

Factors Influencing Olympic Performance: Interviews with Atlanta and Nagano US Olympians

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To gain a better understanding of factors perceived to have positively and/or negatively influenced Olympic athlete performance and to examine differences in performance factors cited by athletes who met or exceeded performance expectations and athletes who failed to meet expectations, 8 Atlanta and 7 Nagano Olympians were interviewed. Interviews were conducted via telephone, tape recorded, transcribed, and content analyzed by three investigators. Major factors perceived to have positively influenced performance included mental skills and preparation, attitude towards the Olympics, support services and support facilitation, multifaceted preparation, physical preparation, and coaching. Major factors perceived to have negatively influenced performance included departing from normal routine, media distractions, coach issues, overtraining, and injury. The two groups, those who met or exceeded expectations and those who did not meet expectations, differed on only a few positive performance factors, including attitude towards the games, Olympic housing, and team unity. Negative factors that differed between the groups included team selection, coaching, lack of support, and team issues.

While certain aspects of the Olympic Games are similar to other major competitions (e.g., same competitors, similar competition format), the Games provide a unique competitive environment (e.g., world's focus on the Games, increased importance and pressure). Some athletes perform well within this environment and others do not live up to performance expectations. Interested in answering the question of why some athletes

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perform well under the unique conditions of the Olympics and other athletes do not, the United States Olympic Committee (USOC) commissioned a large-scale project examining positive and negative factors that influenced Olympic athlete and coach performances in the Atlanta and Nagano Olympics.¹ Potential physical, psychological, environmental, and social factors of influence were examined via surveys of Atlanta and Nagano athletes and coaches, focus group interviews with Atlanta athletes, individual interviews with Atlanta coaches, and individual interviews with Atlanta and Nagano Olympians.

The USOC request for this evaluation research project is consistent with two of the functions of sport psychology outlined by Griffith (1925) over 75 years ago. Specifically, Griffith indicated that sport psychologists must use the scientific method to discover new facts and principles that would answer practical problems facing those in the field. He also indicated that experienced and successful coaches and athletes be systematically studied for the purposes of identifying the psychological principles they employ and that these principles be disseminated to inexperienced and less successful coaches and athletes. Ironically, throughout this century research addressing these two functions (especially the evaluation research component) has been scant. Rather, most of the sport psychology research has focused on testing existing psychological research and theory in the sport context or has been descriptive in nature. This project, then, allowed the investigators to address two important functions of the field, which for the most part have been ignored.

Focusing on the evaluation of the practical concerns and factors of performance influence facing Olympic athletes and coaches, however, does not imply that previous sport psychology research does not help us understand such practical problems. Peak performance literature, for instance, has consistently provided evidence of the importance of mental skills and preparation for successful elite athletes (Gould, Eklund, & Jackson, 1992a; 1992b; Gould, Finch, & Jackson, 1993; Gould, Jackson, & Finch 1993a; 1993b; Orlick & Partington 1988; Williams & Krane, 1998). In reviewing differences between successful and less successful athletes, Williams and

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Krane (1998) report that more successful athletes have higher self-confidence, better concentration, and manage their anxiety or interpret arousal as facilitative.

The seminal work of Orlick and Partington (1988) similarly indicates the importance of mental skills for Olympic success. Total commitment, focus on quality training, and competition preparation plans were common among the mental skills found to be important for Canadian Olympian success included in the study. Similarly, Gould and colleagues (Gould et al., 1992a; 1992b) found positive expectancies, optimal arousal states, heightened effort and commitment, and the use of systematic mental preparation strategies were associated with US Olympic wrestling excellence. Several studies focused on psychological characteristics of elite track and field athletes also provide evidence for the importance of mental skills in successful performance (Hemery, 1986; Ungerleider & Golding, 1992; Vernacchia, McGuire, Reardon, & Templin, 2000). Across these studies, concentration, training to get a competitive edge, social support, mental practice, enjoying training and competition, persistence, and confidence were identified as factors that positively impacted athlete success. Not only did these findings help guide the questions posed in the present study, but by conducting this investigation we were able to further verify whether these psychological characteristics and strategies were evident in and used by Olympic performers.

In the first study (Gould, Guinan, Greenleaf, Medbery, & Peterson, 1999) from the USOC project focus group interviews were conducted with athletes from four teams that met or exceeded performance expectations and four teams that failed to meet expectations. Results revealed that teams that met or exceeded expectations participated in resident training programs, experienced crowd, family and friend support, utilized mental preparation, and were highly focused and committed. Teams that failed to meet expectations experienced planning and team cohesion problems, and encountered problems related to focus and commitment. It was concluded that the achievement of peak performance at the Olympic Games is a complex and delicate process.

Considering the findings and conclusions of the focus group interviews from the first study in the this project, and the consistent evidence supporting importance of mental skills and training for elite athlete success, the present study sought to identify factors perceived to influence Olympic performance through individual interviews with Atlanta and Nagano Olympians. In so doing, an attempt was made to triangulate results across the

previously examined focus group participants and the individual Olympians discussed in this manuscript. Specifically, the purposes of this study were (a) to gain a better understanding of factors perceived to have positively and/or negatively influenced Olympic athlete performance, (b) to look for differences in performance factors cited by athletes who met/exceeded National Governing Body (NGB) expectations and athletes who failed to meet NGB expectations, and (c) to triangulate results of the focus group interviews with the results of the individual interviews. We also hoped to determine if previous peak performance psychological research principles (e.g., higher confidence, higher effort and commitment, use of systematic mental preparation strategies) were used by more and less successful individual Olympians. Additionally, this study was designed to examine a wide range of influential performance factors not limited only to psychological factors, but also including physical, social, and environmental factors experienced during the entire Olympic experience. Hence, it looked at psychological factors within a border context of other potential performance influencers.

METHOD

Design

To better understand the positive and negative factors influencing Olympic performance, individual phone interviews were conducted with 15 US Olympic athletes, eight from the 1996 Summer Olympics and seven from the 1998 Winter Olympics.^{2,3} All interviews were retrospective and took place within the year following each Games. Interview methodology enabled purposeful sampling of athletes identified by USOC staff to be of particular interest (i.e., athletes who were medal contenders). Additionally, using interviews allowed the interviewer to request additional information and clarify athlete responses in order to better understand the unique experience of each athlete.

The individual phone interviews were part of a larger project sponsored by the Sport Science and Technology Division of the USOC. In addition to the phone interviews presented in this article, the overall project included

2. The original intent was to interview eight Nagano Olympians, however this was not possible because of logistical problems related to contacting athletes of interest and athlete availability within the timeframe of the grant.

3. Special thanks is extended to the athletes who took part in this project.

a large-scale survey of 1996 and 1998 athletes and coaches, focus group interviews with athletes selected from 1996 teams, and individual interviews with 1996 coaches (Gould, Greenleaf, Dieffenbach, Lauer, Chung, Peterson, & McCann, 1999; Gould, Guinan, Greenleaf, Medbery, Strickland, Lauer, Chung, & Peterson, 1998).

Participants

Participants included a total of 11 female and four male athletes who had competed in the 1996 Summer Olympics (5 female, 3 male) and the 1998 Winter Olympics (6 female, 1 male).⁴ Participants ranged in age from 23 to 44 years ($M = 32.27$). Criteria for athlete inclusion in the study included National Governing Body (NGB) high performance plan expectations, recommendation by USOC sport psychology staff, and availability. All 15 athletes were expected by their NGB to medal at the Olympics. Eight of the athletes met or exceeded their NGB's performance expectation and seven did not. Those athletes who met the performance expectations of their NGBs won a total of nine gold, two silver, and one bronze medal. Athletes represented 11 different individual sports and three team sports.

Interviewer

The interviews were conducted by a sport and exercise psychology graduate student during the first and second years of her Ph.D. program. The interviewer was trained in qualitative research methods. Her training included reading several qualitative research interviewing technique books and articles, conducting and audiotaping a pilot interview, and receiving feedback on the pilot interview. Additionally, the interviewer had previous qualitative case study research experience.

Procedure

Potential participants were initially contacted based on suggestions of USOC officials. Attempts to contact a total of 16 Atlanta athletes were made. Eleven of the athletes agreed to participate, however time conflicts

4. In the Atlanta Olympics, US athletes won a total of 101 medals. US women won 38% and US men won 57% of the medals. Athletes in mixed gender sports won 5% of medals. In the Nagano Olympics, US athletes won 13 medals. US women won 61% of the medals and US men won 38% of the medals.

prevented 3 from participating. Two athletes indicated that they were not interested in participating and 3 athletes could not be contacted. From the Nagano Olympics, attempts were made to contact 21 athletes. Of these, 11 agreed to participate, with 7 being able to participate within the time constraints of the project. Three athletes were not interested in participating and 7 athletes were unable to be contacted. Once contacted, potential participants were informed about the project and asked if they would be willing to participate. An interview time was then arranged with athletes who agreed to participate. Participants were phoned at the arranged time, informed of their rights as human participants in the project and asked if they were still willing to participate. All participants agreed to be interviewed. Participants were informed that their identity would be kept confidential. Thus, to protect participants' identity in this manuscript, some identifying information, such as gender and sport, has been changed or omitted.

Using a semi-structured interview guide,⁵ open-ended phone interviews were conducted and audiotape recorded. A series of questions focusing on the athletes' Olympic experience, positive and negative performance factors, and advice or suggestions were contained in the interview guide. Interviews ranged in length from 30 to 105 minutes. The focus of this article is on factors identified as having influenced performance.

Analysis

The interviews were transcribed verbatim and content analyzed by three investigators using procedures recommended by Miles and Huberman (1994). Each investigator read and re-read the transcripts and one investigator additionally listened to the audiotapes. Initially, each investigator individually coded themes (quotes or paraphrased quotes representing a meaningful point or thought) within the interviews using a priori codes based on the interview guide questions: positive, negative, or positive and negative. Within each a priori code grouping, raw data or coded themes were labeled and organized into larger categories. The themes and groupings were consensually validated among the three investigators during group meetings. When inconsistencies and differences arose over themes or groupings, discussion ensued until consensus was reached. Typically these differences were easily resolved and were related to themes or groupings fitting into more than one category or sub-category. In the few cases that major disagreements were encountered, the themes or groups were identi-

5. A copy of the interview guide is available from the second author.

fied with each appropriate category or sub-category. No inter-rater reliability statistics were computed as the goal of the analysis was not to test the three investigator's ability to identify common themes, but to establish a common understanding of the meaning of the various themes through extensive discussion of the Olympians' thoughts.

Positive and negative performance factors were tabled by using the frequency of raw data themes cited within each category and the number of athletes who cited themes within each category. Figures 1 and 2 provide an overview of the frequency and distribution of themes cited across all participants. Finally, Tables 1 and 2 allow comparison between athletes who met or exceeded performance expectations and athletes who failed to meet performance expectations.

RESULTS

The results are presented in two parts. First, positive and negative performance factors are presented. Second, a comparison of athletes who met or exceeded expectations and athletes who failed to meet expectations is presented.

Positive Factors Influencing Performance

Overall, the results of these individual athlete interviews indicated the majority of the participants experienced both positive and negative performance factors. Only two athletes (one who met or exceeded expectations and one who failed to meet expectations) reported not experiencing negative performance factors. This implies that the vast majority of Olympians must be prepared to deal with negative performance influences at the Games.

As can be seen in Figure 1, several main categories emerged from raw data themes as factors perceived to have positively influenced athletes' Olympic performance when summed over all participants: (a) Psychological Factors: Mental Skills and Preparation and Attitude Towards the Games, (b) Support Services and Support Facilitation, (c) Physical Preparation, (d) Coaching, (e) Multifaceted Preparation, (f) Training and Performance Routines, (g) Olympic Housing, (h) Olympic Excitement, and (i) Team Unity. Moreover, this table contains the frequency of raw data themes making up each category.

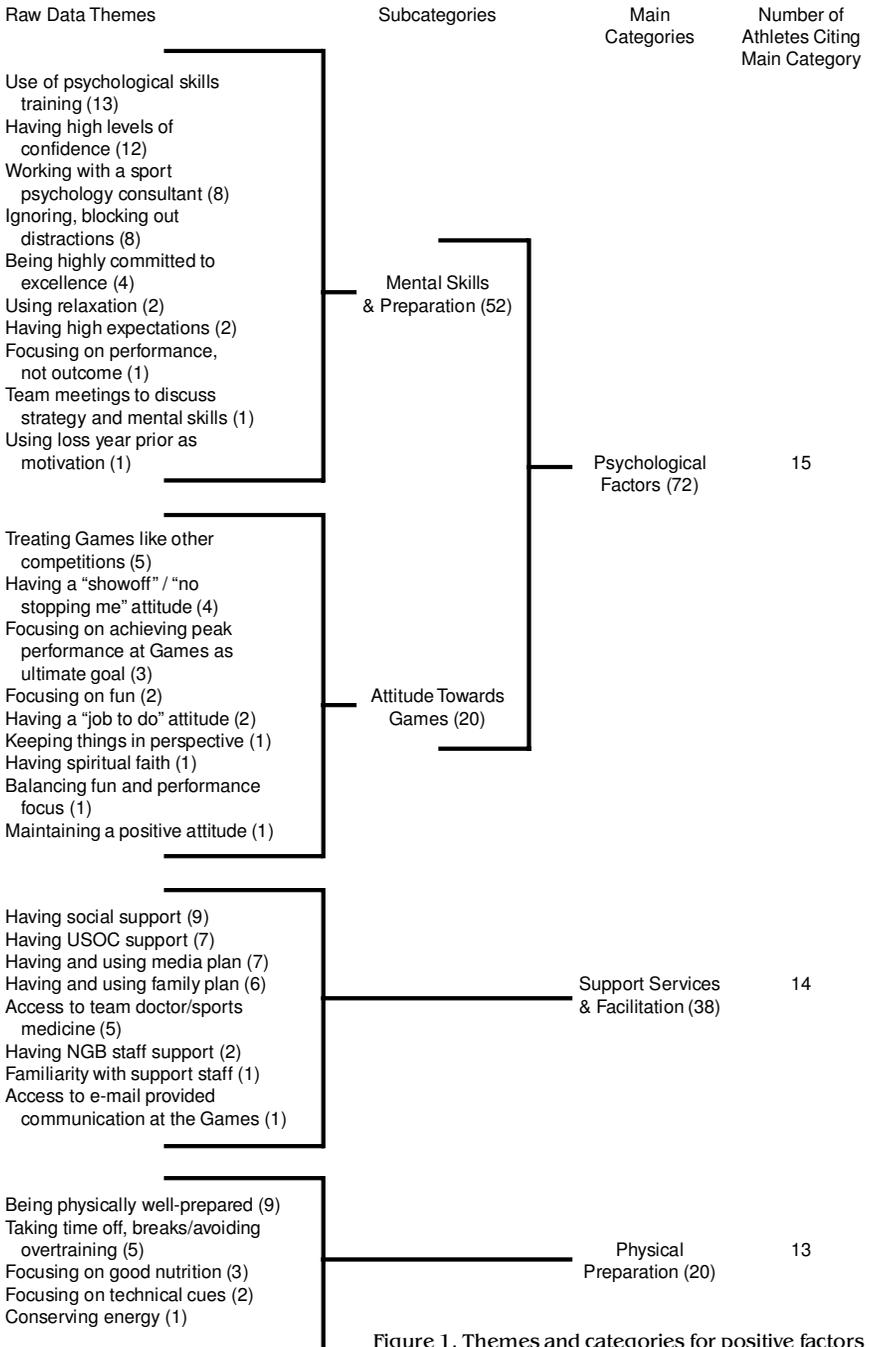


Figure 1. Themes and categories for positive factors of influence. Frequencies indicated in parentheses.

Raw Data Themes	Subcategories	Main Categories	Number of Athletes Citing Main Category
Knowing what to expect/ expected the unexpected (6) Participating in Olympic simulations (3) Training at/visiting venue prior to Games (3) Taking advantage of every resource (2) Talking to previous Olympians (2) Securing spot on team early (2) Taking responsibility for and executed training plan (1) Treating everyday of training like Olympics (1) Learning from mistakes during year prior to the Olympics (1) Taking responsibility for previous Olympic failure and adjusting preparation (1)		Multifaceted Preparation (22)	11
Having coach contact, trust, friendship (12) Receiving coach feedback (3) Having access to personal coach (2) Coach having good plan (1)		Coaching (18)	13
Having a well-established training and competition routine/stuck to routine (8) Using a performance checklist (1)		Performance & Training Routines (9)	8
Secluding/isolating self (4) Olympic village convenience (2) Leaving village to train during Games (1)		Olympic Housing (7)	6
Experiencing Olympic excitement (3) Olympics held in US (3)		Olympic Excitement (6)	6
Having team unity/cohesion (5)		Team Unity (5)	5

Figure 1. Continued.

Table 1
Group Differences in Positive Performance Factors

	Met or exceeded expectations		Failed to meet expectations		Total	
	Number of themes	Number of Olympians (<i>N</i> = 8)	Number of themes	Number of Olympians (<i>N</i> = 7)	Number of themes	Number of Olympians (<i>N</i> = 15)
Psychological Skills	43 (38%)	8 (100%)	29 (37%)	7 (100%)	72 (36%)	15 (100%)
Mental Skills and Preparation	28 (23%)	8 (100%)	24 (31%)	7 (100%)	52 (26%)	15 (100%)
Attitude Towards Games*	15 (12%)	8 (100%)	5 (6%)	4 (58%)	20 (10%)	12 (80%)
Support Services and Support Facilitation	18 (15%)	7 (87%)	20 (26%)	7 (100%)	38 (19%)	14 (93%)
Physical Preparation	14 (11%)	8 (100%)	6 (8%)	5 (71%)	20 (10%)	13 (87%)
Coaching	12 (10%)	8 (100%)	6 (8%)	5 (71%)	18 (9%)	13 (87%)
Multifaceted Preparation	14 (11%)	6 (75%)	8 (10%)	5 (71%)	22 (11%)	11 (73%)
Performance and Training Routines	6 (5%)	5 (62%)	3 (4%)	3 (43%)	9 (5%)	8 (53%)
Olympic Housing*	6 (5%)	5 (62%)	1 (1%)	1 (14%)	7 (3%)	6 (40%)
Olympic Excitement	2 (2%)	2 (25%)	4 (5%)	4 (57%)	6 (3%)	6 (40%)
Team Unity*	4 (3%)	4 (50%)	1 (1%)	1 (14%)	5 (2%)	5 (33%)
TOTAL	119		78		197	

* Discussed in text.

Table 2
Group Differences in Negative Performance Factors

	Met or exceeded expectations		Failed to meet expectations		Total	
	Number of themes	Number of Olympians (N = 8)	Number of themes	Number of Olympians (N = 7)	Number of themes	Number of Olympians (N = 15)
Departure from Normal Routine	7 (25%)	4 (50%)	4 (7%)	4 (57%)	11 (13%)	8 (53%)
Media Distractions	5 (18%)	5 (62%)	3 (5%)	3 (43%)	8 (9%)	8 (53%)
Coach Issues*	1 (4%)	1 (12%)	9 (15%)	6 (86%)	10 (12%)	7 (47%)
Overtraining	4 (14%)	3 (37%)	3 (5%)	3 (43%)	7 (8%)	6 (40%)
Injury	3 (11%)	3 (37%)	3 (5%)	3 (43%)	6 (7%)	6 (40%)
Team Selection*	0 (0%)	0 (0%)	12 (21%)	5 (71%)	12 (14%)	5 (33%)
Housing/Village	2 (7%)	2 (25%)	3 (5%)	3 (43%)	5 (7%)	5 (33%)
Team Issues*	0 (0%)	0 (0%)	5 (9%)	5 (71%)	5 (6%)	5 (33%)
Training	2 (7%)	2 (25%)	2 (3%)	2 (29%)	4 (5%)	4 (27%)
Lack of Support	0 (0%)	0 (0%)	5 (9%)	3 (43%)	5 (6%)	3 (20%)
Jobs/Money	1 (4%)	1 (12%)	1 (2%)	1 (14%)	2 (2%)	2 (13%)
Jet Lag/Travel	0 (0%)	0 (0%)	2 (3%)	2 (29%)	2 (2%)	2 (13%)
Family/Friends	1 (4%)	1 (12%)	1 (2%)	1 (14%)	2 (2%)	2 (13%)
Officials	0 (0%)	0 (0%)	2 (3%)	1 (14%)	2 (2%)	1 (7%)
Miscellaneous	2 (7%)	2 (25%)	3 (5%)	2 (29%)	5 (6%)	4 (27%)
TOTAL	28		58		86	

*Discussed in text

Psychological Factors

Mental skills and preparation. Factors categorized in the mental skills and preparation category included the following: the use of psychological skills training, having high levels of confidence, work with a sport psychology consultant, ignoring or blocking out distractions, being highly committed to excellence, using relaxation, focusing on performance not outcome, having team meetings to discuss strategy and mental skills, and using a loss year prior as motivation.

Specifically, 13 out of the 15 participants made comments that were classified in the theme of using psychological skills training. The mention of psychological skills ranged from very detailed description of daily mental training to general statements of the importance of mental skills. As an example of one of the more detailed descriptions, one athlete spoke about specific mental training drills she developed, using video and visualization, and keeping a goal/performance journal. The more general comments included statements such as, "I prepared mentally each and everyday" and "I have a lot of mental exercises that I use in preparation for any large event." Related to using psychological skills, eight athletes indicated that having a sport psychology consultant was a positive performance factor. One medal winner pointed out the benefit of establishing an early working relationship with a sport psychology consultant. She said, "he [the coach] had already implemented the use of our sport psychologist who remained consistent . . . he [the sport psychologist] was actually with us almost over a year and a half . . . so we had a lot of time to be introduced to a lot of training concepts."

Twelve athletes cited high levels of confidence as a positive performance factor. One athlete spoke about the confidence she gained by using mental training while recovering from an injury. She stated that, "In the past, knowing that I'm the strongest person out there, the fittest person, always gave me confidence, but I couldn't have that this time. . . . So I really worked on the mental part and that gave me a level of confidence that I hadn't had before." Another athlete, a gold medalist, indicated that his confidence came from training technique. He said, "I knew that simply my technique was better than 98 or 99% of the people out there."

The ability to ignore or block out distractions was a positive performance factor for eight athletes. One athlete used the analogy of sailing through a storm for how she dealt with distractions. She said:

there's a big storm coming up and rather than go out and try and sail through it or fight it, I just close all my hatches up and I get in my little boat. . . . A nice safe environment . . . able to retreat and not spend your energy dealing with all that other stuff out there that doesn't really effect you.

A gold medal winner more simply stated, "I have this real good ability to block things out."

Other positive mental preparation factors cited by athletes included: being highly committed to excellence, using relaxation, having high expectations, focusing on performance not outcome, using team meetings to discuss strategy and mental skills, and using a loss the year prior to the Games as motivation.

Attitude towards Games. Attitude related factors included treating the Games like other competitions, having a "showoff" or "no stopping me" attitude, focusing on achieving peak performance at the Games as the ultimate goal, focusing on fun, having a "I have a job to do" attitude, keeping things in perspective, having spiritual faith, balancing fun and performance focus, and maintaining a positive attitude.

Treating the Games like other competitions was a positive factor for five athletes. One athlete stated, "I treated it like another race and I knew how to go about the business of training, warming up, and being prepared." Having a showoff or no stopping me attitude was cited by four athletes who met or exceeded expectations as having a positive impact on their Olympic performance. This attitude was not cocky, but rather proud, reflecting an excitement to show the world the product of their hard work. One gold medal winner said, "It was my time to showoff in front of everybody and show'em what I had." Another gold medalist said, "I like the Olympics because...there is so much at stake. The more at stake the better." Three athletes indicated that having a peak Olympic performance as their main goal positively influenced their performance. One silver medalist stated that, "my goal wasn't to *make* the Olympic team. A lot of people who made the Olympic team were kind of acting like they achieved their goals and they were like tapering down, but for me that was the *beginning*" [italics added].

Other attitude related factors cited as having a positive impact on performance included focusing on fun, having a "I have a job to do" attitude, keeping things in perspective, having spiritual faith, balancing fun and performance focus, and maintaining a positive attitude.

Support Services and Support Facilitation

Support services and support facilitation themes cited as having a positive impact on performance included the following: having social support, having USOC support, having and using family and media plans, the use of team doctor/sport medicine, having NGB staff support, familiarity with support staff, and access to e-mail. Nine athletes cited social support, including support from family and friends, as a positive performance factor. One gold medalist said, “the support from my family and friends had a real positive influence . . . knowing that they’re there and they’re behind you no matter what.”

USOC support, both in terms of funding and support staff, was cited by five athletes. One athlete said:

The USOC was very helpful . . . at the processing, they give you a book with pictures [of USOC staff and volunteers who have specific US team duties at the Games, e.g., transportation, media, etc.] . . . most people, they don’t know what to do with it, but it was for me a tool.

Related to USOC funding, one gold medal winner said, “it’s great [Operation Gold funding] because someone like myself, it’s really hard to train six hours a day and still have a job for money.”

Family and media plans were mentioned as positive performance factors. One gold medalist’s family plan included writing a letter to his parents and friends, and then following up with a phone call. He indicated that prior to his letter, his parents and friends wanted to talk about the Olympics all of the time. He said, “for me it was difficult to be able to sit down and talk about the Olympics everyday with my parents when I didn’t even know if I was going or not.” Another medalist described how his team handled dealing with the media. He said, “we were just so well prepared in terms of what we were going to expect . . . like this is media time, 45 minutes after practice, one hour after a game. Media wasn’t allowed in during practice time. So it was very well defined.”

Other positive performance factors within the support services and support facilitation category included team doctors and sport medicine, NGB staff support, familiarity with support staff, and communication to friends and family via e-mail.

Physical Preparation

Numerous physical preparation themes emerged as positive factors contributing to athletes' Olympic performance, including being physically well-prepared, taking breaks and avoiding overtraining, focusing on good nutrition, focusing on technical cues, and conserving energy. Being physically well-prepared was cited by nine athletes. One gold medalist said, "one thing individually that I think helped me tremendously was I had been working with a strength and conditioning coach . . . like two years before the Olympics. And I think that was extremely . . . important for me." Another gold medalist stated, "I started training earlier and twice as hard . . . I mean everything was five times harder than I've ever done . . . just everything this Olympics was going towards getting a medal."

Related to being physically well-prepared, five athletes noted that they consciously took breaks from training and avoided overtraining. One medalist stated, "I tried not to overtrain. Usually, close to the Olympics I get nervous and overtrain." Another athlete said, "the time I took prior to the Games away from the team really helped me. Giving myself a momentary, a break for a little bit and then being able to pop back all rejuvenated, not distracted, feeling just pumped up. That was really helpful."

Other positive performance factors related to physical training included focusing on good nutrition, focusing on technical cues, and conserving energy.

Coaching

Coaching related themes that athletes cited as positive performance factors included having coach contact, trust, and friendship, receiving coach feedback, the availability of one's personal coach, and the coach having a good plan. Twelve of the 15 athletes cited coach contact, trust, and friendship as having a positive impact on their Olympic performance. One gold medalist went into great detail describing the impact of her coach. She detailed how her coach kept the team together and positive, clarified athlete roles, respected all athletes and was respected by athletes, was trusted by athletes, taught athletes to take responsibility for their own performance, and developed and implemented a sound physical and mental preparation program. Another gold medalist emphasized the importance of his coach being a trusted friend. He said, "the coaches that have really been effective with me are the ones that have been not only coaches, but good friends. Because when you spend so much time together that's the only way it can work."

Athletes also cited having coach feedback, having access to one's personal coach, and coach planning as having positive impacts on performance.

Multifaceted Preparation

Numerous multifaceted preparation themes emerged from the interview data, including knowing what to expect and expecting the unexpected, training at or visiting venue prior to Games, participating in Olympic simulations, taking advantage of every resource, and talking to previous Olympians. Additionally factors related to multifaceted preparation that were perceived to have positively influenced performance included securing a spot on team early, taking responsibility for and executing training plans, treating everyday of training like Olympics, learning from mistakes during year prior to Olympics, and taking responsibility for previous Olympic failure and adjusting preparation.

Knowing what to expect and expecting the unexpected were cited by six athletes as factors that positively impacted their Olympic performance. A gold medalist said, "we were very prepared and knew what to expect in terms of what it was going to be like playing there like in terms of the competition and most of our surroundings." Another medalist, referring to his past Olympic experience, said, "In '92 I thought at the Olympics everything would go smooth and then when things didn't go [smoothly], you'd be like, wait a minute. . . . [So] you have to prepare for the worst and . . . be prepared for the unexpected."

Training at or visiting the venue prior to Games and participating in Olympic simulations were each cited by three athletes as having positively impacted their performance. Using all possible resources, talking to previous Olympians, and securing a spot on team early were each reported by two athletes as positive performance factors. Other positive factors related to multifaceted preparation included taking responsibility for and executing training plan, using a performance checklist, treating every day of training like Olympic competition, learning from mistakes during year prior to the Olympics, taking responsibility for previous Olympic failure and adjusting preparation.

Training and Performance Routines

Several athletes indicated the importance of training and performance routines related factors, including having and sticking to a routine and us-

ing a performance checklist. Eight athletes cited having and sticking to a routine as a positive performance factor. One medalist noted the importance of sticking to a routine, especially in stressful situations. She said, "I just tried to mainly stick to the routine, just how I normally [perform] and what I normally do. Sometimes it's like you want your habits to always be habits, but you're . . . so distracted that you really have to think about, well, what is it that I do?"

Olympic Housing

Related to Olympic housing, athletes mentioned secluding and isolating oneself, Olympic village convenience, and leaving the village to train during Games as factors that positively impacted performance. Four athletes indicated that they secluded or isolated themselves prior to and at the Games. One medalist said, "I was almost self-centered in a way and I wasn't paying attention to anything on the outside and I was just concentrating on myself." Another medalist indicated that secluding himself was positive, as he said, "if you want to win you really have to kind of seclude yourself from all the action."

Olympic Excitement

Factors related to Olympic excitement were reported by six athletes. Related to the excitement of the Olympics, one athlete said, "I think you get that adrenaline thing going cause it is the Olympics . . . I think that helps you . . . I think it helped me [perform] better." Additionally, three of the eight Atlanta Olympians interviewed mentioned the fact that the Games were held in the US as a positive performance factor.

Team Unity

Team unity was mentioned by six athletes as having a positive impact on Olympic performance. One athlete spoke about the unity on her team, saying, "I think what positively influenced our performance was the fact that we'd done it so many times as a unit and we get along well. We work real well together as a team." One gold medal winner frequently referred to the trust and cohesion on her team. She said, "I think it was the . . . members of the team like really putting an effort into being a team and coming together and being able to trust all of your teammates...and to have that trust, I think, that makes a big difference." Several individual sport athletes also spoke of the importance of team cohesion. One gold

medalist said, “just to know that I wasn’t out there by myself, I had them and they were there with me too.”

NEGATIVE FACTORS INFLUENCING PERFORMANCE

Negative performance factors fell into the categories: (a) departure from normal routine, (b) media distractions, (c) coach issues, (d) overtraining, (e) injury, (f) team selection, (g) housing/village, (h) team issues, (i) training, (j) lack of support, (k) job/money concerns, (l) jet lag/travel, (m) family/friend concerns, (n) officials, and (o) miscellaneous factors. Figure 2 provides frequency data for themes and higher order categories that emerged.

Departure from Normal Routine

A variety of actions related to departure from normal routine were cited by nine athletes as having had a negative influence on Olympic performance. Departures from normal routine included arriving to the Olympics too early, arriving at the performance venue too early, team leaders acting differently at the Games, holding back to avoid mistakes, being unexpectedly nervous, being emotionally on edge, encountering a different time format for competition, and being forced out of one’s performance plan. Two athletes indicated that they arrived at the Games too early. One medalist said, “you have 2 or 3 weeks of everyday being a big day trying to fine tune and . . . it’s like you’re sick of it . . . it was too long of us being ready.” Similarly, one athlete reported arriving at his venue too early, saying, “being at the venue earlier than we were supposed to . . . I was there like four or five hours before I would normally have been there.”

Two athletes indicated that the behavior of their team leaders or coaches changed at the Games. One athlete spoke of her team leader and said, “she kind of freaked out on me a couple of times . . . she’s been there a ton of times, all the World Championships with us, but I was surprised at some of her reactions.” Another athlete reported that her coaches took a “hands off” approach prior to and at the Games, which was very different from their typical coaching style.

Other negative performance factors related to departure from normal routine included holding back to avoid mistakes, being unexpectedly nervous, being emotionally on edge, encountering a different time format for competition, and being forced out of one’s performance plan.

Raw Data Themes	Main Categories	Number of Athletes Citing Main Category
Arriving to Olympics too early (2) Hoopla of Olympics distracting (1) Team leaders acting differently at Games (2) Holding back to avoid mistakes (1) Arriving at venue too early (1) Experiencing unexpected nervousness/stress (1) Feeling unusually emotionally on edge (1) Different time format for competition (1) Being forced out of performance plan (1)	Departure from Normal Routine (11)	8
Experiencing coach conflict (3) Experiencing power conflicts (1) Coach-athlete conflicts over training (1) Lack of access to personal coach (1) Inaccurate technical information from coach (1) Failure of coaches to deal with selection controversy (1) Lack of coach focus on team climate (1) Coach made technical changes (1)	Coach Issues (10)	7
Experiencing media distractions/failing to limit media/media pressure	Media Distractions (8)	8
Overtraining/no breaks (4) Lack of time for relationships (3)	Overtraining (7)	6
Injury prevented training (6)	Injury (6)	6
Qualification stress (4) Unclear selection criteria/process (3) Team trials too close to Games (3) Team selection controversy (1) Selection only based on U.S. performance (1)	Team Selection (12)	5
Housing problems (crowded, co-ed) (2) No privacy at Games (1) Isolated housing (1) Roommate failure to deal with pressure (1) Lack of Olympic spirit (resulting from village set up) (1)	Housing/Village (6)	5
Negative team/NGB atmosphere (1) Poor interaction with teammates (1) NGB politics (1) Too much focus on Olympics by coaches and NGB (1) Team policies (1)	Team Issues (5)	5

Figure 2. Themes and categories for negative factors of influence. Frequencies indicated in parentheses.

Raw Data Themes	Main Categories	Number of Athletes Citing Main Category
Lack of access to sport psychology consultant (1) Lack of NGB support (1) Lack of ACOG support (1) Credential problems (key personnel not credentialed) (1) Lack of access to social support (1)	Lack of Support (5)	3
Disorganized training, training problems (2) Individual training needs not taken into consideration (2)	Training (4)	4
Funding delays, lack of funding (1) Job uncertainty year of Games (1)	Jobs/Money (2)	2
Jet lag (1) Hectic travel schedule (1)	Jet Lag/Travel (2)	2
Concerns over family/friends (2)	Family/Friends (2)	1
Bad call from officials/lack of seasoned officials (1) Poor adjustment to bad calls (1)	Officials (2)	1
Crowd noise (1) Competitor's pre-Olympic success (1) Changing snow conditions (1) Having to adjust to equipment advances (1) Olympic paperwork (1)	Miscellaneous (5)	5

Figure 2. Continued.

Media Distractions

Eight athletes reported media distractions as a negative performance factor. One medalist was surprised by the intense media focus on her, she said, “the media being there . . . and it’s not just there, *but it’s in your face*” [italics added]. Another medalist felt that “the press is always rough on you and they’re always looking for another angle.” Athletes also felt media distractions were a negative factor prior to the Games. As one athlete said, “that [media obligations] wore on us a bit . . . because we had to be so

many places when we could have used a little time of not worrying about that. You've got to get the word out about your sport, especially because ours is one that doesn't get a lot of press. So obviously we wanted to do that . . . but yet our coach was concerned about our rest and making sure we were focusing on the right things."

Coach Issues

Negative performance factors related to coach issues were reported by seven athletes. Coaching related issues included coach conflict, power conflicts, coach-athlete conflict over training, lack of access to personal coach, inaccurate technical information from coach, failure of coach to deal with selection controversy, lack of coach focus on team climate, and technical changes made by coach. Related to coach conflict, one athlete said, "there was an atmosphere of stress and tension among the staff, coaching staff, and it kind of permeated the whole atmosphere where all the athletes were living."

Overtraining

Overtraining and not taking breaks were cited by six athletes as negative performance factors. One athlete pointed out that her NGB required her to compete in several races prior the Games. She said, "the timing [of the races] was very poor and that contributed to overtraining and my performance was probably 80% at the Games due to fatigue and lack of recovery." Also included in this category was a lack of time for personal relationships cited by three athletes. As one Olympian said, "it was hard to kind of be so committed to one thing [the Olympics] and have him [fiancée] . . . not a part of it and he's kind of on the outside. That was really hard to kind of sort of juggle."

Injury

Six athletes indicated that being injured prevented training, which negatively influenced their Olympic performance. One athlete said, "that [being injured] was an obstacle that was mentally scary and physically . . . because you were just afraid . . . because it's kind of painful."

Team Selection

Issues related to team selection were cited as negative performance factors by five athletes. Team selection issues included qualification stress,

unclear selection criteria and process, selection too close to the Games, team selection controversy, and team selection based only on U.S. performance. Four athletes reported that the stress of qualifying had a negative impact on their performance. One athlete said, “you were making sure that you struggled to *remain* on the team” [italics added]. Three athletes specifically cited unclear selection criteria as a negative factor. One athlete said, “There wasn’t a real good selection criteria. As athletes, none of us knew in advance of that season how we were supposed to be chosen.” Athletes also reported that team selection occurred too close to the Games. One example of this came from an athlete who said, “we were competing to get a spot on the Olympics and the next day we were on a plane to Japan . . . I mean I literally got on a plane less than 24 hours after I finished the race for Japan.”

Housing/Village

Five athletes reported issues related to housing and the village as negative performance factors, including crowded/co-ed housing, having no privacy at the Games, having isolated housing, roommate failure to deal with pressure, and a lack of Olympic spirit in the Village.

Team Issues

Five athletes indicated that factors related to team issues negatively impacted performance, including a negative team and NGB atmosphere, poor interaction with teammates, NGB politics, too much focus on the Olympics by coaches and NGB, and team politics.

Training Issues

Issues related to training which negatively impacted performance were mentioned by four Olympians and included disorganized training and a lack of individualization of training. One athlete said, “by the time that I got to the Olympics, I just didn’t have control over my training.”

Lack of Support

Three athletes cited factors related to lack of support as having had a negative impact on their Olympic performance. These factors included not having access to a sport psychology consultant, not having NGB or Atlanta Committee for the Olympic Games (ACOG) support, credentialing problems, and not having access to social support.

COMPARISON OF ATHLETES WHO MET/EXCEEDED AND FAILED TO MET EXPECTATIONS

Looking across positive performance factors, few differences emerged between athletes who met or exceeded and failed to meet performance expectations. Table 1 provides a breakdown of the frequencies of positive factor themes within each higher order category and the number of Olympians whose responses fell within each theme across athletes who met and failed to meet performance expectations.

The positive performance category of psychological factors: attitude towards the Games was one category that seemed to reflect distinct differences between those athletes who met or exceeded expectations and those who failed to meet expectations. While all eight athletes who met expectations mentioned factors related to the attitude category, only one athlete who failed to meet expectations did so. Specifically, four athletes who met expectations mentioned secluding and isolating themselves at the Games and adopting a time to showoff or no stopping me attitude. Additionally, two athletes who met expectations commented on having a job to do orientation. In addition to the difference in the number of Olympians whose comments were grouped in the attitude category, the number of raw data themes within this category also differed. Positive factors mentioned by athletes who met expectations included 15 raw data themes, while comments by athletes who failed to meet expectations included only four raw data themes within the attitude category.

Several slight differences in the positive performance factor categories emerged between groups in two categories: team unity and Olympic housing. Four athletes who met or exceeded performance expectations indicated factors related to team unity as having positively influence their performance, while only one athlete who failed to meet performance expectations mentioned team as an important positive performance factor. Similarly, five athletes who met or exceeded performance expectations indicated that factors related to Olympic housing had a positive impact on performance, while only one athlete who failed to meet expectations did so.

Table 2 provides the breakdown of negative factors across athletes who met and failed to meet performance expectations. Across all negative performance factors, athletes who met expectations and athletes who failed to meet performance expectations differed both in the number of Olympians who cited themes and in the number of themes cited within four catego-

ries: team selection, coach issues, lack of support, and team issues. The greatest differences emerged in the team selection category. Athletes who met expectations did not cite any themes, while five athletes who failed to meet expectations reported a total of 12 themes within team selection. Qualification stress ($n = 4$), unclear selection criteria and process ($n = 3$), and trials too close to the Games ($n = 3$) were factors mentioned only by athletes who failed to meet expectations.

Differences were also evident in the coach issues category. One athlete who met expectations mentioned one negative factor, while six athletes who failed to meet expectations mentioned a total of nine themes within coach issues. Within the lack of support category, no athletes who met expectations mentioned any themes, while three athletes who did not meet expectations commented on a total of five themes. Finally, while athletes who met expectations failed to mention any themes related to team issues, five athletes who failed to meet expectations cited five themes.

DISCUSSION

The purposes of this study were (a) to gain a better understanding of factors perceived to have positively and negatively influenced Olympic athlete performance, (b) to examine differences in performance factors cited by athletes who met or exceeded expectations and athletes who failed to meet expectations, and (c) to triangulate the results of previous focus group interviews with the individual interviews in the present study. In examining the first purpose, factors perceived to have positively influenced performance included mental skills and preparation, attitude towards the games, support services and support facilitation, multifaceted preparation, physical training, coaching, Olympic excitement, Olympic housing, and team unity. Major factors perceived to have negatively influenced performance included departing from normal routine, media distractions, coaching, overtraining, and injury. These findings revealed, then, that many Olympic performance influencing factors are psychological in nature, once again demonstrating the importance that mental factors play in elite sport performance. However, numerous other non-psychological factors such as Olympic housing, physical training, and multifaceted preparation were identified as major performance influences. As sport psychology consultants and researchers we must be aware of these additional factors and their influences on athlete performance. The interactions that these factors have with psychological factors must also be examined.

The second purpose of this study was to examine differences between athletes who met performance expectations and those who did not meet expectations. Positive performance factors that differed between the two groups included attitude towards the games, team unity, and Olympic housing. Negative factors that differed between the groups included team selection, coaching, lack of support, and team issues. These findings provide evidence that more versus less successful athletes not only differ on psychological factors, but other performance factors.

In addition to investigating positive and negative performance factors and group differences, the present study sought to validate past peak performance literature and triangulate findings from the focus group interview results (Gould, Guinan, et al., 1999). Main findings from this study support previous peak performance research, including the importance of mental training, the delicate balance between physical training and overtraining, the importance of coach related issues, the differential characteristic of attitude, and the negative impact of team selection problems. Commonalities between the present study results and the results of the focus group interviews (Gould, Guinan, et al., 1999) included the potential negative impact of coaching issues on performance and the positive impact of social support and team cohesion on performance.

Specifically, all 15 athletes interviewed commented on the importance of some aspect of mental preparation and reported mental preparation as having a positive impact on performance. Similar to Williams and Krane's (1998) review of attributes of peak performance, the current study found that Olympians felt the use of psychological skills, such as goal setting, having high levels of confidence, and having plans and preparation for dealing with distractions positively influenced their performance. Similarly, the present findings support the results of Orlick and Partington (1988), who found that mental readiness was a significant factor influencing final Olympic ranking, and Gould et al. (1992a; 1992b), who reported the importance of systematic mental preparation strategies associated with Olympic wrestling excellence. Additionally, results from the focus group interviews with Atlanta Olympians and coaches during the study of this USOC project indicated the importance for having well-developed routines and plans, coping skills for dealing with distractions, and having high levels of confidence (Gould, Guinan, et al., 1999). The importance of mental preparation was also cited as a positive factor by athletes involved in focus group interviews as a part of this larger grant (Gould, Guinan, et al., 1999).

Athletes indicated that departing from their normal routine was a nega-

tive performance factor. This finding confirms past research including the findings of Orlick and Partington (1988) and Gould et al. (1992a; 1992b). Orlick and Partington (1988) found that Olympic athletes who failed to perform up to their potential changed things that had worked in the past. Similarly, Gould et al. (1992a; 1992b) found that wrestlers reported not adhering to their preparation routine prior to all time worst performances.

Physical training was viewed as a positive performance factor, while overtraining and injury were viewed as negative. Positively related to physical training were being physically well-prepared and taking breaks to avoid overtraining. Negative factors related to overtraining included not taking breaks and a lack of time for relationships. Athletes indicated negative effects of both the physical and mental aspects of overtraining. Overtraining is an important topic for sport physiologists (Hackney, Pearman, & Nowacki, 1990; Murphy, Fleck, Dudley, & Callister, 1990) and sport psychologists (Murphy et al., 1990). Factors cited by athletes, such as taking breaks to avoid overtraining and experiencing a lack of time for relationships because of overtraining, support Coakley's (1992) model of athlete burnout. Coakley (1992) suggests that burnout occurs due to social organizational factors, such as lack of control and personal disempowerment. Supporting the current findings are the results from another part of the larger project. Similar to the Atlanta and Nagano athletes interviewed individually, Atlanta athletes and coaches from the focus group interviews from the larger project indicated that optimal physical conditioning while not overtraining had a major impact on Olympic performance (Gould, Guinan, et al., 1999).

Athletes indicated that coaching related issues were an important performance factor. Athletes who met or exceeded expectations reported the positive impact of coach contact, trust, and friendship, while athletes who failed to meet expectations reported the negative impact of coach conflict. Research in the area of coach-athlete relationships is sparse, yet based on the findings of the present study, athletes perceive coach contact, trust, and friendship as important factors influencing performance. Similarly to the findings of the present study, Vernacchia et al.'s (2000) results indicated the importance of the coach-athlete relationship, athlete trust in their coach, and coach guidance in training. The athletes in the present study were consistent in indicating the negative impact coach-athlete conflict can have on performance. Results from focus group interviews with US Olympians whose teams met or failed to meet NGB performance expectations also identified coaching issues, such as lack of coach-athlete trust, poor coach-

athlete communication, and negative coach attitude, as factors that negatively impacted performance. Given these findings and few studies examining the impact of coach–athlete issues on performance, research in this area is needed.

An interesting finding of this study was the common characteristic of attitude of athletes who met or exceeded performance expectations. Athletes who met or exceeded expectations viewed the Olympics as their “time to shine.” Similar to the present finding, Garfield and Bennett (1984) found that elite athletes described feeling confident and optimistic during extraordinary performances. Additionally, Jackson (1995) found that elite figure skaters indicated that confidence and positive attitude were important antecedents to flow.

Issues related to team selection had a major negative impact on athletes who failed to meet performance expectations. This finding concurs with the results of Orlick and Partington (1988) indicating that late team selection was one factor, which negatively impacted performance. Additionally, recent research by Woodman and Hardy (1998) has shown the importance of considering organizational stressors, such as sport politics and poor administration, in studying peak performance.

Strengths and Limitations

The current study has several strengths and limitations, which need to be understood in interpreting the results. First, the participants reported both positive and negative factors, indicating a cooperative and honest approach to the interviews. Second, a wide variety of factors were discussed in relation to performance, including not only psychological factors, but also physical, social, and environmental factors. Thus, the study provides a broad holistic view of performance-influencing factors in the Olympic environment. A third strength of this study is that the sample included athletes from both Summer and Winter Olympics and from a wide variety of sports.

The main limiting factor of this study is the potential memory bias and/or attribution effects due to the retrospective design. Therefore, caution must be taken in interpreting the results from the individual athlete interviews. Differences in positive and negative factors discussed by the athletes may have been due to the respective outcomes experienced by the athletes (either meeting/exceeding or failing to meet performance expectations). In other words, athletes who met or exceeded expectations may

have interpreted their Olympic experience focusing only on positive factors, while ignoring or blocking out any negative factors that may have been experienced. Athletes who did not meet expectations, may have reflected back on their Olympic experience as negative. Thus, the results need to be interpreted with some caution.

The results of this study could also be criticized by some for its lack of depth relative to exploring the nuances of performance influencing psychological factors. For example, confidence was identified as a factor influencing performance and the interviewer probed to be sure she understood how confidence influenced performance for the athletes who identified it as such. However, additional follow-up probing based on Bandura's (1977) theoretical contentions into the nature of self-efficacy was not undertaken. The reason for this was twofold. First, the overall purpose of the research requested by the USOC was to identify all positive and negative performance influencing factors, not to explore a few in depth. Second, these interviews were conducted with some of the most successful and subsequently high profile US Olympic athletes. Given their time schedules it was extremely difficult to get them to volunteer and schedule them for one interview, much less conducting follow-up interviews. Nevertheless, the lack of depth in probing specific psychological factors is a weakness.

Finally, a common concern in investigations using qualitative methods, purposeful sampling, and small sample sizes (like the present investigation) is the issue of generalizability. Moreover, generalizability in naturalistic/qualitative studies is not used the same as it is in traditional/positivistic research (Patton, 1990). In fact, from an epistemological perspective many qualitative researchers argue generalizing results in the traditional sense is almost impossible because human behavior is mediated by the context in which it occurs (e.g., Lincoln & Guba, 1985). In contrast, they suggest that authors moderately extrapolate and discuss the transferability of their findings beyond the narrow confines of a particular study, while, at the same time providing enough description about the context and participants that readers can make the decision as to whether results are applicable to other settings and with other individuals. Hence, by providing a rich enough discussion of Olympic performance influencing factors readers can judge the applicability of the present findings to other athletes and contexts. The reader, then, is ultimately asked to judge the applications of these findings for use with other athletes in other settings.

Concluding Remarks

In summary, Atlanta and Nagano athletes experienced numerous positive and negative performance factors and some evidence of group differences emerged between athletes who met or exceeded expectations and athletes who failed to meet expectations. Important implications can be drawn from the findings of the present study. For example, while general trends and factors of performance influence were found and provide useful principles for guiding practice, the individual interviews also showed that these general principles must be considered relative to each athlete's personal orientations and situational context. Moreover, while the general principles identified in this and other peak performance research should be used to guide practice, they must be customized relative to each athlete's unique psychological make-up and performance context. Additionally, in consulting with elite athletes, recognizing the complex nature of the numerous controllable and uncontrollable factors of both a psychological and non psychological nature that can influence performance is essential. As one Olympian said, "more than anything athletes need to have a routine established and they need to stick with that routine and take refuge in that routine because at the Games, everything changes." The present findings also suggest the need for future research in the areas of coach-athlete relationships, the importance of physical training while avoiding overtraining, the influence of one's attitude toward important competitions on performance, and the impact of organizational stressors (such as late team selection or NGB politics) on performance.

These results also demonstrate how sport psychology researchers can address two of Griffith's (1925) original functions of the field. First, they show how the scientific method can be used to help practitioners (USOC officials) deal with practical problems in the field (e.g., determining why some teams and athletes perform well in Olympic competition while others do not). And, second, they are consistent with Griffith's contention that sport psychology researchers must study experienced and successful athletes and coaches for the purpose of identifying the psychological principles they employ and then disseminate these principles to less experienced and successful athletes and coaches. In fact, consistent with this second purpose, these results are being used to help athletes and coaches prepare for the Sydney and Salt Lake City Games. In conjunction with the USOC Sport Science and Technology Division an educational video for athletes and a series of five brochures and checklists were developed and

disseminated. Therefore, this research is being used to help athletes and coaches better prepare for optimal Olympic performance and in so doing solve practical problems for those involved in sport while also contributing to our body of knowledge: linking research to practice.

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