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Sources of Stress in NCAA Division I Women Ice Hockey Players

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ABSTRACT

The purpose of this study was to identify the sources of stress experienced by NCAA Division I women ice hockey players. Individual interviews consisting of open-ended questions were carried out with six elite athletes. The results of the qualitative analysis identified three main categories of stress: (a) *hockey pressures*, which included the transition to and the advantages of playing Division I hockey, as well as performance stressors and training concerns, (b) *relationship issues*, which included the athletes' concerns with relationships in their personal lives, and (c) *educational demands*, which included academic and time concerns relating to their studies. The results of this study revealed that the primary source of stress emanated from the game itself and adapting to higher expectations, intense scrutiny, and higher caliber of play.

Introduction

Manuscript accepted for publication in: Athletic Insight: The Online Journal of Sport Psychology, <http://www.athleticinsight.com/index.htm> Running Head: Sources of Stress Athletes, regardless of level of competition, sport, or gender, must train in intensely physical, psychological, and emotionally stressful environments (Hardy, Jones, & Gould, 1996). As such, they must develop skills to overcome various life stressors (e.g., Gould, Guinan, Greenleaf, Medberry, & Peterson, 1999; Nicholls, Holt, & Polman, 2005). Research has recently taken different approaches in the examination of stressors by using either quantitative or qualitative

methods to evaluate different components of stress. A large body of quantitative research has examined competition-induced stressors before, during, and after competition (e.g., Halvari & Gjesme, 1995; Hanton & Jones, 1997). Other areas of research have examined qualitatively stressful elements within and out of sport, including athletes' personal, professional, and academic lives (e.g., Gould, Jackson, & Finch, 1993; Holt & Dunn, 2004; Miller & Kerr, 2002; Noblet & Gifford, 2002). The results of this research have provided an understanding of stress in sport with respect to level of competition and gender as well as a foundation for the further study of the experiences of high level athletes. However, research has yet to explore stressors unique to the population of university athletes, particularly with women university athletes. Moreover, the majority of stress research has been carried out with mixed gender or only with male athletes, in spite of reported gender differences of the experiences and emotional reactions to stress (Rudolph, 2002). In general, women university students have expressed higher levels of stress in adjusting to campus life than men (Shields, 2002).

More specifically, academic stressors experienced by university athletes have been identified (Miller & Kerr, 2002; Settles, Sellers, & Damas, 2002). Miller and Kerr listed athletic, academic, and social stressors experienced by men and women Canadian university athletes in a variety of sports. One notable finding was that athletes experienced conflicts between student-athlete roles and complained that as a result of the amount of time training, and the resulting fatigue, academic performance suffered. Unlike the National Collegiate Athletic Association (NCAA) guidelines in the United States, Canadian student-athletes do not receive athletic scholarships like their NCAA Division 1 (DI) counterparts, and thus may not experience the same types of stress related to the retention of scholarships (Miller & Kerr, 2002) while receiving considerable mentoring from coaches (Miller, Salmela, & Kerr, 2002).

The issue of scholarship stress has been addressed in reports of the counseling services available for student-athletes (e.g., Ferrante, Etzel, & Lantz, 2002; Howard-Hamilton & Sina, 2001). Howard-Hamilton and Sina noted that the failure of a student-athlete to maintain a balance of athletic, academic, and social aspects of their lives resulted in feelings of personal dissatisfaction, increased stress, psychological problems, and athletic ineligibility. Given these significant by-products of athletic participation, the unique aspects of women participating in DI sports have not specifically been examined.

As women's roles in society change, so do they in sport. Research relating to the social context of women's sport has included issues of sexuality, body image, and eating disorders (Cahn, 1994). In addition, the structural and philosophic changes within women's sport as a result of Title IX within the NCAA revealed that women experienced value alienation, role strain, role conflict, and exploitation (Blinde, Taub, & Han, 1993). Given the fact that participation in women's sport is increasing, it is surprising that research in such areas remains underdeveloped. More precisely, the literature regarding NCAA Division I women athletes has yielded scant literature, even though participation levels have doubled from 1981 to 2000 (NCAA, 2001). There has been even less consideration of women's ice hockey even though enrollment in North America has increased over 600% in Canada and the U.S. between 1990 and 2000 (Canadian Hockey, 2002; USA Hockey, 2002). The only examination of women's hockey in the United States has focused on collective identity formation (Pelak, 2002). In Canada, research has examined other psychosocial aspects of women's ice hockey, such as aggression (Vanier, Bloom,

& Loughead, in press), perceptions of instruction, participation, and withdrawal motives (Boyd, Trudel, & Donohue, 1997) and physicality and gender issues (Theberge, 1997).

In sum, despite a plea from Gould, Horn, and Spreeman (1983) over 20 years ago to focus more on women, a paucity of research still exists on elements of stress on elite women in team sport. Further to this, Gould et al. (1993) encouraged stress in sport research to use alternative methodologies, such as in-depth interviews. Qualitative studies of stress in sport have been carried out with mixed or all male samples in elite figure skating (Gould et al., 1993), professional Australian football (Noblet & Gifford, 2002), youth and intermediate level golf (Cohn, 1990; Giacobbi, Foore, & Weinberg, 2004), and elite Canadian intercollegiate athletes (Miller & Kerr, 2002; Miller, Salmela, & Kerr, 2002). Thus, there appears sufficient need to qualitatively investigate sources of stress of elite university women ice hockey players.

Method

Participants

Six NCAA DI women ice hockey players participated in this study. The athletes played on the number two ranked team which was a member of the oldest and largest women's university hockey league in the United States. Two athletes representing each of the first three years of the program were invited to participate, having just completed their freshman, sophomore, or junior years. The ages of the participants ranged from 19 to 22 years with the mean age being 20.2 years. The participants included five forwards and one defenseman. The athletes were all consistent starters on the team. Demographic information, such as campus living arrangements, grade point average, academic major, scholarship status, and family members involved in hockey were collected from this sample. The participants lived in the same dorm and five out of six lived in the same suite. The grade point average for the sample ranged from 2.5 to 3.4 with a mean of 3.0. Half of the participants had been named to the All-academic team for the previous season, which meant they had completed at least one academic year, had a cumulative grade point average of at least 3.0 on a 4.0 scale, and competed in at least 50% of the games during that season. All reported siblings, parents, or grandparents being involved in hockey and two of the participants had close relatives involved in professional hockey.

Instrument and Procedure

The players were contacted by phone, informed of the nature of the investigation, and invited to participate. They were interviewed individually over a period of one week during preseason training. Each participant read and signed a consent form and completed a brief demographic questionnaire.

An interview guide with a series of open-ended questions was specifically created for this study. The first question, designed to initiate discussion, centered on sources of enjoyment (e.g., "What do you enjoy most about being a DI athlete?"). This question also related to previous research which revealed that some of the areas of enjoyment for athletes were also sources of stress (Scanlan, Stein, & Ravizza, 1989, 1991). The second and third questions focused on situational and environmental factors (e.g., "What do you enjoy least about being a DI athlete?")

and “Does anything surprise you about playing at this level?”). These were based on research that indicated unexpected stressors were perceived by athletes as more threatening than expected stressors (Dugdale, Eklund, & Gordon, 2002). The athletes were then asked to discuss any stressors they felt in relation to their overall experience as DI ice hockey players (e.g., “Could you name 4 or 5 things about being Division I athlete that make you feel pressure or are stressful for you?”). The concluding phase permitted the participants the opportunity to provide any additional information. Interview probes, conversational repairs, and follow-up questions were used to add depth and clarity to the participants’ answers by pursuing the emerging central themes and allowing for elaboration upon previous viewpoints (Patton, 2002; Rubin & Rubin, 1995).

A single researcher carried out all of the interviews to ensure consistency in data collection. The participants were reminded that the discussion involved their overall experience as Division I athletes, not just one particular facet thereof. The researcher informed the participant’s that the interview would be audio recorded and that a full verbatim transcript would be returned for confirmation and editing before analysis. Confidentiality was protected through the use of a coding system that replaced each name with a number (i.e., IH1, IH2, through IH6); as well, any potentially identifying information (e.g., home town, previous teams played for) was also replaced or disguised.

Data Analysis

The interviews were analyzed using the procedures outline by Côté and colleagues (Côté, Salmela, Baria, & Russell, 1993; Côté, Salmela, & Russell, 1995). The software program NUD*IST 4.0, specifically designed for the analysis of qualitative data, was used to ensure that data was not lost or misplaced during the analysis. The objective of the inductive content analysis was to identify core consistencies and meanings so that properties and categories could emerge from the data (Patton, 2002). Three procedures were employed in the data analysis, the formation of meaning units (MU) and properties, followed by the organization of these into the higher order categories.

The interviews were transcribed verbatim with only minor editing, such as changing names that threatened confidentiality and adding relevant information in brackets to clarify ambiguous text segments (Côté et al., 1995). The transcripts were broken down into MU, or citations, which comprised a single, coherent thought (Tesch, 1990), and were then assigned a name or tag reflecting the content. It was possible for multiple MU to receive the same tag. Common features among the MU were then identified. This procedure involved comparing MU with similar tags and grouping them together into distinct groupings called properties (Côté et al., 1993). The property reflected the common or shared features of the MU, e.g., “playing time” and “letting the team down” were grouped into the property of “hockey performance stressors”. Third, the properties were compared for common features and then organized into larger and more embracing categories. For example, the properties of “training concerns” and “hockey performance stressors” were combined into the category of “hockey pressures”. The data were examined until a saturation of understanding was reached and no new categories of information emerged at all levels (Côté et al., 1995).

Trustworthiness

A number of techniques were used to ensure the trustworthiness of the data collection and analysis (c.f., Lincoln & Guba, 1985; Sparkes, 1998), including peer review and member checks. The peer review process took place independently of the principal researcher. A research assistant was presented with a random sample of 25% of the MU and was required to place them under the tags that best identified each item and a reliability level of 81% was obtained. Discrepancies in classification between the primary researcher and the assistant were discussed until agreement was reached. The research assistant also classified the 45 tags into the nine properties and reached a 96% consensus rate. There was 100% agreement in the placement of the nine properties into the three categories.

Member checks were used in order to further improve credibility of the results. This involved presenting the data, determined categories, interpretations, and conclusions to the interviewed athletes. This provided the players with an opportunity to correct factual errors and to ensure adequate representations and conclusions. After the data were analyzed, each participant was sent a summary of the results and conclusions to review, comment upon, and suggest any corrections or areas requiring clarification (Lincoln & Guba, 1985). Five of the six participants completed the member check and confirmed the information sent to them.

Results

This study yielded a total of 314 MU from the six interviews. From this, three higher-order categories and properties emerged from the data, which identified and described the sources of stress experienced by the hockey players. The categories, in terms of numbers of meaning units, were labeled *hockey pressures*, *relationship issues*, and *educational demands*, respectively (Table 1). The differences in number of meaning units per athlete and category varied in number. This difference can be attributed to the open-ended nature of the interviews, where boundaries were not imposed on the participants.

Table 1. Higher-Order Groupings of Stressors with Frequencies as Expressed by Participant

Categories and Properties	<i>n</i>	IH1	IH2	IH3	IH4	IH5	IH6
Hockey Pressures	142	25	17	29	10	34	27
Advantages of Playing D I	53	12	5	14	2	8	12
Hockey Performance Stressors	59	8	5	14	4	19	9
Training Concerns	19	3	3	0	4	6	3
Transition to NCAA	11	2	4	1	0	1	3
Relationship Issues	98	17	16	8	24	19	14
Family and Significant-Other Relationships	22	5	6	0	6	3	2
“Hockey Family” Relationships	47	8	3	7	14	7	8
Social Concerns	29	4	7	1	4	9	4
Educational Demands	74	13	8	15	16	10	12
Academic Concerns	33	11	1	10	5	3	3
Time Concerns	41	2	7	5	11	7	9
Totals	314	55	41	52	50	63	53

Hockey Pressures

The category of *hockey pressures* referred to the demands and rewards that the players contended with as a result of their elite level of participation, as well as the adjustments required to play at that level. The labels given to these groupings of hockey pressures were: the advantages of playing DI, hockey performance stressors, training concerns, and the transition to the NCAA.

The advantages of playing hockey included the satisfaction, fulfillment, and challenge that the athletes felt as a result of their hockey participation in a DI sport. The athletes' love of playing high level hockey received a lot of meaning units ($n = 53$). The athletes underlined the personal importance of playing DI and their love of the overall experience:

I think playing a Division I sport is the best experience for any female athlete because that's basically it, unless you go to the Olympics. When I have kids I hope they can have the experience that I had. I think when I enter my final (senior) year of university that I will finally realize all that I have gotten. I have had great coaching and I have had a great experience here. [IH6]

The hockey players discussed the increasing skill level of the most recent additions to their team, as well as the skill of the league as a whole:

What really surprises me is that, even though I am only a junior, the two classes that have come in after me have been so strong. I'm sure it has to do with the recruiting, but I also think there's a lot more players of a higher caliber out there. That's really exciting for the sport. [IH2]
In high school, every team had one or two good players, but here the team is solid. Every team in this league has the best players from the United State and Canada; every girl can play hockey, its not just one or two that are good out there and can score goals and win. [IH3]

The recognition that the athletes received as a result of their participation in such a highly visible program was discussed and they noted that people in the area, as well as those from home, were very interested in and supportive of the athletes' participation:

People come up to you and ask how practice was today, but you have no idea who the people are. The teachers always ask you how hockey is going. Even people in town know you, like in the bank, when you say your name and they ask, "How's hockey?" Fans, such as super fans, like to talk to you. They recognize you as someone different from just everybody else. I'm not trying to be cocky, it's just different. [IH5]

The property labeled hockey performance stressors focused on the difficulties that arose from pre-game and on-ice situations and was the largest grouping with 59 MU. The athletic performance concerns that the athletes discussed included the pressure of performing in front of people and achieving an expected level of performance. Consequently, the athletes also considered "making mistakes during practice or a game because if I screw up, maybe I won't play in that game and I worry about that a lot" [IH1]. The pressure that the athletes put on themselves was strongly related to feelings of competitiveness, fulfilling expectations the athletes have for themselves, securing playing time, and not wanting to fail:

I think it's harder too, with girl's Division I sports, in that most teams don't have the depth that a guy's team has; you have players that play a lot and players that don't play at all. I think that can also cause conflict because I don't know what I would do if I didn't play. When you are so used to something, you're so competitive, and all of a sudden be told, ok you're not playing this game. I can't lie, but we have some great girls on our team that deal with it, and they're good. [IH4]
I might not be playing a regular shift and that also causes me stress. During the week at practice, if I don't play well, then I worry about whether I am going to play, especially this year because

we have a big roster. It's definitely the amount of playing time and whether or not you'll make the line up. It's always up in the air. [IH2]

The grouping of training concerns was associated with on- and off-ice training. It included health concerns, nutrition, physical training issues, and work ethic. Health concerns and nutrition each had one MU and were focused on staying healthy during the season and eating properly. The physical training issues discussed included not having experience with weight training prior to entering the program:

When I came here, I had never lifted before. I came in here in the spring and the assistant coach was showing me all these things. I didn't know what I was doing and I didn't know what to expect. I was really nervous about that, but it ended up not being bad. [IH1]

Other training concerns centered on feelings of boredom with workouts and maintaining self-motivation to work out hard on a consistent basis:

It's stressful to be able to perform in each practice when you're tired, your mind is not into it, or something else is going on. It's stressful on you, but something gets stuck in the back of your mind and after practice you think, "I played so badly", but it happens to everybody. [IH5]

The transition to the NCAA was the smallest property with 11 MU and included the pressure that the athletes faced prior to and upon entering the program and the adjustments they had to make in their new environment. It was also related to the amount of attention they received as a result of being in a DI program:

I am talking about women's hockey because in any women's hockey you are always second to men's hockey or they don't really pay attention to us; here it is different. Here you have your ice time, you can go on the ice whenever you want, you've got your coaches there, you've got the recognition from people around you, and you travel together, you fly or you take a bus. I just feel like it's a pro team because you get all the attention, you get most of what you want, and it's always there for you. I am especially talking about when we went to the Frozen Four [National Championships] my freshman year. It was so professional. They had interviewers coming in your room after the game and talking to you. They had press conferences and stuff like that, which is really impressive. I feel like a pro athlete because you get so much attention. [IH5]

Relationship Issues

The category of *relationship issues* referred to the athletes' concerns with relationships in their personal lives, with family members, friends, and members of their hockey community.

The topic of family and significant-other relationships consisted of the concerns about parental pressure and parental support because "when you're a kid playing, they're the ones that feed you then take you to practice at 5:00 AM so you kind of owe it to them to do well in hockey and school" [IH6]. The athletes discussed their boyfriends and noted the difficulty of spending time with them because they themselves had such full schedules:

It makes me a little stressed sometimes because we don't have very many weekends off, but it's just the way it works. I talk to my boyfriend everyday, it's not like I don't have time for that, but I'd love to see him more, see my parents more, my family more, but now is not the time it's going to happen. [IH2]

The property of "hockey family" relationships focused on the interactions within the hockey community including the men's and women's programs. This property was called the "hockey family" relationships because that is the term that one of the athletes used to describe the relationships within the hockey community:

Our school is so small and our hockey teams here get a lot of attention, nothing happens to one person on a hockey team without both the men's and women's teams, and all the coaches, knowing about it. Nothing happens without the hockey family knowing. We all say one big family and whatever happens in this rink stays in this rink. [IH4]

Even though the hockey team shared a close relationship with the coaches, concerns were voiced about the suitability of the coaching style adopted for a men's team and applied to a women's team:

There's even the coaching side of it that can sometimes be stressful. For him coming from a men's program to a women's program, it was different. His first year he would get so frustrated because he could go out and yell at a guy on the ice, like "smarten up, get your ass in gear" and they'd be fine, but yell like that at some of the girls on our team, they'd cry. I think it has been a slow process for him to transition. [IH4]

The close connection shared by the hockey community was the most evident in the following quote about the bond between the teammates:

I made a lot of great new friends for sure. I live with seven girls on our team right now and they're like my sisters; we're getting closer and closer every year I think. It's tough to see girls go, but you make great friends and meet a lot of great people; thousands of great people like from hockey and it's unbelievable. [IH3]

Although the athletes emphasized how close the teammates were to each other, three of the athletes discussed the amount of talking behind backs that takes place within the team and how that negatively affects the team:

In girl's sports there is a lot of talking behind backs; it's like any sorority. It's kind of like a cancer throughout the team because when it starts, it doesn't really stop until it's talked about; some people know what's going on and others don't. The team has been really good with that this year though. It's been worse in previous years. [IH6]

The social concerns that the athletes discussed related to the difficulties of having a fulfilling social life because as one athlete stated, "Sometimes you want to go out and have fun during the season, but you don't really have that much time. It's all worth it in the end, but some Friday nights I wish I could go out" [IH6]. Another athlete noted that "if you are a serious Division I

athlete, you're social life takes a beating a little bit, especially if you're serious in hockey and in school. I would say that's the only bad thing about it" [IH5].

The athletes also commented on the additional attention and scrutiny that these athletes faced as a result of participation in the program:

Off the ice, I am afraid to make a stupid mistake socially or do anything that would not only embarrass myself, but the team. I don't think it'll happen to me, but I don't want that to happen... Like getting in trouble with the police or stuff like that. That's what I don't want to happen. I don't think the coaches would like it either. [IH1]

The negative perceptions that were held by people outside of hockey were discussed by half of the athletes:

You want to do well so people on all the other sporting teams don't think that it's such a waste of money that these girls or these guys get to do everything and get everything given to them, even though we don't... It's kind of like we want to prove them wrong, that we deserve what we get, and that we work hard for the scholarships. [IH2]

Educational Demands

The category labeled *educational demands* reflected the pressures athletes faced as they tried to balance their educational goals with their athletic pursuits, including the properties of academic concerns and time concerns. Academic concerns included maintaining acceptable grades and protecting their eligibility. They discussed how participation in ice hockey affected their academic functioning, such as completing schoolwork, getting good grades, and making up schoolwork:

Sometimes I take a break, but if I want to keep up and get good grades, I can't slack off. I am talking probably 3-4 hours every day for school work to keep up and get good grades, but that's just me. I need to work hard to get good grades because it takes me a long time to learn and do schoolwork. [IH5]

In addition, the academic pressure they felt from others came from a variety of sources including the coaches, professors, and roommates:

I guess at a smaller school like this one, academics are just as important. Teachers are always saying to you that your school work comes first. Individual players are trying to maintain the right grade point average just to play. I can't imagine not keeping that average and having to sit out because of my academics. That stresses me out sometimes. [IH3]

The time concerns discussed included the difficulties the athletes felt as a result of having extremely full and taxing daily schedules that were packed with activity. Many of the participants echoed this statement of their daily routine where a typical day "usually consists of waking up, going to classes, working out for hockey, and doing work for the rest of the night" [IH5]. Some of

the athletes gave a more detailed explanation of a normal day:

In the preseason I get up, eat a good breakfast, then go to class, have some lunch, go to another class, and go right to the rink. We either practice at 4:00 or 6:30 PM. If we don't practice until 6:30, I might slip back to my room to get something to snack on or do some work. Most of the time I can't do work before practice because it usually doesn't happen that way. We get finished with practice, go right to the dining hall, eat some dinner, go home, do work, and start all over the next day. That's about it. [IH1]

The intense time commitment required for the sport of hockey surprised most of the athletes because of the difference in the amount of time spent training at lower levels of hockey as opposed to the DI level:

I didn't realize the extent of how much time was required. Everyone says you're getting paid to play a game, but it's a lot of work. Every other weekend I am gone for three days and then everyday I am at the rink for five hours. It's a lot of time. That kind of surprised me because I wasn't used to, first of all, being on the ice every single day of my life, but being there for that long. That was a bit of a shock to get used to. [IH4]

Time management was the second most often discussed concern (with 22 MU) and was mentioned by all athletes, and particularly the challenge of maintaining a balance between school, hockey, and leisure activities:

My sophomore year I started getting anxiety attacks because it's hard to balance the hockey, training, school, and then relationships and a social life. When you're trying to budget your time between all those things, sometimes you run into some trouble; you stay up too late and then your performance decreases. [IH6]

The time concerns also included opinions about the amount of traveling. This encompassed both the enjoyment of traveling, including getting to see new cities, as well as the potential drawbacks that traveling had on academic functioning:

We leave Thursdays, sometimes Friday mornings, for road trips. I miss classes Thursdays and Fridays so it depends on how many road trips we have. Last semester, I missed four or five classes so that takes up extra time. We basically have to do our homework on the road because we don't get back until Sunday or Saturday night late. During exam times, we had games away or at home. A lot of our girls had to study on the bus and take an exam that morning when we got back, so it's just tough. I've had to take exams on the road because I'd miss them on a Friday and they'd make us do it with our coaches. [IH3]

Discussion

It is of little surprise that the categories that emerged for the sources of stress of elite university women's ice hockey players were primarily due to training and competing in the sport itself, which then affected stress from relationships with coaches and teammates, both positive and negative. Many of the reported verbal episodes related directly to adjusting to a new and

more professionally demanding environment where they were often playing lesser roles among highly skilled teammates and opponents. Miller and Kerr (2002) reported that these transitional states during the entry years were often facilitated by nurturing networks of fellow players with whom they had competed during the pre-university portion of their careers.

While Pelak (2002) and Theberge (1997) reported that club and elite women ice hockey players were often playing in disadvantaged conditions with inconvenient practice times and inadequate support compared to men, this was not as true in the present study. The progressive athletic policies in this particular university setting were such that practice schedules for the men's and women's teams were rotated daily to provide equal access to early and late practice sessions as well as for off-ice training facilities. Reports such as that of Pelak using a case study methodology must be viewed with caution since they can sometimes bias the more generalized situations for women in sport.

Actually, one of the stressors reported within the context of playing hockey actually turned out to be of a very positive nature. Some of the players reported that they were never introduced to such state of the art off-ice training facilities and human resources before entering this university program. These provided positive benefits for their performance, but their unfamiliarity with such riches, was in itself stressful. Similarly, the hockey specific stresses that had both positive and negative valences were their encounters with players of equal or surpassed ability both in practice and competitive situations. Of particular interest, was that these potentially stressful rivalries were often transformed from being negative threats into more positive challenges. Similarly, Miller and Kerr (2002) reported that when all of the pieces were well balanced within a sound athletic-academic context, the weight of negative sport experiences for women was tempered, if not totally negated.

The second major source of stress included both positive and negative aspects regarding interpersonal relationships with both coaches and new teammates. In the former case, they felt initially overwhelmed by the availability and access they had to various paid coaches in the university compared to smaller coaching teams of volunteers with whom they had previously trained in other settings. Contrary to the literature focusing on team sport participants, (cf, Noblet & Gifford, 2002), the ice hockey players in this study did not have a predominantly negative perception of their relationship with their current coaches. While the coaches were extremely demanding within competitive settings, they also showed great concern about the academic progress of their athletes. Similar concerns about intercollegiate coaches and their attempts at mentoring players within the Canadian university sport context have recently been reported (Miller et al., 2002; Vallée & Bloom, 2005), but in these cases, the academic demands were primary, since the scholarship possibilities and substantial travel budgets were not the rule. In the present case, given their dual athletic-academic roles, the players felt even more pressure because of their attempts to please their coach in both domains.

Of particular interest was also the pressure that some male family members put on the performance outcomes in hockey. These stresses accentuated outcomes such as scoring goals and accumulating victories, and often conflicted with the process objectives of the players such as having fun, enjoying social interactions, and raising their profile. However, this new status also generated stress since they now became role models for other students and they had to be careful

about their public images as they did not want to be the source of any embarrassment to the ice hockey program (Miller & Kerr, 2002). A related issue was that classmates outside of the athletic context were often critical of the fact that the players received significant funding through their scholarship assistance by playing women's hockey. While there were stressors that emanated from outside of the ice hockey context, there were also those related to negative relationships with teammates. It was reported that the formation of cliques and sporadic gossiping occurred, but the effects were minimized by airing things out in team meetings and by looking to leadership from veterans on the team.

Finally, the third major category related to stressors in elite women's hockey was in relation to the increased educational demands resulting from their participation in ice hockey. This balancing of academics and athletics has been previously found to be stressful by Cohn (1990) in youth golf and by Noblet and Gifford (2002) in Australian football. The direct role conflict occurred in the desire to represent the university well and at the same time, to maintain academic eligibility, and its contingent financial support. This pressure to maintain academic eligibility was not a salient stressor in some previous studies on women ice hockey players because they did not focus on varsity teams in the university setting (Pelak, 2002; Theberge, 1997). Studies carried out with their university populations did not encounter such acute pressures because they involved Canadian university athletes whose athletic performance was not compromised by academic results, given the absence of athletic scholarships (Miller & Kerr, 2002) and effective academic monitoring (Miller et al., 2002).

Of particular interest within the context of the sport of women's ice hockey, was that these academic-athletic stresses were different for these women. Aside from the possibilities of representing their nation and the resulting small financial rewards in doing so, the maintenance of their academic status, and their university scholarship, is even greater since this phase may be the end of the line in their sport with these financial benefits. In women's sport, ice hockey does not have a structure comparable to basketball or volleyball where there are employment possibilities in semi-professional leagues in Europe, the United States, and South America.

As this was an exploratory study into various factors specific to elite DI women ice hockey players, one must exercise caution when generalizing these results to other elite women team sport athletes (cf, Holt & Hogg, 2002). While the current study included participants that received significant playing time, future research might address concerns associated with athletes that primarily play a supportive role on teams. The present study focused on forwards and defensemen, therefore research on goaltenders might yield new areas of stress due to the unique nature of the position. It might also be interesting to examine the possible change in stressors over the four years of eligibility. The more senior students mentioned being less stressed as they gained experience and learned how to better manage their time. Along the same line, are there any differences between expected and unexpected stressors? Since the participants competed in a Division I program in a Division III school, and thus received lots of attention, future research could explore the stressors experienced by women ice hockey players in Division I schools where the focus may be less on the ice hockey program than was the case in the university from which our participants were drawn. Finally, it must be remembered that all of the participants played on the same team.

In sum, many of the issues regarding the evolving roles and accompanying stressors of women participating in high level sport appear to be well suited to analyses of a qualitative nature. However, research on the multifaceted nature of these challenges of the perceptions of stress with women in high level sport, using such methodologies, is still relatively scarce (Holt & Dunn, 2004; Holt & Hogg, 2002; Miller & Kerr, 2002; Miller et al., 2002). However, in light of the present study, these young women experienced, and apparently balanced, normal stressors associated with most fields of accomplishment, and that, on the whole, the environment within this context was more kind and caring than previously reported for women's sport (Pelak, 2002; Theberge, 1997).

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