

A Survey of U.S. Olympic Coaches: Variables Perceived to Have Influenced Athlete Performances and Coach Effectiveness

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As part of a larger project to examine variables perceived to influence performance in Olympic competition, this manuscript was designed to (a) report coaches' perceptions of variables influencing Olympic athlete performance, (b) triangulate findings from surveys and interviews with Olympic athletes, and (c) examine coaches' perceptions of variables influencing Olympic coaching effectiveness. Surveys were completed by 46 U.S. Atlanta Olympic coaches (46% of all U.S. coaches) and 19 U.S. Nagano coaches (45% of all U.S. coaches). A large number of variables were perceived by coaches to have influenced athlete performances and included having plans for dealing with distractions, strong team chemistry and cohesion, loud and enthusiastic crowd support, high levels of athlete confidence, and fair and effective team selection. Variables perceived to have influenced coaching effectiveness included markedly changed coaching behaviors, the inability to establish trust with athletes, the inability to effectively handle crisis situations, staying cool under pressure, and making fair but decisive decisions.

For many athletes, victory at the Olympic Games represents the pinnacle of performance success. Mark Spitz, Mary Lou Retton, Bonnie Blair, and Mike Eruzione are but a few examples of athletes who had their careers defined by their

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Olympic success. It comes as no surprise, then, that sport psychology researchers have been interested in understanding the psychological foundations of peak Olympic performance. Moreover, given the rising costs of preparing athletes for elite performance, National Sports Governing Bodies (NGBs) and the U.S. Olympic Committee (USOC) have become interested in identifying why some talented athletes and teams rise to the occasion and exhibit peak performances at the Olympic Games, whereas athletes and teams with the same talent and preparation falter in Olympic competition. This study was commissioned by the U.S. Olympic Committee to help address this issue. Specifically, the purposes of this study were to determine coaches' perceptions of variables that influenced Olympic athlete performance and to examine coaches' perceptions of variables influencing their own Olympic coaching effectiveness. It also allowed the investigators to triangulate these coach survey findings with previous survey and interview results of Olympic athletes taken from other aspects of the larger project from which this manuscript is based.

Conducting an evaluation research project like the present study, while seldom done in sport psychology, is consistent with one of the missions of the field outlined by Griffith (1925). Griffith indicated that an important function of the sport psychology researcher is to use the scientific methods of psychology to answer practical issues facing coaches and athletes. He also felt that sport psychology researchers have a responsibility to study experienced athletes and coaches, systematically record the psychological principles they employ and find effective, and pass these principles onto less experienced athletes and coaches. The present study allowed the investigators to address these two important functions of the field.

Although this investigation focused on answering practical issues facing athletes and coaches, as opposed to testing a particular theory or set of predictions, this does not mean that it cannot contribute to the growing body of sport psychological research on variables related to peak performance. For example, after summarizing much of the previous research in the area, Williams and Krane (2001) concluded that a number of specific mental skills and psychological attributes, such as having a well developed competitive routine and plan, high levels of motivation and commitment, coping skills for dealing with distractions and unexpected events, heightened concentration, high levels of self-confidence, self-regulation of arousal, goal setting, and visualization were associated with peak performance.

Similarly, in their seminal work on variables affecting the performance of 1984 Canadian Olympic athletes, Orlick and Partington (1988) found that the ability to focus attention and control performance imagery were cited by athletes as variables related to peak performance. In addition, total commitment to the pursuit of excellence, quality training (including goal setting, competition simulation, and imagery), mental preparation for competition (including a detailed competition plan), and having a plan for dealing with distractions were common variables found with the successful athletes. Those Olympic athletes who did not perform up to their potential reported not being prepared to deal with the distractions, changing things that worked, experiencing late team selection, and not being able to focus after distractions. Similarly, studies by Hemery (1986), Vernacchia, McGuire, Reardon, and Templin (2000), and Ungerleider and Golding (1992) have found that elite track and field athletes reported the importance of numerous psychological characteristics and skills in their performance, including maintaining concentration,

getting a competitive edge through training, having positive social support, using mental practice, enjoying training, and having persistence and confidence in competition.

Finally, Gould and colleagues (Gould, Eklund, & Jackson, 1992a, 1992b) conducted a series of studies examining the mental variables and preparation techniques associated with Olympic wrestling excellence. All 20 members of the 1988 U.S. Olympic team were interviewed and reported that prior to their all-time best performance, they experienced positive expectancies, optimal arousal states, and heightened effort and commitment. The use of systematic mental preparation strategies, including preparation routines, tactical strategies focus, and motivational strategies aided in the achievement of those optimal thought and emotional patterns. In contrast, during their worst Olympic performance, the wrestlers reported experiences of negative feeling states, nonadherence to preparation routines, and negative, irrelevant, or irregular patterns of thought.

From a scientific perspective, then, this study was designed to determine if the psychological characteristics associated with peak athletic performance in previous research would be found in current Atlanta and Nagano Olympians. We also hoped to identify new variables that athletes and coaches perceived to influence their performance in major competition.

In addition to identifying variables perceived to influence athlete performance, this manuscript also reports findings from Atlanta and Nagano Olympic coaches relative to their perceptions of variables that influenced their own “coaching” performance at the Olympic Games. While the primary function of Olympic coaches is to facilitate athlete preparation and performance, coaches can also be considered performers themselves. That is, they are expected to perform their coaching duties in an exceptional manner in a highly pressurized environment, often where their jobs depend on their athletes’ and team’s performance success. For instance, in an interview with legendary Olympic swim coach, James Counsilman, it was revealed that he was often nervous at major competitions but worked hard to not let his swimmers recognize his own stress (Kimiecik & Gould, 1987). Counsilman felt that this was of utmost importance because he had learned that athletes model their coaches’ anxiety levels, become more nervous than usual, and perform poorly. In Olympic competition, being in control of one’s own emotional state and masking certain emotions from athletes are just some aspects of a coach’s performance. Coaches must also deal with crisis situations, make tactical decisions, and interact with officials. Interestingly, while studying coaches and their practices has always been of interest to sport psychology researchers, seldom has the coach been viewed as a performer in his or her own right. This investigation, then, is one of the first to examine variables that influence coaching performance.

Finally, it is important to note that this manuscript is the fourth in a series resulting from this large-scale evaluation research project. The first article in the series summarized results from in-depth focus group interviews conducted with athletes and coaches from the 1996 Atlanta Olympic Games (see Gould, Guinan, Greenleaf, Medbery, & Peterson, 1999 for details). Teams that met or exceeded expectations participated in resident training programs, perceived crowd and family/friend support, utilized mental preparation, and reported being highly focused and committed. Teams that failed to meet expectations perceived planning and team cohesion problems, lacked experience, faced travel problems, perceived coaching problems, and encountered problems related to focus and commitment.

A second follow-up qualitative manuscript summarized the results from the in-depth individual athlete interviews conducted with U.S. athletes from both the Atlanta ($n = 8$) and Nagano ($n = 7$) Olympic Games (see Greenleaf, Gould, & Dieffenbach, 2001 for details). Major variables perceived to have positively influenced performance included utilizing mental skills and preparation, having a positive attitude toward the Olympics, using support services and support facilitation, engaging in multifaceted preparation and physical preparation, and having high quality coaching and positive coach-athlete relationships. Major variables perceived to have negatively influenced performance included departing from normal routine, facing media distractions, encountering coach issues, overtraining, and experiencing injury.

The third article in the series summarized athlete survey results (Gould, Greenleaf, Chung, & Guinan, 2002). Surveys were administered to all U.S. athletes on the 1996 Atlanta and 1998 Nagano Olympic teams in an effort to determine the frequency and magnitude of specific variables that they thought influenced their Olympic performance. Results revealed that a wide variety of variables were perceived to have influenced performance, including performance, team, coaching, family/friend, and environmental variables.

The coach survey data reported in this manuscript, then, are important in that although findings from the individual athlete and athlete and coach focus group interviews are stimulating (i.e., they identified a number of variables perceived to have influenced performance), the number of athletes and coaches interviewed was small and the qualitative nature of the results limited the extent to which general conclusions could be made. Thus, the purposes of this study were to (a) determine coaches' perceptions of variables that they felt influenced the Olympic performance of their athletes and teams, (b) triangulate these coach survey findings with previous athlete interview and survey results from the larger project from which this study comes, and (c) examine coaches' perceptions of variables influencing their own Olympic coaching effectiveness.¹

Method

Participants

Forty-six U.S. coaches (35 males, 10 females) who were involved in the 1996 Atlanta Olympic Games voluntarily returned the "Atlanta Olympic Coaching Evaluation" survey. One coach did not indicate his/her gender. The mean age of the coaches was 46 years ($SD = 8.51$) and ranged from 28 to 65 years of age. Atlanta coaches who completed and returned the survey coached athletes from 24 different sports. The mean number of years experience in coaching was 19.96 ($SD = 10.49$), ranging from 3 to 43 years.

Nineteen U.S. coaches (18 males, 1 female) who were involved in the 1998 Nagano Olympics voluntarily returned completed "Nagano Olympic Coach Evaluation" surveys. The mean age of the coaches was 40.47 years ($SD = 7.3$) and ranged from 27 to 52 years of age. Nagano coaches who completed and returned the survey coached athletes from eight different sports. The average number of years experience in coaching was 14.63 ($SD = 6.74$) with a range of 4 to 28 years. See Table 1 for additional descriptive information about the Atlanta and Nagano participants.

Table 1 Demographic Characteristics of Coaches

| | Atlanta | | Nagano | |
|---|---------------|----|---------------|-----|
| | <i>n</i> = 46 | | <i>n</i> = 19 | |
| | <i>n</i> | % | <i>n</i> | % |
| Coached a medal winner at Olympics | 28 | 64 | 8 | 42 |
| Education | | | | |
| Doctorate | 3 | 6 | 0 | 0 |
| Masters | 17 | 37 | 4 | 21 |
| Bachelors | 20 | 43 | 11 | 58 |
| High School | 6 | 13 | 4 | 21 |
| Coached at previous World or international competition | 35 | 76 | 19 | 100 |
| Coached at previous Olympics | 20 | 43 | 12 | 63 |
| Competed in Olympics | 11 | 24 | 2 | 10 |
| Full-time coach | 36 | 78 | 18 | 95 |
| Employed by National Governing Body | 13 | 28 | 15 | 79 |
| Likely that will coach at next Olympics | 17 | 41 | 10 | 59 |
| Have taken at least one college course in sport or coaching psychology | 28 | 61 | 10 | 53 |
| Had sport psychology consultant with their team prior to Games | 26 | 56 | 15 | 79 |
| Received coaching education through their NGB | 23 | 50 | 12 | 63 |

Procedure

The USOC Atlanta Olympic coach survey was modeled after the athlete survey used as a part of the larger project. The coach survey was based on a list of variables identified as influencing athlete and coach performance derived from pilot interviews conducted with USOC personnel (e.g., sport psychologists, athletic trainers, coaches) who had attended previous Olympic Games. The survey was divided into six major sections: (a) coach background, (b) Olympic experience, (c) general variables of influence, (d) variables influencing athlete performance, (e) variables influencing coach performance, and (f) advice and recommendations.² It is important to note that the variables influencing performance section focused not only on those variables perceived to affect athlete performance at the Games, but also variables that influenced coach performance and effectiveness. Approximately 90% of the survey items used closed-response formats (Likert scale ratings, yes/no frequency responses, checklists), with the remaining 10% using opened-ended formats.³

Members of the USOC Coaching and Sport Psychology Divisional staffs reviewed the initial Atlanta coach survey for content and clarity. Additionally, several Olympic level coaches completed the survey and provided feedback on the appropriateness of the questions posed, the ease of completion, and general clarity. Based on this feedback, suggestions were incorporated and the survey was

finalized. The final version of the survey took 35 to 45 minutes to complete. The USOC Nagano Olympic Coach survey was modeled after the athlete's survey as well as after the Atlanta Coach survey and a list of variables identified as influencing athlete and coach performance. Several additional items related to weather, equipment, and travel were added to the Nagano Olympic Games survey.

Using a mailing list and labels provided by the USOC, the researchers mailed surveys to all coaches who worked with U.S. athletes at the Games in Atlanta and Nagano. In addition to the survey itself, a cover letter explaining the nature of the study, requesting participation, notifying coaches of their rights as human participants, and emphasizing the confidential nature of the results was included along with a self addressed stamped return envelope. The cover letter assured the participants that their names would not be connected with their responses and that NGBs and the USOC would not be informed of who participated and who did not in order to reduce any tendency toward social desirability. The Atlanta surveys were sent one year after the Games and the Nagano surveys were sent four months after the Games.⁴ If the surveys were not returned within 21 days after the original mailing, a reminder postcard was sent to the coach. Moreover, if the original survey was not returned 21 days after the reminder postcard was sent, a second survey and survey request was sent. Of the 100 Atlanta coaches with known addresses who were mailed questionnaires, 46 returned surveys for a 46% return rate. One Atlanta coach completed and returned a survey after data analysis had been completed. Of the 42 Nagano coaches who were mailed surveys, 19 completed and returned surveys for a 45% return rate.

Analysis

The first purpose of this portion of the larger project was to determine coach's perceptions of the extent to which specific variables influenced the performance of U.S. athletes at the Atlanta and Nagano Olympics. In line with this purpose, phase one of the data analysis included descriptive statistics of the coaches' perceptions of their athletes' Olympic experiences and variables they perceived to have influenced their athletes' performance. The second purpose was to examine the extent to which coaches perceived specific variables to have influenced their coaching effectiveness. Phase two of the data analysis focused on coaches' perceptions of variables that influenced their ability to coach effectively. The reader is reminded that all data presented in the results are descriptive in nature; no causal relationships can be made. The format of the survey asked participants to indicate how they felt the experience (or lack of experience) of certain variables influenced their performance; thus, it is important to recognize that the data presented represent the perceptions of the participating coaches.

Results

Variables Perceived to Have Influenced Athlete Performance

Coaches were asked to rate both the direction and the extent to which they believed variables occurring one year, 90 days prior to the Olympic Games, and at the Games may have influenced the performance of their athletes. For each item,

coaches indicated whether or not their athletes had experienced that particular factor (yes, no, or irrelevant). Total percentages may not sum to 100% for many items because of the “irrelevant” option. After indicating whether their athletes had experienced that factor, the coaches were asked to rate their perception of the influence of the presence or absence of that factor on athlete performance, from 0 = *extremely negative performance influence*, to 10 = *extremely positive performance influence*. For example, coaches were asked to indicate “yes,” “no,” or “irrelevant” to items such as “my athletes altered their pre-event routine during the Olympics” and “my athletes practiced at the competition site before the Games.” After indicating their belief about whether or not their athletes had experienced each factor, coaches then rated their perception of the influence they thought it had on their athletes’ performance. Items with extreme mean performance influence responses of 8 or above (indicating a strong positive influence on performance) and 3 or below (indicating a strong negative influence on performance) are reported.⁵ Tables 2 through 4 present the descriptive data, including frequency percentages and means and standard deviations, for each specific variable.

Coaches’ responses indicated that they perceived three specific variables occurring one year prior to the Games, including the timing of trials, method of team selection, and team building exercises, influenced their athletes’ performance (see Table 2). Coaches also rated both the direction and the extent to which several variables occurring 90 days prior to the Olympic Games may have influenced the performance of their athletes. Coaches’ responses indicated that they believed practicing at the competition site before the Games and training and competing internationally influenced the performance of their athletes (see Table 3).

Finally, coaches indicated that they believed numerous variables at the Games influenced their athletes’ performance (see Table 4). The major variables that coaches felt influenced their athletes’ performance are discussed below. The results are presented relative to seven general categories of influence, including performance, team, family, environment, media/sponsor, weather, and travel variables. Coaches felt that several performance variable items strongly influenced their athletes’ performance. Specifically, coaches thought that variables such as confidence, maintaining (or not maintaining) composure, adjusting tactically, having a plan and being prepared for dealing with distractions, and believing that medalling was realistic influenced their athletes’ performance.

Coaches indicated that they believed three of the team-related variables influenced their athletes’ performance. Having a positive team leader, strong team chemistry and cohesion, and having a positive coach-athlete relationship were thought by coaches to influence athlete performance. Coaches indicated that they believed three of the family-related variables influenced the performance of their athletes. Coaches reported that they thought their athletes were influenced by positive family and friend support, attempting to get tickets for family and friends, and trying to spend time with family and friends. Coaches felt that four environment-related variables influenced their athletes’ performance. Coaches felt their athletes’ performance was influenced by the presence of incredibly loud and enthusiastic spectators/crowds, opening ceremonies were too close to competition, distractions of being in the Olympic Village, and access to a sport psychology consultant. Relative to media, only some Nagano coaches reported that the amount of media attention on their athletes was too high, which they believed had a negative influence on performance.

Table 2 Frequency and Perceived Impact Ratings of Variables Influencing Athlete Performance Occurring One Year Prior to the Olympic Games

| Variables | Yes | | | | No | | | |
|--|---------|-------------|--------|-------------|---------|-------------|--------|-------------|
| | Atlanta | | Nagano | | Atlanta | | Nagano | |
| | % | M (SD) | % | M (SD) | % | M (SD) | % | M (SD) |
| The timing of trials/team selection was too close to Olympics. | 28 | 2.08 (1.50) | 10 | 2.50 (0.71) | 70 | 6.48 (2.11) | 90 | 5.76 (1.52) |
| The method of team selection was fair and effective in determining top athletes. | 96 | 8.20 (2.03) | 79 | 7.40 (1.68) | 4 | 2.50 (0.71) | 21 | 1.75 (1.71) |
| Our team took part in team building exercises (e.g., ropes courses). | 37 | 8.24 (1.65) | 37 | 8.57 (1.62) | 63 | 4.80 (1.41) | 63 | 4.25 (0.96) |

Note. A rating of 0 = extremely negative performance impact, 5 = no impact, 10 = extremely positive performance impact.

Table 3 Frequency and Perceived Impact Ratings of Variables Influencing Athlete Performance Occurring 90 Days Prior to the Olympic Games

| Variables | Yes | | | | No | | | |
|--|---------|-------------|--------|-------------|---------|-------------|--------|-------------|
| | Atlanta | | Nagano | | Atlanta | | Nagano | |
| | % | M (SD) | % | M (SD) | % | M (SD) | % | M (SD) |
| My athletes practiced at the competition site before the Games. | 70 | 9.10 (0.98) | 63 | 8.00 (1.76) | 30 | 4.38 (1.19) | 37 | 4.00 (1.15) |
| My athletes trained and competed internationally. | 96 | 9.22 (1.15) | 100 | 8.42 (1.64) | 4 | 7.50 (3.54) | 0 | — |
| Considerable time and attention were demanded by media and sponsors. | | | 10 | 2.50 (0.71) | | | 90 | 5.71 (1.53) |

Note. A rating of 0 = extremely negative performance impact, 5 = no impact, 10 = extremely positive performance impact.

Table 4 Frequency and Perceived Impact Ratings of Variables Influencing Athlete Performance Occurring at the Olympic Games

| Variables | Yes | | | | No | | | |
|---|---------|-------------|--------|-------------|---------|-------------|--------|-------------|
| | Atlanta | | Nagano | | Atlanta | | Nagano | |
| | % | M (SD) | % | M (SD) | % | M (SD) | % | M (SD) |
| Performance | | | | | | | | |
| My athletes were confident in their own abilities. | 85 | 8.97 (1.53) | 84 | 8.31 (1.58) | 9 | 1.00 (0.00) | 10 | 3.00 (1.41) |
| My athletes lost composure during competition. | 28 | 1.69 (1.38) | 21 | 1.50 (0.58) | 65 | 7.64 (2.64) | 74 | 6.71 (2.30) |
| My athletes were able to adjust tactically to various situations that arose during competition. | 91 | 8.27 (1.58) | 63 | 8.17 (1.90) | 7 | 2.00 (2.00) | 37 | 1.57 (1.13) |
| My athletes had a plan and were prepared for dealing with distractions. | 80 | 8.20 (2.06) | 84 | 7.56 (2.00) | 11 | 2.20 (2.05) | 5 | 2.00 (0.00) |
| My athletes believed that medalling was a realistic possibility. | 80 | 8.92 (1.54) | 53 | 8.90 (0.99) | 15 | 4.71 (1.38) | 5 | 5.00 (0.00) |
| Team | | | | | | | | |
| We had a positive team leader. | 70 | 9.13 (1.25) | 94 | 8.17 (1.82) | 24 | 2.09 (2.02) | 5 | 5.00 (0.00) |
| There was strong team chemistry and cohesion. | 54 | 8.83 (1.71) | 48 | 8.22 (0.97) | 26 | 3.42 (2.61) | 10 | 4.00 (0.00) |
| Our team had a positive coach-athlete relationship. | 76 | 8.94 (1.25) | | | 15 | 2.29 (1.50) | | |
| Family | | | | | | | | |
| Family and friends were a positive source of support for my athletes during the Games. | 83 | 8.32 (1.65) | 63 | 7.08 (1.38) | 11 | 1.80 (0.84) | 16 | 1.33 (1.53) |
| Getting tickets for family and friends was a distraction to my athletes. | 65 | 2.73 (2.12) | 47 | 2.78 (1.20) | 33 | 5.50 (2.21) | 37 | 5.57 (1.51) |
| Trying to spend time with family and friends at the Games was distracting to my athletes. | | | 47 | 2.78 (1.39) | | | 42 | 5.50 (1.51) |

| | | | | | | | | |
|--|----|-------------|----|-------------|----|-------------|----|-------------|
| Environment | | | | | | | | |
| Presence of USA spectators/crowd were incredibly loud and enthusiastic. | 91 | 9.20 (1.85) | 37 | 8.43 (2.94) | 9 | 5.67 (3.79) | 63 | 4.67 (0.65) |
| Opening ceremonies were too close to competition. | | | | | | | | |
| Olympic Village provided too many distractions for my athletes (too much food, parties, no privacy). | 33 | 2.87 (1.92) | 32 | 2.67 (1.03) | 54 | 6.22 (1.81) | 32 | 5.50 (1.22) |
| A sport psychologist was available for my athletes. | | | 21 | 2.00 (1.63) | | | 37 | 6.43 (1.40) |
| Media | | | | | | | | |
| The amount of media attention on my athletes was too high. | | | 47 | 8.89 (1.62) | | | 47 | 2.67 (1.41) |
| The timing of media questions/interviews was inappropriate. | | | 42 | 2.63 (1.77) | | | 58 | 5.27 (0.65) |
| Weather | | | | | | | | |
| Changing weather conditions made performing difficult for my athletes. | | | 21 | 2.75 (2.06) | | | 68 | 5.69 (1.44) |
| Travel | | | | | | | | |
| My athletes' venue was near the Olympic village. | | | 53 | 2.20 (2.49) | | | 26 | 5.60 (1.95) |
| | | | 21 | 8.00 (2.00) | | | 79 | 4.27 (1.62) |

Note. A rating of 0 = extremely negative performance impact, 5 = no impact, 10 = extremely positive performance impact.

The categories of weather- and travel-related variables were included only in the Nagano survey. Nagano coaches who perceived that changing weather conditions made performance difficult for their athletes believed it had a strong negative influence on their athletes' performance. Nagano coaches who perceived that their athletes' venue was near the Olympic Village felt that this was a positive performance factor.

Variables Influencing Coaching Effectiveness

Coaches were asked to rate both the direction and the extent to which variables prior to and at the Olympic Games may have influenced their coaching performance. After indicating whether they had experienced that factor, the coaches were asked to rate their perception of the influence of the presence or absence of that factor on their ability to coach effectively, from 0 = *extremely negative coaching influence*, 5 = *no influence*, 10 = *extremely positive coaching influence*. Tables 5 through 7 present the descriptive data, including frequency percentages and means and standard deviations for each specific variable.

Coaches rated both the direction and the extent to which variables one year prior to the Olympic Games were perceived to have influenced their coaching performance (see Table 5). Atlanta and Nagano coaches felt that taking part in team building exercises and having positive team chemistry influenced their coaching effectiveness. Atlanta and Nagano coaches indicated that fair team selection methods, good training facilities, residency or common training sites, mental skills training, and athlete mental skills development were variables that influenced the extent to which they were effective coaches. Atlanta coaches reported that they thought the helpfulness of their NGB and the USOC in preparing for the Games influenced their effectiveness. Additionally, Atlanta coaches thought that being responsible for team selection had an influence on their coaching. One factor reported by a small percentage of the Atlanta coaches that was felt to have had a particularly negative influence on coaching was NCAA rules and regulations that interfered with training and coaching. Atlanta coaches indicated that several additional variables influenced their ability to coach effectively. NGB politics, involvement in fund raising, and the implementation and adherence to a high performance plan were thought to influence coaching effectiveness.

Coaches also rated the direction and the extent to which several variables occurring 90 days prior to the Olympic Games were thought to have influenced their coaching performance. Coaches indicated that they believed insufficient funding, occurrences or threats of team selection litigation, and the desire of athletes to be guided by their personal coaches influenced the extent to which they were effective (see Table 6).

Coaches indicated that they felt numerous variables at the Games influenced their ability to coach effectively (see Table 7). Coaches reported that using the USOC High Performance Coaches House,⁶ interacting with sport psychology consultants, and keeping things simple and focused influenced their coaching effectiveness. Atlanta coaches who indicated that they had realistic expectations for their athletes' performance felt this had a positive influence on their ability to coach. Additionally, coaches perceived that when their athletes followed an overall performance plan, coaching effectiveness was positively influenced.

Relative to preparation and organization, coaches indicated that they thought that the helpfulness of NGBs, the USOC, and the local organizing committees

Table 5 Frequency and Perceived Impact Ratings of Variables Influencing Coach Effectiveness Occurring One Year Prior to the Olympic Games

| Variables | Yes | | No | | | | | |
|--|---------|-------------|--------|-------------|----|-------------|----|-------------|
| | Atlanta | | Nagano | | | | | |
| | % | M (SD) | % | M (SD) | | | | |
| My team took part in team building exercises (e.g., ropes course, team session, etc.). | 39 | 8.28 (1.45) | 37 | 8.43 (1.81) | 57 | 4.70 (1.64) | 63 | 4.67 (0.49) |
| Positive chemistry and cohesion existed between members of the coaching staff. | 74 | 8.91 (1.15) | 84 | 8.50 (1.32) | 15 | 2.71 (1.50) | 5 | 5.00 (0.00) |
| My NGB was very helpful in facilitating preparation and organization for Olympics. | 63 | 8.64 (1.16) | | | 30 | 2.71 (1.68) | | |
| The USOC Preparation staff was very helpful in facilitating preparation and organization for Olympics. | 67 | 8.40 (1.57) | | | 9 | 2.67 (0.58) | | |
| The method of team selection was fair and effective in determining top athletes. | 96 | 8.33 (1.76) | 79 | 7.13 (1.96) | 2 | 4.00 (0.00) | 21 | 2.75 (2.22) |
| I was responsible for selecting the athletes that competed on my team. | 37 | 8.88 (1.08) | | | 59 | 5.54 (1.61) | | |
| My team was able to prepare for Olympic competition in good training facilities. | 87 | 9.05 (1.17) | 90 | 8.29 (1.57) | 13 | 1.50 (1.05) | 10 | 1.50 (2.12) |
| My athletes were able to train in a residency program or together at a common site. | 83 | 9.11 (1.17) | 47 | 8.00 (1.55) | 17 | 3.87 (1.81) | 37 | 4.57 (0.53) |

(continued)

Table 5 (continued)

| Variables | Yes | | | | No | | | |
|---|---------|-------------|--------|-------------|---------|-------------|--------|-------------|
| | Atlanta | | Nagano | | Atlanta | | Nagano | |
| | % | M (SD) | % | M (SD) | % | M (SD) | % | M (SD) |
| My athletes were instructed in mental skills training by a sports psychologist or performance enhancement specialist. | 67 | 8.10 (1.85) | 68 | 8.23 (1.36) | 25 | 4.78 (2.39) | 5 | 0.00 (0.00) |
| My athletes used the services of a sports psychologist for personal mental skills development. | 61 | 8.50 (1.86) | 63 | 8.33 (1.30) | 35 | 5.00 (2.35) | 32 | 1.83 (1.17) |
| NCAA rules and regulations interfered with my ability to train and coach my athletes. | 13 | 2.17 (1.79) | | | 39 | 5.50 (1.93) | | |
| The politics of my NGB made it difficult to coach as I thought best. | 24 | 2.73 (1.79) | | | 24 | 5.64 (2.13) | | |
| Involvement in fund raising activities interfered with my ability to coach. | 9 | 2.50 (0.58) | | | 39 | 6.06 (1.84) | | |
| I implemented and closely followed a high performance plan. | 70 | 8.81 (1.08) | | | 24 | 4.90 (1.91) | | |

Note. A rating of 0 = extremely negative performance impact, 5 = no impact, 10 = extremely positive performance impact.

Table 6 Frequency and Perceived Impact Ratings of Variables Influencing Coach Effectiveness Occurring 90 Days Prior to the Olympic Games

| Variables | Yes | | | | No | | | |
|--|---------|-------------|--------|-------------|---------|-------------|--------|-------------|
| | Atlanta | | Nagano | | Atlanta | | Nagano | |
| | % | M (SD) | % | M (SD) | % | M (SD) | % | M (SD) |
| Sufficient funds were lacking and made proper training difficult. | 2 | 9.00 (0.00) | 32 | 2.83 (2.32) | 98 | 6.37 (1.93) | 68 | 6.15 (1.82) |
| There were occurrences or threats of team selection conflict/litigation. | | | 47 | 1.89 (1.69) | | | 53 | 5.50 (1.08) |
| My athletes wanted to be guided by their personal coaches. | | | 16 | 8.67 (2.31) | | | 16 | 5.00 (0.00) |

Note. A rating of 0 = extremely negative performance impact, 5 = no impact, 10 = extremely positive performance impact.

Table 7 Frequency and Perceived Impact Ratings of Variables Influencing Coach Effectiveness Occurring at the Olympic Games

| Variables | Yes | | | | No | | | |
|--|---------|-------------|--------|-------------|---------|-------------|--------|-------------|
| | Atlanta | | Nagano | | Atlanta | | Nagano | |
| | % | M (SD) | % | M (SD) | % | M (SD) | % | M (SD) |
| I was able to use the USOC High Performance Coaches' House. | 54 | 8.83 (1.27) | 42 | 8.63 (1.69) | 15 | 5.00 (0.00) | 5 | 5.00 (0.00) |
| I was able to interact with sport psychology consultants. | 63 | 8.64 (1.37) | 47 | 8.33 (1.66) | 35 | 5.08 (1.66) | 53 | 3.78 (1.20) |
| I made sure I kept things simple and focused at the Games. | 96 | 8.58 (1.59) | 100 | 8.32 (1.53) | 2 | 3.00 (0.00) | 0 | — |
| My expectations for my athletes' performance were realistic. | 100 | 8.31 (1.92) | — | — | 0 | — | — | — |
| My athletes followed my overall performance plan for Olympic competition. | 85 | 8.61 (1.53) | 84 | 8.00 (1.67) | 11 | 3.40 (1.52) | 10 | 4.50 (0.71) |
| My NGB was very helpful in facilitating preparation and organization during Olympics. | 70 | 8.45 (1.31) | 84 | 8.25 (1.53) | 20 | 2.13 (1.64) | 5 | 5.00 (0.00) |
| USOC staff was very helpful in facilitating preparation and organization during Olympics. | 78 | 8.46 (1.29) | 63 | 8.17 (1.64) | 11 | 2.25 (0.96) | 26 | 3.20 (1.10) |
| Local staff was very helpful facilitating preparation and organization during Olympics. | 54 | 8.21 (1.47) | 63 | 8.08 (1.44) | 22 | 2.30 (1.25) | 26 | 3.80 (0.84) |
| I was able to deal with crisis situations and made decisive but fair decisions. | 89 | 8.00 (1.92) | — | — | 2 | 2.00 (0.00) | — | — |
| My athletes trusted my wisdom and experience. | 89 | 8.80 (1.30) | — | — | 2 | 4.00 (0.00) | — | — |
| Conflicts arose between the athletes and coaching staff and interfered with my ability to coach. | 33 | 2.47 (2.53) | — | — | 67 | 6.34 (2.07) | — | — |
| Stress and conflict between athletes and family/friends made athletes difficult to coach. | 28 | 2.77 (2.45) | — | — | 70 | 6.59 (2.11) | — | — |
| Transportation difficulties made travel to venues difficult. | 39 | 2.88 (2.00) | — | — | 59 | 6.60 (2.34) | — | — |
| The security procedures were cumbersome and distracted me from coaching. | — | — | 16 | 2.67 (1.53) | — | — | 84 | 5.69 (1.54) |

Note. A rating of 0 = extremely negative performance impact, 5 = no impact, 10 = extremely positive performance impact.

influenced their coaching effectiveness. A few Nagano coaches reported that the security procedures were cumbersome and distracted them from coaching. Atlanta coaches also indicated that they believed a number of additional variables influenced their ability to coach effectively at the Games. Specifically, the ability to deal with crisis situations, athletes' trust, stress between athletes and coaching staff and between athletes and family/friends, and transportation difficulties were perceived to influence the extent to which coaches felt they were effective.

Discussion

Variables Perceived by Coaches to Influence Athlete Performances

A major purpose of this study was to determine variables that coaches perceived to have influenced their athletes' and teams' performances at the 1996 and 1998 Olympic Games. Before discussing the findings, however, it is important to recall that the results of this study are based on descriptive statistics; no causal relationships can be determined. While a number of specific variables were perceived by the coaches as influencing athlete performance, looking across all survey items, several general patterns emerge. First, team issues were perceived by the coaches as important for successful performance. It is clear that the coaches perceived team cohesion and factors influencing cohesion as important for success. This is something that sport psychology consultants working with Olympic teams might pay particular attention to, especially since so much of the previous sport psychology peak performance research (e.g., Williams & Krane, 2001) has been individually focused.

Having distraction plans and maintaining composure were also perceived by the coaches as important performance influences. This certainly reinforces the notion that Olympic coaches and sport psychology consultants must work extensively on preparing their athletes to effectively cope with distractions and trying to eliminate as many Olympic-related distractions as possible. Attention research aimed at better understanding how top performers maintain focus in the face of such distractions seems warranted as well.

Finally, the coaches' survey responses reinforced the important role that self-confidence plays in elite athlete performance. Specifically, these coaches perceived that athlete confidence influenced performance as well as believing that medalling was a realistic possibility. It must be remembered, however, that previous performance success is as likely to influence confidence as is confidence to influence performance.

Triangulating Coach Survey Findings With Athlete Interview and Survey Results

As was found in the team focus group interviews (Gould, Guinan et al., 1999), individual athlete interviews (Greenleaf et al., 2001), and surveys with the athletes themselves (Gould, Greenleaf et al., 2002), a large number of variables were believed to have influenced athlete performance ranging from getting tickets for families and friends and the noise level in the Olympic Village to not adhering to a precompetitive routine.

In addition to specifically identifying variables that the coaches perceived to influence Olympic performance in their athletes, the present findings were collected for the purpose of triangulating data from the larger project. Variables that “triangulated” with performance success across team focus group interviews (Gould, Guinan et al., 1999), individual athlete interviews (Greenleaf et al., 2001), and surveys with the athletes themselves (Gould, Greenleaf et al., 2002) included plans for dealing with distractions, strong team chemistry and cohesion, loud and enthusiastic crowd support, positive family and friend support, high levels of athlete confidence, practicing prior to the Olympics at the competitive site or venue, fair and effective team selection procedures, the ability to adjust tactically during the event, a positive team leader at the Games themselves, not becoming distracted with the issue of getting Olympic event tickets for family and friends, not having opening ceremonies occur too close to the competition, and not having the Olympic trials scheduled too close to the Olympic Games.

The perceived importance of mental preparation and the role that mental variables play in peak athletic performance was certainly supported in this study. Additionally, during interviews, the athletes and coaches continually emphasized that they recognized the importance of being mentally prepared for the Olympics, and the survey responses further authenticated these sentiments. This corresponds with the findings of Orlick and Partington (1988), who in their extensive study of Canadian Olympians, found mental readiness and psychological variables discriminated between more and less successful performers. Moreover, in their reviews of psychological variables associated with superior athletic performance research, Williams and Krane (2001) and Hardy, Jones, and Gould (1996) have concluded that having a well developed competitive routine and plan, coping skills for dealing with distractions and unexpected events, and high levels of self-confidence were associated with peak performance. Our results are consistent with their conclusions, especially in regard to having high levels of confidence, the need for well-developed routines and plans, and coping skills for dealing with distractions.

The perceived importance of Olympic athletes being prepared to deal with distractions was an extremely important finding of this investigation and further supported the importance of this topic in previous peak athletic performance research (Orlick & Partington, 1988). In fact, in our opinion, preparing athletes for dealing with distractions and helping them avoid distractions is one of the single most important things coaches and sport psychology consultants can do to assist athletes in their Olympic quest. Furthermore, both athletes and coaches reported that one way this can be accomplished is by having athletes develop performance routines and teaching athletes to adhere to their routines in the face of adversity. This again is consistent with previous peak performance research (Boutcher, 1990; Crews & Boutcher, 1986; Gould, Eklund, & Jackson, 1992a, 1992b). Most interesting in this regard is the recent research of Bloom, Durand-Bush, and Salmela (1997), who conducted an in-depth study of the pre and post-competition routines that coaches had for themselves and their athletes. Linking the use and development of such routines to performance through intervention studies would be the next step in this important line of research.

The results related to coaches' perceptions of the importance of a supportive environment also parallel current social support research (Thoits, 1995; Westre & Weiss, 1991), showing that the provision of social support has beneficial effects on performance and stress coping. Researchers need to better document positive

and negative effects of social support and better understand individual athlete differences in this regard, however. Studies examining crowd support are needed, particularly because the topic has been ignored since the early days of social facilitation research in sport psychology, other than within the context of home field advantages. Similarly, little is known about the dynamics of family and friend support for elite athletes outside of the classic athletic talent development work of Bloom (1985) and the more recent work of Csikszentmihalyi, Rathunde, and Whalen (1993). An especially encouraging development in this regard is the recent work of Côté (1999) who has examined the role of family support in different phases of athletic talent development. Additionally, Rees and Hardy (2000) have recently examined the functions of social support among high-level athletes.

The perceived confidence (athlete and team) and performance relationship was one of the strongest identified in this study. This is certainly consistent with literature in the area that has repeatedly shown that individual athlete confidence influences performance (McAuley, 1992) and that superior athletes are characterized by higher levels of confidence (Williams & Krane, 2001). The confidence in teammates and coaches result also suggests that these variables should be further examined as sources of athlete and team efficacy (Chase, Lirgg, & Feltz, 1997; George & Feltz, 1995).

Finally, our results show that while psychological variables play an extremely important role in the peak performance process of Olympic athletes, numerous nonpsychological variables, such as making tactical adjustments and the timing of opening ceremonies, are important considerations. Hence, we must not forget that sport psychology is only one component (be it important) in the peak athletic performance process and take a more multidisciplinary approach.

Variables Perceived to Influence Coach Effectiveness

In addition to identifying variables that coaches felt influenced their athletes' performance, this study was also designed to identify variables that coaches felt influenced their own coaching effectiveness. U.S. coaches are performing in their own ways at the Games, and their performance has the potential to influence their athletes. These coaching survey results indicated that coaches who markedly changed their coaching behaviors, were unable to establish trust with the athletes, or did not handle crisis situations perceived that they performed ineffectively. Yet, if they had high levels of trust and credibility with their athletes, stayed cool under pressure, and made fair but decisive decisions, they believed that they were able to effectively coach their athletes and teams. Like the athletes, then, coaches need to be prepared to deal with stress and distractions by participating in mental skills training themselves.

Our results also suggested that coaches perceived it was especially important for them to function in a positive environment—whether that involved taking part in team building exercises with their athletes, having positive coaching staff chemistry and cohesion, or having NGB/USOC support to be effective coaches. As would be expected, having fair team selection procedures and having some responsibility in determining selection criteria facilitated perceived coaching effectiveness. Similarly, perceived coaching effectiveness was facilitated if the coaches kept things simple, had realistic expectations for their athletes, and followed a performance plan.

Especially interesting were the findings that sport psychological support was perceived to enhance coaching effectiveness. Moreover, coaches felt that their coaching effectiveness was enhanced by sport psychology consultant work with athletes prior to and at the Games, as well as sport psychological consultant interaction with coaches themselves. This emphasizes the importance of providing sport psychological support and education for coaches. For the most part, however, sport psychology researchers have failed to study psychological skills for coaching effectiveness, especially at the elite levels. Research in this area is needed.

Strengths and Limitations

The present study, like all studies, had several strengths and limitations that need to be understood in interpreting the results. One strength of this study was the sample of Olympic coaches. An understudied group with extensive knowledge of elite athlete performance and the coaches in the present study provided valuable insight into psychological, social, environmental, and organizational variables that influenced their athletes' and team's Olympic performance. Additionally, coaches were asked to reflect on variables that influenced their own ability to effectively coach in the pressure-filled environment of the Olympics. Thus, a broad array of variables were studied, as one of the goals of this project was to gain an overall picture of the variables perceived to influence not only athlete performance, but also coaching effectiveness. Additionally, results were triangulated across methods (surveys, individual athlete interviews, and focus groups) and data sources (coaches and athletes), providing additional validation and reliability to the findings.

Related to the sample in this study, the survey return rates (46% for Atlanta coaches and 45% for Nagano coaches), while not ideal, are acceptable given the special population targeted in this study and the size of the survey (16 pages). In interpreting the results of the coach survey, it is important to recognize that over half of the population of U.S. Atlanta and Nagano Olympic coaches did not return completed surveys.⁷ The reader is therefore cautioned in generalizing these results, as the results do not represent the experiences of all U.S. Atlanta and Nagano coaches. Additionally, it is important to recognize that these results are limited to coaches who worked with U.S. teams. The retrospective design of this study is another limitation, as data was collected after the Olympics. It is therefore impossible to determine if attribution effects or memory bias influenced how the coaches responded to the survey items. Finally, the descriptive nature of the coach survey, preventing any cause-effect conclusions based on the data collected, is a limitation that must be kept in mind when interpreting the results.

Conclusions

In conclusion, Atlanta and Nagano Olympic coaches perceived that numerous variables influenced their athletes' and team's performance, as well as their own coaching effectiveness. The role of psychological variables was perceived as especially salient and reinforces the need for psychological training and support services for both Olympic athletes and their coaches. The sport psychology community, then, must play a more important role in the preparation of Olympic athletes and coaches.

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Authors' Notes

¹This research was supported by a grant from the Sport Science and Technology Division of the United States Olympic Committee (USOC). The authors would like to thank Jim Page and Sean McCann, the sport psychology advisory subcommittee, the USOC Sports Medicine, Coaching, Programs, and Games Preparation Divisions, and the USOC Alumni Association for their assistance.

²Coach questionnaires available upon request from first author.

³Discussion of responses to open-ended items is contained within Gould, Greenleaf, and Dieffenbach, 2001.

⁴The length of time from each Games to the mailing of the surveys was dependent on USOC requests for the project to be conducted and receiving mailing lists from the USOC.

⁵In some cases, only Atlanta or Nagano coach perceptions are presented – this is because only responses to items with mean impact rating of 8 or above (indicating a strong positive influence on performance) and 3 or below (indicating a strong negative influence on performance) are reported.

⁶This is a house that the USOC provides at the Olympic Games where coaches can meet, relax and unwind, and analyze video without being disturbed.

⁷It is difficult to determine if the coaches who did not respond to the survey systematically differed from those who did return the survey in whether they worked with a medallist or not because, in many sports, coaches may have coached some medallists as well as many non-medallists. However, coaches from numerous sports completed and returned the surveys, providing a variety of experiences and opinions of what influenced athlete performance and coaching effectiveness.

Manuscript submitted: September 19, 2000

Revision received: June 6, 2001