' preference and perception versions of the LSS, and an additional measure of the level of athletes' satisfaction with individual performance, team performance, leadership, and overall involvement. First, Chelladurai found: (a) for participants from an interdependent team sport (basketball), all leadership factors were significantly correlated to the level of satisfaction in the linear relationship; (b) in an independent sport (wrestling), there was a discrepancy in *training and instruction* and *social support* as significantly and negatively being correlated to the level of satisfaction with leadership; and (c) in a closed independent sport (track and field) the discrepancy in *training and instruction* was significantly correlated to the level of satisfaction with leadership. Chelladurai reported that the discrepancies in *training and instruction* were highly correlated to the level of athlete's satisfaction across sport groups that support the perspective that athletics is a task-oriented activity (Gill, 1978), and where the coaching emphasis on *training and instruction* reinforces athlete's satisfaction. Second, Chelladurai also found that the degree of discrepancy in the LSS dimensions was not significantly related to athlete's satisfaction with individual performance. *Positive feedback*, however, was significantly and negatively related to satisfaction with team performance in the interdependent open sport (basketball). Chelladurai also found that the discrepancy scores in the LSS dimensions were not related to satisfaction with overall involvement in the interdependent groups,

whereas the discrepancy scores in training and instruction were negatively related to satisfaction with overall involvement in the independent group (wrestling).

Dwyer and Fischer (1990) have also investigated whether the athletes' perception of leadership behaviour predicts level of satisfaction. Dwyer and Fischer included 152 wrestlers in their study and administered the athletes' perception version of the LSS and a questionnaire used to measure level of satisfaction introduced by Chelladurai (1984). Dwyer and Fischer found that wrestlers who believed their coaches were high on *training and instruction*, *positive feedback*, and low on *autocratic behaviour* scored the highest satisfaction. This finding corresponds with Chelladurai et al. (1988) who concluded that greater satisfaction was obtained when athletes perceived their coaches' leadership behaviour as being high on *training and instruction*, *democratic behaviour, social support*, and *positive feedback* and less on *autocratic behaviour*.

Weiss and Friedrichs (1986) and Schliesman (1987), however, revealed a somewhat different pattern. Schliesman in using a sample of university track and field athletes (n = 40 males) found that satisfaction was largely related to the degree of discrepancy in *social support* and *democratic behaviour* factors. Riemer and Chelladurai (1995) also found that, when the high degree of congruence between athletes' preference and perception was obtained, athletes' satisfaction was highest. Moreover, Friedrichs (1985) found no significant relationships between perceived leadership behaviour and performance or satisfaction with 251 male basketball players. Significantly, some researchers (e.g., Riemer & Chelladurai; Schliesman) have found that perceived leadership behaviours in *training and instruction* and *positive feedback* were stronger determinants of member satisfaction compared to

preferred leadership behaviour or degree of congruence between preference and perception of leadership behaviour.

Chelladurai and Riemer (1998) insisted that satisfaction has not been adequately operationalised indicating the lack of systematic development of a psychometrically sound measurement of athlete satisfaction. Chelladurai and Riemer also claimed that the construct of athlete satisfaction is complex and multidimensional. A number of researchers (e.g., Chelladurai, 1993; Riemer & Chelladurai, 1995; Granito & Carlton, 1993) insist on the need for a multidimensional scale of athlete satisfaction. To overcome operational limitations associated with measurement of athlete satisfaction, Riemer and Chelladurai (1998) developed the Athletic Satisfaction Questionnaire (ASQ). The ASQ is a multidimensional measure of athlete satisfaction covering performance, leadership, team, organisation, and the individual athlete. The ASQ consists of 56 items measuring 15 factors such as individual performance, team performance, ability utilization, strategy, personal treatment, training and instruction, group's task contribution, group's social contribution, team's ethics, team integration, personal dedication, budget, medical personnel, academic support services, and external agents. Given an adequate level of reliability, construct validity, and factor structure (Eys et al., 2003; Riemer & Chelladurai, 1998), the ASQ has been supported as a psychometrically adequate instrument (Sullivan & Gee, 2007).

Performance Outcome

According to the MML, athletes' performance has been also hypothesised as the consequence of the congruence among required, actual, and preferred leadership behaviours. Compared to member satisfaction, a small number of researchers (e.g., Chelladurai, 1978; Gordon, 1986; Lam, 1996; Serpa, Pataco, & Santos, 1991;

Summers, 1983; Weiss & Friedrichs, 1986) have examined the relationship between the congruence of leadership behaviours and performance outcome. Generally, the findings have, however, been inconsistent and have not provided strong support for the MML hypothesis that the degree of congruence between preferred and perceived leadership behaviours influences performance outcome (Alfermann et al., 2005; Chelladurai, 1993; Chelladurai & Riemer, 1998). One finding derived from Weiss and Friedrichs was that the *social support* factor was negatively correlated with the team record in basketball. Serpa et al. have provided similar results using participants involved in handball teams where less *social support* in coaching behaviour enhances sport performance (Alfermann et al.). Furthermore, a few researches (e.g., Horne & Carron, 1985) reported that *positive feedback* significantly correlated with athlete's perception of their competence. Conversely, Lam found no significant relationship between athletes' perception of leadership behaviour and athletic performance (i.e., win-and-loss outcome) using 56 male basketball coaches in Hong Kong. Chelladurai and Riemer have indicated that the relationship between leadership behaviours and performance outcome is relatively weak.

Leadership Behaviours and Coach-Athlete Relationship

The coach-athlete relationship has been viewed as one of the most important aspect of the sport experience (Cumming et al., 2006). Smoll and Smith (2002) indicated that both positive and negative relationship between coaches and athletes significantly influence psychosocial, motivational, emotional, and performance outcome. Moreover, the relationship between coach and athlete is particularly important mediator for sport performance (Jowett & Cockerill, 2003; Lyle, 1999). Jowett (2005) indicated the significance of coach-athlete relationship in sport context by stating, "The coach-athlete relationship is recognised as the foundation of

coaching and a major force in promoting the development of athletes' physical and psychosocial skills, coaches' ability to create perfect working partnerships with their athletes becomes paramount" (p. 412).

Within the context of sport leadership, the interpersonal dynamics between coaches and athletes have been examined (Chelladurai, 1990; Jowett, 2005). Based on studies using the LSS, researchers (e.g., Prapavessis & Gordon, 1991) have found that the discrepancy scores between athletes' perception and preference versions of the LSS best predicted the dyadic compatibility between coaches and athletes compared to other two discrepancy scores between coaches' perception and athletes' preference versions and between coaches' perception and athletes' perception versions. The other two discrepancy scores, however, were also statistically significant as predictors of dyadic compatibility. Moreover, the discrepancy score in *autocratic behaviour* factor between the athletes' preference and perception versions and between coaches' perception and athletes' preference versions significantly predicted the degree of compatibility of coach-athlete relationship. Prapavessis and Gordon, thus, concluded that the degree of congruence among three LSS versions can predict the compatibility of coach-athlete relationship.

Recently, Jowett (2005) asserted that the research focus on investigating the compatibility of coach-athlete relationship and its influence on outcome such as athlete's satisfaction, self-esteem, and performance may be limited because the leadership behaviour of coaches can be shared. Given this premise, a change in approach toward coach-athlete relationship in sport from the Multidimensional Model of Leadership (MML; Chelladurai & Carron, 1978) to several conceptural models (e.g., Jowett & Cockerill, 2003; Mageau & Vallerand, 2003; Poczwardowski, Barott, & Peregoy, 2002) over the last five years (Jowett, 2005) has started to occur.

Broader Perspectives on Sport Leadership

The focus of the leadership research for over two decades has primarily been on the coach (Chelladurai & Riemer, 1998). Loughead, Hardy, and Eys (2006) believe this trend is not surprising because the coach typically takes responsibility for making final decisions. Similarly, the majority of leadership studies using the LSS and the RLSS have focused on the leadership behaviours of coaches (Loughead & Hardy, 2005). As leadership is defined as a process of individuals influencing others, it is assumed that team members or personnel other than the coach can also play a leadership role (Bednarek, Benson, & Mustafa, 1976; Kozub & Pease, 2001; Loughead & Hardy). Loughead and Hardy have insisted that it is important to understand both coach and athlete leadership.

To identify the differences of leadership behaviours between coach leaders and athlete leaders, Loughead and Hardy utilised the Leadership Scale for Sport (LSS) and a modified version of the LSS targeted at measuring athlete leadership behaviours. As a result, athlete leaders were perceived to exhibit more *democratic behaviour*, *social support*, and *positive feedback* than coaches, whereas coaches were perceived to demonstrate more *training and instruction* and *autocratic behaviour* than athlete leaders (Loughead & Hardy). Although few directly comparable studies are available, Loughead and Hardy believe these findings are consistent with research in business and industry sectors. Moreover, the results that coaches were perceived to demonstrate more *training and instruction* and *autocratic behaviour* support the notion expounded by Martens (1987) whereby assisting athletes to improve their performance level is considered one of the most important function of coaches.

General Limitations in Sport Leadership Research

Loughead et al. (2006) identified five shortcomings associated with the previous researches on athlete leadership. First, Loughead et al. pointed out that there was no clear definition of athlete leadership and hence consistency in instrument construction. The lack of instrument consistently used in athlete leadership studies precludes direct comparisons between some studies. Thus, Loughead et al. provided the definitions of athlete leadership stating as, "Athlete leadership may be viewed as an athlete occupying a formal or informal role within a team who influences a group of team members (i.e., a minimum of two team members) to achieve a common goal" (p. 144). Second, Loughead et al. indicated that the majority of athlete leadership studies have emphasised only task related function, whereas leaders are generally assumed to offer two internal functions termed task functions (e.g., helping the group accomplish its task objective) and social functions (e.g., satisfying member needs (Carron, Hausenblas, Eys, 2005; Kogler Hill, 2001; Rees, 1983). Third, Loughead et al. also asserted that the focus of athlete leadership research was primarily on internal leadership functions and not on the external functions such as receptions, meetings, and press conferences that a leader must deal with. Fourth, Loughead et al. insisted that most researchers (e.g., Glenn & Horn, 1993; Lee, Coburn, & Partridge, 1983; Rees & Segal, 1984; Yukelson et al., 1983) investigated athlete leadership at only one moment in time (i.e., cross-sectional design) although the basic assumption is that leadership is an ongoing process (Kogler Hill) and a group is dynamic in nature (Forsyth, 1998). Fifth, Loughead et al. affirmed that previous studies on athlete leadership have not captured the relative influence of athlete leadership within a team. Specifically, athletes who have the ability to influence a large number of teammates are considered as team leaders, whereas

athletes who have influence on a fewer number of teammates may be regarded as peer leaders.

Limitation of the Leadership Scale for Sport

Cumming et al. (2006) have acknowledged the LSS as an important and useful tool for leadership measurement. To illustrate its multicultural popularity, the LSS has been translated into a number of languages, such as Finnish (Liukkonen & Salminen, 1989), French (Lacoste & Laurencelle, 1989), Japanese (Chelladurai, Imamura, & Yamaguchi, 1985), Portuguese (Serpa, Lacoste, Pataco, & Santos, 1988), and Swedish (Isberg & Chelladurai, 1990). Leadership studies, however, have declined in number from the mid 1990s, perhaps due to a gradual recognition of some limitations of the LSS and inconsistent findings (Mondello & Janelle, 2001). As early as 1990, Chelladurai himself identified four limitations of the LSS. First, the LSS may lack a robust subscale structure. Summers (1983), for instance, employed three dimensions of the LSS, *training and instruction, social support*, and *positive feedback* to examine how an athlete's perceived ability and perception of team cohesion affects coach-athlete interaction. When Summers conducted factor analysis, five factors were actually extracted thus showing item overlap (i.e., multicollinearity) across the original three factors and suggested the factors were not truly orthogonal. Chelladurai (1990) mentioned that rigorous analyses and psychometric procedures were not followed when developing the LSS. To some extent, perceived psychometric limitations in the LSS may relate to the changing standards that are nowadays applied to psychological measurement in view of newly developed and more sophisticated statistical procedures. Thus, Chelladurai suggested performing item-to-total correlations or confirmatory factor analysis to confirm the factor structure of the LSS to examine the subscale structure.

The second limitation Chelladurai (1990) stated was that the response categories of each LSS item are based on frequencies, and not the context of leader behaviour. Researchers can measure the occurrence of a particular behaviour but cannot necessarily infer contextual differences. For example, two different respondents may select the same rating for their coaches' *positive feedback* behaviour by considering different situations or circumstances. Chelladurai candidly indicated that the LSS items are not specific and informative enough for respondents to clearly identify given a situation. For example, the item "*I prefer my coach to let athletes share in decision making*" could be more specific to a situation by being changed to "*I prefer my coach to let athletes share in decision making regarding practice sessions (or game strategies).*" The lack of specific item anchoring may lead to ambiguity of items contextually.

The third limitation associated with the LSS suggested by Chelladurai (1990) was that the LSS items were derived from scales used in business and industry. In other words, the LSS items were not generated from the experiences and insights of coaches and athletes. Thus, Chelladurai (1990) recommended developing sport-specific items relating to knowledge, understanding, experiences, and insight of coaches and athletes in sport contexts. Fourth, Chelladurai addressed a major concerning the *autocratic* dimension of the LSS. In a few studies (e.g., Chelladurai & Saleh, 1980; Gardner et al., 1996; Hastie, 1993; Keehner, 1988; Loughead & Hardy, 2005), *the autocratic behaviour* factor of the LSS has reached normally acceptable alpha criterion level of .70. In many studies using the LSS, however, the internal consistency estimates of the *autocratic behaviour* factor have been below.70. Although some studies have found an association between *autocratic behaviour* and MML variables, researchers will interpret these results with caution because the

autocratic behaviour dimension lacks internal reliability. Researchers have not yet pinpointed the reason why *autocratic behaviour* has been consistently below .70. Some researchers (i.e., Chelladurai & Riemer, 1998) rationalised that internal reliability of *autocratic behaviour* is violated because a few factors might be combined within the *autocratic behaviour* dimension. Thus, some researchers (e.g., Mondello & Janelle, 2001) have suggested further investigations to modify the *autocratic behaviour factor* to enhance the internal consistency estimates.

Zhang et al. (1997) have outlined other shortcomings of the LSS. First, the number of items within each factor is somewhat unbalanced based on recommended psychometric procedures (Nunnally, 1978; Safrit, 1990). The number of items within *training and instruction, democratic behaviour, autocratic behaviour, social support, and positive feedback* are 13, 9, 5, 8, and 5 respectively. While there is no absolute rule of test design that specifies the ideal number of items that best respresent each factor, test developers should be careful not to unbalance their scales with large differences in the number of items (e.g., three items for one factor and ten for another). Although it is not always practically possible, scales where a similar number of items represent each factor may provide a degree of symmetry and is generally thought to be more parsimonious. Second, although proponents of situational leadership theory (Hersey & Blanchard, 1971) insist that leaders must flexibly change behaviours, the LSS is a specific inventory that does not necessarily accommodate all aspects of leadership behaviour (Chelladurai & Saleh, 1980). Thus, while the LSS has proved to be popular "workhorse" for sport psychologists investigating sport leadership over many years, some researchers clearly believe identified shortcomings has dictated the need for updating or modifying the LSS.

Development of the Revised Leadership Scale for Sport

Given the above limitations, Zhang et al. (1997) developed the Revised Leadership Scale for Sport (RLSS). The RLSS consists of 23 items identical to the original LSS scale and 37 additional items that combine to represent the original five factors plus a new sixth factor titled *situational consideration. Situation consideration* refers to leadership behaviours, such as considering time, individual, environment, team, and game, establishing individual goals and clarifying ways to achieve the goals, varying coaching strategies at different phases, and placing athletes in the best game position. Zhang et al. have claimed several improvements in designing the RLSS. First, the new RLSS items were generated from the experience and insights of both coaches and athletes from qualitative data, thus resulting in a more sport-specific scale. Second, large samples of participants in a variety of sports were involved in the development process of the RLSS, thus improving the generalisability and applicability. Third, the psychometric properties of the RLSS in the coach's perception version, particularly internal consistency estimates were improved. Researchers indicated that five of the factors are internally reliable, with slightly lower estimates for the *autocratic behaviour* factor (Jambor & Zhang, 1997; Zhang et al.). It should be noted, however, stated improvements in the internal reliability of the RLSS coach's perception version is based on studies conducted by Zhang et al., who developed the RLSS. The internal reliability tends to increase as the number of items within a scale increases. The high alpha coefficiency in Zhang's study may be a function of an additional 20 items. Moreover, Jambor and Zhang (1997) demonstrated the alpha coefficient of the coach's perception version as following: .84 for *training and instruction*, .66 for *democratic behaviour*, .70 for *autocratic behaviour*, .52 for *social support*, .78 for *positive feedback*, and .69 for

situational consideration. Thus, the RLSS may not necessarily be more internally reliability than the LSS.

The LSS Since 2000

Interestingly, although Zhang et al. (1997) claimed several improvements and provided credible psychometric data for the RLSS, many researchers have not subsequently used the RLSS in preference to the LSS (e.g., Alfermann et al., 2005; Huang, Chen, Chen, & Chiu, 2003; Loughead & Hardy, 2005; Murray, 2006; Sullivan & Kent, 2003). It usually takes approximately two to three years to undertake a study, write and submit a manuscript for publication. Nevertheless, researchers should probably have made the transition to using the RLSS in preference to the LSS by around the 1999-2000 periods.

Although a number of researchers employed the LSS after 1999, the authors did not explain the particular reasons for using the LSS in preference to the RLSS. Huang et al. (2003) most likely utilised the LSS simply because there was no translated version of the RLSS. Through personal communication, Loughead (September 8, 2005) briefly stated that they chose to use the LSS because their study targeted peer leadership instead of coach leadership and needed to employ an already established and well-tested instrument. Loughead indicated that the RLSS has not been examined and reported in a number of independent studies. In many cases, nevertheless, no justification was given for using the LSS in preference to the RLSS. We are left to wonder whether employing the LSS was based on considered choice or unawareness of the RLSS. Chelladurai (2007) stated, "it is unfortunate that Zhang et al. (1997) did not compare the RLSS to the original LSS, nor has there been any other investigation of the relationships between the two versions" (p. 122). It is incumbent on researchers to either use the latest and most sophisticated measurement

tools or provide a persuasive argument otherwise. The RLSS is predicated on the same five dimensions of the LSS (plus one additional scale), however, it is difficult for researchers to determine whether the RLSS or the LSS is more "sophisticated." For example, some of the previous shortcomings associated with the LSS may still be relevant with the RLSS because the LSS was fully incorporated into the RLSS. For example, the autocratic behaviour of the RLSS remained inadequate in terms of internal consistency estimates. Although Zhang et al. have thoughtfully developed the new subscale entitled *situational consideration* based on the opinions of coaches regarding what constitutes leadership, additional research and subsequent analyses will be required before more definitive conclusions can be reached about the relative merits of these changes. As Chelladurai indicated, there is a need for studies comparing these two scales and independent studies that investigate the psychometric properties of the RLSS.

Research using the RLSS

Peng (1998) was the first researcher other than Zhang et al. to employ the RLSS by investigating gender difference in preference for leadership behaviours with 184 basketball players. Peng found that a significant difference between males and females in their preference for democratic behaviour and situational consideration, but no significant differences in training and instruction, autocratic behaviour, social support, and positive feedback.

Lindauer (2000) used the RLSS to investigate differences in preference for leadership behaviours in both male and female athletes participating in individual sports and team sports. Lindauer found significant differences in athlete's preferences for democratic behaviour, autocratic behaviour, positive feedback, and social support depending on the sport type, (i.e., individual or team sports). Lindauer,

however, did not find a significant difference in training and instruction and situational consideration.

Hightower and Houston (2001) used the RLSS to investigate the relationship between leadership behaviours and team cohesion using the RLSS and Group Environment Questionnaire (GEQ; Carron, Widmeyer, and Brawley, 1985). Hightower and Houston found a significant relationship among *social support* and *situational consideration* of the preferred leadership behaviour and *Group Integration-social* (GIS) and *Attractions* to *Group-social* (ATGS) of group cohesion. In addition, Hightower found that all factors except *social support* were significantly related to all four team cohesion factors.

Lee, Pease, and Hightower (2001) also utilised the RLSS to examine the relationship between coaching roles and team satisfaction using the RLSS and the Leadership Orientation Profile (Betancourt & López, 1993) with ten teams (n = 102). In this study, Lee et al. investigated concurrent validity based on canonical correlation between the six dimensions of the RLSS and the ten factors of the LOP. Two significant pairs canonically correlated, the first pair correlating at .94 and the second pair correlated at .61.

Beam, Serwatka, and Wilson (2004) studied the influence of members' characteristics (i.e., gender, competition level, task dependence and task variability) in relation to athletes' preference for leadership behaviour using the RLSS. Beam et al. used the RLSS because athletes preferred the RLSS rather than the LSS when given the choice. In regard to gender, male athletes preferred more autocratic behaviour and social support than female athletes, whereas female athletes preferred more situational consideration and training and instruction behaviours than male athletes. Moreover, Beam et al. found significant differences in gender based on task

variability for autocratic and democratic behaviours. Beam et al. also indicated that athletes participated in independent team sports rather than interdependent sports preferred more democratic behaviour, positive feedback, situational consideration, and social support. There was no significant difference in competition level. As shown above, several researchers have made the transition to the RLSS from the LSS. An issue with these studies, however, was that these researchers did not provide supporting psychometric evidence for utilising the RLSS.

Although the LSS has been translated in a number of languages, the RLSS has only been translated into one language. Jerz, Fabryczewska, Araszkiewicz, and Szulawski (2003) used a polish translation of the RLSS to examine the relationship between performance achievement and the degree of congruence among the athlete's preferred and perceived leadership behaviours. Jerz et al. found that the lack of congruency in the democratic behaviour and situational consideration factors between preferred and perceived leadership behaviours resulted in lower achievement in terms of team performance. Based on the results, Jerz et al. also indicated that coaches tend to rate their own behaviours higher than athletes' perceptions and preferences for their coaches' behaviour perhaps because coaches believe they frequently exhibit their behaviour to all members of the team, whereas athletes rate their coach's behaviour and their preference for leadership behaviour based on the frequency to themselves primarily.

Japan is one country where several leadership studies have been conducted. There is, however, no Japanese translated version of the RLSS. Thus, a primary purpose of this dissertation was to translate the RLSS into the Japanese language. Moreover, when developing a translated measurement, it is essential to evaluate the psychometric properties of responses to the instrument in the different cultural

settings to evaluate the cross-cultural construct validity (Byrne; 2001). Thus, another central purpose of the present dissertation was to carry out a psychometric evaluation of the resultant Japanese Revised Leadership Scale for Sport (JRLSS) once it had been translated.

CHAPTER 3

STUDY 1: TRANSLATION OF THE JAPANESE REVISED LEADERSHIP SCALE FOR SPORT (JRLSS)

Introduction

There is growing recognition of the substantial need for multi-language psychological tests (Hambleton, 2002; Hambleton & de Jong, 2003). In turn, one of the tasks required is to translate research measurement tools for use in different languages (Banville, Desrosiers, & Genet-Volet, 2000). In sport leadership research, the Leadership Scale for Sport (LSS; Chelladurai & Saleh, 1980) has been widely used and recognised as a psychometrically acceptable instrument (e.g., Chelladurai & Saleh, 1980; Dwyer & Fischer, 1988a; Salminen & Liukkonen, 1994) for over two decades. Thus, the LSS has proved to be a popular tool internationally, having been translated into a number of languages, such as Finnish (Liukkonen & Salminen, 1989), French (Lacoste & Laurencelle, 1989), Japanese (Chelladurai et al., 1985; Chelladurai et al., 1987), Portuguese (Serpa, Lacoste, Pataco, & Santos, 1988), and Swedish (Isberg & Chelladurai, 1990). In Japan, researchers have used the Japanese version of the LSS in a number of studies (e.g., Chelladurai et al., 1988; Chelladurai et al., 1987; Ito, Toyoda, Endo, & Mori, 1992).

Despite the popularity of translating the LSS into other languages, researchers have rarely provided detailed information on the translation process and psychometric evidence of the translated LSS, except for internal reliability. Translation is considered to be a complex and difficult task (e.g., Banville et al., 2000; Candell & Hulin, 1987), perhaps because "translating is not a simple mechanical matter of changing words from one language to another one but a subtle and personal task, an act of re-creation, of reconstruction" (Caro & Stiles, 1997, p.

233). Banville et al., (2000), thus, insisted that, to be considered valid, researchers must use rigorous methodology to develop the instrument in the new culture.

As I mentioned (see Chapter 2), Zhang et al. (1997) developed the Revised Leadership Scale for Sport (RLSS) due to several shortcomings associated with the LSS. Although Zhang et al. asserted significant improvements over the LSS such as sport-specificity, applicability, and psychometric properties (i.e., internal reliability), only a few researchers (e.g., Beam et al., 2004; Hightower & Houston, 2001; Jambor & Zhang, 1997) have utilised the RLSS in sport leadership research. Furthermore, researchers have not translated the RLSS into Japanese language and this possibly accounts for the void in Japanese leadership research over the past 10 to 15 years. Before evaluating the psychometric properties of the RLSS with a Japanese population, it is necessary to translate the RLSS into Japanese following a rigorous translation methodology. The purpose of the present study was, thus, to carefully translate the Revised Leadership Scale for Sport into the Japanese language.

Methods

Participants

Translators. The translator was an accredited professional translator in National Accreditation Authority for Translators and Interpreters (NAATI). The professional translator was "advanced" English to Japanese translator. I worked with the professional translator as the second translator to provide content specific expertise. I am Japanese and fluent in both languages and familiar with both Japanese and Western culture after having lived in Japan for 18 years, Canada for five years, and Australia for four years.

Reviewers. Two experienced Japanese sport psychology professors provided expert feedback on item construction and wording. Both professors are registered by

the Japanese Society of Sport Psychology (JSSP) and are fluent in Japanese and English. The task as explained to the professors was to assess the meaning of items in terms of readability and consistency with the original RLSS (Geisinger, 1994).

Measures

Japanese Leadership Scale for Sport (JLSS; Miyauchi, 1986). Miyauchi (1986) provided a Japanese translation of the LSS including 15 additional items from the initial translation of the original LSS (Chelladurai, Imamura, & Yamaguchi, 1985). Interestingly, Miyauchi did not provide psychometric information on the fifteen items that were added to the original 40 LSS items (Chelladurai & Saleh, 1980). The JLSS in Miyauchi's version consisted of 55 items, representing five leadership factors: (a) *training and instruction*, (b) *demographic behaviour*, (c) *autocratic behaviour*, (d) *social support*, and (e) *positive feedback*. An example of a JLSS item is "部員のすべてが能力を十分発揮できるように心がける." Due to the lack of psychometric information, I omitted these 15 additional items in the present dissertation. Although Miyauchi did not report the internal reliability estimates in his study, Chelladurai et al. (1988) reported Cronbach alpha coefficients of the athlete preference and perception versions of the JLSS as .81 to .89 for *training and instruction*, .72 to .81 for *democratic behaviour*, .55 to .57 for *autocratic behaviour*, .72 to .84 for *social support*, and .73 to .81 for *positive feedback*. Thus, the internal consistency estimates of each JLSS dimension are adequate, with the exception of the *autocratic behaviour* subscale.

Revised Leadership Scale for Sport (RLSS; Zhang, Jensen, & Mann, 1995). The RLSS consists of 60 items representing the original five leadership factors (i.e., *teaching and instruction*, *demographic behaviour*, *autocratic behaviour*, *social support*, *positive feedback*) and a newer additional factor termed *situation*

consideration. Each item is rated on a 5-point Likert scale with response options that range from 'never' (1) to 'always' (5). The same 60 items are typically used in three parallel forms. The first form represents the athlete's perception of leader behaviours, starting with "My coach ..." The second form represents athletes' preference for leader behaviour, starting with "I prefer my coach to..." The third form represents the coach's perception of their own behaviour, starting with "I ..." These three forms differ only in the preamble and target audience. An example of a RLSS item in the three versions is, "My coach/ I prefer my coach to/ I coach to the level of the athletes." In the present study, we developed instructions for the athlete's perception and preference versions of the RLSS. Cronbach alpha coefficients of the six dimensions in the three parallel forms of the original RLSS have been reported as .83 to .91 for *teaching and instruction*, .93 to .96 for *democratic behaviour*, .35 to .59 for *autocratic behaviour*, .81 to .89 for *social support*, .85 to .93 for *positive feedback*, and .81 to .88 for *situation consideration* (Zhang et al). Thus, the internal consistency estimates of each RLSS factor are acceptable, except for the *autocratic behaviour* subscale.

Procedures

The translation procedures followed the guidelines provided by Geisinger (1994). Although Geisinger provided complete guidelines for translation of items, the steps included in the process of translation are intended to be flexible depending on the context. In order to make items truly parallel between the original and translated scales, they are adapted on a question-by-question basis. According to Geisinger, translators are required to meet rigorous criteria for adapting measurement into another language. These requirements include fluency in both languages (i.e., English and Japanese), sound knowledge about both cultures (i.e., Western and

Japanese cultures), and expertise in both the characteristics and the content of the measurement (i.e., Revised Leadership Scale for Sport).

I contacted a professional translator who had engaged in translation work for the past 20 years and has been accredited as a NAATI translator since 2000. He had lived in Australia and New Zealand for 15 years and the United States for approximately two years. In addition, the translator has worked as a professor in the area of Japanese translation and interpretation at an Australian University for a number of years. The translator, therefore, met the first two requirements for translation, fluency in both languages and cultural familiarity. Although the translator had some sport experience as a competitive tennis player, he did not have in-depth knowledge about the content of the instrument or leadership theory. To ensure specific domain knowledge of this specific instrument, I, who also meet the criteria for translation, assisted in this first stage of translation procedures. We separately adapted the 60 RLSS items into the Japanese language on a question-by-question basis.

The professional translator had two different methods of translation to choose from, *free* (meaning-for-meaning) or *literal* (word-for-word) translation. We employed the widely used literal translation technique (Bell, 1991). *Literal* translation is known as a very 'faithful' translation method in which translators translate the items on word-for-word basis, very closely matching the grammatical and lexical forms of the source text language (Bell). There are criticisms for both *literal* and *free* translation. Usually, *literal* translation is criticised for the 'ugliness' of maintaining 'faithful' language, whereas free translation is criticised for 'inaccuracy' of a 'beautiful' language (Bell). For the initial stage of translation, the

professional translator and I chose *literal* translation to maintain the faithful wording and meaning with the original items of the RLSS.

After the professional translator and I independently translated each item based on the literal translation method, the professional translator sent me the translated version of the RLSS. The next step was to juxtapose the two translations for comparative purposes. When differences existed, we had a number of phone conversations in order to reconcile the differences. Subsequent discussions took place to revise and polish item translations. After the adjustments of each item were completed, the professional translator provided a final draft of the Japanese translated version of the RLSS (JRLSS).

In sport psychology literature, a number of studies have utilised back translation procedures to translate measurements into other languages (e.g., Heuzé & Fontayne, 2002; Pelletier, Fortier, Vallerand, Tuson, & Brière, 1995). In back translation, the first translator individually translates the original items into the second language, and the second translator (who has not seen the original version of the instrument) translates it back into the original language. Then these two versions are compared and adjusted as needed (Geisinger, 1994). According to Geisinger (1994), nevertheless, the back translation technique may not be the most effective way of ensuring appropriate translation. Geisinger claimed several disadvantages are associated with using the back translation technique. First, when translators are aware their translation will be subjected to the back translation procedure, they might focus on wordings that ensure an exactly parallel meaning with the original, rather than on wordings that are most favourable in the target language (Hambleton, 1993). Second, Geisinger believes back translation might threaten the use of appropriate item content for sustaining the targeted culture. Although back translation may

ensure parallel meaning across two languages, we decided to exclude this procedure based on the criticisms outlined.

Rather than performing back translation, Geisinger (1994) suggested holding a group meeting of experts who are proficient in both languages and who have content specific expertise. I contacted two sport psychology professors who are proficient both in English and Japanese and were sufficiently knowledgeable of sport leadership. They agreed to participate in reviewing and evaluate the quality and adaptation of the translated instrument. I then sent the original and translated versions of the RLSS to the two expert assessors and asked them to provide feedback on the quality, and to recommend, if necessary, wording adjustments of the original translated version of the RLSS based on the need for cultural acceptability. One of the assessors individually provided feedback in a written form as Geisinger suggested, whereas the other expert offered several suggestions in both verbal and written form. An extensive discussion between the translator (i.e., myself) and one of the assessors took place in a face-to-face meeting. During this discussion, the assessor provided an explanation of why he responded to each translated item in the final draft as he did, whereas I explained why the professional translator and I had translated in the manner we did. The discussion continued until both the assessor and the first author agreed on the best wording for each item. I then finalized the translation, taking the recommended modifications and also 23 items translated from the LSS into consideration.

Results

The purpose of the present study was to carefully translate the Revised Leadership Scale for Sport into the Japanese language. The first translation details are provided in Table 3.1 including both the initial translation and the amended

translation. Discussions of the first draft of RLSS translation between the professional translator and I to reconcile differences resulted in adjustments to 47 of the 1116 words originally translated. For instance, the professional translator used words such as "coaching," "performance," and "goal," as English words written in *Katakana*. Japanese writing consists of three different types of characters namely *Hiragana*, *Katakana*, and *Kanji*. *Hiragana* and *Katakana* comprise 46 characters in each whereas *Kanji* consists of approximately 5000 characters. *Hiragana* and *Katakana* represent only sound, whereas Kanji are ideograms (*Kanji*, 2005). *Katakana* syllabary was originally derived from Chinese characters in the 9th century, and is mainly used to write words borrowed from foreign languages other than Chinese (*Kanji*). The professional translator did not use Katakana, and the issue was to determine whether athletes and coaches are familiar with and use these words more commonly in the Japanese sporting cultural context. The discussion between the professional translator and I resulted in changes in the Japanese language such as "*shido*" (i.e., coach = コーチ) "*purei*" (play = プレー), and "*mokuhyo*" (goal = 目標) to make the wording more familiar to athletes.

Table 3.1

Translation of Items from the Revised Leadership Scale for Sport (RLSS; Zhang et al., 1995) and Japanese Revised Leadership Scale for Sport (JRLSS)

	RLSS	Initial Translation	Final Amendment
1	Coach to the level of the athletes.	選手のレベルに合わせてコーチする。	選手のレベルに合わせてコーチする。
2	Encourage close and informal relationship with the athletes.	親密で堅苦しくない関係を選手と築くことを勧める。	選手との親密で形式ばらない関係づくりに努める。
3	Make complex things easier to understand and learn.	複雑なことを、理解しやすく、学びやすいものにする。	複雑なことを理解しやすく、学びやすいものにする。
4	Put the suggestions made by the team members into operation.	チームのメンバーからの提案を実行に移す。	チームの選手からの提案を実行に移す。
5	Set goals that are compatible with the athletes' ability.	選手の能力に合ったゴールを設定する。	選手一人一人の能力に合った目標を設定する。
6	Disregard athletes' fears and dissatisfactions.	選手の懸念や不満は無視する。	選手の恐れ、不安、不満は無視する。
7	Ask for the opinion of the athletes on strategies for specific competition.	特定の試合における戦略について、選手に意見を尋ねる。	一つ一つの試合の作戦などについて選手に意見を求める。
8	Clarify goals and the paths to reach the goals for the athletes.	選手がゴールに到達できるように、ゴールや到達方法を明確にする。	選手が目標に到達できるように目標や到達方法を明確にする。
9	Encourage the athletes to make suggestions for ways	練習方法について、選手が提案をだすよう奨励す	練習方法について提案をだすことを選手にすすめ

	to conduct practices.	る。	る。
10	Adapt coaching style to suit the situation.	状況に合わせてコーチングのスタイルを順応させる。	状況に合わせてコーチングスタイルを適応させる。

Table 3.1 (Continued).

Translation of Items from the Revised Leadership Scale for Sport (RLSS; Zhang et al., 1995) and Japanese Revised Leadership Scale for Sport (JRLSS)

	RLSS	Initial Translation	Final Amendment
11	Use alternative methods when the efforts of the athletes are not working well in practice or in competition.	練習や試合において、選手の努力がうまく現れていない場合は他の方法を用いる。	選手の努力の成果が練習や試合に現れていない時には、別のよりよい方法を用いる。
12	Pay special attention to correcting athletes' mistakes.	選手のミスを直すことに特別な注意を払う。	選手のミスを指摘するために特別の注意を払う。
13	Let the athletes try their own way even if they make mistakes.	たとえミスをおかすにせよ、選手自らのやり方でやらせる。	たとえ結果的には失敗するとしても、選手の思うとおりやらせる。
14	See the merits of athletes' ideas when differ from the coach's.	選手の考えがコーチ自身の考えと違っていても、その長所をみる。	コーチ自身の考えと違っていても、その選手の考えのよい所をみる。
15	Show 'O.K.' or 'Thumbs Up' gesture to the athletes.	選手に「OK」や「いいぞ」といったジェスチャーを示す。	選手に「O.K」や「いいぞ」といったジェスチャーを示す。
16	Remain sensitive to the needs of the athletes.	選手の求めることに対し敏感であり続ける。	選手の求めることに対し敏感であり続ける。
17	Stay interested in the	選手自身の幸福に関心を	選手一人一人のウェル・

	personal well-being of the athletes.	持ち続ける。	ビーイング（幸福）に関心を持ち続ける。
18	Pat an athlete after a good performance.	よいパフォーマンスの後には選手をほめる。	よいパフォーマンスの後には軽くたたいたりして選手をほめる。
19	Explain to each athlete the techniques and tactics of the sport.	そのスポーツの技術や作戦について各選手に説明する。	それぞれの選手にスポーツの技術や作戦などを説明する。

Table 3.1 (Continued).

Translation of Items from the Revised Leadership Scale for Sport (RLSS; Zhang et al., 1995) and Japanese Revised Leadership Scale for Sport (JRLSS)

	RLSS	Initial Translation	Final Amendment
20	Congratulate an athlete after a good play.	よいプレーの後には選手をほめたたえる。	よいプレーの後には選手を賞賛する。
21	Refuse to compromise on a point.	ある点においては妥協することを認めない。	何事についても妥協しない。
22	Use a variety of drills for a practice.	練習ではさまざまなメニューを用いる。	練習ではさまざまなドリルを用いる。
23	Stress the mastery of greater skills.	より高度なスキルを身につけることを強調する。	より高度なスキルを身につけることを重視する。
24	Alter plans due to unforeseen events.	予測不可能な出来事がおこれば計画を変更する。	予期せぬ出来事がおこれば計画を変更する。
25	Let the athletes set their own goals.	各選手に自らのゴール設定をさせる。	選手一人一人に自らの目標設定をさせる。
26	Look out for the personal welfare of the athletes.	選手の私的な幸福の面で面倒をみる。	選手個人の精神的物質的な悩みにも注意を払い、

			それを解決しようする。
27	Use objective measurements for evaluation.	評価においては客観的なものさしを用いる。	選手の評価においては客観的な尺度を用いる。
28	Plan for the team relatively independent of the athletes.	各選手が比較的自立しているチームを計画する。	あまり選手といちいち相談などせずに指導する。
29	Tell an athlete when the athlete does a particularly good job.	選手が特によい結果をだしたときは、それをその選手に伝える。	選手が特によい成績をあげた（良いプレーをした）時はほめる。
30	Get approval from the athletes on important matters before going ahead.	重要事項については、実施する前に、選手から承認を得る。	重要なことについては実行する前に選手の承認を求める。

Table 3.1 (Continued).

Translation of Items from the Revised Leadership Scale for Sport (RLSS; Zhang et al., 1995) and Japanese Revised Leadership Scale for Sport (JRLSS)

	RLSS	Initial Translation	Final Amendment
31	Express appreciation when an athlete performs well.	選手がよい結果をだしたときには、それに対する評価を示す。	選手がよい成績をあげたら（良いプレーをしたら）自分の喜びの気持ちを表す。
32	Put the appropriate athletes in the lineup.	ラインナップには適切な選手を入れる。	メンバー構成には適切な選手を入れる。
33	Encourage the athletes to confide in the coach.	コーチを信頼するよう選手をうながす。	選手に信頼されるように努める。
34	Prescribe the methods to be followed.	おこなうべき方法を指示する。	これから従っていくべき方法を指示する。

35	Dislike suggestions and opinions from the athletes.	選手からの提案や意見は好まない。	選手からの提案や意見は好まない。
36	Conduct proper progressions in teaching fundamentals.	基本を教える際には、適切に順を追っておこなう。	基本を教える際には、適切に順を追っておこなう。
37	Supervise athletes' drills closely.	選手の練習をきっちり監督する。	選手の練習をしっかり間近で監督する。
38	Clarify training priorities and work on them.	トレーニングは優先順位を明らかにし、それに沿っておこなう。	トレーニングにおける優先順位を明らかにしそれに沿っておこなう。
39	Possess good knowledge of the sport.	そのスポーツにおける深い知識を持っている。	そのスポーツにおける深い知識を持っている。
40	Fail to explain his/her actions.	自分の行動に対する説明ができない。	自分のすることをいちいち説明をすることをしない。
41	Encourage an athlete when the athlete makes mistakes in performance.	選手がミスをすれば、その選手を力づける。	選手がミスをしたときは、その選手を励ます。

Table 3.1 (Continued).

Translation of Items from the Revised Leadership Scale for Sport (RLSS; Zhang et al., 1995) and Japanese Revised Leadership Scale for Sport (JRLSS)

	RLSS	Initial Translation	Final Amendment
42	Praise the athletes' good performance after losing a competition.	試合に負けた後、選手の立派なパフォーマンスをほめる。	試合に負けても、選手の良いプレーを賞賛する。
43	Put an athlete into	状況に合わせて、選手を	状況に合わせて、選手を

	different positions depending on the needs of the situation.	違った状態におく。	違ったポジションで使う。
44	Assign tasks according to each individual's ability and needs.	各個人の能力と要求に合わせて課題を与える。	各個人の能力と必要（不足している部分）に応じて課題を与える。
45	Recognize individual contributions to the success of each competition.	各試合の成功は、個人の貢献であることを認める。	試合での成功への個々の貢献を認識する。
46	Present ideas forcefully.	力ずくで考えを提起する。	反論を許さないような毅然とした態度で話す。
47	Let the athletes decide on plays to be used in a competition.	試合において、ゲーム運びは選手に決めさせる。	試合中どういうプレーをするかを選手自身に決めさせる。
48	Perform personal favors for the athletes.	選手を個人的にえこひいきする。	部生活以外でも選手の面倒をみる。
49	Compliment an athlete for good performance in front of others.	よいパフォーマンスをおこなった選手は、他の選手の前でほめる。	よいパフォーマンスをした選手を他の選手の前でほめる。
50	Give the athletes freedom to determine the details of conducting a drill.	練習を行なう際の詳細については、選手に決定の自由を与える。	練習の細かなところを選手に決めさせる。

Table 3.1 (Continued).

Translation of Items from the Revised Leadership Scale for Sport (RLSS; Zhang et al., 1995) and Japanese Revised Leadership Scale for Sport (JRLSS)

	RLSS	Initial Translation	Final Amendment

51	Get input from the athletes at daily team meetings.	毎日のチームミーティングで選手から意見をくみあげる。	日々のチームミーティングで選手から考えをくみあげる。
52	Clap hands when an athlete does well.	選手がよくやった場合は拍手をする。	よいプレーをしたときには拍手をする。
53	Give credit when it is due.	正当に評価する。	ほめるべきところはほめる。
54	Help the athletes with their personal problems.	個人的問題に関して選手の助けになる。	選手の個人的な問題を解決するのに力をかす。
55	Ask for the opinion of the athletes on important coaching matters.	コーチングに関する重要事項については選手に意見を求める。	コーチする重要な内容について選手に意見を求める。
56	Reward an athlete as long as the athlete tries hard.	選手が努力する限りにおいてそれに報いる。	選手が努力する限りそれに報いる。
57	Let the athletes share in decision making and policy formulation.	意思決定や方針設定に選手を参加させる。	意思決定や方針設定に選手を参加させる。
58	Visit with the parents/ guardians of the athletes.	選手の親・保護者と話しをする。	選手の親·保護者と話しをする。
59	Keep aloof from the athletes.	選手から距離を置く。	選手との距離をおき、超然としている。
60	Increase complexity and demands if the athletes find the demands are too easy.	選手にとって要求が簡単すぎる場合は、要求の複雑さや度合いを高める。	選手にとって要求が簡単すぎる場合は、要求の複雑性や度合いを高める。

The recommended modifications from the two Japanese sport psychology professors were taken into consideration and resulted in adjustments to 48 out of

1116 words. Most of the suggestions made were based on cultural content and readability. In the questionnaire, one of the assessors strongly suggested placing the words "*My coach is*" and "*I prefer my coach to*" at the beginning of every item to avoid athletes misunderstanding whether the question is about their preference, or their perception of their coaching behaviours. Although the English version did not include these words, we decided to adopt this suggestion for item clarification purpose. In addition, at the final stage of the translation process, I also reviewed 23 items of the original Japanese version of the LSS (Miyauchi, 1986). As a result, I directly employed 17 of these items that were appropriate in the RLSS version and retained other items after modification.

Discussion

Difficulties in Translation Process

Five types of typical translation difficulties were encountered. First, some words such as "well-being" (see item 17) and "welfare" (see item 26) can be aligned with only one Japanese word, "*kofuku.*" It did not seem appropriate to use "*kofuku,*" however, because it does not really capture the whole meaning of the parallel English words. In this case, after extended discussions among all translators and reviewers, it was concluded to use *Katakana* (ウエル・ビーイング) to represent "well-being" and put "*kofuku*" in parentheses to ensure the target population fully understood what was being asked. The Japanese word "*kofuku*" also did not fully capture the meaning of "welfare." Translators and reviewers looked at a range of alternatives, however, no concrete wording was found. We made a decision to utilise the wordings taken from the original Japanese version of the LSS (Miyauchi, 1986).

Second, a further translation difficulty arose with English words that have several alternative meanings. The literal translation of "*visit*" would be "*tazuneru*"

(see item 58). The word "visit" can be translated in several ways such as "*kenbutu-suru*" meaning "see / look round," "*syukufuku-suru*" meaning "blessing" and so on. Although a Japanese sport psychology professor suggested using "visit" as "*renraku wo tamotsu*" meaning "keep a contact," the professional translator insisted on using "*hanasu*" that literally means "talk" because it is more suitable in the Japanese content. We, therefore, stayed with "*hanasu*" in the final translation.

Third, literal translation initially led to considerably different meanings in content from the original version, when the professional translator translated items without knowledge of the theory and measurement of leadership. For example, an item such as "*plan for the team relatively independent of the athletes*" (see item 28) represents an *autocratic behaviour* component of leadership. The professional translator translated this item as "各選手が比較的自立しているチームを計画する," and this does not represent the meaning of *autocratic behaviour*. Moreover, the professional translator translated the item "*perform personal favors for the athlete*" to "選手を個人的にえこひいきする" in the meaning of coaches' personal favourites in athletes, whereas this item actually means whether coaches do personal favours for athletes. The professional translator did not mistake in his translation, however, the lack of knowledge of leadership theory and measurement, or unfamiliarity with the RLSS, resulted in this difference in the intended meaning of some items. As Byrne (2001) indicated, a particular difficulty is the appropriate translation of meaning for items that are idiosyncratic to the idiom of a particular country. In these cases, we employed parallel items from the Japanese version of the LSS to maintain the original meaning.

Fourth, another translation difficulty came when we were faithful to using *Katakana* characteristics or Japanese language. There were cases when amendments were made to wordings that were preferably written in *Katakana* characteristics directly using the English wording. For instance, "drill" (see item 22) was initially translated as "*menyu*" (メニュー) directly meaning "menu." The assessor, however, insisted staying with "drill" expressed in *Katakana* (ドリル) because Japanese athletes and coaches often use the English word "drill" (ドリル) in practice. Moreover, the same reviewer was concerned that if "*menyu*" is used to describe "drill," athletes may misunderstand the meaning of "drill" as the total practice menu, whereas "drill" really means just one part of the practice. In this case, translators took the reviewer's recommendation and modified the item from "*menyu*" (メニュー) to "*drill*" (ドリル). There were the other situations in which *Katakana* characteristics were not always the appropriate selection, when Japanese wordings seemed to be easier for athletes and coaches to understand. For example, we used the Japanese word, "*menbar kousei*" (メンバー構成) for "line-up" (see item 32) instead of simply using *Katakana* characteristics (ラインナップ).

Fifth, we faced another difficulty in choosing the best wording among several vocabulary options to make readable for the Japanese population. For instance, we amended the word "*monosashi*" to "*syakudo*" for "measurement" (see item 27), "*mitomeru*" to "*ninshikisuru*" for "recognize" (see item 45), and "*game hakobi*" to "*douyuu pure wo suruka*" for "plays to be used" (see item 47). Although we aimed to translate all items in the RLSS, difficulties mentioned above were encountered.

Vallerand and Halliwell (1983) claimed that if a translated item remains ambiguous, alternative items should be considered in the initial version. To reduce some ambiguous items, we employed the 17 items from the original Japanese version of the LSS that seemed better than our initial translated items of the RLSS. The aim of this study was to simply and carefully translate all RLSS items into Japanese language. Careful steps following the guidelines of Geisinger (1994) resulted in the final translated Japanese version of the RLSS that represent the best judgements of the entire group of two translators and two reviewers.

CHAPTER 4

STUDY 2: PRELIMINARY TESTING OF THE JAPANESE REVISED LEADERSHIP SCALE FOR SPORT

Introduction

The Multidimensional Model of Leadership (MML) is perhaps the most universally accepted sport leadership model. The basic principle underlying the MML is that performance outcome and member satisfaction depend on the level of congruency among three aspects of leadership, namely *required behaviour*, *preferred behaviour*, and *actual behaviour*. In order to test the MML, Chelladurai and Saleh (1980) developed the Leadership Scale for Sport (LSS). The LSS consists of 40 items to specifically measure five leadership dimensions, *training and instruction*, *democratic behaviour*, *autocratic behaviour*, *social support*, and *positive feedback*. The same 40 items are typically used in three parallel forms: (a) athletes' perception of leader behaviour, (b) athletes' preference for leader behaviour, and (c) coaches' perception of their behaviour. The athlete's perception version is designed to measure the athlete's perspective on their coach's leadership behaviour. Similarly, the athlete's preference version is intended to assess the athletes' preferred leadership behaviour from their coach. The coach's perception version measures how coaches perceive their own leadership behaviour, but does not necessarily measure the coach's *actual* leadership behaviour. The tendency in sport psychology research has been for researchers to employ the first two versions (i.e., athletes' perception and preference versions) of the LSS, rather than the coaches' perception version to investigate leadership behaviours. Several researchers have reported a stable factor structure and acceptable internal consistency estimates for the LSS with the possible

exception of *autocratic behaviour* (Chelladurai & Saleh, 1980; Dwyer & Fischer, 1988b; Salminen & Liukkonen, 1994).

A number of researchers have identified possible shortcomings associated with the LSS (See Chapter 2). Zhang et al. (1997) developed the revised version of the LSS (RLSS) to eliminate perceived limitations of the LSS. Through careful scale development procedures, Zhang et al. added 23 new items to the 37 original LSS items. Zhang et al. claimed that the RLSS is an improvement over the LSS, especially in terms of internal reliability, factor structure of coach's perception version, generalisability, and sport-specificity.

After following re-developing the RLSS, Zhang et al. (1997) most likely expected researchers to adopt the RLSS in preference to the LSS. Researchers, however, have been somewhat slow in making the transition to the RLSS and, consequently, few independent studies examining the psychometric properties of the RLSS have been conducted. To my knowledge, there are only two published independent studies on the RLSS, with only one study provided internal reliability estimates. Although Beam et al. (2004) used the RLSS they specifically focused on the athletes' preference for leadership behaviours based on gender, competitive level task dependence and task variability.

When researchers develop a theory-based test, a series of studies is usually required to establish a range of supporting evidence (i.e., psychometric procedures). Although the RLSS has been carefully translated into the Japanese language, as with any test additional evidence to establish reliability and validity are required. From a psychometric perspective establishing reliability is critical (Hubley & Zumbo, 1996). Anastasi and Urbina (1997) defined reliability as "the consistency of scores obtained by the same persons when they are re-examined with the same test on different

occasions, or with different sets of equivalent items, or under other variable examining conditions" (p. 84). Reliability is often associated with terms, such as consistency, stability, and predictability (Hubley & Zumbo). Schutz and Gessaroli (1998) insisted that test developers compile items that assess the "same thing." In order to assess accuracy or consistency of responses to items within subscales, researchers commonly examine internal consistency (Schutz & Gessaroli). Cronbach's alpha is often used to determine if items are polychotomous (Aron & Aron, 1999; Schutz & Gessaroli) and has been described as "how much each item is associated with each other item" and "the overall consistency of the test, the extent to which high responses go with highs and lows with lows over all the test items" (Aron & Aron, p. 527). In other words, the more homogeneous are items in a domain, the higher the internal consistency (Anastasi & Urbina). Nunnally and Bernstein (1994) indicated that a test should consist of Cronbach alpha scores at least .70 to be internally reliable.

Zhang et al. (1997) examined the internal consistency of the RLSS using Cronbach alpha. Zhang et al. calculated Cronbach alphas based on a large sample of 696 athletes (athlete preference version), 661 athletes (athlete perception version), and 206 coaches (coach perception version). The results from the Zhang study showed high internal consistency for all factors with all three versions except *autocratic behaviour*. Specifically, Zhang et al. found that internal consistency estimates for athlete preference, athlete perception, and coach's own perception versions were; .96, .96, for *democratic behaviour*, .89, .93, for *positive feedback*, .84, .88, for *situational consideration*, .87, .91, for *teaching and instruction*, .88, .89, for *social support*, and .59, .48, for *autocratic behaviour*. Although Zhang et al. provided information on the reliability of the RLSS, it is

necessary in the present study to examine the internal consistency of the JRLSS to determine whether the JRLSS translation has successfully maintained the consistency of each leadership behaviour subscale.

Validity is defined as "the appropriateness, meaningfulness, and usefulness of the specific inferences made from test scores" (APA, AERA, & NCME, 1985, p. 9). Validity confirms *what* the instrument measures and *how well* it does its job (Anastasi & Urbina, 1997). Many psychology researchers believe that validity is the most important workhorse in test evaluation (e.g., Shultz, Riggs, & Kottke, 1998). Tests, measures, or observations become meaningless without validity (Hubley & Zumbo, 1996). Despite general agreement on the importance of establishing validity, Shultz et al. insisted that the type of processes researchers must follow to establish validity is not a matter of mutual agreement. Accordingly, there is a range of approaches in besting the accepted sub-domains of validity (Anastasi, 1986; Messick, 1988; 1989).

Construct validity has received increasing attention from psychology test researchers (Anastasi, 1986) and is considered one of the most important types of validity. Westen and Rosenthal (2003) stated that, if a psychological measurement or procedure does not have construct validity, it would be difficult to interpret results derived from using this measurement or procedure. Construct validity refers to "the degree to which variance in obtained measures from an assessment instrument is consistent with predictions from the construct targeted by the instrument" (Shultz et al., 1998, p. 239). Many researchers consider the process of construct validity as the process of determining and revealing what a test measures (Anastasi; Messick, 1988).

Construct validation takes a comprehensive approach that often also involves other validation procedures, such as content and criterion-related validities (Anastasi, 1986; Haynes, Richard, & Kubany, 1995). Anastasi indicated, "All validation procedures contribute to construct validation and can be subsumed under it" (p. 12). Anastasi contended that it is more appropriate to consider content validation and criterion-related validation as particular stages in the construct validation process of tests. Both content and criterion-related validity cannot stand alone as indicators of measurement adequacy. Rather, they become processes (not procedures) to provide one of many lines of evidence (Shultz et al., 1998).

As outlined previously, I developed the Japanese version of the RLSS following Geisinger's translation guidelines (1994) (see Chapter 3). Although other validation processes are important, I commenced by examining content and face validity. Content validity is a vital component of construct validity (Haynes et al., 1995) and Anastasi (1988) suggested that establishing content validity provides evidence of construct validity of an assessment measure. Haynes et al. provided a compilation of conscturct validity definitions when they stated, "The degree to which elements of an assessment instrument are relevant to and representative of the targeted construct for a particular assessment purpose" (p. 238). Content validity provides evidence about the degree to which items are *relevant* to and *representative* of the target construct (Haynes et al). The r*elevance* of an assessment refers to the appropriateness of items to a particular behavioural domain of interest (e.g., Angoff, 1988; Ebel & Frisbie, 1991; Guion, 1977; Messick, 1993; Suen, 1990). For example, the items comprising the Revised Leadership Scale for Sport should be relevant to the behavioural domains of the sport leadership construct. Conversely, if the RLSS items do not reflect a given leadership behavioural domain, the relevance of the

RLSS is diminished. The *representativeness* of an assessment refers to the degree to which item content covers the behavioural domain of the targeted construct (Lynn, 1986; Messick, 1989; Nunnally & Bernstein, 1994; Suen & Ary, 1989). Content representativeness can be examined by "mapping the domain, comparing this charting of the domain with the test blueprint, and then assessing how effectively the test approximates the domain and test specification blueprints" (Geisinger, 1992, p. 208).

Researchers (e.g., Haynes et al., 1995) have proposed that content validity is important because psychological assessment should consist of the items that closely relate to the targeted construct. In assessing content validity, researchers first must provide a clear definition of the construct, and then have "experts" rate the degree to which they agree on the domain and facets of the construct (Haynes et al). Expert assessors' judgments of the degree to which items measure the relevant construct in terms of relevance and representativeness determines content validity (Hubley & Zumbo, 1996). Content validity is, however, often underemphasized in sport psychology. Dunn, Bouffard, and Rogers (1999) reviewed scale construction literature in sport psychology journals, and reported that many researchers have a tendency to under-report or undervalue content relevance. Although Dunn et al. focused only on content-relevance and excluded content-representativeness they provided important suggestions for sport psychology test developers. According to Dunn et al., sport psychology researchers in scale development or construction must rigorously assess procedures of item content-relevance, particularly carefully selecting expert panels, maintaining the appropriate number of expert panels, following the procedures to rate item content-relevance or representativeness, using

statistical procedures to analyse a panel's rating, and setting the adequate criteria for item retainment or modification.

When Zhang et al. (1997) developed the Revised Leadership Scale for Sport (RLSS), they first conducted interviews to establish the content boundaries for the construct of leadership behaviours. Following the interviews, a list of potentially suitable items was developed. Zhang et al. then asked experts to assess the representativeness and adequacy of the proposed RLSS items and to also identify which factor each item best represented. From the 17 experts, Zhang et al. used a criterion of 70% (n = 12) as the acceptable level for acceptance of content validity in order to retain items. Even though Zhang et al. utilized content validation procedures in the development of the RLSS, independent researchers have not yet examined whether the RLSS items truly represent the proposed leadership behaviour constructs.

In the present study, in addition to testing context validity, a decision was made to also examine face validity. According to Anastasi and Urbina (1997), face validity is defined as what it appears superficially to measure. Face validity pertains to whether the test "looks valid" to the examinees, who take it, the administrative personnel who decide on its use and other untrained observers (p. 117). In face validity testing examinees judge whether the instrument "looks valid" and "looks useful" from their perspective as untrained observers or as a targeted population. Face validity as a validation process often receives little attention in psychometric evaluation of measures (Bornstein, Rossner, Hill, & Stepanian, 1994). This lack of attention is probably a result of the perspective that face validity is not an index of true validity (Parrott, 1991). Anastasi and Urbina (1997) took a similar view to Parrott by suggesting that face validity is "not validity in the technical sense" (p.

117). In fact, Bornstein (1996) indicated that this lack of attention to face validity nowdays is reflected in the fact that the original version of the American Psychological Association's *Technical Recommendations for Psychological Tests and Diagnostic Techniques* (1954) included a considerable discussion of face validity, whereas the recent version of the APA's *Standards for Educational and Psychological Testing* (1985) does not include any discussion of face validity. Kline (1986) demonstrates a rather extreme view when he suggests face validity is a "trivial aspect of the test" (p. 152).

Although face validity may be not considered as a type of 'true' validity, a number of researchers (e.g., Anastasi, 1988; Anastasi & Urbina, 1997; Bornstein, 1996; Bornstein et al., 1994) still acknowledge the meaningfulness of face validity in a practical sense. First, face validity is important because it confirms the effective function of a measurement in terms of the items' appropriateness and relevance to applied situations (Anastasi & Urbina). For instance, the RLSS was originally designed for a Caucasian population and developed within the American setting. The content of the RLSS could potentially appear to be irrelevant and inappropriate, for example, in the Japanese context based on the subjective Japanses athletes or coaches. In this case, the results will lack support and engagement with participants no matter how high the actual validity is because the participants may lose interest in responding honestly and seriously. Thus, face validity helps researchers to examine how well participants cooperate with tests by assessing the subjective judgement of item relevance and representativeness. Face validity also serves as a determinant of participants' 'appropriate' motivation to take tests (Parrott, 1991). Cronbach (1990) argued,

> In selecting a test one must consider how worthwhile it will appear to the test taker.... If a test is interesting and sensible, taking it is likely to be a pleasant experience. This not only tends to make the scores valid but also helps to establish good relations between [taker and testee]. (p. 215)

Bornstein suggested high face validity enhances respondent motivation and effort, and in turn, contributes to test-score validity. It is, thus, important to assess face validity at the design stage.

In addition, face validity also fulfils several other aspects required for validity. Bornstein (1996) argued the importance of face validity by stating, "face validity can, in and of itself, function as a unifying force that links the psychometric properties of a test with the social policy implications of scores derived from that test" (p. 983). Bornstein also indicated that face validity relates to four of the six aspects of construct validation mentioned by Messick (1995). The first aspect is *content*. Bornstein asserted that the high face validity of a test indicates the high relevance and representativeness of item content to the intended dimensions. The second aspect is *generalisability*. Test scores and interpretation can be generalised to and across populations, settings, and tasks. For example, in the present context, if Japanese athletes subjectively judge that the JRLSS items are highly related to the proposed leadership dimensions high generalisability can be concluded. The third aspect is *external* including convergence and discriminant evidence from multitrait-multimethod comparisons, criterion-related evidence, and applied utility. Bornstein also claimed that face validity involves criterion relevance and applied use. The fourth aspect of validation is *consequential*, whereby an interpretation derived test score implies consequences for action, as well as for other sources of validity, such as issues of bias, fairness, and distributive justice associated with the instrument.

Bornstein asserted that face validity contributes to addressing test bias, labelling, and fairness issues, due to its influence on the degree to which test scores are affected by respondents' self-presentation. Face validity, therefore, plays an important role in many aspects of the validation process.

Although the face validity procedure provides useful information as to whether tests appear, for the target population, to my knowledge face validity has not been a feature of the *psychometric menu* to date, regarding development of the RLSS. When examining the current decline in use of the leadership scale, the target population's judgement of the scale's appropriateness and relevance in practical settings becomes important for researchers, because their subjective perspective may directly lead to a positive or negative attitude in cooperation and motivation toward test taking. Face validity was, thus, included as an integral component of the present study. The purpose of the present study was, therefore, to provide descriptive statistics for the JRLSS, followed by an examination of internal consistency estimates, content validity, and face validity of the JRLSS. Finally, this study was designed to compare the psychometric properties of the original RLSS and the Japanese RLSS.

Method

Participants

Internal consistency. Participants were 154 university athletes recruited from four institutions (41 females, 113 males), aged 18 to 26 years. Participants were recruited from eight teams representing five sports; soccer (n = 63), baseball (n = 28), softball (n = 10), volleyball (n =24), and basketball (n = 29). The participants had an average of 9.99 years of experience in their current sport and an average of 2.15 years of involvement in their current team. The selected university teams

participated in competitions ranging in level from regional leagues to intercollegiate tournament level.

Content Validity. Five Japanese sport psychology professors participated in an item sorting procedure (Zhang, Jensen, & Mann, 1997) to examine the content validity of the translated version of the RLSS. All five participants were registered members of the Japanese Society of Sport Psychology (JSSP).

Face Validity. To measure face validity, participants from the target population to whom the questionnaire is most likely to be administered are recruited. Because the RLSS is most often used for measuring the congruence between athletes' perceptions and preferences for the coach's leadership behaviour, the target population in this instance, were athletes. Participants were 30 Japanese university female athletes, aged between 19 and 21 ($M = 20.10$), who were recruited from the volleyball (n = 15) basketball (n = 15) teams. All participants were competing at the sub-elite level, averaged 10.46 years of experience in their current sport, and attended an average of six practice sessions per week from two to four hours a day.

Measures

Demographic Questionnaire. A demographic questionnaire was used to gather detailed information about participants such as name, gender, age, sport type, the number of years played in their primary sport, the number of years played in a specific team, and league level.

Japanese version of the Revised Leadership Scale for Sport (JRLSS). I employed the Japanese language version of the RLSS as described in Chapter 3. The JRLSS consists of 60 items representing six leadership factors: *training and instruction* (10 items), *demographic behaviour* (12 items), *autocratic behaviour* (8 items), *social support* (8 items), *positive feedback* (12 items), and *situation*

consideration (10 items). The same 60 items are typically used in three parallel forms: athletes' preference for leader behaviour, athletes' perception of leader behaviour, and coaches' perception of their own behaviour. These three forms differ only in the preamble and target audience. Among these three forms, I used the athlete preference and athlete perception versions of the JRLSS in the present study. To examine internal consistency estimates, athletes responded to all items on a 5-point Likert scale: 'never' (1) to 'always' (5). All items are subsumed under the following six categories: *training and instruction* (TI), *democratic behaviour* (DB), *autocratic behaviour* (AB), *social support* (SS), *positive feedback* (PF), *situational consideration* (SC). For example, the item "*coach to the level of the athletes*" would be circled for the category of "SC." In order to represent items for the assessment of face validity, every item was divided into groupings based on the intended common leadership factors mentioned earlier. Participants responded on a 5-point Likert scale from 'strongly disagree' (1) to 'strongly agree' (5).

Procedures

Internal consistency estimate. I contacted officials from each team such as managers and coaches to obtain permission to recruit players. After permission was granted, I travelled to different venues to meet potential participants. I first explained that participation in the study was voluntary and participants could absent themselves at any time during the study. This announcement was required to maintain athletes' voluntary participation because Japanese coaches or teachers have a tendancy to use their authority to demand participation. The data collection sessions were carried out without the presence of the coach. I explained the purpose of the study and informed consent procedures, including confidentiality provisions (see Appendix A for English, B for Japanese). Athletes, who chose to participate, then read and completed the

demographic questionnaire (see Appendix C for English, D for Japanese), the athletes' preferred leadership behaviour version of the JRLSS (see Appendix E for English, F for Japanese), and the athletes' perceived leadership behaviour version of the JRLSS (see Appendix E for English, G for Japanese) in that order. The administration of the questionnaires took approximately 40 minutes.

Content validity. I contacted a Japanese professor who subsequently introduced me to five sport psychology professors. I explained the purpose of the study and fielded questions from these sport psychologists. I requested that they fulfil the role of expert assessors to examine the content validity of the JRLSS. All five Japanese sport psychology professors reported being conversant with leadership theory in sport. These five participants read and completed informed consent procedures, and agreed to participate as expert assessors (see Appendix H for English, I for Japanese). Similar to the previous content validation procedures (see Martin, 2002; Subramaniam & Silverman, 2000; Zhang et al., 1997), the panel of experts was asked to categorise each JRLSS item into the factor they believed was the most appropriate in relation to the six leadership behaviour dimensions (see Appendix J). Based on the previous work of Zhang, et al., (1997), a 70% respondent agreement level was set as the criterion for item retainment.

Face Validity. I contacted university coaches through telephone and emails to explain the study and request access to the athletes they coached. Two coaches subsequently gave me permission to meet with the athletes they coached. I arranged meetings before practice sessions and travelled to each institution to meet potential participants. The administration procedures were the same as the internal consistency procedures mentioned earlier, including announcement of voluntary participation and withdrawal from the study at any time, and absence of coaches while data collection

was explained and conducted. I then asked interested participants to read and sign an informed consent (see Appendix K for English, L for Japanese). Participants were asked to carefully read the definition of each factor from the RLSS manual (Zhang et al., 1997) and then to rate the degree of the representativeness of all items to the six factors on their own perspective (see Appendix M for English, N for Japanese). The administration took approximately 30 minutes.

Results

Descriptive Statistics

The data from eight participants were excluded, because they either failed to answer a substantial number of items or used fairly obvious response sets (e.g., circling one for every question). Thus, I analysed the data from a total of 146 participants both in the athletes' perception and athletes' preference versions of the JRLSS. The descriptive properties of the 60 JRLSS items were assessed before examining internal reliability. Descriptive statistics of the JRLSS items are presented in Table 4.1.

Normality of responses to items was examined by calculating skewness and kurtosis of each item. Based on Tabachnick and Fidell (1996), significant values for skewness and kurtosis were determined depending on the number of participants (N = 146) in the present study. Using inference tests, the significant value of skewness was more than .33 or less than -.33. The significant value of kurtosis was more than .67 or less than -.67. Based on these significant values, 34 of 60 JRLSS items were positively skewed and 5 of 60 items were negatively skewed in the athletes' preference version. Also, 7 of 60 items were positively skewed and 4 of 60 JRLSS items were negatively skewed in the athletes' perception version. In addition, 7 of 60 items had *platykurtic* distribution and 8 of 60 JRLSS items had *leptokurtic*

distribution in the athletes' preference version. Also, 34 of 60 JRLSS items had a *platykurtic* distribution. No items had a *leptokurtic* distribution in the athletes' perception version.

According to these results, a total of 47 items in the athletes' preference version and 39 items in the athletes' perception version were not normally distributed. Tabachnick and Fidell (1996) explained, however, that skewness values tend to be more significant as the sample size increases. Tabachnick and Fidell, thus, suggested as follows: "In a large sample, a variable with statistically significant skewness often does not deviate enough from normality to make a substantive difference in the analysis. In other words, with large samples the significance level of skewness is not as important as its actual size...and the visual appearance of the distribution" (p. 73). In addition, with a large sample size, the significant value of kurtosis disappears: if the sample size exceeds 100, underestimates of variance associated with negative kurtosis disappear, whereas the underestimates of variance with positive kurtosis disappears once the sample size exceeds 200 (Waternaux, 1976). Tabachnick and Fidler, therefore, suggest checking frequency histograms to assess normality. Based on frequency histograms, I found that more than .50 or less than - .50 appears to be a more realistic value, with the present data, at which items are negatively or positively skewed. Based on the histograms, distributional properties of each JRLSS item showed that a total of 29 items in the athletes' preference version and 2 items in the athletes' perception version failed to be normally distributed.

Table 4.1

Descriptive Statistics for the 60 JRLSS items

	Athletes' Preference				Athletes' Perception			
Item	*M*	*SD*	S	K	*M*	*SD*	S	K
1	3.47	1.13	-.53*	-.42	3.16	1.08	-.23	-.54

2	3.66	1.03	-.51*	-.11	3.21	1.09	-.18	-.56
3	4.29	.81	-.82*	-.26	3.19	1.13	-.03	-.65

Table 4.1 (Continued).

Descriptive Statistics for the 60 JRLSS items

	Athletes' Preference				Athletes' Perception			
Item	*M*	*SD*	S	K	*M*	*SD*	S	K
4	3.68	.85	-.23	-.16	2.98	1.14	-.16	-.76*
5	3.89	1.15	-.96*	.21	2.99	1.15	.08	-.76*
6	2.08	1.06	.64*	-.24	2.78	1.23	-.07	-1.09*
7	3.24	1.10	-.12	-.73*	2.73	1.15	.02	-.94*
8	4.21	.87	-.95*	.53	3.10	1.21	.00	-1.03*
9	3.34	1.00	-.10	-.34	2.99	1.19	-.11	-.89*
10	4.00	.99	-.82*	.25	2.92	1.25	.09	-.99*
11	3.91	.88	-.44*	-.21	3.01	1.14	-.13	-.71*
12	3.24	.99	-.03	-.23	3.02	1.01	-.21	-.17
13	3.23	1.12	-.25	-.56	2.83	1.12	.09	-.56
14	3.90	.98	-.77*	.40	3.04	1.12	.07	-.66
15	4.40	.81	-.12	.86*	3.54	1.12	-.41*	-.56
16	4.06	.88	-.55*	-.60	3.10	1.19	-.14	-.76*
17	3.83	.91	-.65*	.50	3.10	1.08	.01	-.56
18	4.28	.92	-1.23*	.89*	3.26	1.17	-.06	-.86*
19	4.23	.81	-.77*	-.12	3.46	1.18	-.44*	-.56
20	4.38	.74	-1.05*	.75*	3.59	1.03	-.11	-.81*
21	4.32	.78	-.81*	-.30	3.66	1.12	-.36*	-.81*
22	3.73	1.00	-.54*	-.04	3.38	1.26	-.32	-.93*
23	3.84	.89	-.45*	.12	3.45	1.09	-.07	-.94*
24	3.71	.98	-.25	-.54	3.20	.94	-.11	-.02
25	4.29	.84	-.95*	.04	3.29	1.17	-.16	-.81*
26	3.81	.99	-.55*	-.32	2.82	1.22	.12	-.85*
27	3.57	.93	-.25	-.07	2.91	1.05	.18	-.35
28	2.36	1.16	.77*	-.05	2.78	1.14	.24	-.70*

29	4.41	.86	-1.59*	2.30*	3.71	.96	-.04	-1.07*
30	3.45	1.09	-.27	-.45	3.03	1.16	-.19	-.69*
31	4.06	1.01	-.78*	-.36	3.22	1.14	.07	-.75*
32	4.61	.64	-2.07*	6.59*	3.58	1.17	-.38*	-.74*

Table 4.1 (Continued).

Descriptive Statistics for the 60 JRLSS items

	Athletes' Preference				Athletes' Perception			
Item	*M*	*SD*	S	K	*M*	*SD*	S	K
33	4.52	.80	-1.72*	2.30*	3.33	1.12	-.14	-.76*
34	4.10	.87	-.45*	-.91*	3.43	1.03	-.27	-.43
35	1.99	1.11	1.11*	.65	2.52	1.17	.42*	-.59
36	4.27	.84	-.96*	.56	3.54	1.09	-.20	-.75*
37	4.41	.80	-1.14*	.27	3.90	1.11	-.56*	-.96*
38	4.12	.78	-.47*	-.49	3.32	1.13	-.24	-.50
39	4.68	.65	-2.16*	4.23*	4.08	.96	-.63*	-.72*
40	2.59	1.12	.28	-.49	2.96	1.21	-.02	-.80*
41	3.07	1.13	.31	-.76*	2.73	1.08	.22	-.44
42	2.90	1.21	.31	-.78*	2.84	1.13	.20	-.60
43	3.55	1.12	-.46*	-.27	3.34	1.15	-.27	-.57
44	4.13	.86	-.59*	-.56	3.39	1.03	-.07	-.57
45	4.04	.77	-.45*	-.19	3.31	.98	-.21	.02
46	2.48	1.20	.47*	-.56	2.54	1.19	.41*	-.65
47	3.39	1.08	-.23	-.63	3.08	1.07	-.19	-.62
48	2.70	1.25	.27	-.84*	2.70	1.31	.24	-1.02*
49	3.32	1.17	-.20	-.68*	3.21	1.15	-.12	-.62
50	2.69	1.03	.33	-.11	2.84	1.12	.17	-.53
51	3.62	.97	-.19	-.52	3.01	1.20	.06	-.85*
52	3.84	1.02	-.56*	-.28	3.18	1.23	-.08	-.92*
53	4.45	.78	-1.44*	1.68*	3.65	1.15	-.24	-1.09*
54	3.56	1.08	-.34*	-.54	2.90	1.17	-.08	-.87*
55	3.12	1.02	-.24	-.37	2.86	1.18	.05	-.73*
56	4.06	.89	-.66*	-.01	3.51	1.04	-.36*	-.26
57	3.43	.96	-.15	-.16	3.03	1.15	-.10	-.62

58	3.10	1.14	.05	-.73*	2.52	1.19	.48*	-.51
59	2.15	1.14	.76*	-.13	2.21	1.08	.39*	-.76*
60	3.62	1.00	-.41*	-.02	3.08	1.01	-.01	-.12

Note. * = significant value of skewness and kurtosis.

Means and standard deviations for each subscale in the athletes' perception and preference versions are shown in Table 4.2. Mean scores for all dimensions in the athletes' preference version were slightly higher than those in the athlete perception version, except for *autocratic behaviour*. Mean scores for the *teaching and instruction* factor were the highest and means for the *autocratic behaviour* factor were the lowest in both athletes' perception and preference versions. Moreover, the variability for the athletes' preference version was less than that for the athletes' perception version except for *autocratic behaviour*. The variability of responses was similar for all six factors in the athletes' preference version. The greatest variability was the *autocratic behaviour* factor (*SD* = 0.60) and the smallest variability was the *teaching and instruction* factor (*SD* = 0.44). Excluding *autocratic behaviour* the other five factors in the athletes' perception version, were similar in variability. The greatest variability was in the *social support* factor (*SD* = 0.88) and the smallest standard deviation in the athletes' perception version was the *autocratic behaviour* factor (*SD* = 0.50).

Table 4.2

Descriptive Statistics: Six JRLSS athletes' perception and preference version subscales

	Athlete Preference Version		Athlete Perception Version	
	M	*SD*	*M*	*SD*
Teaching and Instruction	4.04	0.44	3.40	0.72
Democratic Behaviour	3.43	0.50	2.95	0.74

Autocratic	2.73	0.60	2.88	0.55
Social Support	3.65	0.56	2.93	0.88
Positive Feedback	3.90	0.58	3.28	0.77
Situation Consideration	3.91	0.47	3.17	0.72

Internal Consistency Estimates

To assess reliability of the JRLSS, internal consistency was estimated by calculating alpha coefficients (Cronbach, 1951). Nunnally and Bernstein (1994) pointed out that Cronbach alpha is the estimated average of correlation among items within a subscale. The values of internal reliability estimates demonstrate how items within each factor consistently measure the "same thing." Cronbach (1951) suggested that an alpha value of .70 is an acceptable internal reliability estimate. Cronbach alphas of the JRLSS were summarized in Table 4.3.

Table 4.3

Internal reliability estimates: JRLSS athletes' perception and preference version subscales

Leadership Factors	Number of Items	Athletes' Preference	Athletes' Perception
Teaching and Instruction	10	0.69	0.84
Democratic Behaviour	12	0.75	0.86
Autocratic Behaviours	8	0.71	0.51
Social Support	8	0.68	0.89
Positive Feedback	12	0.84	0.91
Situation Consideration	10	0.65	0.85

For the athletes' perception version, Cronbach alpha values showed high internal consistency levels ranging from, $\alpha = .85$ to $\alpha = .91$, for all factors except for the *autocratic behaviour* subscale, $\alpha = .51$. The results for the athletes' preference

version ranged from, α = .65 (*situational consideration*) to α = .84 (*positive feedback*). Results for three of six scales, namely *democratic behaviour*, *positive feedback*, and *autocratic behaviour* showed moderate internal consistency scores ranging between, α = .71 and α= .84. For the remaining three subscales (i.e., *teaching and instruction*, *social support*, *and situational consideration*) alpha coefficients were slightly below the usually accepted, α = .70. Some researchers, however, consider, α = .60, as an acceptable criterion for the internal consistency of a scale (Jambor & Zhang, 1997; Papaioannou, 1994). Overall, the six factors of the JRLSS were adequately reliable in both versions, except for the *autocratic behaviour* subscale in the athletes' perception version of the scale.

Content Validity

Forty-six of the 60 JRLSS items were content valid based on the selected criteria guided by Zhang et al. (1997). That is, 80% of the sorters (i.e., four of five participants) believed the item represents the intended meaning of each leadership behaviour factor. As presented in Table 4, a total of fourteen items (23.3%) failed to achieve at the 80% criteria for content validity.

Specifically, of the 12 *democratic behaviour* items presented to the respondents, one item did not meet the criteria for content validity. Moreover, three of the 12 *positive feedback* items, four of the 10 *teaching and instruction* items, four of the 8 *social support* items, and two of the 8 *autocratic behaviour* items failed to satisfy the 80% content validity criterion. Interestingly, all ten situational consideration items were perceived to represent the intended factor by at least four of the five respondents. With the limited number of participants (i.e., $N = 5$), however, caution must be exercised in reaching final conclusions about items. For further

investigation, I retained the 60 items although 14 of them did not appear, based on this preliminary testing to be satisfactory content valid.

Table 4.4

Content Validity of the 60 JRLSS items

Item Number	Item	T&I	DEM	AUT	SS	PF	SC
Training and Instruction (T&I)							
3	Make complex things easier to understand and learn.	3*			1		1
12	Pay special attention to correcting athletes' mistakes.	1*		1		2	1
19	Explain to each athlete the techniques and tactics of the sport.	3*	2				
22	Use a variety of drills for a practice.	4					1
23	Stress the mastery of greater skills.	5					
27	Use objective measurements for evaluation.	4	1				
36	Conduct proper progressions in teaching fundamentals.	4					1
37	Supervise athletes' drills closely.	2*		1		1	1
38	Clarify training priorities and work on them.	5					
39	Possess good knowledge of the sport.	4					1
Democratic Behaviour (DB)							
4	Put the suggestions made by the team members into operation.		5				
7	Ask for the opinion of the athletes on strategies for specific competition.		5				

Table 4.4 (Continued).

Content Validity of JRLSS 60 Items

Item Number	Item	T&I	DEM	AUT	SS	PF	SC
Democratic Behaviour (DB)							
9	Encourage the athletes to make suggestions for ways to conduct practices.		5				
13	Let the athletes try their own way even if they make mistakes.		4		1		
14	See the merits of athletes' ideas when differ from the coach's.		4			1	
25	Let the athletes set their own goals.		3*		2		
30	Get approval from the athletes on important matters before going ahead.		5				
47	Let the athletes decide on plays to be used in a competition.		5				
50	Give the athletes freedom to determine the details of conducting a drill.		5				
51	Get input from the athletes at daily team meetings.		5				
55	Ask for the opinion of the athletes on important coaching matters.		5				
57	Let the athletes share in decision making and policy formulation.		5				

Table 4.4 (Continued).

Content Validity of JRLSS 60 Items

Item Number	Item	T&I	DEM	AUT	SS	PF	SC
Autocratic Behaviour (AUT)							
6	Disregard athletes' fears and dissatisfactions.	1		4			
21	Refuse to compromise on a point.	1		3*	1		
28	Plan for the team relatively independent of the athletes.	1		4			
34	Prescribe the methods to be followed.	3		2*			
35	Dislike suggestions and opinions from the athletes.	1		4			
40	Fail to explain his/her actions	1		4			
46	Present ideas forcefully.	1		4			
59	Keep aloof from the athletes.	1		4			
Social Support (SS)							
2	Encourage close and informal relationship with the athletes.		2		3*		
16	Remain sensitive to the needs of the athletes.		1		2*		2
17	Stay interested in the personal well-being of the athletes.				5		
26	Look out for the personal welfare of the athletes.				5		

Table 4.4 (Continued).

Content Validity of JRLSS 60 Items

Item Number	Item	T&I	DEM	AUT	SS	PF	SC
Social Support (SS)							
33	Encourage the athletes to confide in the coach.	2	2		1*		
48	Perform personal favors for the athletes.			1	4		
54	Help the athletes with their personal problems.				4		1
58	Visit with the parents/guardians of the athletes.		1		3*		1
Positive Feedback (PF)							
15	Show 'O.K.' or 'Thumbs Up' gesture to the athletes.				1	4	
18	Pat an athlete after a good performance.					5	
20	Congratulate an athlete after a good play.					5	
29	Tell an athlete when the athlete does a particularly good job.				1	4	
31	Express appreciation when an athlete performs well.					5	
41	Encourage an athlete when the athlete makes mistakes in performance.				1	3*	1
42	Praise the athletes' good performance after losing a competition				1	4	

Table 4.4 (Continued).

Content Validity of JRLSS 60 Items

Item Number	Item	T&I	DEM	AUT	SS	PF	SC
Positive Feedback (PF)							
45	Recognize individual contributions to the success of each competition.	2			1	2*	
49	Compliment an athlete for good performance in front of others.	1				4	
52	Clap hands when an athlete does well.					5	
53	Give credit when it is due.	1				4	
56	Reward an athlete as long as the athlete tries hard.	1	1			3*	
Situational Consideration (SC)							
1	Coach to the level of the athletes.					1	4
5	Set goals that are compatible with the athletes' ability.						5
8	Clarify goals and the paths to reach the goals for the athletes.	1					4
10	Adapt coaching style to suit the situation.						5
11	Use alternative methods when the efforts of the athletes are not working well in practice or in competition.	1					4
24	Alter plans due to unforeseen events.						5

Table 4.4 (Continued).

Content Validity of JRLSS 60 Items

Item Number	Item	T&I	DEM	AUT	SS	PF	SC
Situational Consideration (SC)							
32	Put the appropriate athletes in the lineup.	1					4
43	Put an athlete into different positions depending on the needs of the situation.						5
44	Assign tasks according to each individual's ability and needs.						5
60	Increase complexity and demands if the athletes find the demands are too easy.	1					4

Note. * = Nonvalid JRLSS item based on content validity testing. Numbers presented in a table refer to the number of respondents who believed each item represented one of the six JRLSS factors.

Face Validity

The data obtained from 30 athletes were used to assess face validity. First, I calculated the mean and standard deviation for each item. These are presented in Table 4.5. As mentioned earlier, the criterion set for acceptance was an average of 3.50 or more was set. Few published studies were available for setting the criteria for face validity. Thus, I utilised the generally accepted 70% criterion for face validity testing. This is consistent with the assessment of content validity in Zhang's study (1997). The mean of all items in *teaching and instruction* were between 3.52 and 4.62 ($M = 4.02$) and *democratic behaviour* items ranged from 3.03 and 3.41 ($M = 3.60$), thus, all items comprised in the *teaching and instruction* and *democratic behaviour* factors were acceptable. The means of *autocratic behaviour* items varied from 1.93 to 3.72 ($M = 2.37$) with two of the eight items not meeting the criterion. Although the overall average for autocratic behaviour was acceptable, it partly suffered from a lack of face validity.

Similarly, the overall average for *social support* ($M = 3.18$) met the criterion level, with item means ranging from 2.67 to 3.73. All eight *social support* behaviour items ($M = 2.67$ to 3.73), including the overall average of *social support* ($M = 3.18$) also met the criterion. The means of the *positive feedback* items were in a range of 3.23 to 4.27 ($M = 3.89$) with all items being acceptable for face validity. All *situational consideration* items were also above 2.00 ($M = 3.94$) ranging from 3.60 to 4.10. Overall, a total of two of the 60 items (0.03%) did not meet the acceptance criterion (i.e., $M = 3.50$) for face validity.

Table 4.5

Face Validity of the 60 JRLSS items

#	Item	*M*	*SD*
Training and Instruction (n = 29, M = 4.02)			
3	Make complex things easier to understand and learn.	3.97	.68
12	Pay special attention to correcting athletes' mistakes.	3.86	.69
19	Explain to each athlete the techniques and tactics of the sport.	3.86	.95
22	Use a variety of drills for a practice.	3.97	.68
23	Stress the mastery of greater skills.	3.86	.64
27	Use objective measurements for evaluation.	3.52	.79
36	Conduct proper progressions in teaching fundamentals.	4.34	.72
37	Supervise athletes' drills closely.	4.28	.80
38	Clarify training priorities and work on them.	3.97	.73
39	Possess good knowledge of the sport.	4.62	.56
Democratic Behaviour (n = 29, M = 3.60)			
4	Put the suggestions made by the team members into operation.	3.90	.56
7	Ask for the opinion of the athletes on strategies for specific competition.	3.66	.55
9	Encourage the athletes to make suggestions for ways to conduct practices.	3.83	.71
13	Let the athletes try their own way even if they make mistakes.	3.03	.73
14	See the merits of athletes' ideas when differ from the coach's.	3.69	.93
25	Let the athletes set their own goals.	4.45	.69
30	Get approval from the athletes on important matters before going ahead.	3.55	.74
47	Let the athletes decide on plays to be used in a competition.	3.62	.68
50	Give the athletes freedom to determine the details of conducting a drill.	3.07	.88
51	Get input from the athletes at daily team meetings.	3.41	68
55	Ask for the opinion of the athletes on important coaching matters.	3.21	.86
57	Let the athletes share in decision making and policy formulation.	3.83	.81

Table 4.5 (Continued).

Face Validity of the 60 JRLSS items

#	Item	*M*	*SD*
Autocratic Behaviour (n = 29, M = 2.73)			
6	Disregard athletes' fears and dissatisfactions.	1.93*	1.00
21	Refuse to compromise on a point.	3.72	.80
28	Plan for the team relatively independent of the athletes.	2.24	.99
34	Prescribe the methods to be followed.	3.62	.78
35	Dislike suggestions and opinions from the athletes.	1.93*	.75
40	Fail to explain his/her actions	2.34	.94
46	Present ideas forcefully.	3.17	.85
59	Keep aloof from the athletes.	2.90	.62
Social Support (n = 30, M = 3.18)			
2	Encourage close and informal relationship with the athletes.	3.67	.76
16	Remain sensitive to the needs of the athletes.	3.73	.64
17	Stay interested in the personal well-being of the athletes.	3.50	.63
26	Look out for the personal welfare of the athletes.	3.00*	.87
33	Encourage the athletes to confide in the coach.	3.13*	.82
48	Perform personal favors for the athletes.	2.67*	.99
54	Help the athletes with their personal problems.	3.00*	.98
58	Visit with the parents/guardians of the athletes.	2.77*	1.04
Positive Feedback (n = 30, M = 3.89)			
15	Show 'O.K.' or 'Thumbs Up' gesture to the athletes.	4.13	.73
18	Pat an athlete after a good performance.	3.90	.71
20	Congratulate an athlete after a good play.	4.03	.62
29	Tell an athlete when the athlete does a particularly good job.	4.20	.48
31	Express appreciation when an athlete performs well.	4.07	.58
41	Encourage an athlete when the athlete makes mistakes in performance.	3.23*	.68
42	Praise the athletes' good performance after losing a competition	3.43*	.73
49	Compliment an athlete for good performance in front of others.	3.47*	.73

Table 4.5 (Continued).

Face Validity of the 60 JRLSS items

#	Item	*M*	*SD*
52	Clap hands when an athlete does well.	3.90	.71
53	Give credit when it is due.	4.27	.52
56	Reward an athlete as long as the athlete tries hard.	4.27	.64
Situational Consideration (n = 30, M = 3.94)			
1	Coach to the level of the athletes.	3.60	.81
5	Set goals that are compatible with the athletes' ability.	3.87	.63
8	Clarify goals and the paths to reach the goals for the athletes.	4.03	.49
10	Adapt coaching style to suit the situation.	4.00	.74
11	Use alternative methods when the efforts of the athletes are not working well in practice or in competition.	3.60	.72
24	Alter plans due to unforeseen events.	3.97	.67
32	Put the appropriate athletes in the lineup.	4.13	.51
43	Put an athlete into different positions depending on the needs of the situation.	4.10	.71
44	Assign tasks according to each individual's ability and needs.	4.00	.74
60	Increase complexity and demands if the athletes find the demands are too easy.	4.07	.74

Note. * = Non valid JRLSS items obtaining $M < 3.50$.

Discussion

The present study was used to examine the internal reliability, the construct validity, the content validity, and the face validity of the Japanese version of the Revised Leadership Scale for Sport (JRLSS). The summary of findings is as follows: (a) the JRLSS items in both versions (i.e., athletes' preference and perception versions) had acceptable internal consistency estimate, except for the autocratic behaviour sub-scale in the athletes' preference version; (b) fourteen of the 60 items (23%) did not meet the set criteria of 70% for content validity; (c) seventeen of the

60 items (28%) were unsatisfactory in terms of face validity; (d) three of these 60 items did not reach the acceptable levels for both content and face validity.

The alpha coefficients of the athletes' perception version in the present study were fairly consistent with the previous findings of Zhang et al. The *autocratic behaviour* factor in the athletes' perception version had lower alpha coefficients, α = .51, than the acceptable range (α = .70). This indicates that the *autocratic behaviour* factor in the athletes' perception version remains problematic and is not satisfactorily internally reliable in either the JRLSS or the RLSS. Thus, a prevailing and consistent finding across many studies including the present study has been the inadequacy of the *autocratic behaviour* factor including virtually all the earlier LSS and the RLSS studies. Sport leadership reserchers might consider designing studies that investigate the *autocratic behaviour* factor as measured with the LSS and RLSS specifically. A focus on the *autocratic behaviour* may enable researchers to establish a more reliable set of items for measuring *autocratic behaviour* that is presently being used.

Alpha coefficients in the athletes' preference version of the JRLSS were slightly lower than those previously reported for the RLSS except for the *autocratic behaviour* factor. Three of the factors in the present study, namely *democratic behaviour* (α = .69), *social support* (α = .68), and *situational consideration* (α = .65), were slightly below the conventional alpha coefficient of .70. Nunnally and Bernstein (1994), however, indicated that an alpha values of .60 might be acceptable in the early development of a scale. In fact, the studies of Papaioannou (1994) and Jambor and Zhang (1997) reported alpha values between .60 and .70, concluding that the values were not sufficiently low to prevent conclusions to be drawn from their studies. This lower alpha coefficient for some of the JRLSS factors compared to the

original RLSS items demonstrate a similar pattern to studies examining the LSS and the JLSS (Chelladurai et al., 1985; Chelladurai et al., 1987).

In comparison of the JRLSS alpha coefficients between the athletes' perception and preference versions, alpha values of the athletes' preference version were lower than those of the athletes' perception version. This result is consistent with White, Crino, and Hatfield (1985) who asserted that when participants respond to both preferences and perceptions, perceptions are likely to dominate. A similar tendency in alpha values can be found in previous studies using the LSS (e.g., Chelladurai, 1986; Chelladurai & Saleh, 1980; Isberg & Chelladurai, 1990; Riemer & Chelladurai, 1995), even though items' wording in both versions is essentially the same.

The results in the present study demonstrated a higher alpha coefficient for *autocratic behaviour* in the athletes' preference version of the JRLSS than in the corresponding RLSS analysis. This result is against the trend of most other studies using the LSS and the RLSS, including the previous studies of Zhang et al. (1997) as mentioned earlier. Interestingly, the findings related to Cronbach alpha in the present study corresponded to the previous studies using the Japanese version of the LSS (Chelladurai et al., 1988; Chelladurai et al., 1987). In both previous studies, alpha coefficients for *autocratic behaviour* in the LSS were .26 and .45, whereas the alpha values for the same factor in the JLSS were .63 and .67. It appears that Japanese athletes have a more unified view of what constitutes autocratic behaviour. Possibly, autocratic behaviour is more central to coaching in the Japanese culture and hence respondents are more highly informed and familiar with what behaviours constitue autocratic coaching.

The results from the analysis of content and face validity revealed that 57 of the 60 items were adequacy in either content or face validity. In other words, only three of the 60 items failed to meet the set criterion for both content and face validity. Although four of the 10 *teaching and instruction* items did not meet the content validity criterion, all 10 items were judged to be face valid. For the *democratic behaviour* factor, one item for content validity item and four items for face validity did not meet the set criteria. These results indicated that the experts' perceptions on item relevance and representativeness of items for each factor are not necessarily the same as those of athletes. Furthermore, a number of items in the *autocratic behaviour* (content = 2, face = 6), *social support* (content = 4, face = 5), and *positive feedback* (content = 3, face = 2) did not meet the set criterion (70%). It is noteworthy that all *situational consideration* items met the set criterion for both content and face validity. All of the *situational consideration* items were newly developed in the RLSS, based on interviews reported by Zhang, Jensen, and Mann (1997). It appears that the inclusion of this qualitative element in data collection adds a useful element to the rigour of data collection and should be used more regularly in test construction procedures. The results from assessing content validity, face validity, and internal consistency indicate that the *situational consideration* factor of the JRLSS is highly stable and acceptable.

There is no independent research examining content and face validity of the RLSS. Zhang et al. (1997) assessed content validity of 280 items, including 240 new items derived from the interviews with intercollegiate coaches and the 40 LSS original items. Zhang et al., used 17 experts to assess the representativeness, clarity, and adequacy of the intended factors and 280 items and to identify to which factor the items belonged. Based on the results, Zhang et al. rejected items that failed to

meet the set criterion after content validity testing, and retained 120 items that met the set criteria of 70% (12 of the 17 participants) for further psychometric testing (i.e., factor analysis). In the present study, however, I retained all the items that failed in content and face validity because I could not definitively determine whether the reason for lack of content or face validity was the result of translation or item construction matters. Furthermore, a key purpose of the present study was to conduct a series of complete testing procedures on the JRLSS before making recommendations. That is, I did not want to prematurely conclude that certain items or factors were either suitable or unsuitable without exposing the constructed JRLSS to a relatively complete psychometric assessment.

There were several limitations in the present study. For example, one limitation of the content validation process was the small participant numbers. Although I followed the same criterion as Zhang et al (1997) in the present study, the number of expert assessors was restricted to five. Thus, to meet the set criterion, four of the five participants (80%) were required to sort the items into the same factors. With a relatively small expert panel in the present study, the requirement for meeting the criteria for acceptable content validity was more stringent, in comparison to the study by Zhang et al. (i.e., 80% versus 70%). This shortcoming associated with the number of participants for examining content validity in the present dissertation may have resulted in several items failing to meet the set criteria.

Moreover, a potential limitation regarding face validation in the present study is gender. The present study included only females. Gender might influence face validity score because, as Bornstein (1996) pointed out, women tend to admit their dependent feelings and behaviours on self-report more than men. Bornstein suggested that the higher the score on face validity, the greater the magnitude of

gender differences appears on interpersonal dependency tests. Considering that the JRLSS consists of items measuring *democratic behaviour*, *autocratic behaviour*, and *social support* factors, gender differences may be relevant.

This study should be considered as preliminary testing for the Japanese translated version of the RLSS. The data from only 146 participants was used, whereas Zhang et al. (1997) involved 696 athletes in the analysis of the RLSS. Despite the differences in sample size there is at least some evidence that the translation of the RLSS into Japanese was reasonable because the results of internal reliability testing of the athletes' perception version were consistent with those of Zhang et al.

CHAPTER 5

STUDY 3: CONSTRUCT VALIDITY OF THE REVISED LEADERSHIP SCALE FOR SPORT

Introduction

The primary purpose of the present dissertation was to evaluate psychometric properties of the Japanese Revised Leadership Scale for Sport. In making the RLSS available for the Japanese population, a logical starting point was to translate the RLSS into Japanese, and then to perform preliminary testing including face validity, content validity, and internal reliability. According to the findings from the preliminary testing, internal reliability of all factors, except for *autocratic behaviour* in the preference version, reached at the guideline level ($\alpha = .70$), that is similar to the empirical data from Zhang et al. (1997). Face validity and content validity examination, however, resulted in concerns regarding retaining some items.

Before rejecting items that were deemed to be dubious from a face or content validity perspective, it was necessary to conduct psychometric evaluation of construct validity and criterion-related validity. Construct validity is "the degree to which variance in obtained measures from an assessment instrument is consistent with predictions from the construct targeted by the instrument" (Shultz et al., 1998, p. 239). Construct validity is often considered of paramount importance when developing psychological tests. Westen and Rosenthal (2003) stated that if a psychological instrument does not have construct validity, it would be difficult to interpret the results.

One frequently used procedure to examine construct validity is factor analysis (Anastasi & Urbina, 1997). Factor analysis is a statistical technique used to investigate the interrelationships of collected data and revealing clusters among items

of a test, providing the location of common factors (Anastasi & Urbina). Specifically, a commonly used technique to investigate construct validity of psychological tests is confirmatory factor analysis. Confirmatory factor analysis (CFA) is theory-driven and used to examine the hypothesised factor structure. That is, researchers utilise CFA to test whether the hypothesised relationship between items and proposed factors is consistent with the structure based on the observed data (Cole, 1987; Schutz & Gessaroli, 1998). Flora and Curran (2004) stated that CFA has received increasing attention in assessment-related research as a powerful method of examining a set of measurement variables and the hypothesised theoretical structure. In developing measurement instruments (i.e., Heuzé & Fontayne, 2002), researchers utilise CFA to obtain support for construct validity in the context of the underlying theoretical model.

To date, however, no researchers have investigated whether the relationship between the subscales and items proposed by Zhang et al. (1997) were consistent with the factor structure derived from the given data using CFA. When Zhang et al. (1997) developed the Revised Leadership Scale for Sport (RLSS), they utilised exploratory factor analysis (EFA) to determine the leadership subscales. Exploratory factor analysis is often used to examine subscales that best explain the correlations among the data based on factor loadings (Schutz & Gessaroli, 1998). Thus, exploratory factor analysis is data-driven because decisions regarding factors and interpretation of the results rely primarily on the intercorrelations of observed items based on data from participants (Schutz & Gessaroli). Although Zhang et al. did not perform CFA, they specifically stated that further testing, such as CFA, was required to clarify their results.

Construct validation requires a comprehensive approach that involves other procedures, such as content and criterion-related validities (Anastasi, 1986; Haynes, Richard, & Kubany, 1995). Anastasi indicated, "All validation procedures contribute to construct validation and can be subsumed under it" (p.12). Anastasi contended that content validation and criterion-related validation are particular stages in the construct validation process of tests. Angoff (1988) also indicated that researchers have viewed content, criterion-related, and construct validity as three components of a unitary psychometric divinity. Both content and criterion-related validity cannot stand alone as indicators of measurement adequacy, rather they become processes to provide two of many lines of evidence (Shultz et al., 1998). Although content validity testing was conducted in the previous study (see Chapter 4), criterion validity had not been examined with the JRLSS. To investigate criterion validity, it was necessary to consider the level of member satisfaction and performance outcomes as criteria. Unfortunately, however, member satisfaction and performance outcomes were not measurerable without the introduction of an instrument such as the Japanese version of the Athlete Satisfaction Questionnaire (ASQ: Riemer & Chelladurai, 1998). The purpose of the present study was, therefore, to investigate the construct validity of the JRLSS, using confirmatory factor analysis. In addition, due to the lack of criterion variables that are measureable, the relationship between leadership behaviours and grouping variables such as athlete's competition level, gender, and sport types were investigated to provide additional information.

Method

Participants

Participants were 368 university athletes recruited from four institutions (117 females, 251 males), aged 18 to 26 years (M = 19.82). Participants were recruited

from thirteen teams, representing six types of team sports including baseball (n = 99), basketball (n = 78), handball (n = 26), softball (n = 10), soccer (n = 63), and volleyball (n =92). The average years of experience in the primary sport was 9.84 years. The participants practised for an average of 4.70 hours per day six times a week. The selected university teams that the participants represented took part in regional leagues (n = 196) and others competing at the All Japan intercollegiate tournament level (n = 172). Participants who compete at the All Japan intercollegiate tournament level can be described as sub-elite athletes.

Measures

Demographic Questionnaire. I used a demographic questionnaire to gather detailed information about participants, including name, gender, age, sport type, the number of years played in their primary sport, the number of years played in a specific team, league level, the length of practice per day, and frequency of practice (see Appendix C for English, D for Japanese).

Japanese version of the Revised Leadership Scale for Sport (JRLSS). The JRLSS is comprised of the same structure as the RLSS with 60 items, representing six leadership factors: *training and instruction* (10 items), *demographic behaviour* (12 items), *autocratic behaviour* (8 items), *social support* (8 items), *positive feedback* (12 items), and *situation consideration* (10 items). The same 60 items are typically used in three parallel forms: athletes' perception of leader behaviour, athletes' preference for leader behaviour, and coaches' perception of their own behaviour. These three forms differ only in the preamble and target audience. Among these three forms, I used the athletes' preference and athletes' perception versions of the JRLSS. All items were responded to on a 5-point Likert scale, ranging from 'never' (1) to 'always' (5) (see Appendix E for English, F and G for Japanese).

Procedures

While I was administering the first Japanese translated version to participants, as reported in Chapter 4, problems arose in readability of some items for some participants. For example, literal translation resulted in some athletes not understanding the meaning of some words. As a result, it took time to complete the set of questionnaires. In order to improve the readability, a second professional translator and I worked together to examine the appropriateness, clarity, and readability of items. The second translator was different to the one involved in the first translation of the JRLSS. The second translator was not accredited by the national translation organisation, but worked for a translating company in Japan, using her experience in Canada for many years. As a result, 43 words were modified. In total, four of the 60 JRLSS items were altered in meaning.

I contacted officials from each team, such as managers and coaches, to obtain permission to access their athletes. Each official received information about the purpose of the present study and made arrangements for me to distribute the JRLSS to their athletes. I then traveled to different venues in Japan to meet potential participants. After the coach or manager left the room, I explained that participation in the study was voluntary and participants could absent themselves at any time. The above announcement was required to maintain athletes' voluntary participation because Japanese coaches or teachers have a tendency to use their authority to demand that athletes or students submit to their wishes. I then explained the purpose of the study and carried out standard informed consent procedures, including confidentiality provisions. Athletes, who chose to participate, then read and completed the demographic questionnaire, the athletes' preferred leadership behaviour version of the JRLSS, and the athletes' perceived leadership behaviour

version of the JRLSS in that order. The administration time of the questionnaires was approximately 20 minutes. Because I attended every administration session, the return rate from participants was 100%.

Results

Descriptive Statistics

Although the return rate was 100%, a few participants failed to answer a substantial number of items or used fairly obvious response sets (e.g., circling '1' for every question). In such instances, the data was excluded from further analysis. I have presented a summary of descriptive statistics of the 60 JRLSS items and subscales in Table 5.1 including means, standard deviations, skewness, and kurtosis of each item and subscale.

Table 5.1

Descriptive Statistics of the JRLSS items for the six factors

Factor and	Athletes' perception version					Athletes' preference version				
Item Number	*N*	*M*	*SD*	*S*	*K*	*N*	*M*	*SD*	*S*	*K*
Teaching and Instruction	362	3.40	.69	-.32	.07	367	4.11	.42	-.47	.31
3	361	3.08	1.11	-.05	-.64	365	4.42	.78	-1.37	1.97
12	362	3.39	1.11	-.32	-.49	367	3.34	.99	-.08	-.29
19	362	3.20	1.14	-.16	-.71	366	4.18	.87	-.89	.24
22	361	3.21	1.24	-.09	-1.02	367	3.95	.97	-.61	-.30
23	362	3.59	1.10	-.32	-.72	367	4.03	.90	-.69	.04
27	359	2.88	1.09	.21	-.49	366	3.62	.98	-.30	-.41
36	361	3.41	1.13	-.16	-.80	367	4.36	.83	-1.30	1.53
37	361	3.73	1.27	-.66	-.70	365	4.31	.83	-.92	-.11
38	361	3.32	1.12	-.21	-.57	367	4.11	.79	-.71	.59
39	361	4.17	.99	-1.09	.54	367	4.77	.55	-2.60	6.91
Democratic Behaviour	362	2.91	.78	.12	-.36	365	3.60	.52	-.52	1.10
4	362	2.75	1.13	.20	-.79	367	3.70	.81	-.07	-.40
7	361	2.74	1.14	.16	-.76	367	3.39	1.07	-.31	-.54
9	362	3.15	1.22	-.08	-.95	367	3.66	1.00	-.45	-.20
13	359	2.70	1.19	.32	-.72	366	3.19	1.00	-.01	-.42
14	360	2.80	1.12	.30	-.62	365	3.90	.94	-.61	-.02
25	362	3.52	1.18	-.32	-.86	366	4.42	.78	-1.29	1.34
30	359	2.76	1.15	.16	-.76	364	3.63	1.07	-.43	-.42
47	361	3.13	1.13	-.14	-.79	361	3.61	1.05	-.49	-.34
50	362	2.88	1.22	.26	-.83	364	2.99	1.02	.09	-.31
51	361	2.86	1.16	.28	-.69	363	3.79	.93	-.38	-.31
55	361	2.61	1.13	.35	-.57	363	3.16	1.02	-.12	-.41
57	362	2.98	1.15	.10	-.71	364	3.57	1.02	-.37	-.28
Autocratic Behaviour	362	3.13	.62	.14	-.41	367	2.87	.52	.55	.60
6	359	2.92	1.24	-.02	-1.04	364	1.93	.93	.80	.26

Table 5.1 (Continued).

Descriptive Statistics of the JRLSS Items in Six Dimensions

Factor and	Athletes' perception version					Athletes' preference version				
Item Number	*N*	*M*	*SD*	*S*	*K*	*N*	*M*	*SD*	*S*	*K*
21	360	4.04	1.08	-.88	-.14	367	4.41	.78	-1.14	.66
28	361	2.89	1.25	.07	-.98	367	2.35	1.08	.63	-.14
34	361	3.14	1.04	-.08	-.47	367	3.85	.92	-.34	-.57
35	360	2.68	1.23	.22	-.87	366	1.87	.98	1.05	.66
40	361	3.09	1.24	-.09	-.89	366	2.36	1.10	.49	-.34
46	362	3.30	1.35	-.22	-1.13	364	3.26	1.22	-.28	-.75
59	362	2.95	1.25	-.04	-.89	363	2.92	1.31	.04	-1.04
Social	362	2.66	.81	.40	-.18	367	3.55	.58	-.17	-.04
Support										
2	361	2.91	1.08	.12	-.58	367	3.65	.99	-.38	-.26
16	360	2.82	1.13	.28	-.65	364	3.90	.89	-.49	-.17
17	358	2.92	1.13	.25	-.68	366	3.86	.96	-.48	-.28
26	362	3.52	1.18	-.32	-.86	366	3.40	1.05	-.19	-.59
33	360	2.68	1.12	.38	-.72	367	4.02	1.03	-.77	-.28
48	361	2.51	1.29	.48	-.84	363	2.86	1.27	.12	-.99
54	362	2.74	1.14	.21	-.72	363	3.56	1.02	-.28	-.51
58	362	2.17	1.14	.76	-.16	363	3.19	1.17	-.10	.76
Positive	362	3.17	.71	.34	.08	366	3.92	.57	-.61	.33
Feedback										
15	359	3.30	1.14	-.14	-.81	367	4.31	.92	-1.34	1.31
18	361	2.97	1.18	.11	-.84	366	3.90	1.09	-.72	-.25
20	360	3.33	1.04	.00	-.62	367	4.31	.90	-1.29	1.39
29	361	3.37	.99	-.07	-.40	366	4.24	.90	-1.09	.63
31	362	3.30	1.95	-.12	-.52	364	4.17	.91	-.85	-.08
41	359	2.39	1.05	.56	-.18	363	2.95	1.03	.31	-.35
42	358	2.85	1.08	.27	-.41	365	3.27	1.18	-.12	-.86
45	362	3.16	.98	-.13	-.25	363	3.88	.87	-.39	-.30
49	362	3.16	1.07	-.02	-.59	364	3.32	1.09	-.24	-.40

Table 5.1 (Continued).

Descriptive Statistics of the JRLSS items in six dimensions

Factor and	Athletes' perception version					Athletes' preference version				
Item Number	*N*	*M*	*SD*	*S*	*K*	*N*	*M*	*SD*	*S*	*K*
Positive Feedback	362	3.17	.71	.34	.08	366	3.92	.57	-.61	.33
52	361	3.16	1.16	-.07	-.81	362	3.89	1.04	-.60	-.46
53	361	3.43	1.14	-.11	-.94	363	4.53	.72	-1.70	3.06
56	361	3.58	1.10	-.37	-.51	363	4.32	.81	-.98	.21
Situational Consideration	362	3.16	.69	.07	-.18	367	3.98	.45	-.41	.30
1	362	3.17	1.06	-.14	-.50	367	3.72	1.01	-.72	.19
5	362	3.09	1.14	-.03	-.74	367	3.85	1.09	-.76	-.12
8	361	3.14	1.18	-.04	-.88	367	4.32	.86	-1.18	1.01
10	361	2.73	1.21	.24	-.84	367	4.05	.97	-.86	.25
11	361	2.88	1.15	.10	-.80	366	3.80	.93	-.34	-.59
24	361	3.10	1.01	-.07	-.38	367	3.99	.92	-.57	-.28
32	361	3.54	1.19	-.34	-.84	366	4.57	.71	-1.84	3.90
43	362	3.40	1.12	-.26	-.67	366	3.63	1.07	-.44	-.37
44	361	3.25	1.03	-.02	-.55	364	4.13	.83	-.59	-.42
60	361	3.30	.98	-.18	-.15	363	3.75	.94	-.45	.083

Note. The numbers bolded indicate values exceeding ± 1, and hence a nonnormal distribution.

Mean scores of subscales in the athletes' preference version ranged from 2.87 to 4.11 and were higher than the corresponding scores for the athletes' perception version, except for *autocratic behaviour*. The mean score of *autocratic behaviour* in the athletes' perception version was slightly higher than that for the athletes' preference version. Mean scores for the *teaching and instruction* factor were the highest in both versions, whereas mean scores for *social support*, in the athletes' perception version, and *autocratic behaviour*, in the athletes' preference version,

were the lowest. The variability for the athletes' perception version was greater than that for the athletes' preference version. In the athletes' perception version, the *support* dimension had the greatest variability (*SD* = .81) and the *autocratic behaviour* factor produced the smallest variability (*SD* = .62). In the athletes' preference version, the *social support* dimension had the greatest variability (*SD* = .58) and the *situational consideration* subscale had the smallest variability (*SD* = .45).

The normality of the distribution for each item was also examined by calculating skewness and kurtosis. Martin (2002) indicated that it is common to obtain negative skewed data from psychological measurements because many respondents toward the positive of scales. When the items on a Likert scale have at least five categories and almost all the items have skewness and kurtosis absolute values less than 1.0 or more than – 1.0, researchers can safely conduct confirmatory factor analysis using maximum likelihood (Muthen & Kaplan, 1985; Schutz & Gessaroli, 1998).

In the perception version of the JRLSS, one item (item number = 39) was negatively skewed, whereas three items (item number 6, 22, & 46) had *leptokurtic* distribution (i.e., scores in narrow tails and the curve becomes relatively pointy). Based on these guidelines, one item in the athletes' perception version was markedly and negatively skewed, whereas 12 items in the athletes' preference version were skewed, mostly in a negative direction. Moreover, in the preference version of the JRLSS, 12 items (item number = 3, 8, 15, 20, 21, 25, 29, 32, 35, 36, 39, & 53) were negatively skewed, whereas nine items (item number = 3, 8, 15, 20, 25, 32, 36, 39, & 53) had a *platykurtic* distribution (i.e., scores spread in tails and the curve being relatively flat). Mardia's coefficient of multivariate kurtosis (normalised estimate) in

the preference version was 329.39 and the coefficient in the perception version was 456.32. These values were smaller than the cut-off point of 3,720. The cut-off value indicates the maximum value of multivariate normality that was calculated by the formula p (p+2). In this formula, p represents the number of measurement items, that is 60 in the JRLSS (Bollen, 1989; Mardia, 1970). Thus, 60 x 62 = 3,720. Although this calculation indicated that the data had multivariate normality, it did not satisfy univariate normality. The alternative procedure, suggested when data is found to be nonnormal, is to obtain a large sample size (e.g., $n > 1{,}000$) (Hu & Bentler, 1995). West, Finch, and Curran (1995) suggested that, when the sample size is small, researchers should use normal theory estimators within the Comparative Fit Index (CFI; Bentler, 1990) and Incremental fit index (IFI). Thus, I utilised maximum likelihood for CFA in the present study.

Internal Consistency Estimate

To assess internal reliability of the JRLSS, estimates were calculated using alpha coefficients (Cronbach, 1951). The alpha values of the modified JRLSS are presented in Table 5.2. For the athletes' perception version, Cronbach alpha values were moderately high for all factors, except for the *autocratic behaviour* subscale ($\alpha = .60$). The results for the athletes' preference version ranged from $\alpha = .64$ (*situational consideration*) to $\alpha = .83$ (*positive feedback*), except again the *autocratic behaviour* subscale ($\alpha = .55$) was relatively low. The alpha coefficients of the perception version were higher than for the preference version. Overall, internal consistency estimates of both versions were generally above the guideline level of .70, except for *autocratic behaviour* in both versions, and three dimensions that were marginal (i.e., *teaching and instruction*, *social support*, and *situational consideration*) in the preference version.

In comparison to the alpha coefficients derived from the preliminary testing conducted with 146 Japanese athletes, overall internal consistency estimates were similar. Interestingly, the alpha coefficients of the *autocratic behaviour* dimension in the athletes' perception version were increased from .51 to .60 and, based on the criteria accepted by some researchers, would be accepted (Papainoannou, 1994; Jambor & Zhang, 1997). The alpha coefficient for the *autocratic behaviour* factor in the athletes' preference version decreased from .71 to .55 and, thus, was not acceptable. Overall, the six factors of the JRLSS were adequately reliable in both versions, except for *autocratic behaviour* in the athletes' preference version.

Table 5.2

Internal Consistency Estimates of the JRLSS Dimensions

Leadership Factors	Number of Items	Athlete Perception		Athlete Preference	
		JRLSS	MJRLSS	JRLSS	MJRLSS
Teaching & Instruction	10	0.84	0.82	0.69	0.66
Democratic Behaviour	12	0.86	0.89	0.75	0.77
Autocratic Behaviours	8	0.51	0.60	0.71	0.55
Social Support	8	0.89	0.85	0.68	0.67
Positive Feedback	12	0.91	0.88	0.84	0.83
Situation Consideration	10	0.85	0.82	0.65	0.64

Note. JRLSS = The initial Japanese translated version that was used in the preliminary testing (see Chapter 3 & 4); MJRLSS = Modified Japanese Revised Leadership Scale for Sport tested in the present study.

Confirmatory Factor Analysis

Confirmatory factor analysis was conducted by using the Analysis of Moment Structures version 5.0 (AMOS 5). Researchers utilise computer programs, such as Analysis of Moment Structures (AMOS: Arbuckle & Wothke, 1999), EQS (Bentler, 1995; Byrne, 1994), and LISREL (Jöreskog & Sörbom, 1993), to compute CFA. As perhaps the newest of these three programs, AMOS has become known as a more

user-friendly program for confirmatory factor analysis, and the 5th version allows researchers to use incomplete data for estimation (Kline, 1998). EQS offers extensive capabilities to manage raw data, and provides a range of estimation methods and test statistics useful for extensively nonnormal data (Kline). LISREL is generally for experienced users and is capable of analysing highly complicated and sophisticated models. Kline, however, indicated that researchers can confidently select any of these three software programs because they are all very capable and represent a wide range of SEM. Thus, I employed the AMOS in the present study.

To assess model fit, I analysed three types of fit statistics namely, absolute fit indices (i.e., chi-square, normed chi-squared, root mean-square residual, and root mean-square error of approximation), incremental fit indices (i.e., the Goodness-of-Fit Index, Adjusted Goodness-of-Fit Index, Tucker-Lewis Index, and Comparative Fit Index), and indices of model parsimony (i.e., Akaike Information Criterion) (Holmes-Smith, Coote, & Cunningham, 2006). A summary of fit indices is presented in Table 5.3.

Table 5.3

A Summary of Fit Indices

Name	Acceptable level	Comments
Chi-Square (χ^2)	P > .05	Greatly affected by sample size. The larger the sample the more likely the p-value will indicate a significant difference between the model and the data.
Normed Chi-Square (χ^2/df)	$1.0 < \chi^2/df < 3.0$	Values close to 1.0 indicate good fit, but values less than 1.0 may indicate overfit.
Root Mean-square Residual (RMR)	RMR < .05	Large values for RMR, when all other fit indices suggest good fit, may indicate outliers in the raw data.

Table 5.3

A Summary of Fit Indices

Name	Acceptable level	Comments
Root Mean-Square Error of Approximation (RMSEA; Steiger, 1990)	RMSEA < .05 (.05 - .08 reasonable fit)	RMSEA indicates the mean discrepancy between the observed covariance and that implied by the model for each degree of freedom
Goodness-of-Fit Index (GFI)	GFI > .95 (> .90 reasonable fit)	A measure of the relative amount of variance and covariance in S that is jointly explained by $\sum$ (Byrne, 2001).
Adjusted Goodness-of-Fit Index (AGFI)	AGFI > .95 (> .90 reasonable fit)	Same as GFI except that adjusts for the number of degrees of freedom in the specified model (Byrne, 2001).
Tucker-Lewis Index (TLI; Tucker & Lewis, 1973)	TLI > .95 (> .90 reasonable fit)	Values greater than 1.0 may indicate overfit, indicating that the model is less than parsimonious
Comparative Fit Index (CFI; Bentler, 1990)	CFI > .95 (> .90 reasonable fit)	Values close to 0 indicate poor fit, CFI = 1.0 indicates perfect fit.
Akaike Information Criterion (AIC)	No defined level	The model that fits with the smallest value of AIC is the most parsimonious fitting model.

Note. From Holmes-Smith, Coote, & Cunningham, 2006.

The maximum likelihood (ML) estimation method was utilised to assess the fit of the hypothetical 6-factor structure of the athletes' preference and perception versions of the JRLSS (Figure 5.1& 5.2), incorporating each of the 60 JRLSS items as observed variables and the proposed six factors as latent variables. Various goodness of fit statistics for the first model are presented in Table 5.4. I should also note that AMOS 5 tends to produce output that can sometimes make reading specific

numbers difficult, especially when a lot of variables are being measures. Unfortunately, there was no simple way to represent these Figures (see Figure 5.1 and 5.2) in other than what was produced by AMOS 5. For this, I apologise in advance.

Table 5.4

Goodness of Fit Indices for CFA Individual Item Model for the JRLSS

Model	χ^2 (df)	RMR	GFI	AGFI	TLI	CFI	RMSEA	AIC
PR	3655.00 (1695)	.08	.73	.71	.61	.63	.06	3925.00
PE	4242.08 (1695)	.11	.69	.67	.72	.73	.07	4512.08

As indicated, based on CFA, the hypothetical six-factor structure of both the athletes' preference and perception versions did not indicate a good fit on an absolute basis. The probability values of the chi-square were smaller than .05 ($p = .00$), thus, I rejected the null hypothesis that the model fits the data. All chi-square statistics were significant (χ^2 square > 2.0), probably due to the relatively large sample size. Although the chi-square statistic measures a fit of a model on an absolute basis, sample size frequently affects significance ($p < .05$), indicating an inadequate estimate of a model fit (Hu & Bentler, 1999). The degrees of freedom value was large because each of the 60 JRLSS items was used as an observed variable. The ratio between chi-square and degrees of freedom was less than 3.0 (χ^2/df of the preference version = 2.16, χ^2/df of the perception version = 2.50), indicating that the model had an adequate fit. As shown in Table 5.4, although the RMR and RMSEA of the preference version and the RMSEA of the perception version were in the acceptable range (i.e., < .08), the standardised measurement of factor loadings on

some items in Figure 5.1 and 5.2 were lower than .40 on the intended factors. Moreover, all incremental indexes such as GFI, AGFI, TLI, and CFI, did not reach the acceptable level (i.e., > .95). Based on the results, the overall 60-item JRLSS model did not result in an acceptable fit to the data.

Byrne (2001) suggested that it is rare to confirm a model fit on the first attempt, that is, without any modification. Byrne stated, "Given findings of an inadequate goodness of fit, the next logical step is to detect the source of misfit in the model" (p.75). Martens and Webber (2002) recommended analysing components of the overall model to verify the source(s) of model mis-specification, when the first CFA shows a poor fitting model. To do so, researchers often divide a poor fitting model into several components and separately examine each component (Martens & Webber). In addition, sub-dividing the models into components seemed the best solution to the present study because of the sample size. Martens and Webber suggested that sub-dividing the models into a few components ensures a better ratio of sample size to measured variables. Although the rule of thumb for adequate sample size in CFA varies, the minimum number of participants per measured variable is recommended to be 15 (Schumacker & Lomax, 2004). The participants in the present study represent approximately 6 cases per measured variable (i.e., JRLSS 60 items), which is considerably smaller than the sample size recommended. The small sample size may lead to more convergence failures (i.e., the software cannot reach a satisfactory solution), improper solutions (e.g., negative error variance estimates for measured variables), and more inaccurate parameter estimates, in particular, standard errors. Dividing the model into separate components, however, resulted in 30 to 45 cases being measured for each variable.

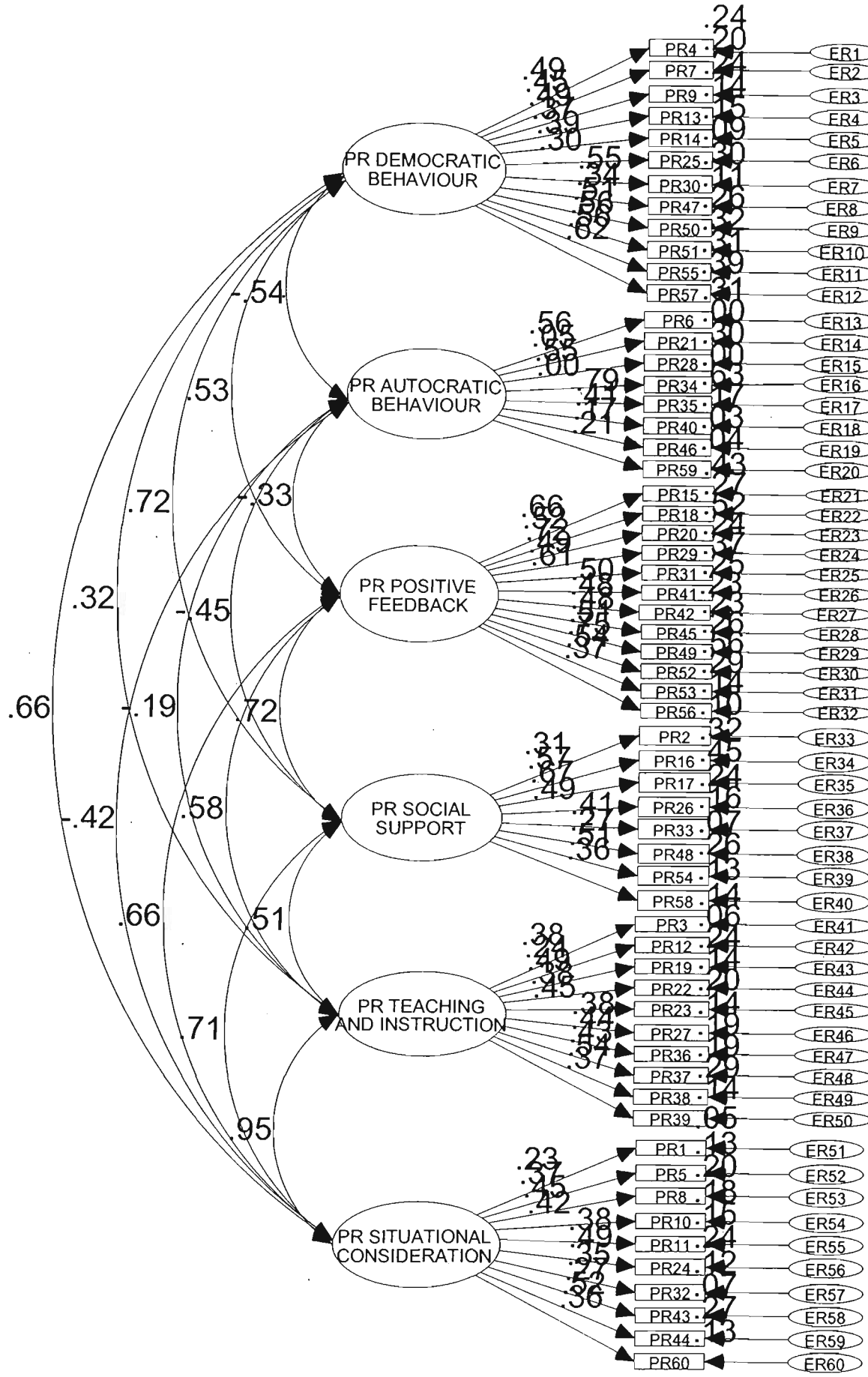

Figure 5.1. Specified individual item CFA model for the preference version of the JRLSS.

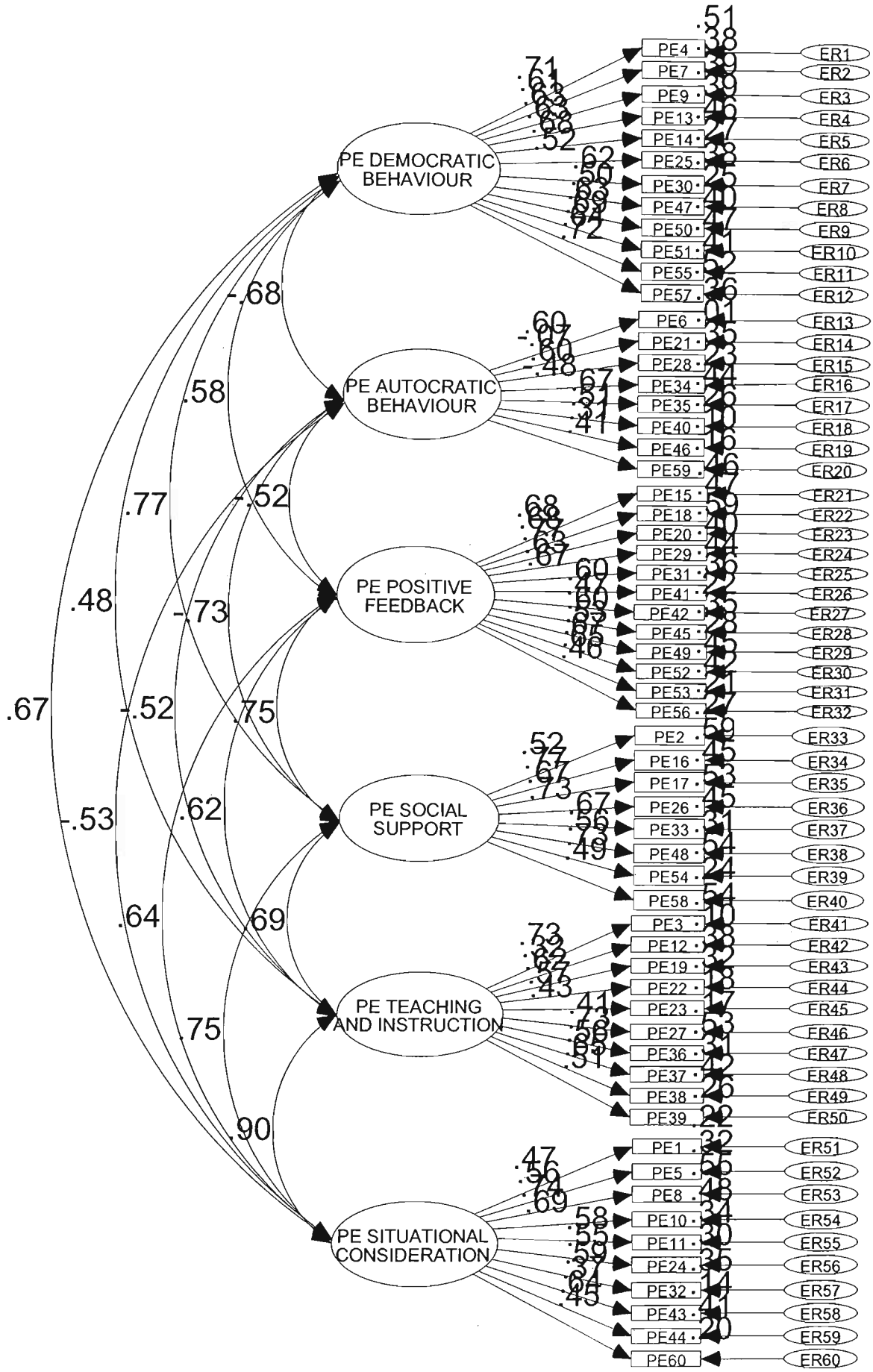

Figure 5.2. Specified individual item CFA model for the perception version of the JRLSS.

To obtain superior goodness of fit, further analysis was conducted based on one-factor congeneric models (Jöreskog, 1971), that "represents the regression of the set of observed indicator variables on the single latent variable" (Holmes-Smith et al., 2006, pp.6-1). I divided the poorly fitting JRLSS model into the six factors *teaching and instruction*, *democratic behaviour*, *autocratic behaviour*, *social support*, *positive feedback*, and *situational consideration*, and analysed them separately, based on the guideline provided by Holmes-Smith, et al. A summary of results for each factor is presented in Table 5.5.

Table 5.5

One Factor Congeneric Model of the JRLSS Preference and Perception Versions

Factor	χ^2 (df)	RMR	GFI	AGFI	TLI	CFI	RMSEA	AIC
Preference								
T&I	92.26 (35)	.04	.95	.92	.78	.83	.07	132.26
DEM	121.93 (54)	.05	.95	.92	.87	.90	.06	169.93
AUT	118.60 (20)	.12	.93	.87	.57	.69	.12	150.60
SS	99.24 (20)	.09	.93	.87	.70	.79	.10	131.24
PF	235.04 (54)	.06	.90	.85	.81	.85	.10	283.04
SC	83.19 (35)	.05	.96	.93	.77	.82	.06	123.19
Perception								
T&I	102.38 (35)	.06	.95	.92	.90	.92	.07	142.38
DEM	167.79 (54)	.06	.93	.89	.91	.93	.08	215.79

Table 5.5 (Continued).

One Factor Congeneric Model of the JRLSS Preference and Perception Versions

Factor	χ^2 (df)	RMR	GFI	AGFI	TLI	CFI	RMSEA	AIC
Perception								
AUT	155.64 (20)	.14	.90*	.81	.62	.73	.14	187.64
SS	83.22 (20)	.07	.94	.90	.91	.94	.09	115.22
PF	183.06 (54)	.06	.92	.88	.89	.91	.08	231.06
SC	129.12 (35)	.07	.93	.89	.87	.90	.09	169.12

Note. T&I = *Teaching and Instruction*; DEM = *Democratic Behaviour*; AUT = *Autocratic Behaviour*; SS = *Social Support*; PF = *Positive Feedback*; SC = *Situational Consideration*.

Compared to the first CFA with the six-factor structure, the first one-factor congeneric model testing resulted in a better fit on each hypothetical factor structure for both preference and perception versions. The probability values of the chi-square in all factors for both preference and perception versions, however, did not reach acceptable levels ($p > .05$), indicating an inadequate estimate of a model fit (Hu & Bentler, 1999). The ratio between chi-square and degrees of freedom (i.e., normed chi-square) of the preference and perception versions of the JRLSS were 2.64 and 2.93 (*teaching and instruction*), 2.26 and 3.11 (*democratic behaviour*), 5.93 and 7.78 (*autocratic behaviour*), 4.96 and 4.16 (*social support*), 4.35 and 3.40 (*positive feedback*) and 2.38 and 3.69 (*situational consideration*). Based on the normed chi-square, the model of *teaching and instruction* factor fitted adequately, but three factors (i.e., *autocratic behaviour*, *social support*, and *positive feedback*) and the

democratic behaviour and *situational consideration* of the perception version were more than 3.0, indicating that the models were not fitting adequately. As shown in Table 5.5, although values of the absolute fit indexes (i.e., RMR and RMSEA < .08) and the incremental indexes (GFI, AGFI, TLI, and CFI > .90) improved on an absolute basis, the results drawn from the one-factor congeneric model testing did not reach satisfactory levels. In order to improve values of each model fit index, I analysed modification indices derived from one congeneric model testing to identify construct collegiality. Collegiality essentially indicates high correlations between items that an item also measures or loads on a second and different construct. When items have a high degree of collegiality, Holmes-Smith et al. (2006) suggested re-specifying the models by dropping one or both of the items that share this collegiality. I repeated the process of identifying items as indicator of collegiality, based on the scores of modification indices and deleting those items until the best model fit was obtained. As a result, in the preference version of the JRLSS, I deleted five of the 12 items in *democratic behaviour*, six of the 10 items in *teaching and instruction*, three of eight items in *autocratic behaviour*, and three of the eight items in *social support*, six of the 12 items in *positive feedback*, and three of the 10 items in *situational consideration*. In the *perception version*, I deleted three of the 10 items in *teaching and instruction*, four of the 12 items in *democratic behaviour*, the same three of the eight items in *autocratic behaviour*, three of the eight items in *social support*, six of the 12 items in *positive feedback*, and five of the 10 items in *situational consideration*. Thus, analysis of modification indices derived from the one-factor congeneric model testing resulted in deleting a total of 26 items in the *preference version* and 24 items in the *perception version* of the JRLSS. Details of the deleted items are shown in Table 5.6.

Table 5.6

Deleted Items Based on Regression Weight Scores of Modification Indices

Factor Item #	Deleted Item (English) (Japanese)
Teaching and Instruction	
Preference and Perception	
23	Stress the mastery of greater skills より高いスキルを身につけることに力を入れる
Preference	
12	Pay special attention to correcting athletes' mistakes 選手のミスを直すことに特に注意を払う
27	Use objective measurements for evaluation 選手の評価においては客観的な尺度を用いる
36	Conduct proper progressions in teaching fundamentals 基礎を教える際に、適切な順を追っておこなう
Perception	
22	Use a variety of drills for a practice さまざまな練習メニューを用いる
39	Possess good knowledge of the sport そのスポーツにおける深い知識を持っている
Democratic Behaviour	
Preference and Perception	
14	See the merits of athletes' ideas when differ from the coach's 選手たちの考えがコーチ自身の考えと違っていても、その考えのよいところをみる
Preference version	
7	Ask for the opinion of the athletes on strategies for specific competition

特定の試合における戦略について選手たちの意見を尋ねる

Table 5.6 (Continued).

Deleted Items Based on Regression Weight Scores of Modification Indices

Factor Item #	Deleted Item (English) (Japanese)
Democratic Behaviour	
Preference version	
9	Encourage the athletes to make suggestions for ways to conduct practices 選手たちが練習方法について提案することを奨励する
13	Let the athletes try their own way even if they make mistakes たとえミスをおかすにせよ、選手たち自らのやり方でやらせる
47	Let the athletes decide on plays to be used in a competition 試合においてどのプレーを使うかを選手たちに判断させる
Perception Version	
30	Get approval from the athletes on important matters before going ahead 重要事項については、実施する前に選手たちから承認を得る
51	Get input from the athletes at daily team meetings 日々のチームミーティングで選手たちから意見をくみあげる
55	Ask for the opinion of the athletes on important coaching matters コーチングに関する重要事項について選手たちに意見を求める
Autocratic Behaviour	
Preference and perception	
21	Refuse to compromise on a point ある点においては妥協しない

34	Prescribe the methods to be followed 選手たちがやるべきこと（手順・方法）を指示する
46	Present ideas forcefully 力強く考えを提起する

Table 5.6 (Continued).

Deleted Items Based on Regression Weight Scores of Modification Indices

Factor Item #	Deleted Item (English) (Japanese)
Social Support	
Preference and Perception	
58	Visit with the parents/guardians of the athletes 選手の親・保護者と話しをする
Preference	
26	Look out for the personal welfare of the athletes 選手個人の私的な幸福が何であるかに気を配る
54	Help the athletes with their personal problems 選手たちの個人的問題に関して選手を助ける
Perception	
2	Encourage close and informal relationship with the athletes 選手たちと親しくかつ堅苦しくない関係を築くことを奨励する。
48	Perform personal favors for the athletes 部生活以外でも選手たちの面倒をみる
Positive Feedback	
Preference and Perception	
42	Praise the athletes' good performance after losing a competition

試合に負けた後でも、選手たちの良いパフォーマンスに対して

はほめる

45 Recognize individual contributions to the success of each competition

各試合の成功に対しての個人的貢献を認める

56 Reward an athlete as long as the athlete tries hard

選手が努力する限りそれにこたえる

Preference

15 Show 'O.K.' or 'Thumbs Up' gesture to the athletes

選手たちに「O.K」や「いいぞ」といったジェスチャーを示す

Table 5.6 (Continued).

Deleted Items Based on Regression Weight Scores of Modification Indices

Factor Item #	Deleted Item (English) (Japanese)
Positive Feedback	
Preference	
18	Pat an athlete after a good performance よいパフォーマンスの後には軽くたたいたりする
29	Tell an athlete when the athlete does a particularly good job 選手が特によいプレーをした時はそれをその選手に伝える
Perception Version	
31	Express appreciation when an athlete performs well 選手がよい結果を出したらそれに対しての評価を示す
49	Compliment an athlete for good performance in front of others よいパフォーマンスをした選手を他の選手たちの前でほめる
53	Give credit when it is due （選手や選手のプレーを）正当に評価する

Situational Consideration	
Preference and Perception	
1	Coach to the level of the athletes 選手たちのレベルに合わせてコーチする
Preference	
8	Clarify goals and the paths to reach the goals for the athletes 選手たちが目標に到達できるように目標や到達方法を明確にする
44	Assign tasks according to each individual's ability and needs 各個人の能力と必要に応じて課題を与える
Perception	
5	Set goals that are compatible with the athletes' ability 選手たちの能力に合った目標を設定する

Table 5.6 (Continued).

Deleted Items Based on Regression Weight Scores of Modification Indices

Factor Item #	Deleted Item (English) (Japanese)
Situational Consideration	
Perception	
11	Use alternative methods when the efforts of the athletes are not working well in practice or in competition 選手たちの努力の成果が練習や試合に現れていない場合は、別の方法を用いる
43	Put an athlete into different positions depending on the needs of the situation 状況に合わせて、選手を違うポジションに置く（起用する）
60	Increase complexity and demands if the athletes find the demands are too easy

選手たちにとって要求が簡単すぎる場合は、要求の複雑さや度合いを高める

Note. Preference and Perception = Listed items were deleted in both the preference and the perception version of each factor, Preference = Listed items deleted only in the preference version of each factor, Perception = Listed items deleted only in the perception version of the each factor.

In the preference version, deletion of items resulted in significant chi-square in all six factors; *teaching and instruction* (p = .42), *democratic behaviour* (p = .13), *autocratic behaviour* (p = .69), *social support* (p = .65), *positive feedback* (p = .81), and *situational consideration* (p = .47). In the perception version, *teaching and instruction* (p = .09), *autocratic behaviour* (p = .99) and *situational consideration* (p = .10) were significant, but not *democratic behaviour* (p = .01), *social support* (p = .02), *positive feedback* (p = .03). Because the discrepancy between the matrices is small at the .05 level, those factors where significant chi-square values resulted are evidence that the specified model is a sufficient representation of the given data.

Normed chi-square is the ratio of the chi-square statistic and degrees of freedom as measures of the complexity of a model. Normed chi-square in the preference version was at an acceptable level in two factors, namely *teaching and instruction* (χ^2/df = 1.02) and *democratic behaviour* (χ^2/df = 1.44). Normed chi-square in the other four factors was less than 1.0 (*autocratic behaviour* = .62, *social support* = .66, *positive feedback* = .59, *situational consideration* = .98), indicating that the specified model was overfitted. In the perception version, normd chi-square values in five factors indicated a good fit model (*teaching and instruction* = 1.53, *democratic behaviour* = 1.85, *social support* = 2.79, *positive feedback* = 2.00, and *situational consideration* = 1.83). *Autocratic behaviour*, however, consisted of normed chi-square less than 1.0 (χ^2/df = .13), indicating an overfit of the model.

As presented in Table 5.7, all six factors of the one-factor congeneric models reached the most stringent cut-off criteria for both absolute fit indices (i.e., RMR, and RMSEA) and incremental fit indices (i.e., GFI, AGFI, TLI, CFI), based on the item deletion. In the perception version, the social support factor obtained the RMSEA value of .07, but was still in the acceptable range (RMSEA < .08). Although four factors in the preference version and one factor in the perception version seemed to be overfitted, the results from the one-factor congeneric model testing based on item deletion significantly improved the models.

Table 5.7

One-Factor Congeneric Model of the JRLSS after Deleting Items

Factor	χ^2 (df)	RMR	GFI	AGFI	TLI	CFI	RMSEA	AIC
Preference								
T&I	9.21* (9)	.02	.99	.98	1.00	1.00	.01	33.21
DEM	20.18* (14)	.03	.99	.97	.98	.98	.04	48.18
AUT	3.08 (5)	.03	1.00	.99	1.01	1.00	.00	23.08
SS	3.31* (5)	.03	1.00	.99	1.03	1.00	.00	23.31
PF	5.28* (9)	.02	1.00	.99	1.01	1.00	.00	29.28
SC	13.72* (14)	.03	.99	.98	1.00	1.00	.00	41.72
Perception								
T&I	21.35* (14)	.04	.98	.97	.98	.99	.04	49.35
DEM	37.02 (20)	.04	.97	.95	.97	.98	.05	69.02
AUT	.65* (5)	.01	.99	.99	1.03	1.00	.00	20.65
SS	13.96 (5)	.03	.99	.96	.97	.99	.07	33.96
PF	18.09 (9)	.03	.98	.96	.98	.99	.05	42.09
SC	9.14* (5)	.03	.99	.97	.98	.99	.05	29.14

Note. * = achieved to the criterion for a good fit of the model

The Relationships between Grouping Variables and Leadership Behaviours

The hypothesised relationship between antecedents, such as situational and member characteristics, and leadership behaviours, based on the Multidimensional Model of Leadership (MML: Chelladurai & Carron, 1978) **were examined**. First, the relationship between member characteristics (i.e., competitive level and gender) and athletes' preference and perception of leadership behaviours were analysed, based on the independent sample t-test. The *t*-values, probabilities, and effect size for the JRLSS subscales are shown in Table 5.8.

Table 5.8

Summary of Differences between Elite and Non-elite Groups and between Males and Females

Subscale	Level of competition			Gender		
	t	*p*	E.S.	*t*	*p*	E.S.
(Preference)						
Teaching and Instruction	.33	.74	.03	- .69	.49	-.08
Democratic Behaviour	5.58	.00**	.56	- .94	.35	-.11
Autocratic Behaviour	.05	.96	.00	1.67	.10	.19
Social Support	- .99	.32	-.10	- .21	.84	-.02
Positive Feedback	1.09	.28	.11	- 2.37	.02	-.27
Situational Consideration	2.31	.02	.24	- 1.85	.07	-.21
(Perception)						
Teaching and Instruction	- 1.64	.10	-.17	1.74	.08	.20
Democratic Behaviour	3.68	.00**	.39	3.18	.00**	.36
Autocratic Behaviour	- 2.59	.01	-.27	.27	.79	.03
Social Support	- 2.13	.03	-.22	3.01	.00**	.34
Positive Feedback	- .54	.59	-.06	.74	.46	.08
Situational Consideration	- .51	.61	-.05	2.33	.02	.26

Note. ** = $p < .01$

Athletes from teams that competed at the All Intercollegiate tournament level were classified as the elite group, and athletes from teams that competed in the interstate league were classified as the sub-elite group. Bonferrioni's adjustment was used to reduce the likelihood of Type I errors. Thus, the criterion for significant difference was calculated by dividing the probability of .05 by the number of t-tests (i.e., twelve), and resulted in $p < .004$. Significant differences at the $p < .004$ level appeared between the groups for the *democratic behaviour* factor both in the athletes' preference version and in the athletes' perception version. Cohen's (1994) effect sizes for the significant differences between groups were in the small to medium range (.39 to .56.). Significant differences ($p < .004$) in gender comparison were not found between groups in the athletes' preference version, but were found between groups for *democratic behaviour* and *social support* in the athletes' perception version. All effect sizes associated with significant differences of gender groups were small, ranging from .34 to .36. The relationship between situational characteristics, such as sport types and leadership behaviours (i.e., athletes' preference and perception) were analysed using one-way ANOVA. The results were presented in Table 5.9.

In the preference version, *democratic behaviour* was significantly different, based on the type of sport. The effect size of the difference was small ($d < .20$). In the perception version, three factors, *teaching and instruction*, *democratic behaviour*, and *autocratic behaviour* were significantly different among sport types. The effect sizes of these factors were relatively small ranging from .05 to .22. Overall, significant differences in some of the factors were identified based on gender, the level of competition, and sport types.

Table 5.9

Summary of Differences between Groups depending on Sport Types

Subscale	MS	df	F	*p*	R
Preference					
Teaching and Instruction	.03	5	.18	.97	.00
Democratic Behaviour	2.17	5	9.09	.00**	.11
Autocratic Behaviour	.16	5	.58	.71	.01
Social Support	.60	5	1.80	.11	.02
Positive Feedback	.64	5	1.98	.08	.03
Situational Consideration	.38	5	1.86	.10	.03
Perception					
Teaching and Instruction	1.84	5	3.98	.00**	.05
Democratic Behaviour	7.09	5	13.66	.00**	.16
Autocratic Behaviour	5.97	5	19.66	.00**	.22
Social Support	.96	5	1.48	.19	.02
Positive Feedback	1.04	5	2.10	.07	.03
Situational Consideration	.29	5	.60	.70	.01

Note. ** = $p < .01$

Discussion

A primary purpose of the present study was to examine the psychometric properties of the preference and the perception versions of the Japanese Revised Leadership Scale for Sport (JRLSS). The information utilised to examine the psychometric properties of the JRLSS included descriptive statistics, internal consistency estimates, and construct validity (i.e., factorial structure). Overall, the findings supported some aspects of the JRLSS in terms of psychometric properties, including internal reliability and construct validity.

The findings of the present study show adequate internal consistency estimates for both the preference and perception versions of the JRLSS, except for the

autocratic behaviour factor. These findings are consistent with previous studies (Chelladurai & Carron, 1981; Dwyer & Fischer, 1990; Isberg & Chelladurai, 1990; Zhang, Jensen, & Mann, 1997). Despite the acceptable level of internal consistency estimates for five factors, *autocratic behaviour* still remains somewhat problematic and requires further investigation to modify or delete items.

Based on the results of confirmatory factor analysis (CFA), the construct validity of the JRLSS was partially supported in the full six factor model with an acceptable value of RMSEA, the ratio of the chi-square and the degrees of freedom. All the incremental indexes such as GFI, AGFI, TLI, and CFI, however, failed to reach the acceptable level of .90 on an absolute basis. In this case, researchers might consider the overall fit indices of this scale to be very poor. Explainations to explain the overall poor fit of the six factor model of the JRLSS in both versions is somewhat speculative at this point. Possibly, the original RLSS might not enjoy discriminant validity that in turn, leads to a poor fit. Another possibility is that the Japanese translation is suspectable particularly without back translation procedure. The original RLSS might confirm the overall fit of the six-factor model with another population. With the lack of enough evidence in the literature and in the current studies, it is difficult to provide a concrete explanation. It is, however, necessary to conduct confirmatory factor analysis on the RLSS with a range of populations and samples to compare the results with the current studies.

The results from one-factor congeneric model testing, using CFA provide another level of investigation separately for each of the six JRLSS subscales. The JRLSS consists of 8 to 12 items within each factor, and correlations with the intended factors did not provide total support for all items. Systematic deletion of items based on modification indices scores resulted in a better fit of the model. Given

these results, it is recommended that particular items be removed from the JRLSS factors. Statistically, however, deletion of items from a measurement demands more rigorous procedures. In fact, Wilson, Sullivan, Myers, and Felts (2004) indicated that modification of the model is unjustified when the overall model is found to be severely mis-specified. Several researchers (e.g., MacCallum, 1986; MacCallum, Roznowski, & Necowitz, 1992) also indicated that model modification can be applied for fine-tuning of a model by a few modifications, but not for a large-scale re-specification. In what might be considered a relatively major respecification, a total of 26 items in the preference version and 24 items in the perception version of the 60 JRLSS items were deleted. It is, however, incumbent on researchers to administer the JRLSS without these items marked for deletion and administering a follow-up CFA. As Chelladurai and Riemer (1998) suggested, there might be a call for more improvements by revising the measurement, specifically the subscale structure.

The findings from the present study also provided evidence for the relationship between grouping variables and leadership behaviours. As Chelladurai and Carron (1978) hypothesised, member characteristics (i.e., level of competition and gender) and situational characteristics (i.e., sport types) influenced the required and preferred leadership behaviours. A problem arises, however, in the relationship between antecedents and leadership behaviours. It is unclear which leadership behaviours are influenced by what kinds of situational, leader, and member characteristics. Findings from the present study were also inconsistent with some previous research. For example, elite athletes significantly preferred only *democratic behaviour* in the present study, whereas elite athletes showed their preference for *democratic behaviour* and *social support*, in a previous study (Terry, 1984). Moreover, based on

the sport types, in the present study, I found significant differences in athletes' preference for *democratic behaviour* and in athletes' perceptions of *teaching and instruction*, *democratic behaviour*, and *autocratic behaviour*. This finding is inconsistent with Ipinmoroti (2002) who indicated that sport types as a situational variable did not significantly predict coaches' required leadership behaviour. Thus, although the results from the present study confirmed the relationship between grouping variables and leadership behaviours using the JRLSS, further research is required to determine which leadership behaviours these antecedents (i.e., situational, leader, and member characteristics) influence. With the growing popularity of more sophisticated forms of factor analysis (i.e., CFA) and analysis tools (i.e., LISREL, AMOS), researchers have opportunities to further refine the models of leadership in sport. It should be emphasised that Chelladurai and Carron developed the sport leadership model prior to many of the current statistical tools and software being available. Due to the lack of psychometric studies using the RLSS, it is necessary to further investigate the subscale constructions within each factor by revising or retaining items. In addition, I recommend identifying a more specific relationship between antecedents and leadership behaviours.

CHAPTER 6

GENERAL DISCUSSION

Chelladurai and Riemer (1998) extensively reviewed and discussed existing leadership theories and measurement related issues in sport. Their discussion of the Multidimensional Model of Leadership (MML; Challadurai & Carron, 1978) and the associated measurement tool, the Leadership Scale for Sport (LSS; Chelladurai & Saleh, 1980) provided direction for leadership research. Despite this, there remains a dearth of research relating to sport leadership, particularly in recent years. As Chelladurai and Riemer indicated, the leadership research in sport remains sparse and sporadic. This is unfortunate, because leadership has been widely recognised as significant component of successful performance (Chelladurai & Riemer; Gould et al., 1987) and athlete satisfaction in competitive sport (Riemer & Chelladurai, 1995).

Despite the development of the Revised Leadership Scale for Sport (RLSS; Zhang et al., 1997), some researchers have not inexplicitly made the transition from the LSS to the RLSS. Perhaps, the lack of independent psychometric support may account for researchers' resistance to using the RLSS. With an intention of stimulating use of the RLSS in Japan, the main purposes of the present dissertation were to develop and validate the Japanese version of the Revised Leadership Scale for Sport (JRLSS) and investigate the psychometric properties of the JRLSS.

General Findings

The present dissertation included three interrelated studies. In the first study, I developed the initial version of the JRLSS following the guidelines of Geisinger (1994). I then conducted a preliminary psychometric assessment of the JRLSS (i.e., internal reliability, face validity, and content validity), followed by an examination of construct validity. With the current research, I have achieved the intended purpose of

providing a Japanese version of the Revised Leadership Scale for Sport (JRLSS) available for the Japanese population. The degree of success in translation can be partially judged based on the degree of equivalence in psychometric properties of responses between the original and translated instruments (Hambleton & de Jong, 2003). In this regard, it was difficult to absolutely determine equivalence of the JRLSS compared to the original RLSS because there are few independent psychometric investigations of the RLSS.

Psychometrically, the results derived from internal reliability testing both in Studies 2 and 3 were satisfactory in terms of an acceptable alpha coefficient level, except for the *autocratic behaviour* factor in the athletes' perception version. In the athlete's perception version of the JRLSS, the alpha coefficients were moderately high except for the *autocratic behaviour* factor and are similar to the results reported by Zhang et al. (1997). In the athlete's preference version, however, the alpha coefficients were somewhat different from Zhang et al. For example, the alpha coefficients of the JRLSS were of borderline acceptance (α = .60 - .70), whereas the alpha coefficients of the RLSS were significantly higher except for the *autocratic behaviour* factor.

As I noted (see Chapter 4), when comparing the internal reliability of the LSS and the Japanese version of the LSS (e.g., Chelladurai et al., 1985; Chelladurai et al., 1987), the alpha coefficients of the JLSS were considerably lower than the scores obtained from the LSS in the athlete's preference version. Clearly, the same pattern emerged in the present series of studies whereby the perception versions of the JRLSS and RLSS were quite similar but there was a disparity between the preference versions. Some researchers (e.g., Chelladurai & Riemer, 1998) might argue that the perception is likely to be more reliable because athletes are responding to a specific

form of leadership that is, their coach. Whereas, the preference version requires them to hypothetically respond to what types of coaching they would or do prefer. Thus, for practial purposes, I believe the perception version is the critical indicator of leadership effectiveness. The preference version, however, remains a useful indicator of idealised leadership but nevertheless someone more speculative. The exact reasons for the discrepancy between the reports results here for leadership preference and those reported previously are yet unclear. The degree to which translation was successful could be inferred, to a degree from the equivalence in psychometric properties of responses from the original and translated instruments. It should be recognized, however, that the outcomes derived from translated and adapted tests and instruments almost always are different from the original language versions (Hambleton & de Jong, 2003).

In the present dissertation, I obtained data on content, face, and construct validity of the JRLSS that had not previously been tested. Thus, some of the results from validity testing such as content validity tested with an item-sorting procedure, face validity tested by rating the degree of item agreement, and construct validity tested by confirmatory factor analysis were not directly comparable with the RLSS. Overall, using a rigorous criterion assessment only a few items for each dimension (i.e., *training and instruction* = item 38, *democratic behaviour* = item 4 & 57, *social support* = item 17, *positive feedback* = 15, 18, 20, 29, & 52, *situational consideration* = 10, 24, & 32) were both directly comparable and statistically robust.

Investigations of face and content validity of translated measures is not common particulary in the field of sport psychology. To follow the guidelines of Geisinger (1992), however, it was an essential phase to examine the perspective of participants (i.e., Japanese sport psychologists and athletes) on how well translated

RLSS items seemed to represent intended leadership factors. As indicated in Chapter 4, the major issue associated with content validity was the small sample size. There is no standard guideline for acceptable sample size for content and face validity assessment, however, indications are at least twenty participants should be obtained of Heuzé & Fontayne (2002). Thus, recruiting a larger sample to more adequately examine content validity is required in the future.

In terms of face validity testing, to some extent, the Japanese sport culture might have influenced the perceptions of participants in relation to the intended JRLSS factors. Despite the planned procedural explanations to participants, it was difficult to control for potential cultural bias or perceived cultural irrelevance of items. For example, Japanese coaches do not usually "*Visit with the parents/guardians of the athletes*." Athletes might not agree with this item representing *social support* because they have not or do not feel it is necessary for coaches to behave this way. Although a number of items failed to satisfy the criterion for face validity, the present results may provide researchers with clues regarding the suitability of items in the Japanese athletic context.

The present dissertation primarily focused on investigating the factorial constructs of the JRLSS CFA models (i.e., six-factor model, one-factor congeneric model, and one-factor congeneric model with deleted items). These findings provided additional psychometric information for determining the adequacy of the JRLSS and indirectly the RLSS factorial structure.

Methodological Issues

There are possible limitations associated with the present research that dictate some caution in the interpretation of the results. The participants in the two separate samples in Studies 2 and 3 might not be truly representative of even Japanese athletic

population. The recruitment of athletes in the present dissertation was restricted to intercollegiate teams at the sub-elite and elite level. To satisfy the requirements of generalisability, it is essential to obtain samples from diverse sporting populations (e.g., adolescent, university, and professional athletes). In addition, the results from the present research are limited to two versions (i.e., athletes' preference and perception) of the JRLSS. Originally, the RLSS and the JRLSS were designed to test the Multidimensional Model of Leadership (MML; Chelladurai & Carron, 1978), using three parallel versions. Although the coach's perception version of the RLSS was translated into Japanese in Study 1, further psychometric investigation was not conducted due to the difficulty of recruiting an adequate number of coach participants particularly to satisfy the sample size required for CFA testing.

The sample sizes in the present research were inadequate to conclusively measure content validity and marginal for the CFA analyses of the six-factor JRLSS model. As discussed previously, investigations of content validity with the translated measurement is relatively uncommon in psychometrically driven studies in sport psychology. Thus, no particular standard guideline has been adopted as the standard sample size for content validity assessment. Moreover, the ratio of items (n = 60) to sample size (n = 368) was at the borderline for the full six-factor CFA model.

Implications for Future Research

The limitations discussed above provide potential directions for research to enhance the JRLSS. Given that the results derived from the present research did not provide strong overall support for the face, content, and construct validity of the six-factor model, further assessment of the JRLSS with a larger sample size is warranted. Further psychometric investigations of the JRLSS should enable researchers to confirm the 'currency' of the Multidimensional Model of Leadership. It is also

necessary to investigate the psychometric properties of the coach's perception version of the JRLSS. This would enable researchers to assess the congruency level of three JRLSS versions and to conduct cross-cultural comparisons of leadership behaviours between Japan and English speaking countries. Furthermore, additional CFA testing using the RLSS would also enable researchers to cross validate the factorial structure of the RLSS and the JRLSS.

There is difficulty and risk associated with a process of deleting a large number of misspecified items. In the absence of other viable leadership models in sport, the MML remains the most widely accepted model. Further refinement of the JRLSS or indeed RLSS should proceed without drastically alternating the theoretical integrity of these scales. Despite the risks based on the current research, I believe it would be beneficial to substantially reduce the number of items especially where items load poorly on a factor or are cross-loaded. Refining the JRLSS using item deletion procedures might also enhance the use of the scale because of the resultant reduction in time required for scale administration. At present, the administration of the JRLSS can be somewhat time-consuming and repetitive for athletes.

External Validity Investigation of the JRLSS

It is important to examine the cultural specificity and applicability of the JRLSS in the Japanese sport context. The present dissertation was mainly focused on the direct translation of the RLSS items into Japanese and initial psychometric testing of the JRLSS. Generally, it has been common to assume that if the factor structure of a test remains the same in a second language version, then the test adaptation was successful. As a number of researchers (e.g., Gauvin & Russel, 1993; Gill, 1997), however, have identified test adaptation across culture is not so simple. In conducting the present research I have become increasingly concerned about the

applicability of the JRLSS. I fully appreciate the comments of MacLachlan, Mapundi, Zimba, and Carr (1995) insising, "it is now well recognized that using psychometric instruments developed within one cultural context to assess human attributes in another cultural context is fraught with difficulties" (p. 645), supporting for Helms (1992) and Scarr (1989). In turn, when developing translated instruments, it is essential to evaluate the psychometric properties of responses to the instrument in the intended cultural setting to evaluate the cross-cultural construct validity of responses (Byrne; 2001). The potential problems underlying the use of English-based measurements in other countries are two-fold, first relating to the procedures used in the translation process, and second an adequate understanding of the inherent cultural influences. Gauvin and Russel (1993), moreover, insisted that translated measures should be culturally sensitive, contain relevant wording, phrases, test items, and underlying constructs. Although I carefully and systematically carried out translation processes following the guidelines of Geisinger (1992), the present research was not designed to assess cultural sensitivity.

Sue (1999) explained that the lack of cultural sensitivity in translated instruments may stem from an overemphasis on internal validity without equal concern for external validity. "Internal validity is the extent to which conclusions can be drawn about the causal effects of one variable on another... [whereas] the external validity is the extent to which one can generalize the results of the research to the populations and settings of interest" (Sue, 1999, p. 1072). Alloy, Abramson, Raniere, and Dyller (1999) asserted that internal validity is more closely investigated than external validity in psychology probably because researchers first concentrate on attaining reliable findings before seeking to generalise the results to broader populations. Gill (1997) emphasises that there are always diversities in populations

such as age, gender, and skill level. Thus, it is difficult for researchers to develop universal measures that can be applied unilaterally to different cultures (Sue, 1999). Once the internal validity of a test is confirmed using a particular population, researchers often assume the psychometric properties of an instrument will transfer to other populations.

With the weight of research being overwhelmingly focused on internal validity rather than external validity, there are at least two implications. First, even though many established psychological inventories are confirmed as internally valid, many inventories are not cross-validated for culturally relevancy. Second, establishing psychological instruments without a thorough examination of external validity may result in inventories being impractical or irrelevant to actual sport settings. Practitioners in particular might appreciate a tighter rationale and connection between the content of inventory items and practical relevance. Indeed, the qualitative aspect of the Zhang et al. (1997) study is an example of where athletes and coaches were consulted about leadership behaviours to enhance external validity of the RLSS.

In the present dissertation, as is common practice, I first investigated internal validity of the JRLSS. Now that the JRLSS has been translated I believe additional benefits would accrue from investigating the external validity with a particular emphasis on relevanance of the multidimensional leadership to the Japanese sport setting. To be specific, in terms of the methods chosen to examine external validity, quantitative methods may not necessarily be appropriate because the numbers derived from quantitative method cannot meaningfully express certain human experiences (Berg, 1995). Berg stated that "if humans are studied in a symbolically reduced, statistically aggregated fashion, there is danger that conclusions - although

arithmetically precise - may fail to fit reality" (p. 7). This lack of qualitative sensitivity in scale construction may reduce the applicability and hence usefulness of scales such as the JRLSS. In particular, certain qualitative methods may be well suited to examining conceptualizations of leadership in different cultures. For example, Sue (1999) asserted that ethnography is most appropriate method for examining external validity cross culturally. Ethnography as a research method originated from anthropology. The purpose of ethnography is to better understand the way of life of a cultural group based on the perspective of the group members (Spradley, 1979; Tedlock, 2000; Wolcott, 1995). Krane and Baird (2005), moreover, recommended ethnography as a method for increasing our understanding of the psychology of athletes' sport experiences. Thus, it is essential to include two components in future studies; first, how well the Japanese Revised Leadership Scale for Sport (i.e., JRLSS) items captures leadership behaviours in the Japanese context and second to examine how applicable the original JRLSS items are in the Japanese sporting leadership culture. Spradley emphasized that ethnographers must adapt themselves to the particular culture until he or she is a *native* of a group. An ethnographic approach in the present context would dictates that the researcher be immersed in the Japanese culture to feel comfortable with all the nuances of cultural elaboration. Japanese people judge each other on the basis of how much knowledge they demonstrate about rules of protocol. Hendry insisted that researchers could only break through the barriers of formality and gain intimacy if they can relax in such situations

In terms of better understanding Japanese leadership and likely issues of external validity in scale construction it is important to recognize the unique aspects of Japanese culture and language. Moeran (1990) found that Japanese culture is

wrapped in multiple layers and the Japanese themselves are sometimes mystified by this wrapping. There are a number of forms (i.e., layers) that constitute Japanese language. For example, Japanese people use *keigo*, polite and respectful language often associated with the expression of hierarchical differences. Furthermore, people use *keigo* in several different ways. First, Japanese, especially women use *keigo* to express phrases and emotions considered proper in a particular situation or circumstance rather than saying the actual facts or true feelings. Second, *keigo* is used to show respect for others whom people interact with, but also to protect themselves from the harshness of direct interactions by wrapping their *honne*. The *honne* is actually their individual true opinions and views that are wrapped in an appropriate layer of politeness. Close friends use little *keigo* in everyday conversation, especially when exchanging confidences similarly they do not need to use much wrapping when interacting. Third, Hendry (1990) proposed that *keigo* is used almost like a dialect for the inside members of such groups, expressing commonality between them. Members of the groups, however, drop these high levels when they talk to people who cannot use them in the same way, so that in this case the language may be seen as serving to wrap and protect their elite groups from outside intrusion. People can be also judged on their demonstration of knowledge of rules of how and when to use correct forms of language for the particular situations. Japanese people, thus, choose to use the most appropriate layer of polite language depending on situations. The above example is included to demonstrate the complexities of Japanese ettiqutte and language. Without a reasonable understanding of these complexities it is difficult to forsee an accurate understanding of sport leadership. Hopefully, fellow researchers, particularly those of Japanese heritage will

be interested in sport leadership to the extent of pursuing a better understanding of Japanese sport leadership.

In choosing a particular type of ethnographic approach, based on my reading, I would recommend the Developmental Research Sequence (DRS; Spradley, 1979). The concept of DRS is *learning from people* rather than *studying people* (Spradley). DRS, thus, emphasizes on an insider's view or informant's view of reality. The research results largely rely on the informant's and not investigator's frame of reference. Thus, I believe DRS is suitable to accomplish the goal of attaining the lived experience of athletes and coaches in Japan from their perspective. Furthermore, using DRS ensures a systematic and rigorous process of identifying common beliefs and values of a particular group with a focus on the meaning behind the spoken language (Parfitt, 1996). This emphasis of language use to investigate the Japanese perspective is apt because language plays a central role in making Japanese culture unique.

Final Comments

The present dissertation was conducted to develop the Japanese version of the Revised Leadership Scale for Sport and to assess its psychometric properties. Based on the initial version of the JRLSS derived from study 1, various internal reliability and validity testing was conducted in Studies 2 and 3. According to the results of psychometric investigations, the internal reliability of the JRLSS was confirmed except for the *autocratic behaviour* factor, whereas content, face, and construct validity were partially confirmed. I trust that other researchers interested in sport leadership will be stimulated to consider the use of the RLSS and the JRLSS in the future research with regards to further improvement in psychometric properties. In a broader sense, perhaps sport psychologists need to focus greater attention on sport leadership and rekindle what was a clearly more vibrant line of inquiry some 20 years ago, when Chelladurai first developed the MML model.

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APPENDIX A: CONSENT FORM FOR PARTICIPANTS INVOLVED IN RESEARCH

(ATHLETES ENGLISH VERSION)

Consent Form for Subjects Involved in Research

INFORMATION TO PARTICIPANTS:

We would like to invite you to participate in a part of a research project investigating the use of a newly translated scale titled: Japanese version of Revised Leadership Scale for Sport (JRLSS). The aim of this project is to test whether the JRLSS is suitable for a Japanese population.

CERTIFICATION BY SUBJECT

I,
of

certify that I am at least 18 years old and that I am voluntarily giving my consent to participate in the development of the Japanese Revised Leadership Scale for Sport, being conducted by Dr Daryl Marchant, Professor Tony Morris and student Yoriko Yashiro.

I certify that the objectives of the study, together with any risks and safeguards associated with this study, have been explained to me by Yoriko Yashiro and that I freely consent to participate.

Procedures:

As a participant in this study, you will be requested to complete the following questionnaires: a) a demographic questionnaire which asks you for information including name, age, gender, the type of sport you participate in, and experience in the sport, b) athlete's perceived leadership behaviour version of the JRLSS, and c) athlete's preferred leadership behaviour version of the JRLSS. Completing these questionnaires is likely to take approximately 20-30 minutes. There are no right or wrong answers to these items. Also, you are free to withdraw from this project at any time if you start feeling distress.

Your personal information and completed questionnaire will be stored separately in different locked filing cabinets for five years. Only the principle investigator, associate investigator, and student researcher will have the access to the information.

I certify that I have had the opportunity to have any questions answered and that I understand that I can withdraw from this study at any time and that this withdrawal will not jeopardise me in any way.

I have been informed that the information I provide will be kept confidential.

Signed: ..... }

Witness other than the experimenter: } Date: .....

.....}

Any queries about your participation in this project may be directed to the researcher (Name: Dr Daryl Marchant ph. 03-9688-4035). If you have any queries or complaints about the way you have been treated, you may contact the Secretary, University Human Research Ethics Committee, Victoria University of Technology, PO Box 14428 MCMC, Melbourne, 8001 (telephone no: 03-9688 4710).

APPENDIX B: CONSENT FORM FOR PARTICIPANTS INVOLVED IN RESEARCH

(ATHLETES JAPANESE VERSION)

Victoria University

同意書

日本のチームスポーツにおけるリーダーシップ行動についての研究プロジェクトへのご協力をお願い致します。

研究概要

アンケートには、みなさんの個人情報を提供していただきます。まず、1枚目では、名前、性別、大学名、専門スポーツなどをお答えいただきます。2枚目と3枚目では、改訂版スポーツ・リーダーシップ・スケールの選手理想バージョンで、自分が理想とするコーチ像に基づいて回答していただきます。4枚目、5枚目では改訂版スポーツ・リーダーシップ・スケールの選手認識バージョンで、現在のコーチ（監督）のリーダーシップ行動に基づいて回答していただきます。

みなさまから提供されたすべてのデータ（個人・チーム情報/アンケート用紙）は、他に漏れることがないよう、オーストラリアの倫理規定により、ビクトリア大学内にある鍵付きキャビネットに5年間保管されます。その間、データにアクセスできるのは、研究者である八城順子、ダーロ・マーチャント、トニー・モリスの三人のみになります。もちろん、監督や大学関係者の方々にも、皆さんに答えていただいた回答をお見せすることはありません。

署名

私は、
１８歳以上で、ダーロ・マーチャント、トニー・モリス、八城順子による、日本スポーツリーダーシップ行動に関する調査の対象者になることを任意で同意します。

調査に関する説明を聞き、アンケートはいつでもやめられること、また提供した情報の機密は必ず守られることを理解しました。

サイン：＿＿＿＿＿＿＿＿＿＿＿＿＿＿　日付　　/　　/

このプロジェクトに参加するにあたって、質問がある場合、直接研究者（ダーロ・マーチャント：+613 9688 4035）へ問い合わせてください。あなたへの対応など不明な点があれば、大学学部秘書の方へご連絡ください（住所：Po Box 14428 MCMC Melbourne, 8001, TEL:+613 9688 4710）

APPENDIX C: DEMOGRAPHIC QUESTIONNAIRE

(ATHLETES' ENGLISH VERSION)

The following questionnaire is intended to gather general information about you. Please read and tick the box that applies to you or fill in the blank with detailed information.

1. Name: _____
2. Gender: Male ☐ Female ☐
3. University: _____ University _____ Major
4. University Year: _____ Year Age: _____
5. The sport you participate in: _____
6 The number of years you have played in this sport:
7. The number of years you have played for this team:
8. The team record during last season:
9. The number of practice per week:
10. The hours of practice per a day:
11. Your sport experience that you involved for more than two years. Please circle whether that sport is individual or team sport based on your perception.

_____ Team / Individual

_____ Team / Individual

_____ Team / Individual

Thank you!!!

APPENDIX D: DEMOGRAPHIC QUESTIONNAIRE

(ATHLETES' JAPANESE VERSION)

次の空欄に詳細を書き込んでください。

ここに書かれる個人情報は、研究者であるダーロ・マーチャント・トニー・モリス、八城順子（ビクトリア大学）のみアクセスが可能です。すべての答案用紙は、オーストラリア・ビクトリア大学にて、５年間鍵つき口ッカーに保管されます。

1. 氏名：

2. 性別：＿＿＿＿男　・　女＿＿＿＿

3. 大学：＿＿＿＿大学＿＿＿＿学部＿＿＿＿学科＿＿＿＿

4. 学年：＿＿＿＿年生＿＿＿＿（＿＿＿＿才）＿＿＿＿

5. 今現在の専門スポーツは何ですか？

6. そのスポーツを始めて何年経ちますか？

7. 現在のチームに入って何年ですか？

8. 昨シーズンのチーム成績を教えてください。

9. 週に何回練習していますか？

10. 一日何時間練習していますか？

11. 今までで２年以上経験のあるスポーツを教えてください。また、そのスポーツが個人的主観でチームスポーツと個人スポーツどちらであるかお答えください。

_____	チーム・　個人
_____	チーム・　個人
_____	チーム・　個人

ご協力ありがとうございました。

APPENDIX E: REVISED LEADERSHIP SCALE FOR SPORT

(ATHLETES' PREFERENCE/ PERCEPTION ENGLISH VERSION)

Directions: Each of the following statements describes a specific behaviour that a coach may exhibit. For each statement there are five alternative answers, as follows: 5 means 'always' (100% of the time); 4 means 'often' (75% of the time); 3 means 'occasionally' (50% of the time); 2 means 'seldom' (25% of the time); and 1 means 'never' (0% of the time).

Please indicate your preference by circling the appropriate space. Answer all items even if you are unsure of a response. For athlete's preference version, please note that this is not an evaluation of your present coach or any other coach. It is your own personal preference that is required. For athlete's perception version, please note that the response is according to how you perceive your present coach. There are no right or wrong answers. Your spontaneous and honest response is important for the success of this evaluation.

Example: I prefer my coach to like each athlete on the team. 1 2 3 4 5

I prefer my coach to/ My coach:

1. Coach to the level of the athletes. 1 2 3 4 5
2. Encourage close and informal relationship with the athletes. 1 2 3 4 5
3. Make complex things easier to understand and learn. 1 2 3 4 5
4. Put the suggestions made by the team members into operation. 1 2 3 4 5
5. Set goals that are compatible with the athletes' ability. 1 2 3 4 5
6. Disregard athletes' fears and dissatisfactions. 1 2 3 4 5
7. Ask for the opinion of the athletes on strategies for specific competition. 1 2 3 4 5
8. Clarify goals and the paths to reach the goals for the athletes. 1 2 3 4 5
9. Encourage the athletes to make suggestions for ways to conduct practices. 1 2 3 4 5
10. Adapt coaching style to suit the situation. 1 2 3 4 5
11. Use alternative methods when the efforts of the athletes are not working well in practice or in competition. 1 2 3 4 5
12. Pay special attention to correcting athletes' mistakes. 1 2 3 4 5

I prefer my coach to/ My coach:

13. Let the athletes try their own way even if they make mistakes. 1 2 3 4 5
14. See the merits of athletes' ideas when differ from the coach's. 1 2 3 4 5
15. Show 'O.K.' or 'Thumbs Up' gesture to the athletes. 1 2 3 4 5
16. Remain sensitive to the needs of the athletes. 1 2 3 4 5
17. Stay interested in the personal well-being of the athletes. 1 2 3 4 5
18. Pat an athlete after a good performance. 1 2 3 4 5
19. Explain to each athlete the techniques and tactics of the sport. 1 2 3 4 5
20. Congratulate an athlete after a good play. 1 2 3 4 5
21. Refuse to compromise on a point. 1 2 3 4 5
22. Use a variety of drills for a practice. 1 2 3 4 5
23. Stress the mastery of greater skills. 1 2 3 4 5
24. Alter plans due to unforeseen events. 1 2 3 4 5
25. Let the athletes set their own goals. 1 2 3 4 5
26. Look out for the personal welfare of the athletes. 1 2 3 4 5
27. Use objective measurements for evaluation. 1 2 3 4 5
28. Plan for the team relatively independent of the athletes. 1 2 3 4 5
29. Tell an athlete when the athlete does a particularly good job. 1 2 3 4 5
30. Get approval from the athletes on important matters before going ahead. 1 2 3 4 5
31. Express appreciation when an athlete performs well. 1 2 3 4 5
32. Put the appropriate athletes in the line-up. 1 2 3 4 5
33. Encourage the athletes to confide in the coach. 1 2 3 4 5
34. Prescribe the methods to be followed. 1 2 3 4 5
35. Dislike suggestions and opinions from the athletes. 1 2 3 4 5
36. Conduct proper progressions in teaching fundamentals. 1 2 3 4 5

I prefer my coach to/ My coach:

37. Supervise athletes' drills closely.	1	2	3	4	5
38. Clarify training priorities and work on them.	1	2	3	4	5
39. Possess good knowledge of the sport.	1	2	3	4	5
40. Fail to explain his/her actions.	1	2	3	4	5
41. Encourage an athlete when the athlete makes mistakes in performance.	1	2	3	4	5
42. Praise the athletes' good performance after losing a competition.	1	2	3	4	5
43. Put an athlete into different positions depending on the needs of the situation.	1	2	3	4	5
44. Assign tasks according to each individual's ability and needs.	1	2	3	4	5
45. Recognize individual contributions to the success of each competition.	1	2	3	4	5
46. Present ideas forcefully.	1	2	3	4	5
47. Let the athletes decide on plays to be used in a competition.	1	2	3	4	5
48. Perform personal favours for the athletes.	1	2	3	4	5
49. Compliment an athlete for good performance in front of others.	1	2	3	4	5
50. Give the athletes freedom to determine the details of conducting a drill.	1	2	3	4	5
51. Get input from the athletes at daily team meetings.	1	2	3	4	5
52. Clap hands when an athlete does well.	1	2	3	4	5
53. Give credit when it is due.	1	2	3	4	5
54. Help the athletes with their personal problems.	1	2	3	4	5
55. Ask for the opinion of the athletes on important coaching matters.	1	2	3	4	5
56. Reward an athlete as long as the athlete tries hard.	1	2	3	4	5

I prefer my coach to/ My coach:

57. Let the athletes share in decision making and policy formulation.	1	2	3	4	5
58. Visit with the parents/guardians of the athletes.	1	2	3	4	5
59. Keep aloof from the athletes.	1	2	3	4	5
60. Increase complexity and demands if the athletes find the demands are too easy.	1	2	3	4	5

Note. From Manual for the Application of the Revised Leadership Scale for Sport (Zhang, Jensen, & Mann, 1995).

APPENDIX F: JAPANESE REVISED LEADERSHIP SCALE FOR SPORT

(ATHLETES' PREFERENCE JAPANESE VERSION)

改訂版スポーツ・リーダーシップ・スケール

(選手理想バージョン)

以下の各記述は、コーチ(監督)が見せる可能性のある特定の行動を描写しています。各記述には、次のとおり5つの選択肢があります。5は「常に」(100%)、4は「ひんぱんに」(75%)、3は「ときどき」(50%)、2は「まれに」(25%)、1は「まったくない」(0%)を表します。

次のそれぞれの項目を読んでコーチの理想像について、あてはまる程度を5「常に」から1「まったくない」までの数字に○をつけて答えてください。確信がない場合でも全ての記述に答えてください。これは、自分の現在のコーチ(監督)、その他のコーチを評価するものでは、ありません。自分の個人的理想について答えていただくわけです。答えには、正解、不正解はありません。評価を正確におこなう為、思ったとおりありのまま、正直にお答えください。

		5	4	3	2	1
		100% 常に	75% 頻繁に	50% ときどき	25% まれに	0% まったくない
1	私の理想のコーチ(監督)は、選手のレベルに合わせてコーチする。	5	4	3	2	1
2	私の理想のコーチ(監督)は、選手との親密で形式ばらない関係づくりに努める。	5	4	3	2	1
3	私の理想のコーチ(監督)は、複雑なことを理解しやすく、学びやすいものにする。	5	4	3	2	1
4	私の理想のコーチ(監督)は、チームの選手からの提案を実行に移す。	5	4	3	2	1
5	私の理想のコーチ(監督)は、選手一人一人の能力に合った目標を設定する。	5	4	3	2	1
6	私の理想のコーチ(監督)は、選手の恐れ、不安、不満は無視する。	5	4	3	2	1
7	私の理想のコーチ(監督)は、一つ一つの試合の作戦などについて選手に意見を求める。	5	4	3	2	1
8	私の理想のコーチ(監督)は、選手が目標に到達できるように目標や到達方法を明確	5	4	3	2	1

	にする。					
9	私の理想のコーチ（監督）は、練習方法について提案をだすことを選手にすすめる。	5	4	3	2	1
10	私の理想のコーチ（監督）は、状況に合わせてコーチングスタイルを適応させる。	5	4	3	2	1
11	私の理想のコーチ（監督）は、選手の努力の成果が練習や試合に現れていない時には、別のよりよい方法を用いる。	5	4	3	2	1
12	私の理想のコーチ（監督）は、選手のミスを指摘するために特別の注意を払う。	5	4	3	2	1
		5	4	3	2	1
		100%常に	75%頻繁に	50%ときどき	25%まれに	0%まったくない
13	私の理想のコーチ（監督）は、たとえ結果的には失敗するとしても、選手の思うとおりやらせる。	5	4	3	2	1
14	私の理想のコーチ（監督）は、コーチ自身の考えと違っていても、その選手の考えのよい所をみる。	5	4	3	2	1
15	私の理想のコーチ（監督）は、選手に「O.K」や「いいぞ」といったジェスチャーを示す。	5	4	3	2	1
16	私の理想のコーチ（監督）は、選手の求めることに対し敏感であり続ける。	5	4	3	2	1
17	私の理想のコーチ（監督）は、選手一人一人のウェル・ビーイング（幸福）に関心を持ち続ける。	5	4	3	2	1
18	私の理想のコーチ（監督）はよいパフォーマンスの後には軽くたたいたりして選手をほめる。	5	4	3	2	1
19	私の理想のコーチ（監督）は、それぞれの選手にスポーツの技術や作戦などを説明する。	5	4	3	2	1
20	私の理想のコーチ（監督）は、よいプレー	5	4	3	2	1

	の後には選手を賞賛する。					
21	私の理想のコーチ（監督）は、何事についても妥協しない。	5	4	3	2	1
22	私の理想のコーチ（監督）は、練習ではさまざまなドリルを用いる。	5	4	3	2	1
23	私の理想のコーチ（監督）は、より高度なスキルを身につけることを重視する。	5	4	3	2	1
24	私の理想のコーチ（監督）は、予期せぬ出来事がおこれば計画を変更する。	5	4	3	2	1
25	私の理想のコーチ（監督）は、選手一人一人に自らの目標設定をさせる。	5	4	3	2	1
26	私の理想のコーチ（監督）は、選手個人の精神的物質的な悩みにも注意を払い、それを解決しようする。	5	4	3	2	1
27	私の理想のコーチ（監督）は、選手の評価においては客観的な尺度を用いる。	5	4	3	2	1
28	私の理想のコーチ（監督）は、あまり選手といちいち相談などせずに指導する。	5	4	3	2	1
29	私の理想のコーチ（監督）は、選手が特によい成績をあげた（良いプレーをした）時はほめる。	5	4	3	2	1
		5	4	3	2	1
		100%常に	75%頻繁に	50%ときどき	25%まれに	0%まったくない
30	私の理想のコーチ（監督）は、重要なことについては実行する前に選手の承認を求める。	5	4	3	2	1
31	私の理想のコーチ（監督）は、選手がよい成績をあげたら（良いプレーをしたら）自分の喜びの気持ちを表す。	5	4	3	2	1
32	私の理想のコーチ（監督）は、メンバー構成には適切な選手を入れる。	5	4	3	2	1
33	私の理想のコーチ（監督）は、選手に信頼されるように努める。	5	4	3	2	1

34	私の理想のコーチ（監督）は、これから従っていくべき方法を指示する。	5	4	3	2	1
35	私の理想のコーチ（監督）は、選手からの提案や意見は好まない。	5	4	3	2	1
36	私の理想のコーチ（監督）は、基本を教える際には、適切に順を追っておこなう。	5	4	3	2	1
37	私の理想のコーチ（監督）は、選手の練習をしっかり間近で監督する。	5	4	3	2	1
38	私の理想のコーチ（監督）はトレーニングにおける優先順位を明らかにしそれに沿っておこなう。	5	4	3	2	1
39	私の理想のコーチ（監督）は、そのスポーツにおける深い知識を持っている。	5	4	3	2	1
40	私の理想のコーチ（監督）は、自分のすることをいちいち説明をすることをしない。	5	4	3	2	1
41	私の理想のコーチ（監督）は、選手がミスをしたときは、その選手を励ます。	5	4	3	2	1
42	私の理想のコーチ（監督）は、試合に負けても、選手の良いプレーを賞賛する。	5	4	3	2	1
43	私の理想のコーチ（監督）は、状況に合わせて、選手を違ったポジションで使う。	5	4	3	2	1
44	私の理想のコーチ（監督）は、各個人の能力と必要（不足している部分）に応じて課題を与える。	5	4	3	2	1
45	私の理想のコーチ（監督）は、試合での成功への個々の貢献を認識する。	5	4	3	2	1
46	私の理想のコーチ（監督）は、反論を許さないような毅然とした態度で話す。	5	4	3	2	1
47	私の理想のコーチ（監督）は、試合中どういうプレーをするかを選手自身に決めさせる。	5	4	3	2	1
48	私の理想のコーチ（監督）は、部生活以外でも選手の面倒をみる。	5	4	3	2	1
		5	4	3	2	1

		100% 常に	75% 頻繁に	50% ときどき	25% まれに	0% まったくない
49	私の理想のコーチ（監督）は、よいパフォーマンスをした選手を他の選手の前でほめる。	5	4	3	2	1
50	私の理想のコーチ（監督）は、練習の細かなところを選手に決めさせる。	5	4	3	2	1
51	私の理想のコーチ（監督）は、日々のチームミーティングで選手から考えをくみあげる。	5	4	3	2	1
52	私の理想のコーチ（監督）は、よいプレーをしたときには拍手をする。	5	4	3	2	1
53	私の理想のコーチ（監督）は、ほめるべきところはほめる。	5	4	3	2	1
54	私の理想のコーチ（監督）は、選手の個人的な問題を解決するのに力をかす。	5	4	3	2	1
55	私の理想のコーチ（監督）は、コーチする重要な内容について選手に意見を求める。	5	4	3	2	1
56	私の理想のコーチ（監督）は、選手が努力する限りそれに報いる。	5	4	3	2	1
57	私の理想のコーチ（監督）は、意思決定や方針設定に選手を参加させる。	5	4	3	2	1
58	私の理想のコーチ（監督）は、選手の親・保護者と話しをする。	5	4	3	2	1
59	私の理想のコーチ（監督）は、選手との距離をおき、超然としている。	5	4	3	2	1
60	私の理想のコーチ（監督）は、選手にとって要求が簡単すぎる場合は、要求の複雑性や度合いを高める。	5	4	3	2	1

APPENDIX G: JAPANESE REVISED LEADERSHIP SCALE FOR SPORT

(ATHLETES' PERCEPTION JAPANESE VERSION)

改訂版スポーツ・リーダーシップ・スケール

(選手認識バージョン)

以下の各記述は、コーチ(監督)が見せる可能性のある特定の行動を描写しています。各記述には、次のとおり5つの選択肢があります。5は「常に」(100%)、4は「ひんぱんに」(75%)、3は「ときどき」(50%)、2は「まれに」(25%)、1は「まったくない」(0%)を表します。

次のそれぞれの項目を読んで、コーチの実際の行動について、あてはまる程度を5「常に」から1「まったくない」までの数字に○をつけて答えてください。確信がない場合でも、すべての記述に答えてください。これは、現在のコーチをどのように自分が受け止めているかに基づいて答えます。答えには、正解、不正解はありません。評価を正確におこなう為、思ったとおりありのまま、正直にお答えください。

		5	4	3	2	1
		100% 常に	75% 頻繁に	50% ときどき	25% まれに	0% まったくない
1	私のコーチ(監督)は、選手のレベルに合わせてコーチする。	5	4	3	2	1
2	私のコーチ(監督)は、選手との親密で形式ばらない関係づくりに努める。	5	4	3	2	1
3	私のコーチ(監督)は、複雑なことを理解しやすく、学びやすいものにする。	5	4	3	2	1
4	私のコーチ(監督)は、チームの選手からの提案を実行に移す。	5	4	3	2	1
5	私のコーチ(監督)は、選手一人一人の能力に合った目標を設定する。	5	4	3	2	1
6	私のコーチ(監督)は、選手の恐れ、不安、不満は無視する。	5	4	3	2	1
7	私のコーチ(監督)は、一つ一つの試合の作戦などについて選手に意見を求める。	5	4	3	2	1
8	私のコーチ(監督)は、選手が目標に到達できるように目標や到達方法を明確にする	5	4	3	2	1
9	私のコーチ(監督)は、練習方法につい	5	4	3	2	1

	て提案をだすことを選手にすすめる。					
10	私のコーチ（監督）は、状況に合わせてコーチングスタイルを適応させる。	5	4	3	2	1
11	私のコーチ（監督）は、選手の努力の成果が練習や試合に現れていない時には、別のよりよい方法を用いる。	5	4	3	2	1
12	私のコーチ（監督）は、選手のミスを指摘するために特別の注意を払う。	5	4	3	2	1
13	私のコーチ（監督）は、たとえ結果的には失敗するとしても、選手の思うとおりやらせる。	5	4	3	2	1
		5	4	3	2	1
		100% 常に	75% 頻繁に	50% ときどき	25% まれに	0% まったくない
14	私のコーチ（監督）は、コーチ自身の考えと違っていても、その選手の考えのよい所をみる。	5	4	3	2	1
15	私のコーチ（監督）は、選手に「O.K」や「いいぞ」といったジェスチャーを示す。	5	4	3	2	1
16	私のコーチ（監督）は、選手の求めることに対し敏感であり続ける。	5	4	3	2	1
17	私のコーチ（監督）は、選手一人一人のウェル・ビーイング（幸福）に関心を持ち続ける。	5	4	3	2	1
18	私のコーチ（監督）はよいパフォーマンスの後には軽くたたいたりして選手をほめる。	5	4	3	2	1
19	私のコーチ（監督）は、それぞれの選手にスポーツの技術や作戦などを説明する。	5	4	3	2	1
20	私のコーチ（監督）は、よいプレーの後には選手を賞賛する。	5	4	3	2	1
21	私のコーチ（監督）は、何事についても妥協しない。	5	4	3	2	1
22	私のコーチ（監督）は、練習ではさまざ	5	4	3	2	1

	まなドリルを用いる。					
23	私のコーチ（監督）は、より高度なスキルを身につけることを重視する。	5	4	3	2	1
24	私のコーチ（監督）は、予期せぬ出来事がおこれば計画を変更する。	5	4	3	2	1
25	私のコーチ（監督）は、選手一人一人に自らの目標設定をさせる。	5	4	3	2	1
26	私のコーチ（監督）は、選手個人の精神的物質的な悩みにも注意を払い、それを解決しようする。	5	4	3	2	1
27	私のコーチ（監督）は、選手の評価においては客観的な尺度を用いる。	5	4	3	2	1
28	私のコーチ（監督）は、あまり選手といちいち相談などせずに指導する。	5	4	3	2	1
29	私のコーチ（監督）は、選手が特によい成績をあげた（良いプレーをした）時はほめる。	5	4	3	2	1
30	私のコーチ（監督）は、重要なことについては実行する前に選手の承認を求める。	5	4	3	2	1
31	私のコーチ（監督）は、選手がよい成績をあげたら（良いプレーをしたら）自分の喜びの気持ちを表す。	5	4	3	2	1
		5	4	3	2	1
		100% 常に	75% 頻繁に	50% ときどき	25% まれに	0% まったくない
32	私のコーチ（監督）は、メンバー構成には適切な選手を入れる。	5	4	3	2	1
33	私のコーチ（監督）は、選手に信頼されるように努める。	5	4	3	2	1
34	私のコーチ（監督）は、これから従っていくべき方法を指示する。	5	4	3	2	1
35	私のコーチ（監督）は、選手からの提案や意見は好まない。	5	4	3	2	1

36	私のコーチ（監督）は、基本を教える際には、適切に順を追っておこなう。	5	4	3	2	1
37	私のコーチ（監督）は、選手の練習をしっかり間近で監督する。	5	4	3	2	1
38	私のコーチ（監督）はトレーニングにおける優先順位を明らかにしそれに沿っておこなう。	5	4	3	2	1
39	私のコーチ（監督）は、そのスポーツにおける深い知識を持っている。	5	4	3	2	1
40	私のコーチ（監督）は、自分のすることをいちいち説明をすることをしない。	5	4	3	2	1
41	私のコーチ（監督）は、選手がミスをしたときは、その選手を励ます。	5	4	3	2	1
42	私のコーチ（監督）は、試合に負けても、選手の良いプレーを賞賛する。	5	4	3	2	1
43	私のコーチ（監督）は、状況に合わせて、選手を違ったポジションで使う。	5	4	3	2	1
44	私のコーチ（監督）は、各個人の能力と必要（不足している部分）に応じて課題を与える。	5	4	3	2	1
45	私のコーチ（監督）は、試合での成功への個々の貢献を認識する。	5	4	3	2	1
46	私のコーチ（監督）は、反論を許さないような毅然とした態度で話す。	5	4	3	2	1
47	私のコーチ（監督）は、試合中どういうプレーをするかを選手自身に決めさせる。	5	4	3	2	1
48	私のコーチ（監督）は、部生活以外でも選手の面倒をみる。	5	4	3	2	1
49	私のコーチ（監督）は、よいパフォーマンスをした選手を他の選手の前でほめる。	5	4	3	2	1
50	私のコーチ（監督）は、練習の細かなところを選手に決めさせる。	5	4	3	2	1

		5	4	3	2	1
		100% 常に	75% 頻繁に	50% ときどき	25% まれに	0% まったくない
51	私のコーチ（監督）は、日々のチームミーティングで選手から考えをくみあげる。	5	4	3	2	1
52	私のコーチ（監督）は、よいプレーをしたときには拍手をする。	5	4	3	2	1
53	私のコーチ（監督）は、ほめるべきところはほめる。	5	4	3	2	1
54	私のコーチ（監督）は、選手の個人的な問題を解決するのに力をかす。	5	4	3	2	1
55	私のコーチ（監督）は、コーチする重要な内容について選手に意見を求める。	5	4	3	2	1
56	私のコーチ（監督）は、選手が努力する限りそれに報いる。	5	4	3	2	1
57	私のコーチ（監督）は、意思決定や方針設定に選手を参加させる。	5	4	3	2	1
58	私のコーチ（監督）は、選手の親･保護者と話しをする。	5	4	3	2	1
59	私のコーチ（監督）は、選手との距離をおき、超然としている。	5	4	3	2	1
60	私のコーチ（監督）は、選手にとって要求が簡単すぎる場合は、要求の複雑性や度合いを高める。	5	4	3	2	1

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APPENDIX H: CONSENT FORM FOR PARTICIPANTS INVOLVED IN RESEARCH (ENGLISH)

(TRANSLATION REVIEWERS AND PROFESSORS)

INFORMATION TO PARTICIPANTS:

We would like to invite you to participate in a part of a research project investigating the use of a newly translated scale titled: Japanese version of Revised Leadership Scale for Sport (JRLSS). The aim of this project is to test whether the JRLSS is suitable for a Japanese population.

CERTIFICATION BY SUBJECT
I,

of

certify that I am at least 18 years old and that I am voluntarily giving my consent to participate in the development of the Japanese Revised Leadership Scale for Sport, being conducted by Dr Daryl Marchant, Professor Tony Morris and student Yoriko Yashiro.

I certify that the objectives of the study, together with any risks and safeguards associated with this study, have been explained to me by Yoriko Yashiro and that I freely consent to participation involving these procedures.

Procedures:

As a participant in this study, you will receive the Japanese translated version of the questionnaire titled, Revised Leadership Scale for Sport (RLSS; Zhang, Jensen, & Mann, 1997). You will be asked to review the translated items and respond in writing to provide your opinion about the quality of translation of each item. After you send the completed questionnaire back to the student researcher, you will be requested to participate in a group meeting with other Japanese sport psychologists. Specifically, a group meeting will be held to share your thoughts or opinions on translated items with one another and reconcile any differences of opinion.

A number of sport psychologists will also be asked to meet one of the translators to express any concerns and opinions about the initial translation. You

will be requested to provide explanations of why the particular translated items require changing in your opinion.

Once item-modification is completed, you will be provided with a definition of each category (i.e., leadership factor) and asked to sort each item into the category you believe best represents the meaning of each item.

Your personal information and completed questionnaire will be stored separately in different locked filing cabinets for five years. Only the principle investigator, associate investigator, and student researcher will have the access to the information.

I certify that I have had the opportunity to have any questions answered and that I understand that I can withdraw from this study at any time and that this withdrawal will not jeopardise me in any way.

I have been informed that the information I provide will be kept confidential.

Signed: ..... }

Witness other than the experimenter: } Date: .....

.....}

Any queries about your participation in this project may be directed to the researcher (Name: Dr Daryl Marchant ph. 03-9688-4035). If you have any queries or complaints about the way you have been treated, you may contact the Secretary, University Human Research Ethics Committee, Victoria University of Technology, PO Box 14428 MCMC, Melbourne, 8001 (telephone no: 03-9688 4710).

APPENDIX I: CONSENT FORM FOR PARTICIPANTS INVOLVED IN RESEARCH (JAPANESE)

(TRANSLATION REVIEWERS AND PROFESSORS)

同意書

日本のチームスポーツにおけるリーダーシップ行動についての研究プロジェクトへご協力をお願い致します。

研究概要

みなさまには質問記述の分類作業に参加していただきます。まず、リーダーシップ行動要因の定義を読んでよく理解していただいたうえで、日本語改訂版スポーツリーダーシップスケールに含まれる６０個の行動が、どのリーダーシップカテゴリー（トレーニング・インストラクション行動、民主的行動、専制的行動、社会的支援行動、肯定的フィードバック行動、状況検討行動）に当てはまると思うかをお答えいただきます。答えに正解・不正解などはありません。また、アンケートを一度お受けいただいても途中で理由を述べることなく中止または中断できます。

みなさまからご提供されたすべてのデータ（個人情報 / アンケートに対する答え等）は、ビクトリア大学の鍵付きキャビネットに5年間保管されます。その間、データにアクセスできるのは、研究者である八城順子、ダーロ・マーチャント、トニー・モリスの三人のみになります。

署名

私は、

１８歳以上で、ダーロ・マーチャント、トニー・モリス、八城順子による、日本スポーツリーダーシップ行動に関する調査の対象者になることを任意で同意します。

調査に関する説明を聞き、アンケート参加はいつでも中止または中断できること、また提供した情報の機密は必ず守られることを理解しました。

サイン：＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿　日付　　/　　/

このプロジェクトに参加するにあたって、質問がある場合、直接研究者（ダーロ・マーチャント：＋613 9688 4035）へ問い合わせてください。あなたへの対応など不明な点があれば大学学部秘書の方へご連絡ください（住所：Po Box 14428 MCMC Melbourne, 8001, TEL:+613 9688 4710）

APPENDIX J: ITEM SORTING QUESTIONNAIRE

リーダーシップ行動要因の定義

以下、ザングら（１９９７）による各リーダーシップ行動要因の定義を注意深く読んでください。

A. トレーニング・インストラクション行動(T・I)

- （コーチング行動は）厳しく激しいトレーニングを重視し実施することにより、選手のパフォーマンスを高めることを目的とする。
- （コーチング行動は）そのスポーツにおけるスキル・テクニック・作戦を選手に指導することを目的とする。
- （コーチング行動は）選手の安全を考慮した設備・器具・練習方法を準備することを目的とする。
- （コーチング行動は）トレーニング・練習を計画し、選手のパフォーマンスの評価をおこなうことを目的とする。
- （コーチング行動は）知識を身につけ、責任感をもつことを目的とする。

B. 民主的行動(ＤＢ)

- （コーチング行動は）グループ目標、練習方法、試合の作戦・戦略に関する意思決定において、選手の参加を認めることを目的とする。
- （コーチング行動は）選手の権利を尊重し、認めることを目的とする。
- （コーチング行動は）人材の選考やパフォーマンスの評価において、選手の関与を奨励すること。
- （コーチング行動は）間違いを認め、問題に対処することを目的とする。

C. 専制的行動（ＡＢ）

- （コーチング行動は）独自に意思決定をおこなうことを目的とする。
- （コーチング行動は）個人的権威を好み、それを強調することを目的とする。
- （コーチング行動は）命令・罰則をもちいることを目的とする。
- （コーチング行動は）選手の気持ちや考えを考慮に入れず行動することを目的とする。
- （コーチング行動は）ものごとのやり方を命令することを目的とする。

D. 社会的支援行動（ＳＳ）

▪（コーチング行動は）競技トレーニングや試合に直接かかわらない心理的サポートを選手に対して提供することを目的とする。
▪（コーチング行動は）選手の個人的問題に関して力になることを目的とする。
▪（コーチング行動は）選手の幸福のために貢献することを目的とする。
▪（コーチング行動は）グループの良好な雰囲気、暖かい対人関係、友情を選手と築くことを目的とする。
▪（コーチング行動は）選手の生活においてスポーツを楽しみの一部にすることを目的とする。
▪（コーチング行動は）選手を外圧から守ることを目的とする。

E. 肯定的フィードバック行動（ＰＦ）

▪（コーチング行動は）よいパフォーマンスを認め、それに報いることで選手をさらに前進させることを目的とする。
▪（コーチング行動は）ミスのあとで、選手を力づけることを目的とする。
▪（コーチング行動は）選手を非難するより、行動を正そうとすることを目的とする。
▪（コーチング行動は）選手をきちんとほめることを目的とする。
▪（コーチング行動は）ボディー・ランゲージを適切にもちいることを目的とする。

F. 状況検討行動（ＳＣ）

▪（コーチング行動は）状況要因としての時間、試合、環境、個人、ジェンダー、技術レベル、健康状態などを考慮することを目的とする。
▪（コーチング行動は）個人の目標を設定し、その目標に到達する道を明確にすることを目的とする。
▪（コーチング行動は）成熟度の各段階や技術レベルに合わせてコーチングの方法を変えることを目的とする。
▪（コーチング行動は）試合の状況やメンバー構成に合わせて選手を選考することを目的とする。

質問記述の分類

前述のリーダーシップ行動要因の定義をもとにして、それぞれの記述の意味をもっとも表しているものと思われるカテゴリー（Ｔ・Ｉ＝トレーニング・インストラクション行動，ＤＢ＝民主的行動，ＡＢ＝専制的行動，ＳＳ＝社会的支援行動，ＰＦ＝肯定的フィードバック行動，ＳＣ＝状況検討行動）に各質問記述文を分類してください。当てはまると考えられるカテゴリーに丸をしてください。確信がない場合でも、すべての記述に答えてください。尚、答えには、正解、不正解はございません。

	私の理想のコーチ（監督）・私のコーチは	T・I	DB	AB	SS	PF	SC
1	選手のレベルに合わせてコーチする。	T・I	DB	AB	SS	PF	SC
2	選手との親密で形式ばらない関係づくりに努める。	T・I	DB	AB	SS	PF	SC
3	複雑なことを理解しやすく、学びやすいものにする。	T・I	DB	AB	SS	PF	SC
4	チームの選手からの提案を実行に移す。	T・I	DB	AB	SS	PF	SC
5	選手一人一人の能力に合った目標を設定する。	T・I	DB	AB	SS	PF	SC
6	選手の恐れ、不安、不満は無視する。	T・I	DB	AB	SS	PF	SC
	私の理想のコーチ（監督）・私のコーチは	T・I	DB	AB	SS	PF	SC
7	一つ一つの試合の作戦などについて選手に意見を求める。	T・I	DB	AB	SS	PF	SC
8	選手が目標に到達できるように目標や到達方法を明確にする。	T・I	DB	AB	SS	PF	SC
9	練習方法について提案をだすことを選手にすすめる。	T・I	DB	AB	SS	PF	SC
10	状況に合わせてコーチングスタイルを適応させる。	T・I	DB	AB	SS	PF	SC

11	選手の努力の成果が練習や試合に現れていない時には、別のよりよい方法を用いる。	T・I	DB	AB	SS	PF	SC
12	選手のミスを指摘するために特別の注意を払う。	T・I	DB	AB	SS	PF	SC
13	たとえ結果的には失敗するとしても、選手の思うとおりやらせる。	T・I	DB	AB	SS	PF	SC
14	コーチ自身の考えと違っていても、その選手の考えのよい所をみる。	T・I	DB	AB	SS	PF	SC
15	選手に「O.K」や「いいぞ」といったジェスチャーを示す。	T・I	DB	AB	SS	PF	SC
16	選手の求めることに対し敏感であり続ける。	T・I	DB	AB	SS	PF	SC
17	選手一人一人のウェル・ビーイング（幸福）に関心を持ち続ける。	T・I	DB	AB	SS	PF	SC
18	よいパフォーマンスの後には軽くたたいたりして選手をほめる。	T・I	DB	AB	SS	PF	SC
19	それぞれの選手にスポーツの技術や作戦などを説明する。	T・I	DB	AB	SS	PF	SC
20	よいプレーの後には選手を賞賛する。	T・I	DB	AB	SS	PF	SC
21	何事についても妥協しない。	T・I	DB	AB	SS	PF	SC
22	練習ではさまざまなドリルを用いる	T・I	DB	AB	SS	PF	SC
23	より高度なスキルを身につけることを重視する。	T・I	DB	AB	SS	PF	SC
24	予期せぬ出来事がおこれば計画を変更する。	T・I	DB	AB	SS	PF	SC
25	選手一人一人に自らの目標設定をさせる。	T・I	DB	AB	SS	PF	SC
26	選手個人の精神的物質的な悩みにも注意を払い、それを解決しようする。	T・I	DB	AB	SS	PF	SC

	私の理想のコーチ（監督）・私のコーチは	T・I	DB	AB	SS	PF	SC
27	選手の評価においては客観的な尺度を用いる。	T・I	DB	AB	SS	PF	SC
28	あまり選手といちいち相談などせずに指導する。	T・I	DB	AB	SS	PF	SC
29	選手が特によい成績をあげた（良いプレーをした）時はほめる。	T・I	DB	AB	SS	PF	SC
30	重要なことについては実行する前に選手の承認を求める。	T・I	DB	AB	SS	PF	SC
31	選手がよい成績をあげたら（良いプレーをしたら）自分の喜びの気持ちを表す。	T・I	DB	AB	SS	PF	SC
32	メンバー構成には適切な選手を入れる。	T・I	DB	AB	SS	PF	SC
33	選手に信頼されるように努める。	T・I	DB	AB	SS	PF	SC
34	これから従っていくべき方法を指示する。	T・I	DB	AB	SS	PF	SC
35	選手からの提案や意見は好まない。	T・I	DB	AB	SS	PF	SC
36	基本を教える際には、適切に順を追っておこなう。	T・I	DB	AB	SS	PF	SC
37	選手の練習をしっかり間近で監督する。	T・I	DB	AB	SS	PF	SC
38	トレーニングにおける優先順位を明らかにしそれに沿っておこなう。	T・I	DB	AB	SS	PF	SC
39	そのスポーツにおける深い知識を持っている。	T・I	DB	AB	SS	PF	SC
40	自分のすることをいちいち説明をすることをしない。	T・I	DB	AB	SS	PF	SC
41	選手がミスをしたときは、その選	T・I	DB	AB	SS	PF	SC

	手を励ます。						
42	試合に負けても、選手の良いプレーを賞賛する。	T・I	DB	AB	SS	PF	SC
43	状況に合わせて、選手を違ったポジションで使う。	T・I	DB	AB	SS	PF	SC
44	各個人の能力と必要（不足している部分）に応じて課題を与える。	T・I	DB	AB	SS	PF	SC
45	試合での成功への個々の貢献を認識する。	T・I	DB	AB	SS	PF	SC
46	反論を許さないような毅然とした態度で話す。	T・I	DB	AB	SS	PF	SC
	私の理想のコーチ（監督）・私のコーチは	T・I	DB	AB	SS	PF	SC
47	試合中どういうプレーをするかを選手自身に決めさせる。	T・I	DB	AB	SS	PF	SC
48	部生活以外でも選手の面倒をみる。	T・I	DB	AB	SS	PF	SC
49	よいパフォーマンスをした選手を他の選手の前でほめる。	T・I	DB	AB	SS	PF	SC
50	練習の細かなところを選手に決めさせる。	T・I	DB	AB	SS	PF	SC
51	日々のチームミーティングで選手から考えをくみあげる。	T・I	DB	AB	SS	PF	SC
52	よいプレーをしたときには拍手をする。	T・I	DB	AB	SS	PF	SC
53	ほめるべきところはほめる。	T・I	DB	AB	SS	PF	SC
54	選手の個人的な問題を解決するのに力をかす。	T・I	DB	AB	SS	PF	SC
55	コーチする重要な内容について選手に意見を求める。	T・I	DB	AB	SS	PF	SC
56	選手が努力する限りそれに報いる。	T・I	DB	AB	SS	PF	SC

57	意思決定や方針設定に選手を参加させる。	T・I	DB	AB	SS	PF	SC
58	選手の親･保護者と話しをする。	T・I	DB	AB	SS	PF	SC
59	選手との距離をおき、超然としている。	T・I	DB	AB	SS	PF	SC
60	選手にとって要求が簡単すぎる場合は、要求の複雑性や度合いを高める。	T・I	DB	AB	SS	PF	SC

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APPENDIX K: CONSENT FORM FOR PARTICIPANTS INVOLVED IN RESEARCH

(ATHLETES ENGLISH VERSION IN FACE VALIDITY TESTING)

INFORMATION TO PARTICIPANTS:

We would like to invite you to participate in a part of a research project investigating the use of a newly translated scale titled: Japanese version of Revised Leadership Scale for Sport (JRLSS). The aim of this project is to test whether the JRLSS is suitable for a Japanese population.

CERTIFICATION BY SUBJECT

I,
of

certify that I am at least 18 years old and that I am voluntarily giving my consent to participate in the development of the Japanese Revised Leadership Scale for Sport, being conducted by Dr Daryl Marchant, Professor Tony Morris and student Yoriko Yashiro.

I certify that the objectives of the study, together with any risks and safeguards associated with this study, have been explained to me by Yoriko Yashiro and that I freely consent to participation involving these procedures.

Procedures:

As a participant in this study, you will be requested to first complete a demographic questionnaire which asks you for information including name, gender, age, the type of sport you participate in, experience in the sport. You will be asked to rate the extent to which you believe each item matches the relevant leadership factors (i.e., training and instruction, democratic behaviour, autocratic behaviour, positive feedback, social support, and situation consideration). Completing these questionnaires is likely to be approximately 30-40 minutes. There are no right or wrong answers to these questions. Also you are free to withdraw at any time in this project if you feel any distress.

Your personal information and completed questionnaire will be stored separately in different locked filing cabinets for five years. Only the principle investigator, associate investigator, and student researcher will have the access to the information.

I certify that I have had the opportunity to have any questions answered and that I understand that I can withdraw from this study at any time and that this withdrawal will not jeopardise me in any way.

I have been informed that the information I provide will be kept confidential.

Signed: ..... }

Witness other than the experimenter: } Date: .....

.....}

Any queries about your participation in this project may be directed to the researcher (Name: Dr Daryl Marchant ph. 03-9688-4035). If you have any queries or complaints about the way you have been treated, you may contact the Secretary, University Human Research Ethics Committee, Victoria University of Technology, PO Box 14428 MCMC, Melbourne, 8001 (telephone no: 03-9688 4710).

APPENDIX L: CONSENT FORM FOR PARTICIPANTS INVOLVED IN RESEARCH

(ATHLETES JAPANESE VERSION IN FACE VALIDITY TESTING)

Victoria University

同意書

日本のチームスポーツにおけるリーダーシップ行動についての研究プロジェクトへのご協力をお願い致します。

研究概要

１枚目では、みなさんに個人的な情報を提供していただくために、名前、性別、大学名、専門スポーツなどお答えいただきます。２枚目では、改訂版スポーツ・リーダーシップ・スケールの各設問がどのくらい指定されたリーダーシップ行動カテゴリーに当てはまるかを答えてください。３枚目では、改訂版スポーツ・リーダーシップ・スケールに記述されているリーダーシップ行動がどのくらい日本のスポーツ環境において必要だと思われるかを答えてください。

みなさまから提供されたすべてのデータ（個人・チーム情報／アンケート用紙）は、他に漏れることがないよう、オーストラリアの倫理規定により、ビクトリア大学内にある鍵付きキャビネットに５年間保管されます。その間、データにアクセスできるのは、研究者である八城順子、ダーロ・マーチャント、トニー・モリスの三人のみになります。もちろん、監督や大学関係者の方々にも、皆さんに答えていただいた回答をお見せすることはありません。

署名

私は、

１８歳以上で、ダーロ・マーチャント、トニー・モリス、八城順子による、日本スポーツリーダーシップ行動に関する調査の対象者になることを任意で同意します。

調査に関する説明を聞き、アンケートはいつでもやめられること、また提供した情報の機密は必ず守られることを理解しました。

サイン：＿＿＿＿＿＿＿＿＿＿＿＿　　日付　　/　　/

このプロジェクトに参加するにあたって、質問がある場合、直接研究者（ダーロ・マーチャント：+613 9688 4035）へ問い合わせてください。あなたへの対応など不明な点があれば、大学学部秘書の方へご連絡ください（住所：Po Box 14428 MCMC Melbourne, 8001, TEL:+613 9688 4710）

APPENDIX M: JAPANESE REVISED LEADERSHIP SCALE FOR SPORT

(FACE VALIDITY TESTING ENGLISH VERSION)

Directions

For each item statement, please rate the extent to which you believe each item matches the relevant leadership factor on a 5-point scale. Moreover, please indicate the understanding of the translated items on a 5-point scale. Five alternative categories are provided below (see Figure 1). Answer all items even if you are unsure of a response. There are no right or wrong answers. Your spontaneous and honest response is important for the success of this evaluation.

		Agreement	Understandable
1	0%	Strongly Disagree	Not at all Understood
2	25%	Disagree	Barely Understood
3	50%	Neutral	Neutral
4	75%	Agree	Moderately Understood
5	100%	Strongly Agree	Completely Understood

Training & Instruction Behaviour	Agreement					Understanding				
Make complex things easier to understand and learn.	1	2	3	4	5	1	2	3	4	5
Pay special attention to correcting athletes' mistakes	1	2	3	4	5	1	2	3	4	5
Explain to each athlete the techniques and tactics of the sport	1	2	3	4	5	1	2	3	4	5
Use a variety of drills for a practice	1	2	3	4	5	1	2	3	4	5
Stress the mastery of greater skills	1	2	3	4	5	1	2	3	4	5
Use objective measurements for evaluation	1	2	3	4	5	1	2	3	4	5
Conduct proper progressions in teaching fundamentals	1	2	3	4	5	1	2	3	4	5
Supervise athletes' drills closely	1	2	3	4	5	1	2	3	4	5
Clarify training priorities and work on them	1	2	3	4	5	1	2	3	4	5
Possess good knowledge of the sport	1	2	3	4	5	1	2	3	4	5
Democratic Behaviour										
Put the suggestions made by the team members into operation	1	2	3	4	5	1	2	3	4	5
Ask for the opinion of the athletes on strategies for specific competition	1	2	3	4	5	1	2	3	4	5
Encourage the athletes to make suggestions for ways to conduct practices	1	2	3	4	5	1	2	3	4	5
Let the athletes try their own way even if they make mistakes	1	2	3	4	5	1	2	3	4	5
See the merits of athletes' ideas when differ	1	2	3	4	5	1	2	3	4	5

from the coach's										
Let the athletes set their own goals	1	2	3	4	5	1	2	3	4	5
Get approval from the athletes on important matters before going ahead	1	2	3	4	5	1	2	3	4	5
Let the athletes decide on plays to be used in a competition	1	2	3	4	5	1	2	3	4	5
Give the athletes freedom to determine the details of conducting a drill	1	2	3	4	5	1	2	3	4	5
Get input from the athletes at daily team meetings	1	2	3	4	5	1	2	3	4	5
Ask for the opinion of the athletes on important coaching matters	1	2	3	4	5	1	2	3	4	5
Let the athletes share in decision making and policy formulation	1	2	3	4	5	1	2	3	4	5
Autocratic Behaviour										
Disregard athletes' fears and dissatisfactions	1	2	3	4	5	1	2	3	4	5
Refuse to compromise on a point	1	2	3	4	5	1	2	3	4	5
Plan for the team relatively independent of the athletes	1	2	3	4	5	1	2	3	4	5
Prescribe the methods to be followed	1	2	3	4	5	1	2	3	4	5
Dislike suggestions and opinions from the athletes	1	2	3	4	5	1	2	3	4	5
Fail to explain his/her actions	1	2	3	4	5	1	2	3	4	5
Present ideas forcefully	1	2	3	4	5	1	2	3	4	5
Keep aloof from the athletes	1	2	3	4	5	1	2	3	4	5
Social Support Behaviour										
Encourage close and informal relationship with the athletes	1	2	3	4	5	1	2	3	4	5
Remain sensitive to the needs of the athletes	1	2	3	4	5	1	2	3	4	5
Stay interested in the personal well-being of the athletes	1	2	3	4	5	1	2	3	4	5
Look out for the personal welfare of the athletes.	1	2	3	4	5	1	2	3	4	5
Encourage the athletes to confide in the coach	1	2	3	4	5	1	2	3	4	5
Perform personal favours for the athletes	1	2	3	4	5	1	2	3	4	5
Help the athletes with their personal problems	1	2	3	4	5	1	2	3	4	5
Visit with the parents/guardians of the athletes	1	2	3	4	5	1	2	3	4	5
Positive Feedback Behaviour										
Show 'O.K.' or 'Thumbs Up' gesture to the athletes	1	2	3	4	5	1	2	3	4	5
Pat an athlete after a good performance	1	2	3	4	5	1	2	3	4	5
Congratulate an athlete after a good play	1	2	3	4	5	1	2	3	4	5
Tell an athlete when the athlete does a particularly good job	1	2	3	4	5	1	2	3	4	5
Express appreciation when an athlete performs well	1	2	3	4	5	1	2	3	4	5
Encourage an athlete when the athlete makes mistakes in performance	1	2	3	4	5	1	2	3	4	5
Praise the athletes' good performance after	1	2	3	4	5	1	2	3	4	5

losing a competition		
Recognize individual contributions to the success of each competition	1 2 3 4 5	1 2 3 4 5
Compliment an athlete for good performance in front of others	1 2 3 4 5	1 2 3 4 5
Clap hands when an athlete does well	1 2 3 4 5	1 2 3 4 5
Give credit when it is due	1 2 3 4 5	1 2 3 4 5
Reward an athlete as long as the athlete tries hard	1 2 3 4 5	1 2 3 4 5
Situational Consideration Behaviours		
Coach to the level of the athletes	1 2 3 4 5	1 2 3 4 5
Set goals that are compatible with the athletes' ability	1 2 3 4 5	1 2 3 4 5
Clarify goals and the paths to reach the goals for the athletes	1 2 3 4 5	1 2 3 4 5
Adapt coaching style to suit the situation	1 2 3 4 5	1 2 3 4 5
Use alternative methods when the efforts of the athletes are not working well in practice or in competition	1 2 3 4 5	1 2 3 4 5
Alter plans due to unforeseen events	1 2 3 4 5	1 2 3 4 5
Put the appropriate athletes in the line-up	1 2 3 4 5	1 2 3 4 5
Put an athlete into different positions depending on the needs of the situation	1 2 3 4 5	1 2 3 4 5
Assign tasks according to each individual's ability and needs	1 2 3 4 5	1 2 3 4 5
Increase complexity and demands if the athletes find the demands are too easy	1 2 3 4 5	1 2 3 4 5

APPENDIX N: THE JAPANESE REVISED LEADERSHIP SCALE FOR SPORT

(FACE VALIDITY TESTING JAPANESE VERSION)

リーダーシップ行動要因の定義

以下、ザングら（１９９７）による各リーダーシップ行動要因の定義を注意深く読んでください。

A. トレーニング・インストラクション行動(T・I)

- （コーチング行動は）厳しく激しいトレーニングを重視し実施することにより、選手のパフォーマンスを高めることを目的とする。
- （コーチング行動は）そのスポーツにおけるスキル・テクニック・作戦を選手に指導することを目的とする。
- （コーチング行動は）選手の安全を考慮した設備・器具・練習方法を準備することを目的とする。
- （コーチング行動は）トレーニング・練習を計画し、選手のパフォーマンスの評価をおこなうことを目的とする。
- （コーチング行動は）知識を身につけ、責任感をもつことを目的とする。

B. 民主的行動(ＤＢ)

- （コーチング行動は）グループ目標、練習方法、試合の作戦・戦略に関する意思決定において、選手の参加を認めることを目的とする。
- （コーチング行動は）選手の権利を尊重し、認めることを目的とする。
- （コーチング行動は）人材の選考やパフォーマンスの評価において、選手の関与を奨励すること。
- （コーチング行動は）間違いを認め、問題に対処することを目的とする。

C. 専制的行動（ＡＢ）

- （コーチング行動は）独自に意思決定をおこなうことを目的とする。
- （コーチング行動は）個人的権威を好み、それを強調することを目的とする。
- （コーチング行動は）命令・罰則をもちいることを目的とする。

- （コーチング行動は）選手の気持ちや考えを考慮に入れず行動することを目的とする。
- （コーチング行動は）ものごとのやり方を命令することを目的とする。

D. 社会的支援行動（ＳＳ）

- （コーチング行動は）競技トレーニングや試合に直接かかわらない心理的サポートを選手に対して提供することを目的とする。
- （コーチング行動は）選手の個人的問題に関して力になることを目的とする。
- （コーチング行動は）選手の幸福のために貢献することを目的とする。
- （コーチング行動は）グループの良好な雰囲気、暖かい対人関係、友情を選手と築くことを目的とする。
- （コーチング行動は）選手の生活においてスポーツを楽しみの一部にすることを目的とする。
- （コーチング行動は）選手を外圧から守ることを目的とする。

E. 肯定的フィードバック行動（ＰＦ）

- （コーチング行動は）よいパフォーマンスを認め、それに報いることで選手をさらに前進させることを目的とする。
- （コーチング行動は）ミスのあとで、選手を力づけることを目的とする。
- （コーチング行動は）選手を非難するより、行動を正そうとすることを目的とする。
- （コーチング行動は）選手をきちんとほめることを目的とする。
- （コーチング行動は）ボディー・ランゲージを適切にもちいることを目的とする。

F. 状況検討行動（ＳＣ）

- （コーチング行動は）状況要因としての時間、試合、環境、個人、ジェンダー、技術レベル、健康状態などを考慮することを目的とする。
- （コーチング行動は）個人の目標を設定し、その目標に到達する道を明確にすることを目的とする。
- （コーチング行動は）成熟度の各段階や技術レベルに合わせてコーチングの方法を変えることを目的とする。
- （コーチング行動は）試合の状況やメンバー構成に合わせて選手を選考することを目的とする。

		5	4	3	2	1

	トレーニング・インストラクション行動(T・I) 私の理想のコーチ（監督）・私のコーチは、	100% 強く同意する	75%	50% どちらでもない	25%	0% 全く同意できない
1	複雑なことを理解しやすく、学びやすいものにする。	5	4	3	2	1
2	選手のミスを指摘するために特別の注意を払う。	5	4	3	2	1
3	それぞれの選手にスポーツの技術や作戦などを説明する。	5	4	3	2	1
4	練習ではさまざまなドリルを用いる。	5	4	3	2	1
5	より高度なスキルを身につけることを重視する。	5	4	3	2	1
6	選手の評価においては客観的な尺度を用いる。	5	4	3	2	1
7	基本を教える際には、適切に順を追っておこなう。	5	4	3	2	1
8	選手の練習をしっかり間近で監督する。	5	4	3	2	1
9	トレーニングにおける優先順位を明らかにしそれに沿っておこなう。	5	4	3	2	1
10	そのスポーツにおける深い知識を持っている。	5	4	3	2	1
	民主的行動(ＤＢ) 私の理想のコーチ（監督）・私のコーチは、	100% 強く同意する	75%	50% どちらでもない	25%	0% 全く同意できない
11	チームの選手からの提案を実行に移す。	5	4	3	2	1
12	一つ一つの試合の作戦などについて選手に意見を求める。	5	4	3	2	1

13	練習方法について提案をだすことを選手にすすめる。	5	4	3	2	1
14	たとえ結果的には失敗するとしても、選手の思うとおりやらせる。	5	4	3	2	1
15	コーチ自身の考えと違っていても、その選手の考えのよい所をみる。	5	4	3	2	1
16	選手一人一人に自らの目標設定をさせる。	5	4	3	2	1
17	重要なことについては実行する前に選手の承認を求める。	5	4	3	2	1
18	試合中どういうプレーをするかを選手自身に決めさせる。	5	4	3	2	1
19	練習の細かなところを選手に決めさせる。	5	4	3	2	1
20	日々のチームミーティングで選手から考えをくみあげる。	5	4	3	2	1
21	コーチする重要な内容について選手に意見を求める。	5	4	3	2	1
22	意思決定や方針設定に選手を参加させる。	5	4	3	2	1
	専制的行動（ＡＢ） 私の理想のコーチ（監督）・私のコーチは	100% 強く同意する	75%	50% どちらでもない	25%	0% 全く同意できない
23	選手の恐れ、不安、不満は無視する。	5	4	3	2	1
24	何事についても妥協しない。	5	4	3	2	1
25	あまり選手といちいち相談などせずに指導する。	5	4	3	2	1
26	これから従っていくべき方法を指示する。	5	4	3	2	1
27	選手からの提案や意見は好まない。	5	4	3	2	1
28	自分のすることをいちいち説明をすることをしない。	5	4	3	2	1
29	反論を許さないような毅然とした態度で話す。	5	4	3	2	1

30	選手との距離をおき、超然としている。	5	4	3	2	1
	社会的支援行動（ＳＳ） 私の理想のコーチ（監督）・私のコーチは	100% 強く同意する	75%	50% どちらでもない	25%	0% 全く同意できない
31	選手との親密で形式ばらない関係づくりに努める。	5	4	3	2	1
32	選手の求めることに対し敏感であり続ける。	5	4	3	2	1
33	選手一人一人のウェル・ビーイング（幸福）に関心を持ち続ける。	5	4	3	2	1
34	選手個人の精神的物質的な悩みにも注意を払い、それを解決しようする。	5	4	3	2	1
35	選手に信頼されるように努める。	5	4	3	2	1
36	部生活以外でも選手の面倒をみる。	5	4	3	2	1
37	選手の個人的な問題を解決するのに力をかす。	5	4	3	2	1
38	選手の親・保護者と話しをする。	5	4	3	2	1
	肯定的フィードバック行動（ＰＦ） 私の理想のコーチ（監督）・私のコーチは	100% 強く同意する	75%	50% どちらでもない	25%	0% 全く同意できない
39	選手に「O.K」や「いいぞ」といったジェスチャーを示す。	5	4	3	2	1
40	よいパフォーマンスの後には軽くたたいたりして選手をほめる。	5	4	3	2	1
41	よいプレーの後には選手を賞賛する。	5	4	3	2	1
42	選手が特によい成績をあげた（良いプレーをした）時はほめる。	5	4	3	2	1

43	選手がよい成績をあげたら（良いプレーをしたら）自分の喜びの気持ちを表す。	5	4	3	2	1
44	選手がミスをしたときは、その選手を励ます。	5	4	3	2	1
45	試合に負けても、選手の良いプレーを賞賛する。	5	4	3	2	1
46	試合での成功への個々の貢献を認識する。	5	4	3	2	1
47	よいパフォーマンスをした選手を他の選手の前でほめる。	5	4	3	2	1
48	よいプレーをしたときには拍手をする。	5	4	3	2	1
49	ほめるべきところはほめる。	5	4	3	2	1
50	選手が努力する限りそれに報いる。	5	4	3	2	1
	状況検討行動（ＳＣ） 私の理想のコーチ（監督）・私のコーチは	100% 強く同意する	75%	50% どちらでもない	25%	0% 全く同意できない
51	選手のレベルに合わせてコーチする。	5	4	3	2	1
52	選手一人一人の能力に合った目標を設定する。	5	4	3	2	1
53	選手が目標に到達できるように目標や到達方法を明確にする。	5	4	3	2	1
54	状況に合わせてコーチングスタイルを適応させる。	5	4	3	2	1
55	選手の努力の成果が練習や試合に現れていない時には、別のよりよい方法を用いる。	5	4	3	2	1
56	予期せぬ出来事がおこれば計画を変更する。	5	4	3	2	1
57	メンバー構成には適切な選手を入れる。	5	4	3	2	1
58	状況に合わせて、選手を違ったポジションで使う。	5	4	3	2	1
59	各個人の能力と必要（不足している部分）に	5	4	3	2	1

	応じて課題を与える。					
60	選手にとって要求が簡単すぎる場合は、要求の複雑性や度合いを高める。	5	4	3	2	1