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CONSTRUCTION OF THE COACHING CONFIDENCE SCALE

By

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ABSTRACT

CONSTRUCTION OF THE COACHING CONFIDENCE SCALE

By

Jeong-Keun Park

The purpose of this study was to develop and examine a valid and reliable instrument to measure coaching confidence. The coaching confidence model was developed from multiple sources: self-efficacy theory and models of teacher efficacy in an educational context. The process for developing a reliable and valid Coaching Confidence Scale (CCS) contained three stages: preliminary scale development and instrument reliability, concurrent validity, and construct validity. Preliminary scale development involved instrument design and scoring procedures. In Phase 1 (N=130), the study assessed (a) individual item characteristics, (b) the internal structure of the inventory, (c) the internal consistency of the inventory, and (d) social desirability response bias. Phase 1 of this study supported a multidimensional construct of coaching confidence. The CCS was found to have three factors: technique confidence, interpersonal confidence, and competition confidence. Each factor had strong internal consistency and provided adequate control of the social desirability response bias. The second phase assessed the concurrent validity of the CCS by correlating it with measures of related psychological constructs. Results

supported the concurrent validity of the CCS for the self-esteem construct. In addition, a significant positive relationship emerged between internal locus of control and technique confidence and a significant negative relationship emerged between interpersonal confidence and anxiety. The purpose of Phase 3 (N=77) was to measure the construct validity of the CCS. Using t tests, Pearson correlations, and multiple regression analysis, the results of Phase 3 provided partial support for the relationships between coaching confidence and its antecedent and consequent variables as represented in the coaching confidence model, thus providing some evidence of construct validity for the CCS.

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CHAPTER I

INTRODUCTION

Nature of the Problem

Coaches and athletes have emphasized the importance of confidence for maximizing sports performance. Although coaches and athletes know confidence is an important factor of athletic performance, psychologists and sport psychologists have only recently begun to study this topic systematically and empirically. Bandura (1977, 1986) has provided a theory of self-efficacy with which to test the relationship between self-confidence beliefs and performance. Self-efficacy is defined as the strength of an individual's conviction that he or she can successfully execute a behavior required to achieve a certain outcome. Expectations of personal efficacy determine what kind of activities people will choose initially, how much effort they will expend, and how long they will persist in the face of obstacles. However, self-efficacy predicts performance only when proper incentives and the necessary skills are present. If the incentives and skills are lacking, the individual's efficacy expectations alone will not produce the desired performance (Bandura, 1977, 1986).

Self-confidence and self-efficacy have been used synonymously in sport psychology literature and have been topics of much research interest (Feltz, 1982, 1988; Gould &

Weiss, 1981; Highlen & Bennett, 1979; Mahoney & Avener, 1977; Meyers, Cooke, Cullen, & Liles, 1979; Vealey, 1986; Weinberg, Gould, & Jackson, 1979). These studies have generally found positive relationships between an individual's efficacy expectations and performance and have shown that more successful performances exhibit higher efficacy expectations than less successful ones.

Although the research on self-efficacy/confidence concerning athletes has been discussed frequently, to date there has been no research in the study of coaches' self-efficacy/confidence in sport. No research has been conducted specifically to assess coaches' self-efficacy to affect athletic performance, to define the construct, and to explore the relationships between coaches' self-efficacy and other variables. However, there has been some research in a related area on teachers' self-efficacy (Ashton & Webb, 1982; Denham & Michael, 1981).

Teachers' perceived sense of efficacy has been identified by educational researchers as a powerful variable in teaching effectiveness. Denham and Michael (1981) provided a multidimensional model of teacher efficacy that was influenced by Bandura's (1977) conceptualization of self-efficacy. The model contains three components: the teacher's sense of efficacy, the antecedents of self-efficacy (teacher training, teaching experience, system variables, personal variables, and causal attributions), and consequence conditions (teacher behaviors and student

outcomes). In this model, sense of efficacy is an intervening variable that mediates the relationship between the antecedents and the consequences.

In terms of the antecedent variables in Denham and Michael's model, teacher training may affect sense of efficacy through the experience of a shared ordeal which may contribute to collegial feelings. Also, teacher training increases actual effectiveness. One researcher indicated that poor training left workers feeling ill-prepared and resulted in a high turnover rate (Carnell, 1978). Successful teaching experiences may also increase a teachers' sense of efficacy. Jersild (1966) reported that beginning teachers showed more anxiety than experienced teachers. Beginning teachers may also make more mistakes which lead to feelings of failure than teachers who are more experienced.

Other variables that Denham and Michael (1981) proposed to influence a teacher's sense of efficacy are system variables and personal variables. System variables include the career ladder of the professional educator, teacher participation in decision making, and support from the administration, peers, and society. Personal characteristics of the teacher include self-esteem, gender, and need for achievement. For example, teachers with higher self-esteem should have higher beliefs of efficacy for teaching than teachers with lower self-esteem.

Lastly, attributions are thought to mediate the effects

of other antecedent variables. For example, failure experiences in teaching that are attributed to external causes may not be as debilitating as failure experiences that are attributed to internal causes, such as lack of ability. As well, teachers who perceive the cause of their experiences to be under their own control are more likely to put forth more effort and increase their expectations than are teachers who perceive the cause of their achievements to be uncontrollable.

The antecedent variables in this model all influence a teacher's sense of efficacy regarding teaching, which in turn, influences the teacher's behavior and students' outcomes. Self-efficacy can influence a teacher's behavior within the classroom as well as in terms of remaining in the teaching profession. Barfield and Burlingame (1974) reported that teachers with a lower sense of efficacy used custodial control in the classroom more than teachers with a higher sense of efficacy. In addition, Stinnet (1970) reported that teachers with a higher sense of efficacy dropped out of teaching less often than teachers with a lower sense of efficacy.

In terms of student outcome, Berman, McLaughlin, Bass, Pauly, and Zellman (1977) reported that a teacher's sense of efficacy has a strong relationship to students' achievement. A teacher's sense of efficacy may also influence the affective outcomes of students. Teachers who have a high sense of efficacy are more likely to raise students' self-

concepts and self-satisfaction than are teachers who have a low sense of efficacy. Furthermore, teachers with a low sense of efficacy may control students more custodially than humanistically.

Many of the same variables that are associated with teacher efficacy can be applied to coaching. Therefore, using Denham and Michael's (1981) model, a model of coaching confidence, presented in Figure 1, was developed by the author. As in teacher efficacy, the three components in

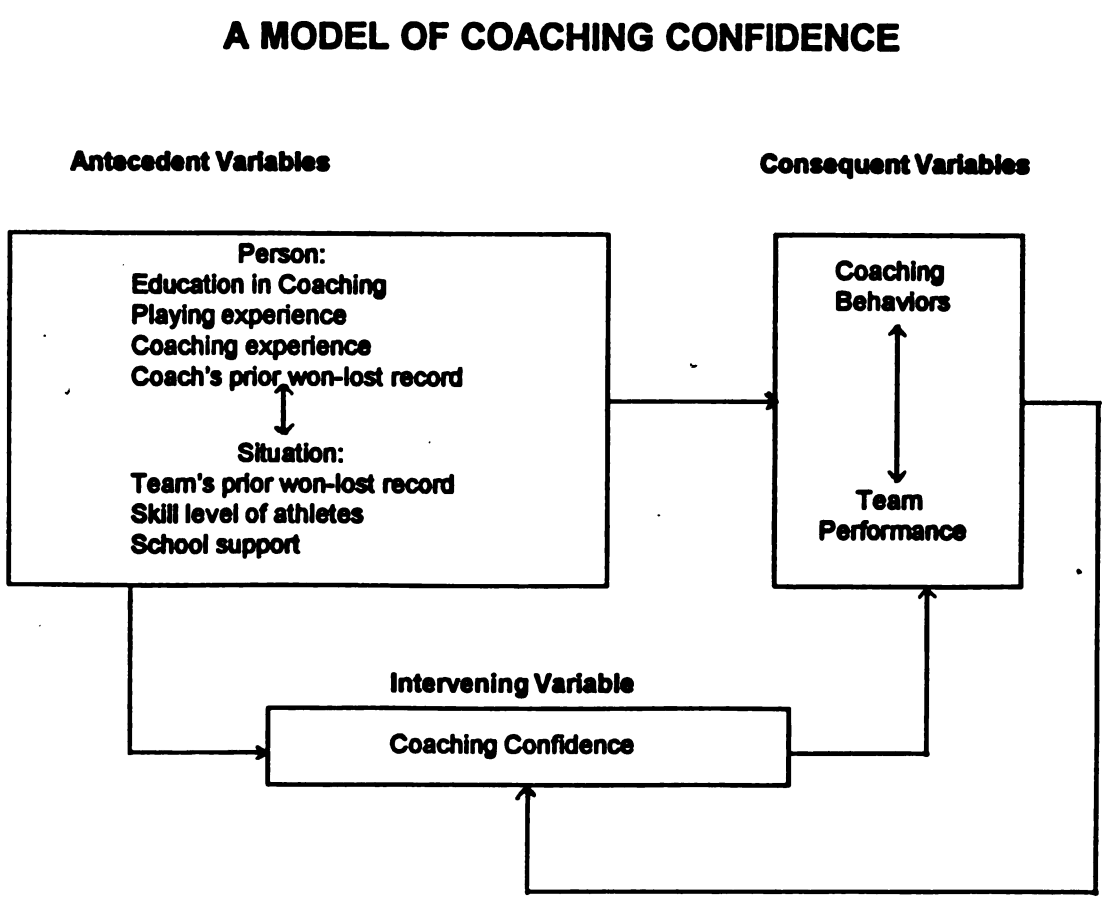

Figure 1. A model of coaching confidence.

this model are coaching confidence, its antecedents, and consequences. In the present model, coaching confidence is the intervening variable that mediates the relationship between the antecedents and the consequences.

Intervening Construct: Coaching Confidence

In this study the term, *coaching confidence*, is used to describe a coach's self-efficacy. Coaching confidence refers to the extent to which coaches believe that they have the capacity to affect the performance of their athletes. According to the model, the greater the coaching confidence, the more athletes advance in their performance.

Antecedent Variables of Coaching Confidence

Two categories of antecedent variables are personal and situational variables. Personal variables include education in coaching, playing experience, coaching experience, and coach's prior won-lost record. Situational variables encompass a team's prior won-lost record, skill level of athletes, and school support.

Certain personal factors and current situational factors may affect coaching confidence. In other words, coaching confidence may be changed depending on the personal factors of the coach and the situation. For example, in terms of personal factors, coaches may feel more confident when they have had prior successful coaching experiences, but feel less confidence and may even feel pessimistic when they have had prior unsuccessful coaching experiences.

Also, according to the model, coaching confidence is dependent upon the specific coaching situation. For example, coaches may feel more confident when they have a tremendous amount of school support, but feel less confident when they have little school support. These situational factors may tend to influence coaching confidence.

These variables were investigated to determine their effect on coaching confidence of high school coaches for the 1991-1992 athletic seasons. Specifically, the influence of education in coaching, playing experience, coaching experience, and coach's prior won-lost record were examined. Also the influence of three other situational variables on coaching confidence were studied, i.e., team's won-lost record, skill level of athletes, and school support. The following constructs are explained.

Education in coaching. Education in coaching may have a significant effect on coaching confidence. It may influence coaching confidence by providing coaches with the knowledge and skills necessary for coaching. Corcoran (1990) demonstrated that coaches who received an educational program on chemical health had higher levels of confidence about influencing the chemical health of their athletes than coaches who did not receive the program.

Playing experience. One might expect that a coach's own playing experience will predict coaching confidence because the skills and knowledge gained from playing experience provide a data base which can be drawn upon when

coaching. Playing experience should develop the reflective thinking process necessary for effective planning in a coaching job. Therefore, one's playing experience may have some impact on coaching confidence.

Coaching experience. Bandura and his associates (Bandura, 1977, 1986; Bandura, Adams, Hardy, & Howells, 1980; Bandura & Schunk, 1981) have maintained that strong perceived self-efficacy is based upon the gradual acquisition of cognitive skills through personal mediated experiences. Therefore, the number of years that a person has coached may influence coaching confidence. Successful coaching experiences should increase coaching confidence, and it is probably safe to assume that the more experienced the coach, the more successful he or she is at coaching.

Coach's prior won-lost record. A coach's personal success at coaching in terms of won-lost record should also affect his or her coaching confidence. A coach who had a previous winning season should be more confident about coaching than a coach who had a previous losing season.

Team's prior won-lost record. Independent of the coach, a team who has had a consistent tradition of winning, can also affect coaching confidence through cognitive processing. According to the model, coaches whose teams have had a tradition of winning will have higher coaching confidence than coaches whose teams have had a tradition of losing.

Team ability. Team ability should have some influence on coaching confidence. A more talented team would be expected to perform well and a less talented team might be expected to perform poorly. Consistency in positive performance outcome of a more talented team might generally increase coaching confidence. If coaches have teams with low ability, they may have lower coaching confidence. On the other hand, if coaches have teams with high ability, they may have higher coaching confidence.

School support. School support may also have an impact on coaching confidence. This includes support from the school principal, athletic director, student body, community, and parents. Trump and Georgiades (1978) suggested that the school principal is a very important person in determining the excellence of a school. The principal has some power to provide equipment and other support services to the coach. Therefore, the way the principal chooses to allocate resources is likely to have a significant effect on coaching confidence.

As well, an athletic program needs the enthusiastic support from the athletic director, student body, community, and parents. Support from these individuals and groups is essential to the success of the athletic program. Therefore these are key factors in influencing a coach's confidence in leading the team to success.

How Personal and Situational Variables Interact

Many of the antecedents in this model may interact with each other. The effect of training on coaching confidence may depend on other personal variables, whereas the effect of coaching experiences may be influenced by situational variables. For example, a coach's prior won-lost record may influence school support and school support may also influence a coach's prior won-lost record.

Consequent Variables of Coaching Confidence

Coaching confidence refers to the extent to which coaches believe that they have the capacity to affect the athletes' performance. Denham and Michael (1981) assumed that "teacher sense of efficacy has an effect upon student outcomes and student outcomes in turn influence teacher sense of efficacy" (p 41). It seems logical to assume that coaching confidence has an effect upon team performance and that team performance, in turn, influences coaching confidence. It is also assumed that coaching confidence has an effect upon a coach's behavior and certain coaching behaviors influence team performance. For example, coaches who have confidence in their own coaching abilities should exhibit different types of feedback, create appropriate coaching strategies and methods, and develop greater responsibility towards ensuring the performance of their athletes than coaches who have less confidence in their ability to influence their athletes' performances. According to the model, coaches with high coaching

confidence should believe athletic performance can be influenced by effective coaching (e.g., techniques, methods, etc.). The consequences of coaching confidence in the model are coaching behaviors and team performance. The following constructs are explained.

Coaching behaviors. The model predicts that coaching confidence will be related to coaching behaviors. As in teacher efficacy, it seems logical that coaches high or low in coaching confidence will have different behavioral patterns of coaching. This study examined how well coaching confidence predicts coaching behaviors. Coaches with a high coaching confidence will tend to choose challenging activities and be motivated to try harder when obstacles confront them. In a similar fashion, coaches with a low coaching confidence will tend to avoid activities they believe to be beyond their capabilities. These coaches have low expectations of success, do not work as hard to motivate and coach their athletes, and reduce their efforts or give up entirely when confronted with difficulties. As a consequence, the athletes of coaches with a low coaching confidence perform poorly on team performance, and their failure reinforces their coaches' low coaching confidence.

The proposed model assumes that the relationship between coaching confidence and coaching behavior is reciprocal. Coaching confidence influences behavior, and the consequences of that behavior alter coaching confidence. In addition, coaching behavior could influence some of the

antecedent variables, such as skill level of the athletes and school support.

Team performance. Many researchers (Gould & Weiss, 1981; Weinberg, Yukelson, & Jackson, 1980) indicated that the individual's efficacy expectations have positive relationships with performance. It is assumed that coaching confidence has an effect upon team performance and that team performance, in turn, influences coaching confidence.

Therefore, the relationship between coaching confidence and team performance is reciprocal. It is assumed that the athletes of coaches with a high coaching confidence perform better for their teams. The team's success then has a positive effect on their coaching confidence, and the process of reciprocal determinism continues in a mutually reinforcing cycle. Team performance will be measured by win-loss percentage across a season.

How Coaching Behaviors and Team Performance Interact

Coaching behaviors interact with team performance. The relationship between coaching behaviors and team performance is reciprocal. It is assumed that coaching behaviors have an effect on team performance and that team performance, in turn, influences coaching behaviors. For example, coaches who exert more effort, persist longer, and work harder with their athletes perform better for their teams than coaches who exert less effort, persist less, and do not work as hard with their athletes. Also, coaches who have successful team performance exert more effort, persist longer, and work

harder with their athletes than coaches who have unsuccessful team performance.

Purpose of the Study

The purpose of this study is to develop and examine a valid and reliable instrument to measure coaching confidence. The research was conducted in three phases: preliminary scale development and instrument reliability, concurrent validity, and construct validity. Preliminary scale development involved design and scoring procedures of the instruments. Also, the preliminary scale development established content validity. In terms of instrument reliability, Phase 1 of the study assessed (a) individual item characteristics, (b) the internal structure of the inventory, (c) the internal consistency of the inventory, and (d) social desirability response bias.

The second phase assessed the concurrent validity of the CCS by correlating measures of related psychological constructs with the CCS. Based on Vealey's (1986) tests of the concurrent validity of the Sport Confidence Inventory, the related constructs to be compared to the CCS were the Self-Esteem Scale (Rosenberg, 1979), the State-Trait Anxiety Inventory (STAI-Spielberger, Gursuch, & Lushene, 1970), and the Internal and External Locus of Control Scale (Rotter, 1966).

During Phase 3, the research involved testing the construct validity of the CCS. The relationship between the CCS and the antecedent and consequence variables of coaching

confidence were examined in high school basketball coaches. In terms of antecedent variables, the present study investigated the relationships of coaching confidence with education in coaching, playing experience, coaching experience, coach's prior won-lost record, team's prior won-lost record, skill level of athletes, and school support. In terms of consequent variables, the present study investigated the relationships of coaching confidence with team performance and coaching behaviors.

Hypotheses

Hypotheses were proposed for the second and third phases of this study. For the second phase of this study, the following hypotheses were proposed, based on Vealey's (1986) tests of the concurrent validity of the Sport Confidence Inventory:

H1: There is a moderately positive relationship between coaching confidence and self-esteem.

H2: There is a moderately positive relationship between coaching confidence and internal control.

H3: There is a moderately negative relationship between coaching confidence and anxiety.

For the third phase of this study, the following hypotheses were proposed based on Bandura's (1977) theory of

self-efficacy, Vealey's (1986) model of sport confidence, and Denham and Michael's (1981) model of teacher efficacy.

Coach's personal variables to predict coaching confidence

H4: Coaches who have participated in a coaching educational program will have higher coaching confidence than coaches who have not participated in a program.

H5: The greater the previous playing experience of coaches the higher their coaching confidence will be.

H6: The greater the coaching experience of coaches the higher their coaching confidence will be.

H7: The higher the ratio of winning to losing basketball games across the 1990-1991 season for coaches the higher their coaching confidence will be.

Situational factors to predict coaching confidence

H8: The higher the team's ratio of winning to losing for the past 4 years the higher a coach's coaching confidence will be.

H9: The greater the team's ability the higher a coach's coaching confidence will be.

H10: The greater the school support the higher a coach's coaching confidence will be.

Coaching confidence to predict coach's behavior

H11: The higher the coaching confidence the greater will be the coach's the effort and persistence.

Coaching confidence to predict team performance

H12: The higher the coaching confidence the higher the coach's winning percentage across the current season will be.

Delimitations

Phases 1 and 2 were delimited to high school coaches throughout the State of Michigan. Phase 3 was delimited to head high school basketball coaches throughout the State of Michigan.

Assumptions

This study was based on the following assumptions:

1. Coaches' responses to the items on each of the selected instruments are honest and accurate.

2. The questionnaires are effective tools for investigating the coaches' views.

3. The variables of the model are measurable.

4. The dependent measure of team performance as measured by won-lost percentage is a true indication of the team's performance.

Definitions

The following definitions are provided. The terms were classified as conceptual or operational definitions.

Conceptual Definitions

1. Coaching confidence: The extent to which coaches believe that they have the capacity to affect an athlete's performance.
2. Self-efficacy: The strength of an individual's conviction that she or he can successfully execute a behavior required to achieve a certain outcome (Bandura, 1977). Self-efficacy denotes a situationally specific self-confidence.

Operational Definitions

1. Coaching behaviors: Behaviors that were assessed concerning the coaches' effort and persistence in coaching their teams. Specifically, how hard and how much time coaches spent coaching and how long coaches wanted to stay in coaching were behaviors that were assessed.
2. Coaching Confidence Scale (CCS) score: A score that was derived from a summation of the 10 items on the CCS.
3. Coaching experience: The number of years of experience serving as a head coach at the high school level.
4. Coach's prior won-lost record: The coach's percentage of wins for the previous season for the team he or she is currently coaching.
5. Education in coaching: Coaching instruction received from coaching educational programs such as coaching

certification programs, courses, workshops, and clinics.

6. Head coach: The individual appointed with a contract by a school to the head coaching position of the high school varsity team.

7. Playing experience: The number of years of a coach's prior experience as a competitive basketball player at the high school, college, and professional level.

8. School support: The extent to which a school supports its varsity team as measured by the School Support Questionnaire, which examines coaches' perceptions of how their programs compare to the ideal school sport program.

9. Skill level of athletes: The ability of a coach's athletes as measured by the number of seniors on the team, the number of varsity letter winners, the total heights of the starting five, and the coach's perception of the team's overall ability.

10.Team Performance: The percentage of a team's winning record for the 1991-1992 season.

11.Team's prior won-lost record: The percentage of a team's won-lost record for the last four years, 1987-1991 seasons.

Limitations

The study may be affected by the impossibility to control every activity and event of each coach, which may, in turn, affect team performance. In addition, the study was limited by using won-lost records as the measure of team performance because of the number of extraneous factors that affected wins and losses.

CHAPTER II

REVIEW OF LITERATURE

Self-confidence is one of the most frequently cited psychological factors thought to affect people's behaviors. Bandura (1977) has provided a theory of self-efficacy with which to test the relationship between self-confidence beliefs and performance. A theory of self-efficacy is defined as the strength of an individual's conviction that s/he can successfully execute a behavior required to achieve a certain outcome. This theory has been the most extensively used theory for investigating self-confidence in psychology and sport psychology. This chapter discusses (a) confidence and self-efficacy theory, (b) models of teacher efficacy in an educational context, and (c) the need for a construct of coaching confidence.

Confidence and Self-Efficacy Theory

Self-confidence and self-efficacy have been used synonymously in sport psychology literature. Both are terms implying one's perceived capability to achieve a certain outcome. Self-confidence has been viewed generally as a global trait that accounts for overall performance. Bandura (1977), however, uses the term "self-efficacy" to refer to the strength of an individual's conviction that s/he can successfully execute a specific behavior required to achieve

a certain outcome. Self-efficacy denotes a situationally specific self-confidence, not a global personality trait, and is not concerned with the skills one possesses per se, but rather with an individual's judgments of the skills one possesses.

Self-efficacy is a critical construct in understanding motivation and behavior, because expectations of personal efficacy determine what kind of activities people will choose initially, how much effort they will expend, and how long they will persist in the face of obstacles. Research has shown that when difficulties arise, highly efficacious individuals will exert greater effort and maintain that effort longer to overcome those difficulties than those low in self-efficacy (Bandura, 1977). However, self-efficacy predicts performance only when proper incentives and the necessary skills are present. If the incentives and skills are lacking, the individual's efficacy expectations alone will not produce the desired performance (Bandura, 1977).

Self-efficacy varies in magnitude, generality, and strength, according to Bandura (1977). Magnitude refers to the difficulty for which the person feels competent. Self-efficacy may be limited to the simpler tasks and extended to the moderately difficult ones. Generality refers to the extent to which people's sense of efficacy is pertinent to various situations. The more similar the situations and tasks a person faces, the greater the probability that self-efficacy will generalize across these situations and tasks.

Strength refers to the ease or difficulty with which people's efficacy attitudes can be changed. A person who possesses a strong sense of efficacy will persevere in spite of difficulty. A person who possesses a weak sense of efficacy can easily be discouraged by an unsuccessful performance.

According to Bandura's theory (1977, 1981, 1982), individuals acquire knowledge about expectations of personal efficacy from four principle sources of information: performance accomplishments, vicarious experiences, verbal persuasion, and emotional arousal. Bandura proposed that self-efficacy, as a cognitive mechanism, mediates the effects of information on performance. Four categories of efficacy information are shown in the diagram of Figure 2.

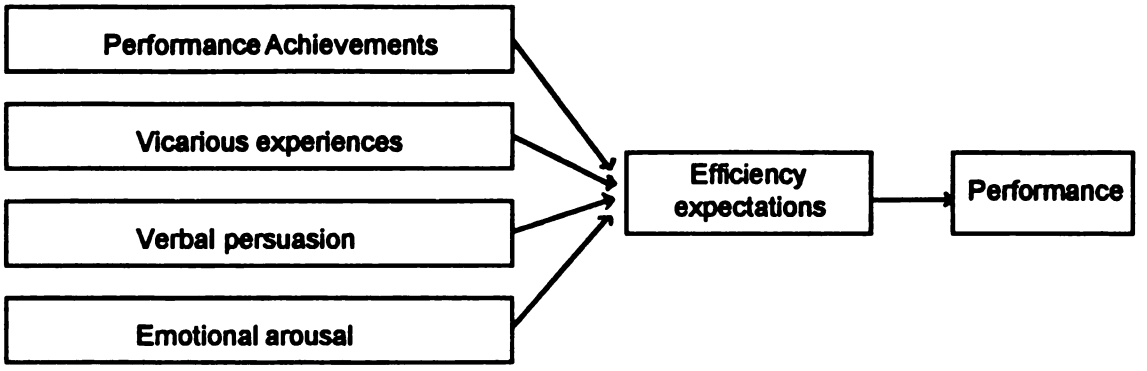

Figure 2. Relationship between major sources of efficacy information, efficacy expectations, and performance as predicted by Bandura's (1977) theory.

These four principal sources of efficacy information have different influences on efficacy expectations and performance. For example, performance accomplishments have more powerful information to influence psychological and behavioral changes than do other methods. Although vicarious experiences are generally weaker than performance achievements, people may influence their own efficacy expectations by observing or imaging similar others succeed or fail. Verbal persuasion is less powerful than performance achievements and vicarious experience, but one's own efficacy expectations are influenced through another person's talk or one's own self-talk. Emotional arousal is less clear and less well-established as efficacy information, but the level and quality of physiological arousal influence self-efficacy.

Performance Achievements

The strongest durable determinant of efficacy information is that of performance accomplishments because they are based on personal mastery experiences. If these experiences have been repeatedly perceived as successful, they will influence higher efficacy expectations. If they are perceived as failures, then the efficacy expectations will decrease. Bandura (1977) emphasized that the relationship between efficacy expectations and performance accomplishments is reciprocal. Previous performance accomplishments influence one's efficacy expectations which,

in turn, influence one's future performance. Feltz and her colleagues (Feltz, Landers, & Raeder, 1979) have shown that performance accomplishments provide higher efficacy expectations and greater behavioral change than other sources of efficacy information. Research in clinical psychology (Bandura & Adams, 1977; Bandura, Adams, & Beyer, 1977) and sport psychology (Feltz et al., 1979; McAuley, 1983; Weinberg, Sinardi, & Jackson, 1982) support the influence of performance accomplishments on self-efficacy.

Vicarious Experiences

Although vicarious experiences are generally weaker than performance achievements, people may influence their own efficacy expectations by watching similar others succeed or fail. Therefore, modeling is a very important means of modifying self-efficacy and performance. Seeing others perform in various situations conveys information about the observer's own performance. A similar model seems to instill the attitude that "If s/he can do it, so can I." Kazdin (1974, 1975, 1976) indicated that the use of multiple models (or diversified models) enhance modeling effect to a greater extent than a single model.

Weinberg et al. (1979) manipulated subjects' self-efficacy about competing against their competitor (a confederate) on a muscular leg-endurance task where the competitor was said to be either a varsity track athlete who performed well on a related task (low self-efficacy), or an

individual who had a knee injury and exhibited poor performance on a related task (high self-efficacy). The results indicated that the high self-efficacy subjects extended their legs significantly longer than low self-efficacy subjects.

Verbal Persuasion

Verbal persuasion is less powerful than performance achievements and vicarious experience, but one's own efficacy expectations are influenced through another person's talk or one's own self-talk. Teachers and coaches often encourage performance with statements such as "I can do it" and " You've got the talent." These positive affirmations increase a person's sense of efficacy.

Persuasive techniques such as verbal persuasion and performance deception are widely used by teachers and coaches to influence the behaviors of students and athletes. However, these persuasive techniques influence performance only if the heightened appraisal is within realistic bounds. Ness and Patton (1977) manipulated subjects' perceptions of how much weight was being lifted. Subjects either believed the weight to be less than the actual weight or believed the weight to be greater than the actual weight. The results indicated that the subjects lift significantly more weight when they believed weight to be less than the actual weight.

Emotional Arousal

Emotional arousal is less clear and less well-established as efficacy information. Arousal reduction techniques, such as relaxation training, biofeedback, and other arousal reduction techniques, reduce the arousal. However, Bandura (1978) postulated that physiological arousal changes behavior through the cognitive appraisal of the information conveyed by arousal. Interpreting a person's arousal level may give clues as to how efficacious one really feels. Therefore, the individual's cognitive interpretation of arousal is an important key to influence one's sense of efficacy and behavior. Two people can perceive the same physiological arousal differently. Some individuals may interpret an increasing heart-rate as a cue to 'psyche-up' and some individuals may interpret an increasing heart-rate as a cue that s/he is too nervous to perform.

Self-efficacy beliefs have been shown to predict behavior in a variety of settings. These have included sport performance (Feltz, 1982), health behavior (O'Leary, 1985), and academic achievement (Schunk, 1984). Although no research, to date, has examined the relationship between the efficacy beliefs of coaches and coaching behavior, some research has examined the relationship between teacher efficacy and teacher behavior.

Models of Teacher Efficacy

Teachers' perceived sense of efficacy has been identified by educational researchers as a powerful variable in teaching effectiveness (Ashton & Webb, 1986; Denham & Michael, 1981). Teachers' sense of efficacy is defined as the extent to which teachers believe they have the capacity to produce an effect on students' learning. Denham and Michael (1981) and Ashton and Webb (1986) provided multidimensional models of teacher efficacy that were influenced by Bandura's (1977) conceptualization of self-efficacy. Denham and Michael (1981) provided one model for the study of "teacher sense of efficacy," presented in Figure 3.

The model contains three components: the teacher's sense of efficacy, the antecedents of self-efficacy, and consequence conditions. In this model, sense of efficacy is an intervening variable that mediates the relationship between the antecedents and the consequences.

Antecedent Variables of Teachers' Sense of Efficacy

Antecedent variables that Denham and Michael (1981) proposed to influence a teacher's sense of efficacy are teacher training, teaching experience, personal variables, system variables, and causal attributions.

Teacher training. A teacher's training may have a significant effect on his or her sense of efficacy. There

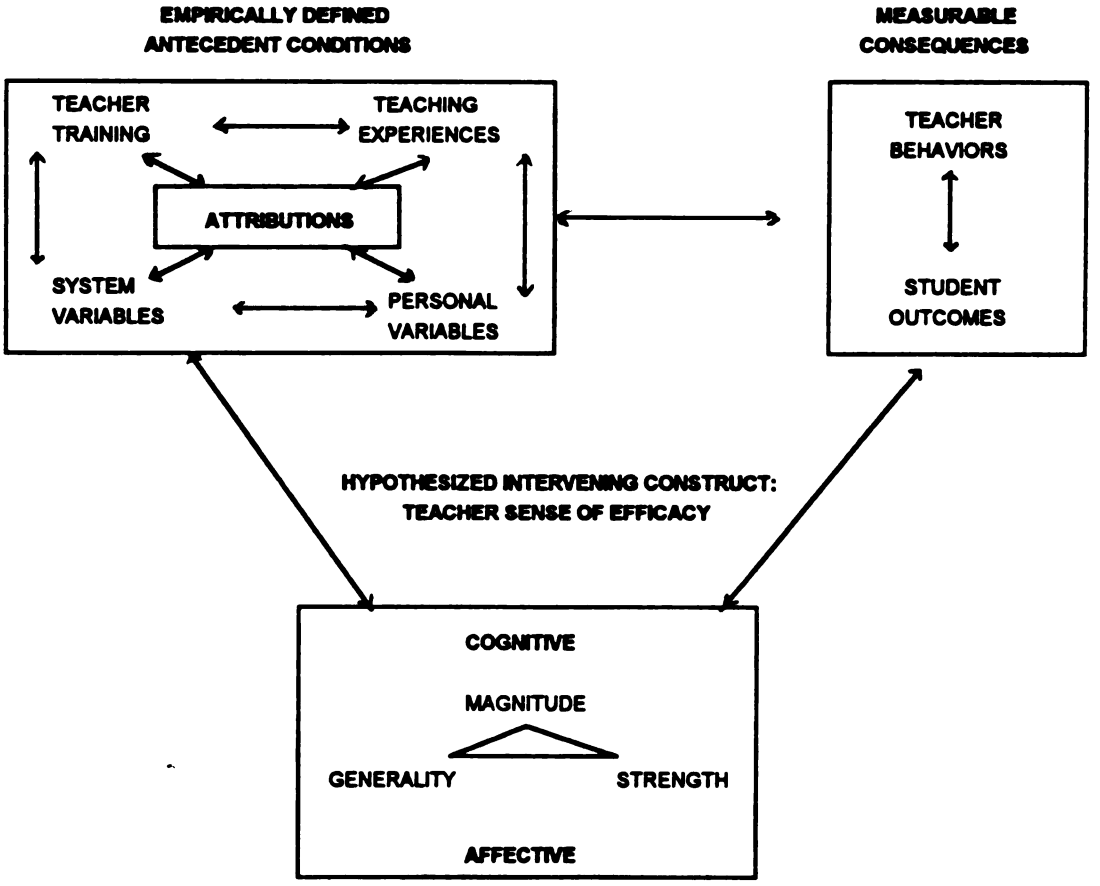

Figure 3. Denham and Michael's (1981) model of teachers' sense of efficacy.

are several suggestions for ways in which teacher training may influence teachers' sense of efficacy. First, teacher training may affect self-efficacy through the experience of a shared ordeal which may contribute to collegial feelings. Secondly, teacher training increases actual effectiveness. Poor training has been shown to leave teachers feeling ill-prepared and has resulted in a high turnover rate (Carnell, 1978). Thirdly, teacher training may influence a teacher's sense of efficacy by convincing teachers that they possess

special knowledge. Finally, training may influence sense of efficacy by treating teachers as professionals in order to make them feel more like professionals. If teachers are treated like professionals, they will increase their self-efficacy and act more like professionals. Therefore, a teacher's sense of efficacy may be changed by workshops and training.

Teaching experience. Teaching experiences may influence teachers' self-efficacy. If teachers have successful teaching experiences, they are hypothesized to raise their efficacy expectations regarding their ability to teach. If teachers have unsuccessful teaching experiences, they are hypothesized to lower expectations. Likewise, the number of years that a teacher has taught should also influence a teacher's self-efficacy because with more years of teaching, teachers should have had more opportunities to be successful. A beginning teacher may be susceptible to the detrimental effects of failure, whereas the experienced teacher may be less affected. Jersild (1966) reported that beginning teachers showed more anxiety than experienced teachers. Beginning teachers may also make more mistakes which lead to feelings of failure than teachers who are more experienced. Therefore, successful teaching experiences should increase the sense of efficacy in teachers, and it is probably safe to assume that the more experienced the teacher, the more successful s/he is.

Personal variables. Other variables that Denham and Michael (1981) proposed to influence a teacher's sense of efficacy are personal variables such as self-esteem and the need for achievement because of their influence on a person's causal attributions. Teachers with higher self-esteem and achievement needs should have higher beliefs of efficacy for teaching than teachers with lower self-esteem and lower achievement needs. Denhem and Michael reasoned that teachers with higher self-esteem and achievement needs perceive failure as caused by lack of effort. Teachers with lower self-esteem and lower achievement needs tend to attribute failure to lack of ability. Based on Bandura's (1986) social cognitive theory of self-efficacy, Denham and Michael further proposed that causal attributions influence teachers' self-efficacy beliefs. Indeed, those who hold high self-beliefs of efficacy have been shown to attribute failure to lack of effort, whereas those who hold low self-beliefs of efficacy ascribe the failures to lack of ability (Collins, 1982).

System variables. System variables in this model include the career ladder of the professional educator, teacher participation in decision making, and support from the administration, peers, and society. Lortie (1975) pointed out that the career ladder of the professions influence teachers' sense of efficacy for teaching. If there is little chance of promotion or there are no steps to climb, teachers may drop out of their professions, and

subsequently lose their sense of efficacy to teach.

Participation in decision making is very important to teachers (Vavrus, 1978). McLaughlin and Marsh (1978) argued that teacher's participation in decision making about projects increased a teacher's "sense of ownership" of a project. Therefore decision making gives teachers a sense of dignity and self-worth (Stimbert, 1970).

Support from the school administration, peers, and society may have an impact on teachers' sense of efficacy. Trump and Georgiades (1978) pointed out that the school principal is a very important individual in determining the excellence of a school. Perhaps peers and society are key factors in influencing teachers' sense of efficacy, as well. Many teachers may increase their confidence in their value as teachers because the people with whom they interact provide them with the reassurance that they are doing their jobs well.

Attributions. The explanations teachers give for success and failure of their behavior can affect their sense of efficacy. The attribution variable in the model is related to all of the other antecedents of self-efficacy. Causal attributions are thought to mediate the effects of other antecedent variables. However, this relationship does not imply that all effects of the antecedents are mediated by attributions. For example, failure experiences that are attributed to external factors or lack of effort may not be as debilitating as failure experiences that are attributed

to internal factors or lack of ability. Attributions to internal factors may increase or decrease teachers' sense of efficacy.

Intervening Construct

According to the model of Denham and Michael (1981), a teacher's sense of efficacy is a cognitive mediator that contributes to the relationship between teacher behavior and students' achievement. The teacher's sense of efficacy in this model is composed of a cognitive component and an affective component. The cognitive aspective of teacher efficacy is the extent to which teachers can bring about positive changes in students. The affective aspect is the pride or shame associated with the teacher's sense of efficacy.

The three dimensions of both the cognitive and affective components were magnitude, generality, and strength. Magnitude refers to the range of task difficulty for which the teacher demonstrates a sense of efficacy. Teachers may limit their sense of efficacy to the simpler tasks and increase their sense of efficacy at the moderately difficult ones. Generality refers to the extent to which a teacher's sense of efficacy is related to various teaching situations. Teacher efficacy is thought to apply to certain students under certain conditions. The more similar the situations and tasks a teacher faces, the greater the probability that self-efficacy will generalize across these situations and tasks. Strength refers to the ease or

difficulty with which teachers' efficacy attitudes can be modified. Teachers who possess strong expectations of mastery will persevere in spite of difficulty. According to the model, the greater the teachers' sense of efficacy, the more students advance in their academic performance.

Consequent Variables of Teachers' Sense of Efficacy

The antecedent variables in this model all influence a teacher's sense of efficacy regarding teaching, which in turn, influences the teacher's behavior and students' outcomes (e.g., achievement, self-concept, and misconduct). The model assumes that the relationship between teachers' sense of efficacy and teacher behaviors and student outcomes are reciprocal. Teachers' sense of efficacy influences behavior, and the consequences of that behavior alter teachers' efficacy belief. Also teachers' sense of efficacy has an effect upon student outcomes and student outcomes, in turn, influence teachers' sense of efficacy through a continual bidirectional determinism.

Teacher behaviors. Teacher behaviors in this model include classroom behaviors and remaining in the teaching profession. It seems logical that teachers with a high or low sense of efficacy will have different behavioral patterns of teaching. Teachers with a high sense of efficacy will tend to choose challenging activities and be motivated to try harder when obstacles confront them. In contrast, teachers with a low sense of efficacy will tend to avoid activities, not work as hard to motivate and teach

students, and reduce their efforts or give up entirely when confronted with difficulties. Teachers who have a high sense of efficacy are more likely to control students more humanistically than are teachers who have a low sense of efficacy. Barfield and Burlingame (1974) reported that teachers with a lower sense of efficacy used custodial control in the classroom more than teachers with a higher sense of efficacy. Brophy (1979) suggested that more effective teachers focus on academic goals, provide academically oriented feedback, and allocate more time for teaching than less effective teachers.

Self-efficacy can influence a teacher's behavior in terms of remaining in the teaching profession. Stinnet (1970) reported that teachers with a higher sense of efficacy dropped out of teaching less often than teachers with a lower sense of efficacy. Therefore, the teachers' efficacy beliefs are one of the variables related to the dropout of teachers.

Teacher behaviors should also interact with student outcomes. The relationship between teacher behaviors and student outcomes is reciprocal. Teachers who exert more effort, persist longer, and work harder with their students, in turn, will have students who perform better in academics than teachers who do not exhibit this behavior. Additionally, students' successes have positive effects on their teacher's behaviors.

Student outcomes. Student outcomes include achievement outcomes, affective outcomes, and behavioral outcomes. Berman, McLaughlin, Bass, Pauly, and Zellman (1977) reported that a teacher's sense of efficacy has a strong relationship to students' achievement. Teachers who have a high sense of self-efficacy are likely to show greater improvements in their students' achievement than are teachers who have a low sense of self-efficacy. A teacher's sense of efficacy may also influence the affective outcomes of students. Furthermore, teachers who have a high sense of efficacy are more likely to raise students' self-concepts and self-satisfaction than are teachers who have a low sense of efficacy.

Ashton and Webb (1986) provided a model similar to Denham and Michael's (1981) model for identifying many of the variables that may affect a teachers' sense of efficacy. However, they chose an ecological framework in which to structure a contextual analysis of teacher efficacy. Variables that Ashton and Webb (1986) proposed to influence teachers' sense of efficacy were organized according to a microsystem, mesosystem, exosystem, and macrosystem of the teaching environment. These variables are helpful in identifying factors that influence teachers' sense of efficacy.

Microsystem

The microsystem comprises the teachers' immediate setting, typically the classroom and includes both individual and situational characteristics. The microsystem characteristics that are proposed to influence teachers' self-efficacy are student characteristics, teacher characteristics, teacher ideology, role definitions, class size, and activity structure.

In terms of students' personal characteristics, factors such as socioeconomic class, race, attractiveness, gender, and ability are related to the expectations and behaviors of teachers (Persell, 1977; Dusek & Joseph, 1983). Students' ability appears to be the most significant student characteristic affecting teachers' self-efficacy. If teachers have low expectations of their students' ability to learn, these low expectations will influence teachers' efficacy expectations in their own beliefs to teach and will reduce their effort in teaching the students.

Teachers' ideologies influence their interactions with students, administrators, and parents. Ideological differences among teachers are likely to influence teachers' behavior through the mediating process of teachers' efficacy beliefs. If teachers have different ideologies from other teachers, these ideological differences will influence teachers' efficacy expectations in their own belief to teach.

Class size is still another variable likely to influence the teachers' abilities to be effective instructors. Teachers have known that class size is an important factor in their ability to be effective motivators. Glass and Smith (1979) indicated that achievement gains are detectable only when class size is reduced to 15 and below. However, achievement gains may have resulted more from teachers' beliefs that they can be more effective with smaller classes than from the actual small class.

In terms of activity structure, teachers' efficacy beliefs may vary with the activity. Some teachers perceive themselves to be more effective in large-group than small-group instruction. These assessments should influence the teachers' choice of future activities.

Mesosystem

The mesosystem consists of the relationships that take place within the teachers' major setting. A variety of mesosystem variables may influence students' achievement through the mediating influence of teachers' self-efficacy. Mesosystem variables include school size and demographic characteristics, school norms, collegial relations, principal-teacher relationships, decision-making structures, and home-school relations.

Demographic characteristics of schools are likely to influence teachers' sense of efficacy. Teachers' efficacy

beliefs are likely to mediate the relationship between minority student population and teachers' authoritarian behavior. Larkin (1973) found that teachers in schools with a majority of minority students tended to be more authoritarian than teachers in schools with a large middle-class student population.

School norms can be an important influence in determining teachers' sense of efficacy. Prevailing attitudes of teachers toward certain students tend to coalesce into school norms. Leacock (1969) reported that when teachers agree that certain students are unable to be educated, a low sense of efficacy can become a school pattern, an organizational norm: "There is nothing we can do, these students cannot learn," In such schools, new teachers are pressured to accept the dominant culture of the school.

In terms of collegial relations, the isolation from colleagues may be a significant contributor to teachers' dissatisfaction in their profession. However, a number of studies have indicated that school structures that enhance teachers' opportunities for collegial interaction have a positive effect on teachers' attitudes and students' performance (Ellett & Masters, 1977; Meyer & Cohen, 1971). Therefore, strong collegial relations may increase teachers' sense of efficacy, enabling teachers to be more effective in teaching situations.

In terms of the principal-teacher relationship, the role of the principal in influencing teachers' sense of efficacy is the principal's recognition and support of the teachers. These affect the effectiveness of schools through the moderating influence of teachers' sense of efficacy.

Teachers' satisfaction may be related to participation in decision-making. The greater the involvement in school decision-making the greater the job satisfaction. Duke, Showers, and Imber (1980) found that teachers increased their self-efficacy beliefs when they participated in school decision-making. Therefore, teacher decision-making is likely to be an important factor influencing teachers' sense of efficacy.

The school and the home can be positive influences on student achievement. However, factors contributing to school failure are cultural discontinuities from racial and socioeconomic differences between teachers and parents. In such schools, teachers develop a low sense of efficacy in dealing with students and parents from backgrounds different from their own. When teachers are unable to cope with these cultural discontinuities, they may lessen their sense of efficacy.

Exosystem

Many social structures external to the school environment exert powerful influences on teachers' sense of efficacy (Ashton & Webb, 1986). Two of the most likely

influences are the nature of the school district and legislative mandates. The nature of the school district is the community's location, size, socioeconomic composition, and parental involvement in school district decisions. These school district characteristics are likely to influence teachers' sense of efficacy. For example, teachers may have high levels of stress during a strike in a school district. This stress may have an impact on teachers' sense of efficacy.

Responding to the role of legislation in education at both the federal and state levels, educational policy will increase the bureaucracy of the classroom. In other words, when teachers lose their autonomy, it affects their sense of efficacy.

Macrosystem

The macrosystem variables that appear to affect teachers' sense of efficacy are cultural beliefs. These beliefs are the conception of the learner and the role of education. Attributions help us understand the thought process and behavior of teachers. Ashton and Webb (1986) suggest that in western cultures, success is indicative of competence or strength of character, whereas failure is taken as evidence of incompetence or weakness of character. When teachers confront low-achieving children, teachers attribute the students' problems to the students' lack of ability. This attribution gives teachers a low expectation

for students' success and a low sense of teaching efficacy. This belief affects the teachers' future interactions with the students.

It is assumed that education offers success for all individuals with the necessary ability and motivation. When individuals fail, Ashton and Webb (1986) suggest that people from western cultures conclude that they either lack ability or motivation, or both. In these failure situations, teachers may decrease their sense of efficacy. Therefore, teachers have to understand the role of education in society.

The Need for a Coaching Confidence Construct

Self-confidence and self-efficacy have been used synonymously in sport psychology literature and have been topics of much research interest (Feltz, 1982, 1988; Gould & Weiss, 1981; Vealey, 1986; Weinberg, Gould, & Jackson, 1979). Although the research on self-efficacy/confidence concerning athletes has been discussed frequently, to date there has been no research in the study of coaches' self-efficacy/confidence in sport. No research has been conducted specifically to assess coaching confidence, to define the construct, and to explore the relationships between coaching confidence and other variables. Using Denham and Michael's (1981) model of teacher efficacy, a model of coaching confidence was developed by the author. As in teacher efficacy, the three components in this model

are coaching confidence, its antecedents, and consequences. In the present model, coaching confidence is the intervening variable that mediates the relationship between the antecedents and the consequences.

Coaching Confidence

Coaching confidence refers to the extent to which coaches believe that they have the capacity to affect the performance of their athletes. According to the model, the greater the coaching confidence, the more athletes advance in their performance.

Antecedent Variables of Coaching Confidence

Two categories of antecedent variables are personal and situational variables. Personal variables include education in coaching, playing experience, coaching experience, and coach's prior won-lost record. Situational variables encompass a team's prior won-lost record, skill level of athletes, and school support. The following constructs chosen as antecedent variables are explained.

Education in coaching. Education in coaching may have a significant effect on coaching confidence. It may influence coaching confidence by providing coaches with the knowledge and skills necessary for coaching. Corcoran (1990) demonstrated that coaches who received an educational program on chemical health had higher levels of confidence about influencing the chemical health of their athletes than coaches who did not receive the program.

Playing experience. One might expect that a coach's own playing experience will predict coaching confidence because the skills and knowledge gained from playing experience provide a data base which can be drawn upon when coaching. Playing experience should develop the reflective thinking process necessary for effective planning in a coaching job. Therefore, one's playing experience may have some impact on coaching confidence.

Coaching experience. Bandura and his associates (Bandura, 1977, 1986; Bandura, Adams, Hardy, & Howells, 1980; Bandura & Schunk, 1981) have maintained that strong perceived self-efficacy is based upon the gradual acquisition of cognitive skills through personal mediated experiences. Therefore, the number of years that a person has coached may influence coaching confidence. Successful coaching experiences should increase coaching confidence, and it is probably safe to assume that the more experienced the coach, the more successful he or she is.

Coach's prior won-lost record. A coach's personal success at coaching in terms of won-lost record should also affect his or her coaching confidence. A coach who had a previous winning season should be more confident about coaching than a coach who had a previous losing season.

Team's prior won-lost record. Independent of the coach, a team who has had a consistent tradition of winning, can also affect coaching confidence through cognitive processing. According to the model, coaches whose teams

have had a tradition of winning will have higher coaching confidence than coaches whose teams have had a tradition of losing.

Team ability. Team ability should have some influence on coaching confidence. If coaches have teams with low ability, they may have lower coaching confidence. On the other hand, if coaches have teams with high ability, they may have higher coaching confidence.

School support. School support may also have an impact on coaching confidence. This includes support from the school principal, athletic director, student body, community, and parents. Trump and Georgiades (1978) suggested that the school principal is a very important person in determining the excellence of a school. The principal has some power to provide equipment and other support services to the coach. Therefore, the way the principal chooses to allocate resources is likely to have a significant effect on coaching confidence.

An athletic program needs the enthusiastic support from the athletic director, student body, community, and parents. Support from these individuals and groups is essential to the success of the athletic program. Therefore these are key factors in influencing a coach's confidence in leading the team to success.

Consequent Variables of Coaching Confidence

Denham and Michael (1981) assumed that "teacher sense of efficacy has an effect upon student outcomes, and student

outcomes in turn influence teacher sense of efficacy" (p.41). It seems logical to assume that coaching confidence has an effect upon team performance and that team performance, in turn, influences coaching confidence. It is also assumed that coaching confidence has an effect upon a coach's behavior and certain coaching behaviors influence team performance. The consequences of coaching confidence in the model are coaching behaviors and team performance. The following constructs are explained.

Coaching behaviors. The model predicts that coaching confidence will be related to coaching behaviors. As in teacher efficacy, it seems logical that coaches high or low in coaching confidence will have different behavioral patterns of coaching. This study examined how well coaching confidence predicts coaching behaviors. Coaches with a high coaching confidence will tend to choose challenging activities and be motivated to try harder when obstacles confront them. In a similar fashion, coaches with a low coaching confidence will tend to avoid activities they believe to be beyond their capabilities. These coaches have low expectations of success, do not work as hard to motivate and coach them, and reduce their efforts or give up entirely when confronted with difficulties.

The proposed model assumes that the relationship between coaching confidence and coaching behavior is reciprocal. Coaching confidence influences behavior, and the consequences of that behavior alter coaching confidence.

Team performance. Many researchers (Gould & Weiss, 1981; Weinberg, Yukelson, & Jackson, 1980) indicated that the individual's efficacy expectations have positive relationships with performance. It is assumed that coaching confidence has an effect upon team performance and that team performance, in turn, influences coaching confidence. The athletes of coaches with a high coaching confidence perform better for their teams. The team's success then has a positive effect on their coaching confidence. The athletes of coaches with a low coaching confidence perform poorly on team performance, and their failure reinforces their coaches' low coaching confidence, and the process of reciprocal determinism continues in a mutually reinforcing cycle.

Relationship between team performance and coaching behaviors. Coaching behaviors will interact with team performance. The relationship between coaching behaviors and team performance is reciprocal. It is assumed that coaching behaviors have an effect on team performance and that team performance, in turn, influences coaching behaviors. For example, coaches who exert more effort, persist longer, and work harder with their athletes perform better for their teams than coaches who exert less effort, persist less, and do not work as hard with their athletes. Also, coaches who have successful team performance exert more effort, persist longer, and work harder with their

athletes than coaches who have unsuccessful team performance.

Summary

Self-efficacy (self-confidence) is a critical construct in understanding motivation and behavior because expectations of personal efficacy determine the kind of activities people choose, their effort expenditure, and their persistence at the activity in the face of obstacles. In turn, self-percepts of efficacy are acquired, according to Bandura's theory (1977, 1986), from four principal sources of information: performance accomplishments, vicarious experiences, verbal persuasion, and emotional arousal. Of these four principal sources, performance accomplishments have been shown to be the most powerful and dependable source of information on which to base one's confidence judgments (Bandura, 1986).

Self-efficacy beliefs have been shown to predict behavior in a variety of contexts, including sport performance (Feltz, 1982), health behavior (O'Leary, 1985), and academic achievement (Schunk, 1984). Past research in the area of sport has focused on the performer (i.e., the athlete) rather than on the coach. Although no research, to date, has examined the relationship between the efficacy beliefs of coaches and coaching behavior, some research has examined the relationship between teacher efficacy and teacher behavior. This literature was reviewed and used as

a basis for developing a model of coaching confidence. No measure currently exists, however, to assess coaching confidence. Therefore, the purpose of this study is to develop and examine a valid and reliable instrument with which to assess the coaching confidence construct.

CHAPTER III

DEVELOPMENT OF THE COACHING CONFIDENCE SCALE (CCS)

Preliminary Scale Development

Objectives

There were two objectives for the development of the Coaching Confidence Scale (CCS). First, a theoretical framework was needed in which coaching confidence could be conceptualized as an intervening construct in the model. Second, the CCS had to meet the scientific standards of reliability and validity.

Item Development

Items for the coaching confidence scale were logically derived by (a) modifying items found in the Sport Confidence Instrument developed by Vealey (1986); (b) reviewing the literature in education and sport psychology, and; (c) discussing the perceptions of coaching confidence with coaches and sport psychologists.

The format for the CCS is a 10-point Likert scale. The scale ranges from 9 (extremely confident) to 0 (not at all confident). Because the CCS is a "trait-like" measure, coaches respond according to how they generally feel in several coaching situations.

The CCS is an additive scale. The total score is the sum of all items. The higher the score, the higher the coaching confidence.

All 18 items were reviewed by six judges who had extensive backgrounds in sport psychology and in coaching. Judges evaluated the content validity of each item on a rating scale that ranged from one (essential) to three (not necessary). The items in "not necessary" category were deleted. From the judges' evaluations, 15 items were retained in the coaching confidence scale. Items 10, 16, and 18 were deleted. The original 18 items are contained in Appendix A with checkmarks alongside the three items that were deleted.

Phase 1 : Instrument Reliability

Purpose

There are several well-designed instruments to measure teacher efficacy (Ashton & Webb, 1986; Gibson & Dembo, 1984; Rose & Medway, 1981). However, no instrument exists for measuring coaching efficacy/confidence. The purpose of Phase 1 was to develop a reliable instrument to measure coaching confidence.

From the evaluations of expert sport psychologists, 15 items were retained in the Coaching Confidence Scale. In order to develop a valid and reliable instrument to measure coaching confidence, Phase 1 of the study assessed (a) individual item characteristics to determine which items were contributing positively to the measure of coaching confidence; (b) the internal structure of the inventory to determine if the CCS measured unidimensional or multidimensional constructs; (c) the internal consistency of the inventory which is an estimate of reliability, and; (d) social desirability, examining the degree to which the CCS was responded to in a socially desirable manner.

Subjects

The sample consisted of high school coaches (N=130) throughout the Michigan area. Samples were selected by using the Michigan coaches directory of high schools and colleges (Wade, 1991), which provides an alphabetical

listing of the 717 high schools. Each school was assigned a number from 1 to 717 by using the alphabetical listing; that was, the first school in the listing received the number 1 and the last school in the listing received the number 717. One hundred and ninety-eight numbers were selected from 1 to 717 from the table of random numbers through a stratified random sampling prcedure..

From the list of 717 schools, 99 schools that had male-coached teams and 99 schools that had female-coached teams were selected in the following three respective categories: individual, dual, and team sports. The samples were selected until 33 male and 33 female coaches were obtained in each sporting category.

Of the 198 subjects that were sampled according to the previously described selection process, 130 actually participated in this study, providing a return rate of 66%. The sample size included 130 coaches, of which 73 were male, and the other 57 were female. Of the 73 male subjects, 18 were from swimming, 30 were from tennis, 20 were from baseball, 2 were from softball, 2 were from basketball, and 1 was from football. Of the 57 female subjects, 19 were from swimming, 13 were from tennis, 21 were from softball, 1 each was from volleyball and basketball, and 2 were not identified by sporting category.

Questionnaires

A cover letter and an informed consent form were used to explain the study and request the coach's participation (see Appendix B). The CCS developed by the investigator (see Appendix B), was used to determine the extent to which coaches believe that they have the capacity to affect athletic performance. Subjects rated their confidence generally as coaches. The scale consisted of 10 items, with responses on a scale of 0 (not at all confidence) to 9 (extremely confidence) and the higher scores indicated greater coaching confidence.

The short form of the Marlowe-Crowne Social Desirability Scale (see Appendix B) developed by Reynolds (1982) was used to assess the honesty of responses from each of the subjects. It was assumed that some coaches would attempt to distort their responses of coaching confidence. The short form of the Marlowe-Crowne Social Desirability Scale consisted of 13 items and utilized a true and false response format. It was entitled The Social Personality Scale to disguise the purposes of this test. Reynolds reported that the internal consistency reliability for the short form of the Marlowe-Crowne Social Desirability Scale was .76.

The Coach's Personal Data Questionnaire was used to assess the background and personal history of each coach (see Appendix B). This questionnaire included demographic data pertaining to gender, race, age, educational

background, present position, years in present position, various sports coached, and total number of years spent as a coach.

Procedure

A letter and an informed consent form explaining the study and requesting the coach's participation, the CCS, the short form of the Marlowe-Crowne Scale, and the Coach's Personal Data Questionnaire were mailed to all selected coaches. These questionnaires were completed by the subjects and returned to the investigator by using one of the enclosed stamped envelopes. In order to ensure anonymity, a second stamped envelope was used to return the informed consent form. When the informed consent forms were not returned within 3 weeks, the investigator mailed a follow-up letter (see Appendix C) to those coaches. Participation in the study was voluntary. The subjects remained anonymous in any report of research findings, and all data from this study were treated with the strictest confidence.

Data Analysis

Descriptive statistics were provided for item characteristics and social desirability. The item means as well as standard deviations were calculated. Range of each item, the item-total correlation coefficients, and the item-social desirability correlation coefficients were also

computed. The principal axis factor was used to examine the internal structure of the inventory. Cronbach's coefficient alpha (Cronbach, 1951) was computed for the internal consistency of the CCS and subscales.

Results

Description of subjects. Seventy-three coaches (56.2%) were male and 57 (43.8%) were female. Five coaches were black (3.8%), 120 were white (92.3%), one was Hispanic (0.8%), and four were not identified by race (3.1%). The age groups of the coaches ranged from 20 to 64 years. The largest age category was 40-44 years (23.1%) and the lowest age category was 60-64 (3.1%). Fifty-two coaches (40%) had received a Master's degree, 38 entered a Master's degree program (29.2%), and 16 received a Bachelor's degree (12.3%). All coaches had at least a high school diploma. One hundred and twenty-eight coaches (98.5%) were head coaches, one (0.8%) was an assistant coach, and one (0.8%) was not identified by coach's position. Forty-five coaches (34.6%) coached male teams, 44 (33.8%) coached female teams, 38 (29.2%) coached both male and female teams, and three coaches (2.3%) did not identify whether they coached male or female teams. The total number of years of coaching experience ranged from one to 39 years.

CCS item characteristics. Several descriptive statistics for each item in the CCS are illustrated in Table 1. The mean, standard deviation, the range of each item, the corrected item-scale total correlation coefficients, and the item-social desirability correlation coefficients were computed. All means were between 7.13 and 8.09 indicating that item distributions were a skewed toward the upper end of the 10 point Likert Scale. All standard deviations except for Item 11 (How confident are you in your ability to interact effectively with your coaching staff?) were greater than 1.0. The majority of items showed a range of 6 points. The corrected item-total correlation coefficients represent the relationship between each item and the total of the other items in the CCS. All items except Item 14 (How confident are you in your ability to settle team conflicts?) demonstrated an item-total correlation coefficient above the .45 criterion set by the investigator. Therefore, Item 14 was deleted based on the item-total correlations. Reliability of the entire scale was increased when Item 14 was deleted.

Social desirability. A low correlation existed between the CCS and social desirability scale (r=.08). This means that social desirability response bias was not indicated for the CCS. Only two items (Items 1 and 2) were minimamlly significantly related to social desirability, suggesting

Table 1

Item Characteristics for the CCS

ITEM	M	SD	RANGE	ITEM-TOTAL r	ITEM-SOCIAL DESIRABILITY r
CCS1	7.68	1.17	4-9	.64	.20*
CCS2	7.13	1.43	3-9	.62	.18*
CCS3	7.67	1.20	3-9	.72	.08
CCS4	7.75	1.17	4-9	.62	.04
CCS5	7.97	1.04	4-9	.60	-.08
CCS6	7.69	1.18	3-9	.56	.04
CCS7	7.49	1.27	3-9	.46	.10
CCS8	7.62	1.31	1-9	.67	-.04
CCS9	7.68	1.24	3-9	.68	.01
CCS10	7.59	1.21	3-9	.69	.05
CCS11	8.09	.97	5-9	.52	.02
CCS12	7.59	1.08	4-9	.65	.10
CCS13	7.49	1.35	2-9	.57	.02
CCS14	7.46	1.27	2-9	.37	.00
CCS15	7.85	1.02	5-9	.55	.00

*$p<.05$

that the format of the CCS is appropriate to decrease social desirability response bias to an acceptable level.

Internal structure of the inventory. Factor analysis was used to examine the internal structure of the inventory. The method of principal factors with oblique rotation produced three factors with eigenvalues of more than 1.0. All factors with an eigenvalue of less than 1.0 were deleted. Using a factor loading of .50 or higher as the criterion, Items 1, 2,3, and 13 loaded on Factor 1. Using the same criterion, Items 6,7, and 15 loaded on Factor 2. Items 8,9, and 10 loaded on Factor 3. However, Items 4,5,11, and 12 did not load on any factor. The three factors that emerged for the CCS explained 67.1% of the variance. Factor 1 had an eigenvalue of 6.44 and accounted for 46% of the total variance. Factor 2 had an eigenvalue of 1.85 and accounted for 13.2% of the total variance. Factor 3 had an eigenvalue of 1.10 and accounted for 7.9% of the total variance. Because the CCS items (except for Items 4,5,11, and 12) loaded on three factors, the construct of coaching confidence measured by the CCS was considered multidimensional. The factor loadings for each of the items across the three dimensions are presented in Table 2.

The three factor loadings represented a Technique Confidence (TC) dimension, an Interpersonal Confidence (IC) dimension, and a Competition Confidence (CC) dimension. The correlations between the three dimensions were reasonably

Table 2

Factor Analysis for the CCS

SUBSCALE	ITEM	FACTOR 1	FACTOR 2	FACTOR 3
Technique Confidence	1. Teach skills	.87		
	2. Error detection	.79		
	3. Evaluation of player's ability	.58		
	13. Organize effective practices	.71		
Interpersonal Confidence	6. Communication with players		.82	
	7. Motivate player		.64	
	15. Interpersonal relation skills with players		.80	
Competition Confidence	8. Make critical decisions in competitions			.57
	9. Coach under pressure			.93
	10. Adopt to different games situations			.75
Eigenvalue		6.44	1.85	1.10
% variance		46.0	13.2	7.9
Cum. % variance		46.0	59.2	67.1

Note. Factor loadings below .5 were eliminated.

independent. Specifically, the correlation between technique and interpersonal confidence (r=.35) and interpersonal and competition confidence (r=-.44) suggested that these dimensions were relatively independent. However, the correlation between technique and competition confidence (r=-.53) suggested that these dimensions may not be independent. These results suggest that three dimensions may be adequate to explain the underlying structure of coaching confidence.

Internal consistency of the CCS. One of the most commonly used reliability coefficients is Cronbach's Alpha (1951). For this analysis, Cronbach's alpha was computed to determine the internal consistency of the CCS. It is based on correlations of items on a single scale. That means it is based on the average correlation of items within a test. The internal consistencies of three underlying dimensions were also assessed via coefficient alpha. These values were all very satisfactory. Estimates of inter-item consistency for each subscale are summarized in Table 3.

An alpha coefficient was calculated twice for the overall scale. The first computation included all 15 items and yielded an alpha coefficient of .90. The second computation included 10 items, after deleting Items 4,5,11,12, and 14 and yielded a coefficient of .87. The rationale for this deletion was provided in the section on item characteristics and internal structure of the CCS.

Both alpha coefficients were greater than the criterion of .70, which was recommended by Nunnelly (1978).

Coefficient alpha for the 4 items of the Technique Confidence had a value of .84, suggesting that this factor was being reliably assessed. The second factor, Interpersonal Confidence, had an internal consistency value

Table 3

Internal Consistency Estimates of Reliability for the CCS

SCALE and SUBSCALES	N	ITEMS	COEFFICIENT ALPHA
Coaching Confidence	*116	15	.90
	130	10	.87
Technique Confidence	130	4	.84
Interpersonal Confidence	130	3	.83
Competition Confidence	130	3	.87

* Fourteen subjects did not to respond Item 11.

of .83 over 3 items and appears reliable. The last factor, Competition Confidence, had an internal consistency value of .87 over 3 items. The results indicated that the CCS was reliable based on an internal consistency analysis.

Further analyses. A few comparisons of interest were made on the data based on characteristic of the coaches. Specifically, CCS scores were compared by the gender of coaches, type of sport (individual, dual, and team), age group of coaches (20-39 and 40-64), educational background (bachelor degree and beyond bachelor degree), and coaching experience (1-10 and 15-39 years). Using *t* tests, results indicated that gender, type of sport, and educational background had no significant relationship to coaching confidence. The age group of coaches and coaching experience had significant positive relationships to coaching confidence. Results showed that older coaches had higher coaching confidence (M=80.82; SD=6.73) than younger coaches (M=76.51; SD=8.44), $t(74)=2.47$, $p<.02$. Furthermore, coaches with more coaching experience had higher coaching confidence (M=78.31; SD=7.46) than coaches with less coaching experience (M=73.17; SD=9.41), t $(97)=3.15$, $p<.002$.

Phase 2 : Concurrent Validity

Purpose

The purpose of Phase 2 was to demonstrate concurrent validity of the CCS. Concurrent validity is concerned with the effectiveness of a test in predicting responses to related constructs (Anastasi, 1982). Concurrent validity for the CCS in this study was established by predicting relationships between the CCS and other related psychological constructs.

Several related constructs were used for the concurrent validity of the CCS based on Vealey's (1986) tests of the concurrent validity of the Sport Confidence Inventory. Vealey used the Sport Competition Anxiety Test (Martens, 1977) to measure competitive trait anxiety; the CSAI-2 (Martens, Burton, Vealey, & Bump, 1982) to measure competitive state anxiety; the Physical Self-Efficacy Scale (Ryckman, Robbins, Thornton, & Cantrell 1982) to measure perceived physical ability and physical self-presentation confidence; Rosenberg's Self-Esteem Scale (1965) to measure general self-esteem; and the Internal-External Locus of Control Scale (Rotter, 1966) to measure locus of control. From these, Rosenberg's Self-Esteem Scale (1979), State-Trait Anxiety Inventory (STAI-Spielberger, Gorsuch, & Lushene, 1970), and the Internal Locus of Control Scale (Rotter, 1966) were used to test the concurrent validity of the CCS.

Subjects

The sample consisted of high school coaches (N=88) throughout the Michigan area. As in Phase 1, samples were selected by using the Michigan coaches directory of high schools and colleges (Wade, 1991). As before, each school was assigned a number from 1 to 717. One hundred forty-four numbers were selected from the table of random numbers. Samples were selected until 24 male and 24 female coaches were obtained in each sport category.

Eighty-eight out of 144 subjects participated in Phase 2 of this study, providing a return rate of 61%. The sample size included 88 coaches, of which 52 were male and 36 were female. Of the 52 male coaches, 11 were from swimming, 22 were from tennis, 15 were from baseball, 2 were from softball, and 1 each was from basketball and football. Of the 36 female coaches, 12 were from swimming, 7 were from tennis, 15 were from softball, 1 coached basketball, and 1 was not identified by sport category.

Questionnaires

Rosenberg's (1979) Self-Esteem Scale (see Appendix D) was used to measure global self-esteem. This scale is one of the most commonly used self-esteem instruments. Coopersmith (1967) defined self-esteem as "the evaluation which an individual makes and customarily maintains with regard to himself; it expresses an attitude of approval or

disapproval" (P.4-5). Generalized feelings of self-efficacy have been shown to correlate highly with self-esteem (Smith, 1989), therefore, specific feelings of coaching confidence should correlate more moderately with self-esteem. The self-esteem scale consisted of 10 items, 5 positively and 5 negatively worded items and employed a 4-point Likert Scale, with responses on a scale of 1 (strongly agree) to 4 (strongly disagree). The positively stated items were reverse-scored so that the higher scores would reflect higher self-esteem. The Rosenberg Self-Esteem Scale showed a two-week test-retest reliability of .85 and .88, with small college samples.

The State-Trait Anxiety Inventory (see Appendix D) was used to measure coaches' general feelings of anxiety and has been shown to correlate negatively with self-confidence (Vealey, 1986). This scale consisted of 20 items, 10 positively and 10 negatively worded items and employed a 4-point Likert Scale, with responses on a scale of 1 (not at all) to 4 (very much so). The positively stated items were reverse-scored so that the higher scores would indicate higher anxiety.

Rotter's (1966) Internal-External Locus of Control (LOC) Scale (See Appendix D) was used to measure a coach's locus of control. Locus of control has some degree of conceptual overlap with self-efficacy beliefs and a subset of the items on the LOC refer directly to a subject's behavioral capabilities (Smith, 1989). This scale consisted

of 29 forced-choice items. Each item consisted of a pair of alternatives choices: one external and one internal. Scoring was reversed so that the higher scores would reflect an internal locus of control.

Procedures

An informed consent form, the CCS, the revised version of the Coach's Personal Data Questionnaire, the Rosenberg (1979) Self-Esteem Scale, the STAI, and the Internal-External Locus of Control Scale (Rotter, 1966) were mailed to selected coaches. The procedures of Phase 2 were the same as was used in Phase 1.

Data Analysis

Simple correlation coefficients were used to test the relationships between the coaching confidence subscales and other related psychological constructs.

Results

Concurrent validity was tested by correlating measures of related psychological constructs with the CCS. Therefore, simple correlation coefficients were used to test the relationships between coaching confidence and the other three related psychological constructs. The correlation coefficients between the CCS subscales and other constructs are seen in Table 4. Two subjects on the Self-Esteem Scale, six on the STAI, and 12 on the Locus of Control Scale did

not respond in this phase of the study.

The results indicated that self-esteem was significantly related to coaching confidence for all three subscales, thus supporting the first hypothesis. However, internal locus of control was correlated only with technique confidence (r=.36) and STAI was correlated only with interpersonal confidence (r=-.22), thus only partially supporting the second and third hypotheses. As expected, these correlations were significant in the appropriate direction and were moderate as predicted by the hypothesis.

Table 4

Pearson Correlation Coefficients for the CCS and The Constructs of Technique, Interpersonal, and Competition

		Coaching Confidence		
CONSTRUCT	N	Technique	Interpersonal	Competition
Self-esteem	86	.33**	.28**	.20*
STAI	82	-.12	-.22*	-.06
Internal locus of control	76	.36***	-.00	.12

*** p<.001

** p<.01

* p<.05

Phase 3 : Construct Validity

Purpose

The final psychometric property to be established for the CCS was construct validity. Construct validity is the most important psychometric characteristic of a test. Mehrens and Lehmann (1984) defined construct validity as "the degree to which one can infer certain constructs in a psychological theory from the test scores" (p. 294). In this study, it was necessary to demonstrate that the CCS predicts coaching confidence in accordance with the theoretical expectations proposed in Chapter 1. Even though no one study is sufficient to demonstrate the construct validity of a test, this study attempted to start to seek construct validity for the CCS through its relationship with antecedent and consequent variables.

Subjects

Subjects consisted of 77 head high school basketball coaches throughout the State of Michigan who had at least 1 year of coaching experience with the team they were currently coaching. Subjects were selected by using the Michigan coaches directory of high schools and colleges (Wade, 1992). Using a random sampling procedure, each school was assigned a number from 1 to 717 by using the alphabetical listing in the directory; that was, the first school in the listing received the number 1 and the last

school in the listing received the number 717. Ninety-five numbers were selected from the table of random numbers. Each school that was randomly selected was contacted to determine if their boys' basketball coach had been in the position of head coach for at least one year. If the coach did not meet the criteria, another school was randomly selected. If the coach met the criteria, he was then contacted and asked to participate in the study. If the coach refused, another school was randomly selected. This procedure continued until 95 coaches who fit the criteria had agreed to participate. Each coach was asked to complete all questionnaires before the basketball season started (February 10, 1992). Of the 95 subjects sampled, according to the previously described selection process, 77 actually participated in this study, providing a return rate of 81%. Eighteen subjects did not participate in this study even though they had verbally consented to participate.

Questionnaires

A cover letter, the Consent form, the Coach's Personal Data Questionnaire, the final version of the CCS, the Team Ability Questionnaire, the School Support Questionnaire, and the Coaching Behavior Scale were used for data collection in Phase 3. The Team Ability Questionnaire, the School Support Questionnaire, and the Coaching Behavior Scale are contained in Appendix E.

Coach's Personal Data Questionnaire included demographic data pertaining to gender, race, age, educational background, coaching education, present position, years in present position, total number of years in coaching career, sports that they have coached and played, won-lost record for the last four years, and won-lost record for the previous season. For analysis purposes, coaching education was dichotomized into coaches who participated in a coaching educational program (n=53) and coaches who had not (n=24). Total number of years coaches had played basketball was used as the measure of playing experience. Total number of years in a coaching career was used as the measure of coaching experience. The won-lost record for the previous season was used as the measure of a coach's prior won-lost record. The won-lost record for the last four years was used as the measure of a team's prior won-lost record.

The Team Ability Questionnaire developed by the author was used to assess the ability of the athletes on a coach's team. This questionnaire contained four questions regarding the number of seniors on the team, the number of varsity letter winners, the total heights of the starters, and the coach's perception of the team's overall ability on the 10-point Likert Scale, with responses ranging from 0 (very poor) to 9 (excellent). For analysis purposes, each item was correlated separately with coaching confidence to test the relevant hypotheses because the items were on different

scales.

The School Support Questionnaire developed by the author was used to assess the extent to which a school supported the varsity team. The School Support Questionnaire contained six questions on the 10-point Likert Scale, with responses ranging from 0 (not at all supportive) to 9 (extremely supportive) that determined the coach's perceptions of how his program compares to the ideal school sport program. The six questions were added together to obtain a school support score. The higher the score, the greater the school support.

The Coaching Behavior Scale also developed by the author was used to assess coaching behaviors. The scale consisted of six questions regarding the coaches' effort and persistence for their teams. Three questions pertained to effort and three pertained to persistence. The effort questions dealt with how hard and how much time coaches spent coaching. The persistence questions dealt with how long coaches wanted to stay in coaching. For analysis purposes, each item was correlated separately with coaching confidence to test the relevant hypotheses because items were on different scales and could not be summed together.

Procedure

After the 95 coaches verbally consented to participate in this study, the Consent form, the Coach's Personal Data Questionnaire, the final version of the CCS, the Team

Ability Questionnaire, the School Support Questionnaire, and the Coaching Behavior Scale were mailed to them. To get each team's performance, the winning records for 44 schools for the 1991-92 season were acquired from newspapers and 29 were acquired from telephone interviews. However, four schools' records were not reported in newspapers and/or telephone interviews.

Data Analysis

For the analysis of this phase of the study, simple correlations were conducted to study the relationships between variables in the conceptual model of the CCS. T tests were performed to check for differences between coaches who participated in a coaching educational program and those who had not. If there was more than one significant relationship between the variables and coaching confidence, multiple regression analyses were used to determine the strongest predictors of coaching confidence.

Results

The results of this study have been organized into five sections. The first section presents the results of the demographic analyses. The second and third sections present the results of the personal and situational variables to predict coaching confidence. The fourth section presents the results of relationships between coaching confidence and consequences. The last section presents the further

analyses of other relationships in the model of coaching confidence.

Demographic Analyses

All basketball coaches (n=77) were male. Five coaches were black (7%), 71 were white (92%), and one (1%) was not identified by race. The age groups of the basketball coaches ranged from 20 to 59 years. The largest age category was 35-39 years (30%) and the lowest age categories were 20-24 years (2.6%) and 50-54 years (2.6%). Twenty-nine (37.7%) of the coaches had received a Master's degree and 33 (42.9%) entered a Master's degree program. All basketball coaches had at least a high school diploma. Coaches who had participated in coaching clinics, workshops, and college courses (n=53) versus those who had not (n=24) were identified. Total workshop participation hours ranged from 6 hours to 1000 hours, with a mean of 154 hours. Means and standard deviations for demographic analyses are shown in Table 5.

Personal Variables to Predict Coaching Confidence

The first set of analyses was used to examine the relationships between personal variables and coaching confidence. Hypotheses 4 through 7 were used to assess the construct validity of the CCS in terms of the degree to which four personal variables - coaching education, playing

Table 5

Means and Standard Deviations for Demographic Analyses

Variables	M	SD	RANGE
Coaching experience (years)	16.08	7.81	2-35
Basketball playing experience (years)	5.31	2.28	1-12
Coach's prior won-lost record (%)	52.93	24.33	5-96
Team's prior won-lost record (%)	57.03	18.59	10-90
Team Ability			
Number of Seniors	4.93	1.85	0-9
Number of Varsity Letter Winners	5.55	1.83	2-10
Total Height of Starting Five in Inches	365.09	7.31	346-379
Rating of Overall Ability	5.97	1.35	0-8
School support	30.45	7.41	13-45
Coaching confidence (total score)	78.38	7.99	43-90
Effort			
Hours/Week in Season	24.65	7.17	10-50
Hours/Week out of Season	8.11	4.84	1-25
Persistence (years)	10.38	7.97	1-30
Team Performance (%)	50.89	23.60	0-100

experience, coaching experience, and coach's prior won-lost record - could predict coaching confidence. These hypotheses were stated as follows:

H4: Coaches who have participated in a coaching educational program will have higher coaching confidence than coaches who have not participated in a program.

H5: The greater the previous playing experience of coaches the higher their coaching confidence will be.

H6: The greater the coaching experience of coaches the higher their coaching confidence will be.

H7: The higher the ratio of winning to losing basketball games across the 1990-1991 season for coaches the higher their coaching confidence will be.

T tests were used to analyze Hypothesis 4 because coaching education was dichotomized as a variable. The results of these analyses indicated that coaching education was not significantly related to any of the coaching confidence subscales, technique confidence t (75)=.03, p=.98; interpersonal confidence t (75)=-.04, p=.97; competition confidence t (74)=.26, p=.80. Thus, Hypothesis 4 was not supported.

Pearson correlation coefficients were used to test the hypotheses regarding relationships between coaching confidence and the other three personal variables. The Pearson correlation coefficients between these variables are shown in Table 6.

Table 6

Pearson Correlation Coefficients Between Coaching Confidence and Personal Variables

Personal Variables	Coaching Confidence		
	Technique	Interpersonal	Competition
Playing Experience	.14	.02	.08
Coaching Experience	.33**	.09	.25*
Coach's Prior Won-Lost	.13	.19	.15

**$p<.01$

* $p<.05$.

Results indicated that only coaching experience was significantly related to technique confidence and competition confidence. The greater the coaching experience the higher were technique and competition confidence, which partially supports the sixth hypothesis. Positive low relationships emerged between coaching confidence and

playing experience and positive low relationships emerged between coaching confidence and coach's prior won-lost record.

Situational Variables to Predict Coaching Confidence

The second set of analyses was used to examine the relationships between situational variables and coaching confidence. Hypotheses 8 through 10 were tested in order to examine the construct validity of the CCS in terms of the degree to which situational variables could predict coaching confidence. The variables analyzed in this phase of the study included the team's prior won-lost record, team ability, and school support. These hypotheses were stated as follows:

H8: The higher the team's ratio of winning to losing for the past 4 years the higher a coach's coaching confidence will be.

H9: The greater the team's ability the higher a coach's coaching confidence will be.

H10: The greater the school support the higher a coach's coaching confidence will be.

Pearson correlation coefficients were used to study the relationships between the CCS and situational variables.

All correlations and significance levels are shown in Table 7. School support and team's prior won-lost record were significantly related to coaching confidence. Overall ability was significantly related to technique confidence, and number of varsity letter winners was significantly related to competition confidence. These results support the eighth and tenth hypotheses. However, some of the team

Table 7

Pearson Correlation Coefficients Between Coaching Confidence and Situational Variables

Situational Variables	Coaching Confidence		
	Technique	Interpersonal	Competition
Team's Prior Won-Lost	.25*	.22*	.28*
Team Ability			
Number of Seniors	-.04	.01	-.04
Number of Varsity Letter Winners	.16	.18	.22*
Total Height of Starting Five	.04	-.10	-.05
Rating of Overall Ability	.20*	.11	.19
School Support	.28**	.32**	.25*

* $p<.01$

** $p<.05$

ability measures were not significantly related to coaching confidence; therefore, Hypothesis 9 was only partially supported.

Multiple regression analyses were conducted to examine the strongest predictors of coaching confidence. The four variables that were significantly related to technique confidence (coaching experience, team's prior won-lost record, overall ability, and school support) were used as predictor variables and technique confidence was used as a criterion variable in the analysis. The results of this analysis, shown in Table 8, indicated that coaching

Table 8.

Multiple Regression Analyses for the Criterion Variable of Technique Confidence with Selected Antecedent Variables

Criterion Variable: Technique Confidence			
Predictor	Standardized Regression Coefficient	T	Probability
Coaching Experience	.14	2.72	.01
Team's prior Won-Lost	.01	.33	.74
Overall Ability	.21	.72	.48
School Support	.11	1.98	.05

Multiple R = .46; F(4,65) =4.26; p<.00; R Square = .21

experience (B=.14, t=2.72, p=.01) and school support (B=.11, t=1.98, p=.05) were significant predictors of technique confidence.

The two variables that were significantly related to interpersonal confidence (team's prior won-lost record and school support) were used as predictor variable and interpersonal confidence was used as a criterion variable in the analysis. The results of this analysis are shown in Table 9. The results indicated that school support (B=.12, t=2.62, p=.01) was a significant predictor of interpersonal confidence.

Table 9.

Multiple Regression Analyses for the Criterion Variable of Interpersonal Confidence with Selected Antecedent Variables

Criterion Variable: Interpersonal Confidence

Predictor	Standardized Regression Coefficient	T	Probability
Team's prior Won-Lost	.02	.80	.43
School Support	.12	2.62	.01

Multiple R = .37; F(2,67) =5.36; p<.01; R Square = .14

The four variables that were significantly related to competition confidence (coaching experience, team's prior won-lost record, varsity letter winners, and school support) were used as predictor variables and competition confidence was used as a criterion variables in the analysis. The results of this analysis, shown in Table 10, indicated that coaching experience (B=.10, t=2.08, p=.04) was the strongest predictor of competition confidence.

Table 10.

Multiple Regression Analyses for the Criterion Variable of Competition Confidence with Selected Antecedent Variables

Criterion Variable: Competition Confidence

Predictor	Standardized Regression Coefficient	T	Probability
Coaching Experience	.10	2.08	.04
Team's prior Won-Lost	.02	.87	.39
Varsity letter winners	.20	1.03	.31
School Support	.09	1.85	.07

Multiple R = .44; F(4,64) =3.88; p<.01; R Square = .20

Relationships Between Coaching Confidence and Consequences

The third set of analyses was conducted to assess the relationships between coaching confidence and consequent variables. Hypotheses 11 and 12 tested the relationship of coaching confidence to coaching behaviors and team performance. These hypotheses were stated as follows:

H11: The higher the coaching confidence the greater will be the coach's effort and persistence at coaching.

H12: The higher the coaching confidence the higher will be the coach's winning percentage across the current season will be.

Pearson correlation coefficients were used to study the relationship between coaching confidence and coaching behaviors and team performance. Coaching behavior was defined as effort and persistence in coaching. The Coaching Behavior Scale contained three effort and three persistence items. However, one effort item (Item 6: Work hard compared to most coaches) and two persistence items (Item 1: Choose to coach next season and Item 5: Ability to improve worst athletes) were deleted from the analysis because they were on ordinal scales in which coaches selected three of the top choices, making Pearson correlations inappropriate. The Pearson correlation coefficients for the variables of

effort, persistence and coaching confidence are shown in Table 11. Significant positive correlations emerged between coaching confidence and hours per week a coach spends on fulfilling the duties of the coach in season. The higher the coaching confidence the greater the effort in terms of time spent coaching. The relationship between coaching

Table 11

Pearson Correlation Coefficients between Coaching Confidence and the Consequent Variables: Coaching Behaviors, and Team Performance

Consequent Variables	Coaching Confidence		
	Technique	Interpersonal	Competition
Effort			
Hours/week coaching in season	.29**	.29**	.20*
Hours/week coaching out of season	.15	.19	.05
Persistence			
Years want to continue coaching	-.03	-.05	.06
Performance	.12	.07	.09

**p<.01

* p<.05

confidence and team performance is bidirectional to emphasize reciprocity. However, low relationships existed between coaching confidence and team performance in this study. Also, no relationships existed between team performance and effort variables, and the persistence variable.

Further Analyses of Other Relationships in the Model of Coaching Confidence

Further analyses were conducted to test additional relationships posed by the model. These relationships do not involve coaching confidence and thus were not included in the hypotheses to test the construct validity of the CCS.

Personal variables to predict team performance. A *t* test was used to test whether participating in a coaching educational program influenced team performance. The results of this analysis indicated that coaching education was not significantly related to team performance t (71)=-1.26, p>.21). Pearson correlation coefficients were used to examine the relationships between the other three personal variables and team performance. The correlation coefficients between these variables are contained in Table 12. Only coach's prior won-lost record was significantly related to the team performance. Playing experience and coaching experience showed a low correlation to team performance.

Table 12

Pearson Correlation Coefficients Between Personal Variables and Team Performance

Personal Variables	Team Performance
Playing Experience	.02
Coaching Experience	.10
Coach's Prior Won-Lost Record	.54**

***p<.001

Situational variables to predict team performance. Pearson correlation coefficients were used to study the relationships between situational variables and team performance. The Pearson correlation coefficients between these variables are shown in Table 13. All six variables, team's prior won-lost record, number of seniors, number of varsity letter winners, height of starting five, overall ability, and school support were significantly related to team performance.

Table 13

Pearson Correlation Coefficients Between Situational Variables and Team Performance

Situational Variables	Team Performance
Team's Prior Won-Lost Record	.46***
Team Ability	
Number of Seniors	.32**
Number of Varsity Letter Winners	.33**
Total Height of Starting Five	.27*
Rating of Overall Ability	.49***
School Support	.35**

***p<.001

** p<.01

A multiple regression analysis was used to assess the differential effects of the significant antecedent variables on team performance. The seven variables that were significantly related to team performance (coach's prior won-lost record, team's prior won-lost record, seniors, varsity letter winners, height of players, overall ability, and school support were used as predictor variables and team performance was used as a criterion variable in the analysis. The results of this analysis are summarized in

Table 14. The results indicated that overall ability was the only significant predictor of team performance.

Table 14

Multiple Regression Analysis for Team Performance with Selected Antecedent Variables

Criterion Variable: Team Performance			
Predictor	Standardized Regression Coefficients	T	Probability
Coach's prior Won-Lost	.20	1.48	.14
Team's Prior Won-Lost	.15	.88	.38
Team Ability			
Seniors	.55	.38	.70
Varsity Letters	.89	.62	.54
Height	.13	.44	.66
Overall Ability	6.78	3.37	.00
School Support	.32	.98	.33

Multiple R = .67; F(7,59)=6.87; p<.00; R Square =.45

Personal variables to predict coaching behaviors. A *t* test was used to test whether participation in a coaching educational program influenced coaching behavior (effort) *t* (74)=.51, *p*<.61. Pearson correlation coefficients were used

to study the relationship between personal variables and effort and persistence variables. The correlation coefficients between these variables are contained in Table 15. The results of this analysis indicated that only coaching experience was negatively related to persistence, and no other personal variables were significantly related to coaching behaviors.

Table 15

Pearson Correlation Coefficients Between Personal Variables and Coaching Behaviors

Coaching Behaviors	Personal Variables		
	Playing Experience	Coaching W-L Record	Coach's
Effort			
Hours/Week in Season	-.19	.18	.05
Hours/Week out of Season	-.08	.07	.14
Persistence			
Desired Years to Continue Coaching	-.19	-.27*	.13

* $p<.05$

Situational variables to predict coaching behaviors. The Pearson correlation coefficients were used to examine the relationships between situational variables and coaching behaviors. These variables are shown in Table 16. School

Table 16

Pearson Correlation Coefficients Between Situational Variables and Coaching Behaviors

	Coaching Behaviors		
Situational Variables	In season	Off Season	Persistence
Team's Won-Lost Record	.10	.11	.02
Team Ability			
Number of Seniors	.01	.06	-.23*
Number of Varsity Letter Winners	.10	.19	-.05
Total Height of Starting Five	.09	-.11	.12
Rating of Overall Ability	-.05	.05	.03
School Support	.13	.22*	-.06

p<.05

support was significantly related to hours per week out of season and number of seniors was significantly related to

persistence, and no other situational variables were significantly correlated with coaching behaviors.

Relationships between personal and situational variables. The Pearson correlation coefficients were used to examine the relationships between personal and situational variables. In this study, a significant positive relationship (r=.39) emerged between team's prior won-lost record and school support. Also, a significant positive relationship (r=.70) emerged between a coach's prior won-lost record and a team's prior won-lost record.

Relationships between coaching behaviors and team performance. The Pearson correlation coefficients were used to examine the last relationships between coaching behaviors and team performance. In this study, no significant relationships emerged between coaching behaviors and team performance (in Season, r=.03; out-of-Season, r=.17; persistance r=-.00).

CHAPTER IV

DISCUSSION

The purpose of the present study was to develop and examine the reliability and validity of the Coaching Confidence Scale. The CCS was constructed with the expectation that it would be unidimensional. Phase 1 of this study, however, supported a multidimensional construct of the CCS with three subscales. The multidimensional CCS had strong internal consistencies and provided adequate control of the social desirability response bias. The three factors comprised a total of 10 items from an original pool of 15 items administered to a sample of 130 subjects. Some items were deleted based on the CCS item characteristics and internal structure of the CCS in Phase 1. Unfortunately, the subscales were comprised of only three or four items each. If the CCS had been originally conceptualized as multidimensional, additional items would have been constructed to strengthen the factors. Even so, individual items in the CCS are appropriate items to measure coaching confidence based on the appropriate standard deviations, high item-total correlation coefficients, and a non-significant relationship with social desirability.

Concurrent validity for the CCS was examined by predicting relationships between coaching confidence and three other constructs: self-esteem, internal control, and

anxiety. Results supported the concurrent validity of the CCS for self-esteem for the three subscales. As indicated in Chapter 1, coaches with higher self-esteem should have higher beliefs of efficacy for coaching than coaches with lower self-esteem because self-esteem influences one's attributions for success and failure, which in turn, influence self-efficacy beliefs (Bandura, 1986, Collins, 1982).

A significant positive relationship also emerged between technique confidence and internal locus of control. Perhaps technique confidence is perceived as being more under the coaches' control than are the variables termed interpersonal and competition, which also involve competencies on the part of others.

A significant negative relationship emerged between interpersonal confidence and STAI. Martens et al. (1982) indicated that self-confidence may be thought of as the conceptual opposite of anxiety. It is not clear as to why STAI correlated only with interpersonal confidence and not with technique or competition confidence. Taken together, these results provide partial support for the concurrent validity of coaching confidence.

Data of Phase 3 were collected from 77 high school basketball coaches. Phase 3 of this study sought to determine construct validity for the CCS through its relationship with the antecedent and consequent variables of coaching confidence. The results of Phase 3 provide partial

support for the relationships between coaching confidence and its antecedent and consequent variables as represented in the Coaching Confidence model, thus providing some preliminary evidence of construct validity for the CCS as a measure of coaching confidence. Specifically, the results in Phase 3 indicated that team's prior won-lost record and the support of the school were significantly related to all three dimensions of coaching confidence. A coach's previous coaching experience was significantly related to technique and competition confidence. The number of varsity letter winners was significantly related to competition confidence. In addition, overall ability was significantly related to technique confidence. In terms of consequent variables, coaching confidence was significantly related to the effort that a coach put into coaching in terms of hours spent per week at coaching in season.

Predicting Coaching Confidence

In terms of the antecedent variables, coaching experience and school support emerged as the most consistent significant predictors of coaching confidence as measured through multiple regression analyses of the three subscales. These results make sense from the perspective of Bandura's (1977) theory of self-efficacy. As Bandura has indicated, previous experience at a task provides the most dependable source of efficacy (confidence) information. The more experience a coach has in coaching, the greater are the

chances of teaching the skills, detecting skill errors, evaluating players' abilities, and organizing effective practices. And the more experience a coach has in coaching, the greater are the chances of making critical decisions during competition, coaching under pressure, and adapting to different game situations. Experience at coaching provides more information about a coach's capacity to affect one's athletic performance than his/her own playing experience or his/her won-lost record for the previous year because it is more directly related to the skills needed for competent coaching.

Likewise, school support is similar to Bandura's (1977) concept of persuasive efficacy information. Bandura posited that self-efficacy judgments about one's capabilities are partly based on the opinions, attitudes or suggestions of others. A coach gains this information from the active support of many people: the faculty and administrators, the community, the student body, and the parents. In this study, school support was a particularly strong predictor of interpersonal confidence, which was somewhat surprising and contrary to Bandura's hypothesis that persuasive information is likely to be a weaker predictor of confidence than one's own previous experience. However, in some sport situations, persuasive information may be a more pertinent source of interpersonal confidence information than past coaching experience.

A possible reason for this finding is that the persuasive information was provided through support by many different people rather than just one individual or a single group of individuals. If coaches have the support of an athletic director, community, parents, students, faculty, and administrators, they have a tremendous amount of support. As Bandura (1986) has indicated, the more people who are credible sources of persuasive information, the more influence it has on one's confidence.

The eighth hypothesis stated that independent of the coach, a team who has had a consistent tradition of winning could affect coaching confidence. Although a team's prior won-lost record did not emerge as a significant predictor of coaching confidence through a multiple regression analysis, the team's prior won-lost record was significantly related to all three dimensions of coaching confidence, thus supporting Hypothesis 8. This finding suggests that a coach's belief in his ability to coach is based partially on having a team that has a consistent tradition of winning.

There are a number of reasons for a lack of significant relationships between coaching confidence and the other antecedent variables. Although a hypothesis was put forth that coaching education should have a significant effect on coaching confidence, it was not confirmed. Based on the teacher education literature, there are legitimate reasons that a linear relationship was not found between coaching education and coaching confidence (Ashton, Webb, & Doda,

1982). Teacher education does not necessarily prepare teachers to teach and confront the realities of the classroom. Nor does coaching education prepare coaches to confront the realities of the athletic field. Experience in teaching or coaching seems to be the most important factor in building confidence in one's ability to teach or coach.

The fifth hypothesis predicted that a coach's playing experience should have some impact on coaching confidence. This finding did not support the hypothesis, which at first glance may seem contrary to Bandura's hypothesis that past experience should be a strong predictor of confidence. However, as stated previously, playing experience is not directly related to the skills needed for competent coaching.

Just because individuals are proficient or have experience at playing a sport does not mean they can teach those skills to others. Research from teacher education has indicated that expert teachers have more pedagogical knowledge than novice teachers even though they may not differ on their content knowledge (Berliner, 1986). Therefore, coaches need to know not only the techniques and tactics of their particular sport, but also how to teach techniques and tactics to their athletes.

The seventh hypothesis stated that the higher the ratio of winning to losing across the 1990-1991 season for coaches the higher their coaching confidence would be. However, results did not support this hypothesis, which may seem

contrary to Bandura's hypothesis that past performance experience should be a strong predictor of confidence. Because coaching expertise is developed over long periods of time, one year's prior won-lost record may not have been enough to influence coaching confidence. In addition, a won-lost record is not totally within a coach's control. Therefore, a coach could attribute one season's loss to a number of factors other than his ability in coaching.

Finally, the ninth hypothesis predicted that the greater the team's ability, the higher a coach's coaching confidence would be. The results did not support the hypothesis. Using four measures of team ability to predict three measures of coaching confidence resulted in only two significant correlations. A possible reason for the lack of relationships between team ability and coaching confidence is similar to the previous one for prior won-lost record. That is, the abilities of the athletes are only partially within a coach's control and, therefore, have only a partial influence on a coach's confidence.

Although most of the measures of team ability were not significantly related to coaching confidence, they were significantly related to team performance. The explanation for the lack of a relationship between team ability and coaching confidence may be found by examining the items on the CCS. None of the items dealt with a coach's confidence in being able to win games, but rather they dealt with a coach's confidence to teach, detect errors, and evaluate

ability. On the other hand, team ability was significantly related to team performance, as measured by won-lost record.

Relationship Between Coaching Confidence, Team Performance, and Coaching Behaviors

Bandura (1977) views self-efficacy as a cognitive mechanism mediating behavioral change. One form of behavioral change that Bandura describes is effort and persistence. In addition, Denham and Michael's Model of Teacher Efficacy (1981) predicts that self-confidence will be related to teacher's behaviors. In this study, effort, as measured by hours per week spent coaching in season, had a significantly positive correlation with all three dimensions of coaching confidence. This finding supports research on the relationship between teaching efficacy and the devotion to classroom time spent on academic learning (Gibson & Dembo, 1984). The hypothesis, however, predicted that coaching confidence would also be significantly related to persistence by coaches. Persistence and effort out of season were not significantly correlated with coaching confidence. This result may have had more to do with this measure of effort and persistence than problems with the CCS. The Coaching Behavior Scale which measured effort and persistence was constructed by the author and was not pilot tested. Except for hours per week spent coaching in season, the items on the Coaching Behavior Scale may not have really captured the effort and persistence of coaches.

The last hypothesis predicted that the higher the coaching confidence the higher the coach's winning percentage across the current season would be; however, this hypothesis was not confirmed. The reasons for the lack of a relationship between coaching confidence and team performance may be found by examining the CCS items. None of the CCS items dealt with a coach's confidence in being able to win games. Furthermore, as stated previously, a team's performance is not totally within a coach's control. Other factors besides the coach's confidence level will influence performance. These may include team ability, a team's prior record, the team's confidence level, and the school's support. Future studies on coaching confidence may be more informative if they examined other indices of team performance that correspond more closely to the CCS items such as skill improvement, team motivation, and aggregated player statistics during games.

Discussion of Exploratory Findings

In terms of the antecedent variables, coach's prior won-lost record, team's prior won-lost record, team ability (including seniors, varsity letter winners, height of starters, and overall ability), and school support were significantly related to team performance. Specifically, basketball teams with greater won-lost records, with many seniors, many varsity letter winners, many tall players, and athletes who have better overall ability, and teams with

great school support were associated with higher winning percentages across the current season. Specifically, overall ability was found to be a significant predictor of team performance. Basketball teams with better overall ability were associated with higher winning percentages across the current season.

However, coaching experience and number of seniors were significantly negatively related to persistence. The explanation for the negative relationship between coaching experience and persistence may be found by examining the items on the Coaching Behavior Scale.

Item 4 on the Coaching Behavior Scale "How many years do you want to continue in coaching this sport team?" may not have been an appropriate measure of coaches' persistence without controlling for previous years of coaching experience. In this case, coaches who have more coaching experience may be nearing the end of their careers compared to those who have less coaching experience.

In terms of the relationships between personal and situational variables, team's prior won-lost record influenced school support and school support influenced the team's prior won-lost record. Coaches work with an unbelievable number of people. If coaches have good won-lost records for several years, the people with whom they work will support the athletic program. The better the performance records, the greater the school support. As was also expected, teams with greater prior won-lost records

were associated with higher winning percentages across the current season.

In summary, the results of this study should be viewed as exploratory and preliminary. Although this study supports the reliability of a three dimensional CCS and to some extent the concurrent validity, more items for each subscale would help to strengthen these factors. The generation of more items, with the thought of all possible confidence dimensions in mind, may uncover other factors as well. The evidence for construct validity should also be viewed as preliminary because of the number of measures used for testing it that were new and not piloted. These results, taken together however, indicate some support for a concept of coaching confidence and warrant further development.

CHAPTER V

SUMMARY AND CONCLUSIONS

Summary

The purpose of this study was to develop a valid and reliable instrument to measure coaching confidence. There were two objectives for the development of the Coaching Confidence Scale (CCS). First, a theoretical framework was needed in which coaching confidence could be conceptualized as an intervening construct in the model. Second, the CCS had to meet the scientific standards of reliability and validity. This chapter will attempt to draw final conclusions based on the overall results.

In Chapter 1, the coaching confidence model was developed and hypotheses of coaching confidence were generated, based on related research. Chapter 2 presented the confidence and self-efficacy theory, models of teacher efficacy in an educational context, and the need for a coaching confidence construct. Chapter 3 presented the process for developing the CCS and demonstrated its reliability and validity. Chapter 3 contained three phases: preliminary scale development and instrument reliability, concurrent validity, and construct validity.

Preliminary scale development involved instrument design and scoring procedures. The initial item pool of 18 items was based on the literature review and discussion with

coaches and sport psychologists. The pool of items was developed with the expectation that the CCS would be unidimensional. The preliminary scale development established content validity by having six knowledgeable judges evaluate each item with regard to content and clarity. Judges were asked to respond for each of the items. The items in the "not necessary" category were deleted. From the judges evaluations, 15 items were retained in the CCS.

Phase 1 constituted analyses of item characteristics as well as internal consistency, and susceptibility to socially desirable responses. Phase 1 of this study supported a multidimensional construct of the CCS instead of an unidimensional one. Even so, the multidimensional CCS had strong internal consistency and provided adequate control of the social desirability response bias. Item 14, however, had a rather low alpha coefficient (r=.37) and was deleted. Items 4,5,11, and 12 were also eliminated, based on low factor loadings. Additional criteria for item elimination for these items included dual factor loadings.

Concurrent validity for the CCS was tested by examining the relationships between the CCS and three other psychological constructs: self-esteem, internal control, and anxiety. The results of Phase 2 partially supported the concurrent validity of the CCS through its significant correlation with self-esteem for all three subscales. A significant negative relationship emerged between

interpersonal confidence and the STAI and a significant positive relationship emerged between technique confidence and internal locus of control. Among the three constructs, self-esteem correlated most strongly with the coaching confidence subscales measured by the CCS.

Phase 3 provided partial support for the relationships between coaching confidence and its antecedent and consequent variables as represented in the Coaching Confidence model, thus providing some preliminary evidence of construct validity for the CCS.

Phases 1, 2, and 3 of the data collection established internal consistency reliability, and provided some evidence of concurrent and construct validity for the CCS. The inventory appeared to be sufficiently reliable and valid to warrant further development. Further efforts are needed to add more items to the instrument in order to strengthen the subscales and, hopefully, the concurrent and construct validity of the CCS.

Conclusions

Based upon the findings and within the limitations of this study, the following conclusions were reached:

1. In general, the CCS is a multidimensional construct that has high internal consistency reliability and some evidence of concurrent validity.

2. This study provided partial support for the relationships between coaching confidence and its antecedent

and consequent variables, thus providing some evidence of construct validity for the CCS.

3. Among antecedent variables, coaching experience and the support of the school are the most significant predictors of coaching confidence.

4. Coaching confidence is significantly related to the effort that a coach puts into coaching in terms of hours spent coaching.

Suggestions for Future Research

This study has attempted to conceptualize and measure coaching confidence. The conceptual model in this study provided some evidence of the construct validity for the CCS. Therefore, additional research is needed to replicate, modify, and extend the findings of this study in order to build upon the basics established thus far.

This study suggests several other directions for future research. The present study did not attempt to measure coaching confidence as a multidimensional construct. Items were not developed according to technical, interpersonal, and competition confidence categories. Future research needs to consider whether there are additional coaching confidence categories for which questionnaire items need to be developed. As well, further research is needed to add to the items in each subscale already established. Once the questionnaire subscale categories are constructed, then confirmatory factor analysis should be conducted to test the

factor structure of the questionnaire.

After the factor structure of the CCS is confirmed, future research should be directed toward identifying other antecedents of coaching confidence. The antecedents or sources of coaching confidence may have several more variables which influence coaching confidence.

Attributions are additional variables which could influence coaching confidence. For example, coaching experiences of failure attributed to external factors or lack of effort may not be as debilitating as failure experiences that are attributed to internal factors or lack of ability. Attributions to internal factors may be more influential in changing coaching confidence in a positive or negative fashion than attributions to external factors.

Further research is also needed to identify other ways of measuring the consequences of coaching confidence. For instance, future studies on coaching confidence might be more informative if they examined the actual coaching behaviors of persistence and effort. The specific coaching behaviors in sport settings are needed to effectively examine the relationship between coaching confidence and coaching behaviors. The current measures of effort and persistence are not sufficient to explain coaching behaviors in sports settings. Coaching behaviors should also be examined over a longer period of time to examine the influence of coaching confidence. As well, team performance should also be examined in terms of the skill improvement,

motivation, and performance indices during competition (e.g., shooting percentage, turnovers, etc.) in addition to won-lost records.

In addition, statistical tools such as path analysis and linear structural equations analysis could be implemented to determine the direction and strength of coaching confidence. For example, a causal model could be tested with antecedent variables predicting coaching confidence which in turn, causally influence coaching behaviors and team performance. In this study, coaching confidence is postulated as an intervening variable that mediates the relationship between coaching experience and effort.

In summary, this study supports the reliability of the CCS and provides partial support for the concurrent and construct validity of the conceptual model. The validation procedures in this study attempted to establish a basis upon which validity for the CCS can continue to be built. The CCS is worthy of further development and use.

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APPENDIX A

Item Development of the CCS

APPENDIX A

Original 18 Items of the Coaching Efficacy Scale For High School And Youth Coaches

Think about how confident you are as a coach. Rate your confidence for each of the items below. Your answers will be kept completely confidential.

How confident are you---

	Not at all confident									Extremely confident
1. in your skill instruction ability	0	1	2	3	4	5	6	7	8	9
2. in your ability to detect skill errors	0	1	2	3	4	5	6	7	8	9
3. in your ability to evaluate your players' abilities	0	1	2	3	4	5	6	7	8	9
4. in your knowledge of game strategies	0	1	2	3	4	5	6	7	8	9
5. in your knowledge of rules	0	1	2	3	4	5	6	7	8	9
6. in your ability to communicate effectively with your players	0	1	2	3	4	5	6	7	8	9
7. in your ability to motivate your players	0	1	2	3	4	5	6	7	8	9
8. in your ability to make critical decisions during competition	0	1	2	3	4	5	6	7	8	9
9. in your ability to coach under pressure	0	1	2	3	4	5	6	7	8	9
V10. in your ability to execute successful strategies in competition	0	1	2	3	4	5	6	7	8	9
11. in your ability to adapt to different game situations	0	1	2	3	4	5	6	7	8	9
12. in your ability to interact with coaching staff	0	1	2	3	4	5	6	7	8	9
13. in your ability to create high performance expectation in your athletes	0	1	2	3	4	5	6	7	8	9

14. in your ability to organize effective practices	0	1	2	3	4	5	6	7	8	9
15. in your ability to settle team conflicts	0	1	2	3	4	5	6	7	8	9
V16. in your knowledge to deal with almost any problem on your team	0	1	2	3	4	5	6	7	8	9
17. in your human relations skills with players	0	1	2	3	4	5	6	7	8	9
V18. in outthinking other coaches	0	1	2	3	4	5	6	7	8	9

Note: The items marked with a "V" were the ones that were deleted by the judges.

APPENDIX B

Human Subjects Approval, Cover Letter to Coaches, and Questionnaires for Phase 1

MICHIGAN STATE UNIVERSITY

OFFICE OF VICE PRESIDENT FOR RESEARCH
AND DEAN OF THE GRADUATE SCHOOL

EAST LANSING • MICHIGAN • 48824-1046

December 4, 1990

Jeong-Keun Park
1533D Spartan Village
East Lansing, MI 48823

RE: THE CONSTRUCTION OF A COACHING CONFIDENCE QUESTIONNAIRE, IRB# 90-503

Dear Mr. Park:

The above project is exempt from full UCRIHS review. I have reviewed the proposed research protocol and find that the rights and welfare of human subjects appear to be protected. You have approval to conduct the research.

You are reminded that UCRIHS approval is valid for one calendar year. If you plan to continue this project beyond one year, please make provisions for obtaining appropriate UCRIHS approval one month prior to December 3, 1991.

Any changes in procedures involving human subjects must be reviewed by the UCRIHS prior to initiation of the change. UCRIHS must also be notified promptly of any problems (unexpected side effects, complaints, etc.) involving human subjects during the course of the work.

Thank you for bringing this project to our attention. If we can be of any future help, please do not hesitate to let us know.

Sincerely,

David E. Wright, Ph.D.
Chair, UCRIHS

DEW/ deo

cc: Dr. Deborah L. Feltz

APPENDIX B

Cover Letter

Park Jeong-Keun
1533D Spartan Village
E.Lansing, MI 48823
(517)355-2911
December 8, 1990

Dear Coach_____:

I am writing to you to enlist your help. My name is Jeong-Keun Park and I am a doctoral student in the Department of Physical Education and Exercise Science at Michigan State University. I am working on my degree in sport psychology under the direction of Dr.Deborah L. Feltz.

I am presently working on my dissertation. Part of my dissertation topic will be the construction of a Coaching Confidence Scale. The purpose of the study is to develop a valid and reliable instrument to measure coaching confidence. Coaching confidence refers to the extent to which coaches believe that they have the capacity to effect athlete performance.

I realize how busy you are. But your cooperation would enable me to better understand coaching confidence. Enclosed are a Coaching Confidence Scale, a Consent Form, and two other self-report measures that I hope you will complete and return to me by using the stamped envelope enclosed. If you agree to participate by completing the enclosed forms, please sign the consent form and return in a separate stamped envelope that has been enclosed..

You will not be required to write your name on any of the questionnaires. All data from this study will be treated with strictest confidence and your answers will remain anonymous. Of course, your participation is completely voluntary. It will take about twenty minutes or less to complete these questionnaires.

I would appreciate receiving your response by December 31, 1990. Thank you very much for your assistance.

Sincerely Yours,

Park Jeong-Keun

APPENDIX B

Consent Form

Department of Physical Education
and Exercise Science

Michigan State University

TITLE OF RESEARCH: THE CONSTRUCTION OF A COACHING CONFIDENCE QUESTIONNAIRE

I have freely consented to participate in this research conducted by Mr.Jeong-Keun Park, doctoral student in the Department of Physical Education and Exercise Science at Michigan State University.

The study is concerned with development of a valid and reliable instrument to measure coaching confidence.

I understand that I am free to refuse to participate in certain procedures or answer certain questions or discontinue my participation at any time without penalty.

I understand that my participation in this research does not guarantee any beneficial effects.

I understand that if I choose to participate in the study, it will take about twenty minutes or less to complete these questionnaires.

I understand that all data from this study will be treated with strictest confidence.

I understand that all data from this study will remain anonymous in any report of research findings.

I agree to participate voluntarily in this research.

SIGNED:_____

DATE:_____

APPENDIX B

Coaching Confidence Scale For High School Coaches

Coaching confidence refers to the extent to which coaches believe that they have the capacity to affect the performance of young athletes. Think about how confident you are as a coach. Rate your confidence for each of the items below. Your answers will be kept completely confidential.

How confident are you---

	Not at all confident									Extremely confident
1. in your ability to teach the skills of your sport?	0	1	2	3	4	5	6	7	8	9
2. in your ability to detect skill errors?	0	1	2	3	4	5	6	7	8	9
3. in your ability to evaluate your players' abilities?	0	1	2	3	4	5	6	7	8	9
4. in your knowledge of game strategies?	0	1	2	3	4	5	6	7	8	9
5. in your knowledge of rules?	0	1	2	3	4	5	6	7	8	9
6. in your ability to communicate effectively with your players?	0	1	2	3	4	5	6	7	8	9
7. in your ability to motivate your players?	0	1	2	3	4	5	6	7	8	9
8. in your ability to make critical decisions during competition?	0	1	2	3	4	5	6	7	8	9
9. in your ability to coach under pressure?	0	1	2	3	4	5	6	7	8	9
10. in your ability to adapt to different game situations?	0	1	2	3	4	5	6	7	8	9
11. in your ability to interact effectively with your coaching staff?	0	1	2	3	4	5	6	7	8	9
12. in your ability to create appropriate performance expectation in your players?	0	1	2	3	4	5	6	7	8	9

13. in your ability to organize effective practices?	0	1	2	3	4	5	6	7	8	9
14. in your ability to settle team conflicts?	0	1	2	3	4	5	6	7	8	9
15. in your interpersonal relations skills with your players?	0	1	2	3	4	5	6	7	8	9

APPENDIX B

The Social Personality Scale

Please check True or False

1. It is sometimes hard for me to go on with my work if I am not encouraged. True___ False___
2. I sometimes feel resentful when I don't get my way. True___ False___
3. On a few occasions, I have given up doing something because I thought too little of my ability. True___ False___
4. There have been times when I felt like rebelling against people in authority even though I knew they were right. True___ False___
5. No matter who I'm talking to, I'm always a good listener. True___ False___
6. There have been occasions when I took advantage of someone. True___ False___
7. I'm always willing to admit it when I make a mistake. True___ False___
8. I sometimes try to get even rather than forgive and forget. True___ False___
9. I am always courteous, even to people who are disagreeable. True___ False___
10. I have never been irked when people expressed ideas very different from my own. True___ False___
11. There have been times when I was quite jealous of the good fortune of others. True___ False___
12. I am sometimes irritated by people who ask favors of me. True___ False___
13. I have never deliberately said something that hurt someone's feelings. True___ False___

APPENDIX B

Coach's Personal Data

Information about you ---

1. Gender: (Please check one)
   _____ (1) Male
   _____ (2) Female

2. Ethnic Affiliation: (Please Check one)
   _____ (1) African American _____ (2) Asian American
   _____ (3) Caucasian _____ (4) Hispanic
   _____ (5) Native American Indian
   _____ (6) Other_____

3. Age Group: (Please check one)
   _____ (1) 20-24 _____ (6) 45-49
   _____ (2) 25-29 _____ (7) 50-54
   _____ (3) 30-34 _____ (8) 55-59
   _____ (4) 35-39 _____ (9) 60-64
   _____ (5) 40-44 _____ (10) 65 and over

4. Educational Background: (Please check one)
   _____ (1) High school graduate
   _____ (2) Less than two years of college
   _____ (3) More than two years but never completed
   _____ a bachelor's degree
   _____ (4) Completed a bachelor's degree
   _____ (5) Some master's level work
   _____ (6) Completed master's degree
   _____ (7) Some doctoral level work
   _____ (8) Education specialist
   _____ (9) Completed doctorate

5. Present Position: (Please check one)
   _____ (1) Head coach _____ (2) Assistant coach

6. Years in present position:_____

7. What sports have you coached:_____

8. What sport team are you currently coaching (identify if male or female team):_____

9. Total number of years in coaching career:_____

10. Name of high school:_____

11. What was your undergraduate major?_____ minor?_____

12. Approximately how many hours per week do you spend on fulfilling the duties of coach?_____Hours/week

APPENDIX C

Follow-Up Letter

APPENDIX C

Follow-up Letter

Park Jeong-Keun
1533D Spartan Village
E.Lansing, MI 48823
(517)355-2911
January 9, 1991

Dear Coach_____:

On December 8, 1990 I sent you a Coaching Confidence Questionnaire, Social Personality Scale, Consent form, and Coach's Personal Data, along with my cover letter. I had hoped that the questionnaires would be returned to me by December 31, 1990. However, the questionnaires have not been returned to me. If you have forgotten to mail in yours, please mail as soon as possible.

I realize how busy you are. However, your response is crucial for the successful completion of my study. I would appreciate receiving your response by January 22, 1991. Thank you very much for your assistance.

Sincerely Yours,

Park Jeong-Keun

APPENDIX D

Human Subjects Approval, Cover Letter to Coaches, and Questionnaires for Phase 2

MICHIGAN STATE UNIVERSITY

OFFICE OF VICE PRESIDENT FOR RESEARCH
AND DEAN OF THE GRADUATE SCHOOL

EAST LANSING • MICHIGAN • 48824-1046

November 22, 1991

Jeong-Keun Park
1533 D Spartan Village
East Lansing, MI 48823

RE: CONSTRUCTION OF A COACHING CONFIDENCE QUESTIONNAIRE, IRB #90-503

Dear Mr. Park:

UCRIHS' review of your project is now complete. I am pleased to advise that the rights and welfare of the human subjects appear to be adequately protected and the Committee, therefore, approved this project with your revision of November 6, 1991.

You are reminded that UCRIHS approval is valid for one calendar year. If you plan to continue this project beyond one year, please make provisions for obtaining appropriate UCRIHS approval one month prior to November 14, 1992. This may be accomplished by writing UCRIHS to stipulate that:

1. The human subjects protocol is the same as in previous studies
2. There have been no ill effects suffered by the subjects
3. There have been no complaints by the subjects or their representatives
4. There has not been a change in the research environment for new information which would indicate greater risk to human subjects than that assumed when the protocol was intitially reviewed and approved.

There will be a maximum of four renewals possible. If you wish to continue a project beyond that time, it must again be submitted for complete review.

Meanwhile, any changes in procedures involving human subjects must be reviewed by the UCRIHS prior to initiation of the change. UCRIHS must also be notified promptly of any problems (unexpected side effects, complaints, etc.) involving human subjects during the course of the work.

Thank you for bringing this project to our attention. If we can be of any future help, please do not hesitate to let us know.

Sincerely,

David E. Wright, Ph.D., Chair
University Committee on Research
Involving Human Subjects (UCRIHS)

DEW/deo

cc: Dr. Deborah Feltz

APPENDIX D

Cover Letter

Park Jeong-Keun
1533D Spartan Village
E.Lansing, MI 48823
(517)355-2911
November 6, 1991

Dear Coach_____:

I am writing to you to enlist your help. My name is Jeong-Keun Park and I am a doctoral student in the Department of Physical Education and Exercise Science at Michigan State University. I am working on my degree in sport psychology under the direction of Dr.Deborah L. Feltz.

I am presently working on my dissertation. My dissertation topic is the construction of a Coaching Confidence Scale. The purpose of the study is to develop a valid and reliable instrument to measure coaching confidence. Coaching confidence refers to the extent to which coaches believe that they have the capacity to influence an athlete's performance.

I realize how busy you are. But your cooperation would enable me to better understand coaching confidence. Enclosed are a Consent Form, the Coach's Personal Data Questionnaire, a Coaching Confidence Scale, the Social Personality Scale, the Rosenberg's Self-Esteem Scale, the STAI, and the Internal-External Locus of Control Scale. I hope you will complete all questionnaires and return them to me by using the stamped envelope enclosed. If you agree to participate, please sign the consent form and return in a separate stamped envelope that has been enclosed.

You will not be required to write your name on any of the questionnaires. All data from this study will be treated with strictest confidence and your answers will remain anonymous. Of course, your participation is completely voluntary. It will take about thirty minutes to complete these questionnaires.

I would appreciate receiving your response by November 21, 1991. Thank you very much for your assistance.

Deborah L. Feltz, Ph.D.
Advisor
(517)355-4732

Sincerely Yours,

Park Jeong-Keun

APPENDIX D

Revised Version of the Coach's Personal Data Questionnaire

Information about you ---

1. Gender: (Please check one)

____ (1) Male ____ (2) Female

2. Ethnic Affiliation: (Please Check one)

____ (1) African American ____ (2) Asian American
____ (3) Caucasian ____ (4) Hispanic
____ (5) Native American Indian
____ (6) Other_____

3. Age Group: (Please check one)

____ (1) 20-24 ____ (6) 45-49
____ (2) 25-29 ____ (7) 50-54
____ (3) 30-34 ____ (8) 55-59
____ (4) 35-39 ____ (9) 60-64
____ (5) 40-44 ____ (10) 65 and over

4. Educational Background: (Please check one)

____ (1) High school graduate
____ (2) Less than two years of college
____ (3) More than two years but never completed a bachelor's degree
____ (4) Completed a bachelor's degree
____ (5) Some master's level work
____ (6) Completed master's degree
____ (7) Some doctoral level work
____ (8) Education specialist
____ (9) Completed doctorate

5. Present Position: (Please check one)

____ (1) Head coach ____ (2) Assistant coach

6. Years in present position:_____

7. What sports have you coached:_____

8. What sport team are you currently coaching (identify if male or female team):_____

9. Total number of years in coaching career:_____

10. Total number of years as a player:_____(Check below)
High school_____ College_____ Professional team_____

11. Name of high school:_____

12. What was the percentage of your team's wins for the last four years, 1987-1991 seasons:_____

13. What was the coach's percentage of wins for the previous season (1990-1991) for the team you are currently coaching:_____

14. What was the coach's percentage of wins for this season (1991-1992):_____

APPENDIX D

Rosenberg's Self-Esteem Scale

Please circle 1 if you are strongly agree, circle 2 if you are agree, circle 3 if you are disagree, or circle 4 if you are strongly disagree with the following items:

	SA	AGREE	DA	SD
1. On the whole, I am satisfied with myself.	1	2	3	4
2. At times I think I am no good at all.	1	2	3	4
3. I feel that I have a number of good qualities.	1	2	3	4
4. I am able to do things as well as most other people.	1	2	3	4
5. I feel I do not have much to be proud of.	1	2	3	4
6. I certainly feel useless at times.	1	2	3	4
7. I feel that I'm a person of worth, at least on an equal plane with others.	1	2	3	4
8. I wish I could have more respect for myself.	1	2	3	4
9. All in all, I am inclined to feel that I am a failure.	1	2	3	4
10. I take a positive attitude toward myself.	1	2	3	4

APPENDIX D

The STAI

DIRECTIONS: A number of statements which people have used to describe themselves are given below. Read each statement and then circle one of the responses to the right of the statement to indicate how you generally feel. There are no right or wrong answers. Do not spend too much time on any one statement but give the answer which seems to describe how you generally feel.

	Not-at all	Some-what	Moderate-ly so	Very-much so
1. I feel calm	1	2	3	4
2. I feel secure	1	2	3	4
3. I am tense	1	2	3	4
4. I am regretful	1	2	3	4
5. I feel at ease	1	2	3	4
6. I feel upset	1	2	3	4
7. I am presently worrying over possible misfortunes	1	2	3	4
8. I feel rested	1	2	3	4
9. I feel anxious	1	2	3	4
10. I feel comfortable	1	2	3	4
11. I feel self-confident	1	2	3	4
12. I feel nervous	1	2	3	4
13. I am jittery	1	2	3	4
14. I feel "high strung"	1	2	3	4
15. I am relaxed	1	2	3	4
16. I feel content	1	2	3	4
17. I am worried	1	2	3	4

18. I feel over-excited and rattled	1	2	3	4
19. I feel joyful	1	2	3	4
20. I feel pleasant	1	2	3	4

APPENDIX D

Internal-External Locus of Control Scale

This is a questionnaire to find out the way in which certain important events in our society affect different people. Each item consists of a pair of alternatives lettered a or b. Please select the one statement of each pair (and only one) which you more strongly believe to the ease as far as you're concerned. Be sure to select the one you actually believe to be more true rather than the one you think you should choose or the one you would like to be true. This is a measure of personal belief: obviously there are no right or wrong answers.

Please answer these items carefully but do not spend too much time on any one item. Be sure to find an answer for every choice. Please circle a or b which you choose as the statement more true.

In some instances you may discover than you believe both statements or neither one. In such eases, be sure to select the one you more strongly believe to be the case as far as you're concerned. Also try to respond to each item independently when making your choice; do not be influenced by your previous choices.

1. a. Children get into trouble because their parents punish them too much.
   b. The trouble with most children nowadays is that their parents are too easy with them.

2. a. Many of the unhappy things in people's lives are partly due to bad luck.
   b. People's misfortunes result from the mistakes they make.

3. a. One of the major reasons why we have wars is because people don't take enough interest in polities.
   b. There will always be wars, no matter how hard people try to prevent them.

4. a. In the long run people get the respect they deserve in this world.
   b. Unfortunately, an individual's worth often passes unrecognized no matter how hard he tries.

5. a. The idea that teachers are unfair to students is nonsense.
   b. Most students don't realize the extent to which their grades are influenced by accidental happenings.

6. a. Without the right breaks one cannot be an effective leader.

b. Capable people who fail to become leaders have not taken advantage of their opportunities.

7. a. No matter how hard you try some people just don't like you.
   b. People who can't get others to like them don't understand how to get along with others.

8. a. Heredity plays the major role in determining one's personality.
   b. It is one's experiences in life which determine what they're like.

9. a. I have often found that what is going to happen will happen.
   b. trusting to fate has never turned out as well for me as making a decision to take a definite course of action.

10. a. In the case of the well prepared student there is rarely if ever such a thing as an unfair test.
    b. Many times exam questions tend to be so unrelated to course work that studying is really useless.

11. a. Becoming a success is a matter of hard work, luck has little or nothing to do with it.
    b. Getting a good job depends mainly on being in the right place at the right time.

12. a. The average citizen can have an influence in government decisions.
    b. This world is run by the few people in power, and there is not much the little guy can do about it.

13. a. When I make plans, I am almost certain that I can make them work.
    b. It is not always wise to plan too far ahead because many things turn out to be a matter of good or bad fortune anyhow.

14. a. There are certain people who are just no good.
    b. There is some good in everybody.

15. a. In my case getting what I want has little or nothing to do with luck.
    b. Many times we might just as well decide what to do by flipping a coin.

16. a. Who gets to be the boss often depends on who was lucky enough to be in the right place first.
    b. Getting people to do the right thing depends upon ability, luck has little or nothing to do with it.

17. a. As far as world affairs are concerned, most of us are

the victims of forces we can neither understand, nor control.
b. By taking an active part in political and social affairs the people can control world events.

18. a. Most people don't realize the extent to which their lives are controlled by accidental happenings.
b. There really is no such thing as "luck".

19. a. One should always be willing to admit mistakes.
b. It is usually best to cover up one's mistakes.

20. a. It is hard to know whether or not a person really likes you.
b. How many friends you have depends upon how nice a person you are.

21. a. In the long run the bad things that happen to us are balanced by the good ones.
b. Most misfortunes are the result of lack of ability, ignorance, laziness, or all three.

22. a. With enough effort we can wipe out political corruption.
b. It is difficult for people to have much control over the things politicians do in office.

23. a. Sometimes I can't understand how teachers arrive at the grades they give.
b. There is a direct connection between how hard I study and the grades I get.

24. a. A good leader expects people to decide for themselves what they should do.
b. A good leader makes it clear to everybody what their jobs are.

25. a. Many times I feel that I have little influence over the things that happen to me.
b. It is impossible for me to believe that chance or luck plays an important role in my life.

26. a. People are lonely because they don't try to be friendly.
b. There's not much use in trying too hard to please people, if they like you, they like you.

27. a. There is too much emphasis on athletics in high school.
b. Team sports are an excellent way to build character.

28. a. What happens to me is my own doing.
b. Sometimes I feel that I don't have enough control over the direction my life is taking.

29. a. Most of the time I can't understand why politicians behave the way they do.
    b. In the long run the people are responsible for bad government on a notional as well as on a local level.

MICHIGAN STATE UNIVERSITY

OFFICE OF VICE PRESIDENT FOR RESEARCH
AND DEAN OF THE GRADUATE SCHOOL

EAST LANSING • MICHIGAN • 48824-1046

December 2, 1991

Jeong-Keun Park
1533D Spartan Village
East Lansing, MI 48823

RE: CONSTRUCTION OF A COACHING CONFIDENCE QUESTIONNAIRE, IRB #90-503

Dear Mr. Park:

UCRIHS' review of your project is now complete. I am pleased to advise that the rights and welfare of the human subjects appear to be adequately protected and the Committee, therefore, approved your additional Phase IV of the project, subject to the same conditions as were stipulated in the letter of November 22, 1991.

Sincerely,

Daniel A. Bronstein, S.J.D.
Vice Chair
University Committee on Research
Involving Human Subjects (UCRIHS)

DAB:pjm

cc: Dr. Deborah Feltz

APPENDIX E

Human Subjects Approval, Cover Letter to Coaches, and Questionnaires for Phase 3

APPENDIX E

Cover Letter

Park Jeong-Keun
1533D Spartan Village
E.Lansing, MI 48823
(517)355-2911
December 2, 1991

Dear Coach_____:

I am writing to you to enlist your help. My name is Jeong-Keun Park and I am a doctoral student in the Department of Physical Education and Exercise Science at Michigan State University. I am working on my degree in sport psychology under the direction of Dr.Deborah L. Feltz.

I am presently working on my dissertation. My dissertation topic is the construction of a Coaching Confidence Scale. The purpose of the study is to develop a valid and reliable instrument to measure coaching confidence. Coaching confidence refers to the extent to which coaches believe that they have the capacity to influence an athlete's performance.

I realize how busy you are. But your cooperation would enable me to better understand coaching confidence. Enclosed are a Consent Form, the Coach's Personal Data Questionnaire, a Coaching Confidence Scale, the Team Ability Questionnaire, the School Support Questionnaire, and the Coaching Behavior Scale. I hope you will complete all questionnaires and return them to me by using the stamped envelope enclosed. If you agree to participate, please sign the consent form and return in a separate stamped envelope that has been enclosed.

You will not be required to write your name on any of the questionnaires. All data from this study will be treated with strictest confidence and your answers will remain anonymous. Of course, your participation is completely voluntary. It will take about ten minutes to complete these questionnaires.

Please fill out these questionnaires before your basketball team plays their first game. I would appreciate receiving your response by December 12, 1991. Thank you very much for your assistance.

Deborah L. Feltz, Ph.D.
Advisor
(517)355-4732

Sincerely Yours,

Park Jeong-Keun

APPENDIX B

Consent Form

Department of Physical Education
and Exercise Science

Michigan State University

TITLE OF RESEARCH: THE CONSTRUCTION OF A COACHING CONFIDENCE QUESTIONNAIRE

I have received and understand the following information concerning the study:

I have freely consented to participate in this research conducted by Mr.Jeong-Keun Park, doctoral student in the Department of Physical Education and Exercise Science at Michigan State University.

The study is concerned with development of a valid and reliable instrument to measure coaching confidence.

I understand that I am free to refuse to participate in certain procedures or answer certain questions or to discontinue my participation at any time without penalty.

I understand that my participation in this research does not guarantee any beneficial effects.

I understand that if I choose to participate in the study, it will take about thirty minutes to complete these questionnaires.

I understand that all data from this study will be treated with strictest confidence.

I understand that all data from this study will remain anonymous in any report of research findings.

I agree to participate voluntarily in this research.

SIGNED:_____

DATE:_____

APPENDIX E

The Coach's Personal Data Questionnaire

Information about you ---

1. Gender: (Please check one)
____ (1) Male ____ (2) Female

2. Ethnic Affiliation: (Please check one)
____ (1) African American ____ (2) Asian American
____ (3) Caucasian ____ (4) Hispanic
____ (5) Native American Indian
____ (6) Other_____

3. Age Group: (Please check one)
____ (1) 20-24 ____ (6) 45-49
____ (2) 25-29 ____ (7) 50-54
____ (3) 30-34 ____ (8) 55-59
____ (4) 35-39 ____ (9) 60-64
____ (5) 40-44 ____ (10) 65 and over

4. Educational Background: (Please check one)
____ (1) High school graduate
____ (2) Less than two years of college
____ (3) More than two years but never completed a bachelor's degree
____ (4) Completed a bachelor's degree
____ (5) Some master's level work
____ (6) Completed master's degree
____ (7) Some doctoral level work
____ (8) Education specialist
____ (9) Completed doctorate

5. Coaching Education:
Do you have coaching certification? (Please check)
____ (1) ACEP ____ (2) PACE

Identify any coaching courses or workshops that you have taken_____
_____

How many hours did you participate in these courses or workshops in total?_____

6. Present Position: (Please check one)
____ (1) Head coach
____ (2) Assistant coach

7. Years in present position: _____

8. What sports have you coached:_____

9. What sport team are you currently coaching (identify if male or female team):_____

10. Total number of years in coaching career:_____

11. List the sports that you have played

Sport	Number of years played	Level (circle all that apply)		
_____	_____	High School	College	Professional
_____	_____	High School	College	Professional
_____	_____	High School	College	Professional
_____	_____	High School	College	Professional

12. Name of high school in which you presently coach:_____

13. What was the percentage of your team's wins for the last four years, 1987-1991 seasons:_____

14. What was the percentage of wins for the previous season (1990-1991) for the team you are currently coaching:_____

APPENDIX E

Coaching Confidence Scale For High School Coaches

Coaching confidence refers to the extent to which coaches believe that they have the capacity to effect the performance of your athletes. Think about how confident you are as a coach. Rate your confidence for each of the items below. Your answers will be kept completely confidential.

How confident are you---

	Not at all confident									Extremely confident
1. in your ability to teach the skills of your sport?	0	1	2	3	4	5	6	7	8	9
2. in your ability to detect skill errors?	0	1	2	3	4	5	6	7	8	9
3. in your ability to evaluate your players' abilities?	0	1	2	3	4	5	6	7	8	9
4. in your ability to communicate effectively with your players?	0	1	2	3	4	5	6	7	8	9
5. in your ability to motivate your players?	0	1	2	3	4	5	6	7	8	9
6. in your ability to make critical decisions during competition?	0	1	2	3	4	5	6	7	8	9
7. in your ability to coach under pressure?	0	1	2	3	4	5	6	7	8	9
8. in your ability to adapt to different game situations?	0	1	2	3	4	5	6	7	8	9
9. in your ability to organize effective practices?	0	1	2	3	4	5	6	7	8	9
10. in your interpersonal relations skills with your players?	0	1	2	3	4	5	6	7	8	9

APPENDIX E

Team Ability Questionnaire

1. How many seniors do you have on your team this year?_____

2. How many varsity letter winners do you have on your team this year?_____

3. How tall are your starting players?
   1._____
   2._____
   3._____
   4._____
   5._____

4. How would you rate the overall ability of the athletes on your team this year?

Very poor									Excellent
0	1	2	3	4	5	6	7	8	9

APPENDIX E

School Support Questionnaire

Please indicate your degree of support with each of the following statements.

1. In comparison with your perception of the ideal school sports programs, how would you rate the support given to your varsity team by your athletic director?

   Not at all supportive — Extremely supportive

   0 1 2 3 4 5 6 7 8 9

2. In comparison with your perception of the ideal school sports programs, how would you rate the community support to your varsity team by interest in and attendance at games?

   Not at all supportive — Extremely supportive

   0 1 2 3 4 5 6 7 8 9

3. In comparison with your perception of the ideal school sports programs, how would you rate the support given to your varsity team by the student body of your school?

   Not at all supportive — Extremely supportive

   0 1 2 3 4 5 6 7 8 9

4. In comparison with your perception of the ideal school sports programs, how would you rate the support given to your varsity team by your school faculty members and administrators?

   Not at all supportive — Extremely supportive

   0 1 2 3 4 5 6 7 8 9

5. In comparison with your perception of the ideal school sports programs, how would you rate the support given to your varsity team by the parents of your athletes?

   Not at all supportive — Extremely supportive

   0 1 2 3 4 5 6 7 8 9

APPENDIX E

Coaching Behavior Scale

Type of Behavior

(Persistence) 1. Would you choose to coach your team again next season, if you were given the opportunity? (circle one)

1. Definitely no 2. Probably no
3. I don't know 4. Probably yes
5. Definitely yes

(Effort) 2. Approximately how many hours per week do you spend on fulfilling the duties of coach in season?_____ Hours/week

(Effort) 3. Approximately how many hours per week do you spend on fulfilling the duties of coach out of season?_____ Hours/week

(Persistence) 4. How many years do you want to continue in coaching this sport team?_____

(Persistence) 5. Respond to this question in terms of your agreement or disagreement to the statement. If I really try hard, I can improve the performance of even the most unskilled or unmotivated athletes. (circle one)

1. Strongly agree 2. Agree
3. Neither agree nor disagree
4. Disagree 5. Strongly disagree

(Effort) 6. Do you feel you work harder, about the same or a little less than most coaches? (circle one)

1. Harder 2. About the same
3. A little less

APPENDIX F

Data Coding Sheet for Phase 1

APPENDIX F

Data Coding Sheet for Phase 1

VARIABLE	CARD	COLUMN	VALUES
Subject number	1	1-2	
Gender	1	3	1=Male, 2=Female
Race	1	4	1=African American 2=Asian American 3=Caucasian 4=Hispanic 5=Native American Indian 6=Other
Age	1	5	1=20-24, 6=45-49 2=25-29, 7=50-54 3=30-34, 8=55-59 4=35-39, 9=60-64 5=40-44, 10=65 and over
Education	1	6	1=High school graduate 2=Less than two years of college 3=More than two years but never completed a bachelor's degree 4=Completed a bachelor's degree 5=Some master's level work 6=Completed master's degree 7=Some doctoral level work 8=Education specialist 9=Completed doctorate
Present position	1	7	1=Head coach 2=Assistant coach
Team gender	1	8	1=Male-team 2=Female-team 3=Both-teams
Sport	1	9	1=Swimming, 4=Softball 2=Tennis, 5=Volleyball 3=Baseball, 6=Basketball
Coaching experience	1	10	1= 1-5yrs, 5=21-25yrs 2= 6-10yrs, 6=26-30yrs 3=11-15yrs, 7=31-35yrs

		4=16-20yrs, 8=36-over
Coaching confidence scale	1	11-25
Social desirability scale	1	26-38

APPENDIX G

Phase 1 Data

APPENDIX G

Phase 1 Data

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APPENDIX H

Data Coding Sheet for Phase 2

APPENDIX H

Data Coding Sheet for Phase 2

VARIABLE	CARD	COLUMN	VALUES
Subject number	1	1-2	
Gender	1	3	1=Male, 2=Female
Race	1	4	1=African American 2=Asian American 3=Caucasian 4=Hispanic 5=Native American Indian 6=Other
Age	1	5	1=20-24, 6=45-49 2=25-29, 7=50-54 3=30-34, 8=55-59 4=35-39, 9=60-64 5=40-44,10=65 over
Education	1	6	1=High school graduate 2=Less than two years of college 3=Incomplete bachelor 4=Bachelor 5=Some master 6=Master 7=Some doctoral 8=Specialist 9=Completed doctorate
Position	1	7	1=Head coach 2=Assistant coach
Years in present position	1	8-9	
Team gender	1	10	1=Male-team 2=Female-team 3=Both-teams
Sport	1	11	1=Swimming, 5=Basketball 2=Tennis, 6=Football 3=Baseball, 7=Wrestling 4=Softball, 8=Track
Coaching Experience	1	12-13	
Sport of Playing Experience	1	14-15	1=Swimming, 10=Volleyball

			2=Tennis, 11=Golf 3=Baseball, 12=Bowling 4=Softball, 13=Archery 5=Basketball,14=Lacrosse 6=Football, 15=Racketball 7=Wrestling,16=Ice Hockey 8=Track, 17=Cross country 9=Field Hockey
Level	1	16	1=High school 2=College 3=Professional
Percentage of Last Four Years	2	1-2	
Percentage of Previous Season	2	3-5	
CCS 1 to CCS 15	2	6-20	
The STAI	2	21-40	
The social personality scale	2	41-53	
Rosenberg's self-esteem scale	3	1-10	
The internal-external locus of control scale	3	11-39	

APPENDIX I

Phase 2 Data

APPENDIX I

Phase 2 Data

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APPENDIX J

Data Coding Sheet for Phase 3

APPENDIX J

Data Coding Sheet for Phase 3

VARIABLE	CARD	COLUMN	VALUES
Subject number	1	1-2	
Gender	1	3	1=Male, 2=Female
Race	1	4	1=Black, 4=Hispanic 2=Asian, 5=Indian 3=White, 6=Other
Age	1	5	1=20-24, 6=45-49 2=25-29, 7=50-54 3=30-34, 8=55-59 4=35-39, 9=60-64 5=40-44,10=65 over
Education	1	6	1=High school graduate 2=Less than two years of college 3=Incomplete bachelor 4=Bachelor 5=Some master 6=Master 7=Some doctoral 8=Specialist 9=Completed doctorate
Coaching education	1	7	1=ACEP, 3=Other 2=PACE, 4=Both
Coaching workshops	1	8	1=P.E major 2=Clinics and workshops 3=Coaching seminar 4=Course and workshops 5=College classes 6=Clinics and college classes
Total hours of coaching workshop	1	9-11	
Present position	1	12	1=Head coach 2=Assistant coach
Years in present position	1	13-14	
Coaching experience	1	15-16	

Sport of playing experience	1	17	5=Basketball
Years playing	1	18-19	
Level	1	20	1=High school 2=College 3=Professional
Percentage of last four years	2	1-2	
Percentage of previous season	2	3-5	
CCS 1 to CCS 10	2	6-15	
Number of seniors	2	16	
Number of letter winners		17-18	
Height 1	2	19-21	
Height 2	2	22-24	
Height 3	2	25-27	
Height 4	2	28-30	
Height 5	2	31-33	
Team overall ability	2	34	
SSQ 1 to SSQ 5	2	35-39	
Coaching next season	2	40	1=Definitely no 2=Probably no 3=I don't know 4=Probably yes 5=Definitely yes
Hours per week in season	2	41-42	
Hours per week off season	2	43-44	
Number of years Coaching this sport	2	45-46	
Responsibility for athletes	2	47	1=Very 4=Not very

			2=Response 5=Not at all 3=Somewhat
Agree	2	48	1=Strongly agree 2=Agree 3=Neither 4=disagree 5=Strongly disagree
Effort	2	49	1=Harder 2=Same 3=Less

APPENDIX K

Phase 3 Data

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Phase 3 Data

011345 6400107185071060510361
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21325 2100102025142
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