

Researching Sports Injury

Reconstructing Dangerous Masculinities

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In Canada, the systematic sociological study of sports injury was pioneered quite recently by Michael D. Smith (1987, 1991; Weinstein, Smith, & Wiesenthal, 1995), whose research posed preliminary questions about the social, physical, and legal implications of injury. Concomitantly, a body of research literature on aggression, injury, and pain in sport has emerged across North America (Curry & Strauss, 1994; Messner, 1992b; Nixon, 1994a, 1994b, 1996b; Rail, 1990, 1992; Young, 1993; Young, White, & McTeer, 1994), much of it raising critical questions related to gender dynamics. Although we acknowledge the importance of physicality and injury in the lives of female athletes and continue to work in that area (Young, 1997; Young & White, 1995), this chapter examines the physical hazards of hegemonic masculinity codes for male athletes. Specifically, we attempt to show how social processes producing dominant forms of masculinity and popular sports practices interact to systematically produce injury, disability, and even death.

Our analysis begins with a sociological discussion of masculinity and masculinities. Here, we address the debate on masculinities as social constructions, suggesting that relations of power are fundamental to theorizing not just the gender order but also what have been identified in the literature as "hierarchies" of masculinity (Bird, 1996; Connell, 1987, 1995; Hearn, 1992; Kimbrell, 1995; Pyke, 1996; Segal, 1990). From this understanding, we explore the notion of "dangerous masculinities," critically interrogating the extant research on damaged male bodies. Using primary and secondary data sources, we then present evidence for the case

that gendered norms in sport often have deleterious consequences for male participants. In arguing our case, we use both quantitative evidence from various Canadian and international sources on the extent and nature of serious injury across different types of sports and draw on our qualitative research on the experiences of seriously injured male athletes in Canada (White, Young, & Gillett, 1995; Young, 1993; Young & White, 1998; Young et al., 1994). We conclude by asking some questions about the need to reconstruct dangerous masculinities and by proposing some directions for future research.

Because it is one of the aims of this volume to underscore the reflexivity that men bring to their lives, we think it important to acknowledge that we arrived at research into sports-related pain and injury, at least in part, through direct experience. We mention this because we have learned that when we raise questions regarding violence, aggression, and sport, a common response by some people (predominantly men) who seem threatened by such challenges often follows the doubtful logic contained in questions such as "Oh, yeah? Have you ever played contact sports? Have you ever been injured?" Fortunately (and unfortunately) for us both, the answer to both of these questions is "Yes." Both authors had prolonged and active careers in soccer and rugby, both have been hospitalized with serious injuries, and both currently endure ongoing physical discomfort directly attributable to injuries suffered when younger. We are also both men. Having said that, of course, our personal biographies hardly count as scientific evidence that males suffer sport injuries more or differently than do females, nor do they identify sports injury as a particularly serious social problem. However, what they do is to acknowledge our complicity in the production of dangerous masculinities that, at the very least, puts us in a nuanced position to speak on these matters. This chapter, then, examines how a combination of dominant forms of masculinity and taken-for-granted ways of playing sport combine to exact a considerable toll on the physical well-being of many males.

Masculine Rules, Masculine Consequences

Hierarchical Masculinities

Current thinking about masculinity ranges from social psychological sex role theory, to feminist models of masculinities under patriarchy, to models based on notions of rediscovered "traditional" masculinity emerg-

ing from the "mythopoetic" movement. Kimmel (1992) indicated what has been made clear from this debate:

Definitions of masculinity are constantly changing. Masculinity does not bubble up into behavioral codes from our genetic makeup, nor does it float in a current of the collective unconscious, waiting to be actualized by any particular man and, simultaneously, all men. Masculinity is socially constructed, changing (1) from one culture to another, (2) within any one culture over time, (3) over the course of any individual man's life, and (4) between and among different groups of men depending on class, race, ethnicity, and sexuality. (p. 166)

To understand how gender is socially constructed, we emphasize the importance of relational processes that are suffused by power differences between women and men, but also between men and other men, and women and other women (Sabo & Gordon, 1995). These processes are dialectical because people both live within and are socially constrained by social structures; they also operationalize human agency in how they experience and construct their gendered lives (Whitson, 1984; Young, 1993).

Hierarchical masculinities have been subject to extensive theorizing in recent gender studies (Connell, 1987, 1995; Hearn, 1992; Morgan, 1992; Rutherford, 1992; Segal, 1990). For example, researchers have attempted to explain the processes through which power and privilege are differentially allocated within and between groups of men. Processes occurring within intermale dominance hierarchies themselves operate within other systems of social stratification, as Sabo and Gordon (1995) observed:

Some critical feminist approaches are attempting to fill the need for a conceptual scheme that theorizes the varied and shifting dimensions of male domination as they interact with other forms of social domination. The term *multiple systems of domination analysis* has been used to describe these efforts. What we are suggesting is that the adaptation of feminist theory . . . needs to somehow address the differential exploitation of lesser-status, marginalized male subgroups (e.g., men of color, gay men, underclass men) in the changing gender order. (p. 13)

Although, in our view, it is appropriate to acknowledge the existence of multiple masculinities, it is also important to recognize relations between them. In his analysis of the social organization of masculinity, Connell (1995) identified the principal patterns of masculinity as hegemonic, subordinate, complicit, and marginal, but there is likely a kaleidoscope of masculinities beyond them. The relations between these broad config-

urations collectively form a cultural dynamic that tends toward the reproduction of a gender order that subordinates women and less dominant masculinities.

For our purposes, Connell's (1987) by now familiar concept of "hegemonic masculinity," which refers to an ideological construction that serves and maintains the interests of dominant male groups, is particularly useful. For Connell, a key aspect of the idea of hegemonic masculinity is to reject the notion of a monolithic "maleness." Rather, societies such as Canada are seen to encompass a range of "masculine" possibilities. Some men embrace hegemonic masculinity, others protest it, and others feel more or less comfortable with certain aspects of it. There is, then, no single, homogeneous notion of maleness or manhood that is defined by an essentially endowed set of norms and values.

Despite the complex, diverse, and relational basis of masculinities, within a particular set of historical and social conditions, some types of masculinity are clearly ascendant over others. Some men enjoy more access to power and influence than others; other men suffer from levels of exploitation, marginalization, and abuse that also are experienced by women in the workplace and other areas of society, such as sport. What most men in patriarchal societies share in common, however, is the ability to benefit from their privileged position as a gender class in the form of certain rewards or "patriarchal dividends."

The Rewards of Masculinity: Patriarchal Dividends

Because hegemonic masculinity is an ideological construct, many men (including many powerful men in an economic, political, or social sense) do not adhere to ideal typical characteristics such as physical toughness or emotional stoicism. It is the legitimacy of domination that is important, and although many men do not conform to the blueprint of hegemonic masculinity, they may nevertheless benefit from it. In this sense, they contribute to the reproduction of hegemonic masculinity, as Connell (1995) argued:

The number of men rigorously practicing the hegemonic pattern in its entirety may be quite small. Yet the majority of men benefit from its hegemony, because they benefit from the patriarchal dividend, the advantage men in general gain from the overall subordination of women. (p. 79)

Feminist and other research has identified gender domination in a number of social arenas. For example, patriarchal dividends are visible in men's domination of the workplace, the media, and the state, men's control over the practices of violence, men's enjoyment of privileges of wealth and income, and a gender ideology that normalizes the objectification and marginalization of women in general (Connell, 1995). As suggested previously, men may be complicit in the process of hegemonic masculinity in a number of ways, as Connell (1995) noted:

Marriage, fatherhood, and family life often involve extensive compromises with women rather than naked domination or an uncontested display of authority. A great many men who draw their patriarchal dividend also respect their wives and mothers, are never violent towards women, do their accustomed share of the housework, bring home the family wage, and can easily convince themselves that feminists must be bra-burning extremists. (pp. 79-80)

In brief, it may be argued that gender relations generally reproduce social inequalities in status, prestige, and material rewards. As Connell (1995) continued, "In the rich capitalist countries, men's average incomes are approximately double women's average income. . . . Men are vastly more likely to control a major block of capital as chief executive of a major corporation, or as a direct owner" (p. 82). Sociological research clearly shows how men profit from the current gender order. Men enjoy more power, wealth, prestige, and opportunity than do women, a process that, according to Jackson (1990), has even affected men's physical selves:

Learning that you were naturally entitled to social, legal and financial power over women was translated into learning to hold power over your body—tautening your muscles, holding yourself firm and upright, striding with a cocky strut, throwing out your chest and walking from the shoulders. (p. 54)

But, for all of this, the alliance between men, hegemonic masculinity, and social privilege is undoubtedly strained and precarious. As students of men's health have observed, claims of patriarchal dividends should be made cautiously because, in the words of one antisexist male collective, "Our power in society as men not only oppresses women but also imprisons us in a deadening masculinity which cripples our relationships—with each other, with women, with ourselves" (Achilles Heel, in Segal, 1990, p. 287).

The Costs of Masculinity: Damaged Men

I gradually have come to realize that I, with every other man I know, have been limited and diverted from whatever our real potential might have been by the prefabricated mold of the male sex role. (Robert Brannon, quoted in Ehrenreich, 1983, p. 124)

The initial and irrefutable reason for men to transform themselves was not to improve their social status or expand their souls—but to save their lives. No treatise or document of men's liberation, no matter how brief, failed to mention the bodily injuries sustained by role abiding men, from ulcers and accidents to the most "masculine" of illnesses, coronary heart disease. (Ehrenreich, 1983, p. 140)

It may thus be argued that men pay a price for the "privileged" positions they occupy and enjoy, as Kimmel (1995b) reported:

Most of the leading causes of death among men are the results of men's behaviors—gendered behaviors that leave men more vulnerable to certain illnesses and not others. Masculinity is one of the more significant risk factors associated with men's illness. (p. vii)

For example, to be socialized into most dominant forms of masculinity involves learning and celebrating emotional denial, distance, and affective neutrality, but also the cultural importance of actions that often exact a physical toll (Jackson, 1990). Male prowess often is based on types of physicality that are frequently destructive but that also often involve conspicuous silences around health (Rutherford, 1992). As a result, sensitization to bodily well-being and matters of preventive health in general become viewed as the jurisdiction of women and "ambiguous" men. Cultural prohibitions on health orientations for men outside of sport are, of course, visible in the disproportionate numbers of women found in venues of health care provision (Hearn, 1992). In sum, health care interests tend to be conspicuously absent in the task orientation of men in general.

At almost every age, men die at greater rates than do women and more often from preventable causes (Stillion, 1995). In North America, the leading causes of death among males between the ages of 15 and 19 are car accidents, suicide, and AIDS, all at rates far higher than for females. Among Canadian men aged 20 to 44, 28 per 100,000 die from suicide, followed by car accidents at 21, and AIDS at 18. The corresponding rates for women are 7 suicide deaths, 7 deaths from car accidents, and 1 AIDS death

per 100,000. In the 15 to 19 age group, the death rate from suicide was almost four times higher for males than females, although the death rate from car accidents was almost twice as high. Gender differences in both death rates from external causes start to widen following early childhood (Statistics Canada, 1995). By the early teens, accidents become a leading cause of death, but more so for males than for females.

In the American workplace, males constitute more than 90% of those employed in dangerous occupations, and 93% of the 6,000 people killed at work each year (Toscana & Windau, 1994). In Canada, Reasons (1985) and Reasons, Ross, and Patterson (1981) also documented the hazardous nature of a number of workplaces dominated by men, including the asbestos, mining, paper milling, construction, electrical, and chemical industries. Consequently, males have much higher rates of workplace injury than do females, a trend that is not disappearing and that is at least partly attributable to gender processes, as Young (1993) argued:

Although this differential may be explained in part by the often uneven numbers of men and women involved in dangerous work, it would be a mistake to overlook the explanatory potential of a culture of "masculinism" which tends to accompany male preserves, vocationally and elsewhere. (p. 379)

Put simply, data from the literature on occupational health and safety not only highlight male health and injury issues but underscore an association between these trends and the "culture of masculinism" that seems to encourage risk taking and discourage thoughtful preventive measures.

Other aspects of the workplace are also hazardous for men. For example, it has been suggested that stress now accounts for 10% of all workplace health problems, indicating a huge jump in stress-related problems in the last two decades. For Kimbrell (1995), much of this trend is rooted in structural changes in the nature of work precipitated by "downsizing," restructuring, and "outsourcing" introduced by companies since the early 1980s. Millions of displaced workers, the greater proportion of whom are men, have experienced difficulty regaining employment, have found alternative forms of employment less rewarding and lower paid, and have increasingly had to work at more than one job. Of the members of the workforce who currently hold two or more jobs in the United States, men outnumber women by two to one (U.S. Bureau of Labor Statistics, 1991).

Loss of work and the experience of unemployment also have ramifications for health, again disproportionately among men, who have been more likely than women to lose their jobs in recent years (U.S. Bureau of

Labor Statistics, 1992). Victims of restructuring have included both blue-collar workers in the traditional industries such as automotive manufacturing, mining, and steel production and white-collar workers, often men in their 40s and 50s (Kimbrell, 1995). These long-term shifts have been linked with markedly negative health consequences. Merva and Fowles (1992; see also McLanahan & Glass, 1985), for example, showed that for a large metropolitan area in the United States, a 1% increase in unemployment between 1990 and 1992 was linked to a 5.6% increase in deaths due to heart disease, a 3.1% increase in deaths due to stroke, a 6.7% increase in homicides, a 3.4% increase in violent crimes, and a 2.4% increase in property crimes.

Dangerous Masculinities Related to Sport

There is evidence that the health of many men is compromised during their leisure time and, more specifically, that men are more susceptible than women to sports injury. This is not to suggest that sports injuries are unique to men, especially with regard to high-performance sport (cf. Young & White, 1995). Neither is it true that specific codes of masculinity are alone responsible for injury. It is reasonable to argue that participants in highly intense and/or competitive types of involvement are also vulnerable to injury, regardless of gender. In a similar vein, we also should caution that gender is not necessarily an exclusive predictor of injury in all sport/exercise arenas that celebrate the testing of personal body limits, whether it be, for example, running an ultramarathon, pursuing excellence in dance, or exploring physicality through yoga. In these types of activities, the norms of the sport-specific culture itself may have relatively little to do with gender.

Having said this, there are numerous ways that men, more than women, take risks, endure pain, and suffer ill health through sport and play. Bodybuilding, for example, is a particularly masculinist arena that may, ironically and somewhat paradoxically, foster ill health. As Klein (1995a) suggested, to be a serious bodybuilder is to celebrate the endurance of pain during training and to normalize the use of anabolic steroids. Beyond the confines of the elite gym, however, steroid use has grown to alarming proportions among young people. In Canada, it is estimated that 83,000 males between the ages of 11 and 18 use anabolic steroids either to improve their athletic performances or simply to enhance their appearance (Canadian Centre for Drug-Free Sport, 1993). At the same time, research also shows

that the misuse of anabolic steroids is injurious to cardiovascular, hepatic, endocrinologic, and behavioral health (Siegal, 1989).

Overuse injuries are also examples of negative health outcomes that may be associated with dominant forms of masculinity, but not necessarily with sports that involve direct violence to the body. Some male athletes construct alternative ways of masculine identification by focusing more on endurance than aggression. Swimmers, long-distance runners, speed skaters, cross-country skiers, and others rely on the ability to silence pain to establish their allegiance with hegemonic masculinity.

Typically, though, research conducted to date has explored the role of violent, contact, or high-risk sport in the process of masculinization (Curry & Strauss, 1994; Sabo & Panepinto, 1990; Young et al., 1994). As a central experience among school-age boys, sport confirms and consolidates violent physicality as one of the cornerstones of masculinity that "not only defines itself positively through assertiveness, virility, toughness, and independence, but also negatively by defining itself in opposition of what it is not—feminine or homosexual" (Jackson, 1990, pp. 123-124; see also Bryson, 1987; Connell, 1983; Messner, 1990d; Sabo & Panepinto, 1990; White & Gillett, 1994; Young, 1993).

Dominant sport values are often paradoxical. Although violence is often accepted, even celebrated, there is also growing concern about serious sports injury. A recent example of this paradox is that although numerous rules in ice hockey have been changed for the purpose of preventing catastrophic (often cervical) injuries, the popular cultural images and meanings of the sport remain largely unaltered. For example, although the rougher aspects of the sport constitute only a fraction of the overall "action," daily newspapers continue to rely on them to sell copy, often using photographs of crushing hits and fistfights. The same is true of the electronic media (Young, 1990; Young & Smith, 1988-1989). The paradox here lies in how media images and representations ignore the injurious outcomes of aggression and fighting in professional hockey; the latter, it recently has been argued, is a leading cause of games lost in the National Hockey League (Dryden, 1997). In two examples from the 1995/1996 season, fighting resulted in Rob Ray of the Buffalo Sabres having his orbital bones crushed and Bill Berg of the Toronto Maple Leafs breaking his leg. In 1997, Nick Kypreos of the Toronto Maple Leafs suffered a serious concussion in a fight and never returned to the NHL.

In what follows, we present evidence from a variety of sources to help identify the injurious outcomes of the processes whereby physical risk among boys and men is naturalized, promoted, and celebrated. In doing

this, we show how this process has become so entrenched and internalized that it is difficult to see beyond, to see that alternative less physical and forceful versions of masculinity seem at face value to be irrational and inappropriate, especially in such a macho setting as sport. In examining these processes, we also point to their insidious consequences for men's health. Just as Bordo (1990) identified how women who are eating-disordered feel more subjectively empowered when they are physically (and objectively) disempowered to the point that they approach severe illness and even death, so men may derive meaning from violent sport practices that at any moment may result in varying degrees of physical damage. The insidiousness of this process lies in the degree to which the inevitability of injury and the physical and emotional pain it implies go largely unproblematized in the world of sport. As Young (1993) argued in his study of masculinist work cultures, including that of professional male athletes, there is currently a significant silence in the culture of male sport about the physical toll exacted on players in the process of sport-related masculinization. This is even true for collectives like players' associations that purportedly are designed to protect players' careers and health.

To better understand the relation between dominant codes of masculinity, male involvement in sport, and injury, we now provide an overview of the research documenting gender differences in injury rates of sport in general and in select sports. The review is not definitive in terms of establishing the size of the problem posed by catastrophic injury. It is not the purpose of this chapter to suggest that sports injuries are epidemic or that all men fall prey to injury-promoting sport norms. To put our evidence in perspective, we should caution that aggregate data from both convenience and national samples show injury rates in the general population to be substantial but not rampant (cf. McCutcheon, Curtis, & White, 1997). We offer, instead, a preliminary step toward understanding how serious sports injuries are socially structured. On the basis of these patterns, we argue that there is need for a better understanding of the gendering of sports injury and for progressive intervention to make future sport practices safer and, arguably, more humane.

Gender Differences in Sports Injury

Catastrophic athletic injuries, although comprising a small percentage of all catastrophic injuries, are tragic events affecting the lives of mostly young healthy individuals. For example, of the 2,500 new cases of paraplegia and the

1,050 new cases of quadriplegia in the United States each year, about 7% (174 paraplegia and 74 quadriplegia) are related to sports injury. Of the 410,000 people who sustain brain injury each year, 17,600 are left with some type of permanent disability. About 10% of brain injuries are the result of sport or recreational activity (Mueller, Cantu, & Van Camp, 1996, p. 1). Between 1989 and 1993, the car accident rate among 15 to 24 year-old males fell from 655 per thousand to 514. . . . Sport injuries overtook car crashes as the leading cause of accidents in that high risk group. (Carey, 1995, p. A3)

Sources from a number of countries show definitive gender differences in patterns of sports injury, variously defined. In the United States, for example, Mueller et al. (1996) reported comparative rates of injury in high school sport.

As the data derived from their research and reported in Table 7.1 show, injury rates were, with only a few exceptions, higher for males than for females. In absolute terms, football was the most common source of injury among males on measures of serious injury, injury resulting in disability, and direct fatality. In relation to numbers involved, ice hockey and gymnastics carried more risk for participants. Females were much less likely to be injured in sport in general, although female gymnasts were relatively at risk.

In Canada, a recent study (Tator, Edmonds, & Lapczak, 1993) reported on 516 incidents causing either death or long-term disablement in 1992 (see Table 7.2). Among those injured or killed, 84.7% were male and approximately one third were 30 years of age or younger. Although another study conducted by Statistics Canada (Statistics Canada, 1995) reported an increase in sport accidents from 1988 to 1993, serious injuries in hockey have declined from 79 in 1986 to 26 in 1992. Nevertheless, hockey accounted for 4.6% of catastrophic injuries in Ontario in 1992, of which 92.3% occurred in males.

Major contributors to catastrophic sports injuries in Ontario were water sports such as boating, canoeing, and fishing—presumably to some extent caused by crashes and drowning rather than by inherent dangers in the activities themselves. Males accounted for 86.5% of those injured in water sports. Motor sports, such as snowmobiling, were also hazardous (22.4% of all injuries), again particularly for males who constituted 89.7% of those injured. Field sports, including football, rugby, soccer, and track and field, accounted for only 2.6% of all serious injuries in Ontario. Almost all of the injuries in field sports were sustained by male athletes. Although not reported in Table 7.2, findings for sport and recreation-related fatalities in

Table 7.1 Injury Rates Per 100,000 Participants in U.S. High Schools by Sport and Gender, 1982-1983 to 1991-1992

Sport	Fatal Injury			Disabling Injury			Serious Injury		
	N	Male	Female	N	Male	Female	N	Male	Female
Fall sports									
Football	48	0.35	0.00	103	0.75	0.00	112	0.81	0.00
Soccer	2	0.10	0.00	0	0.00	0.00	4	0.20	0.00
Winter sports									
Basketball	0	0.00	0.00	2	0.02	0.03	2	0.04	0.00
Gymnastics	1	1.75	0.00	5	1.75	1.28	3	0.00	0.96
Ice hockey	1	0.43	0.00	4	1.73	0.00	2	0.86	0.00
Swimming	0	0.00	0.00	4	0.24	0.24	3	0.36	0.00
Wrestling	2	0.08	0.00	16	0.66	0.00	9	0.37	0.00
Spring sports									
Baseball	3	0.07	0.00	7	0.17	0.00	6	0.15	0.00
Lacrosse	1	0.57	0.00	0	0.00	0.00	0	0.00	0.00
Track and field	9	0.17	0.03	6	0.13	0.00	6	0.13	0.00

Data are taken from Mueller, Cantu, and Van Camp (1996).

Ontario in 1992, numbering 226 in all, also showed a disproportionately heavy toll among males. Males accounted for 62.5% of fatalities in winter sports, 89.5% of fatalities in water sports, and 91.5% of fatalities in motor sports.

In a study of sports injuries among young Canadians (age 5 to 19), males accounted for 68% of the 37,169 recorded treatments in hospital emergency rooms in 1990 and 1991 (Ellison & Mackenzie, 1993). By comparison, only 57.8% of patients treated for nonsport injuries were male. Injured boys outnumbered injured girls at all ages in the sample. For males, ice hockey accounted for the highest proportion of injuries in each age group, although this might be accounted for by the overall popularity of the game rather than by the nature of the game itself. For females, basketball injuries were the most frequent of those reported.

Ellison and Mackenzie (1993) also reported that males tend to incur more severe injuries than do females. At each age, males were more often

Table 7.2 Sport and Recreational Injuries by Sport Type and Gender in 1992

Sport Type	Gender			
	Male		Female	
	N	Percentage	N	Percentage
Water sports (boating, diving, fishing, water skiing, etc.)	135	86.5	21	13.5
Motor sports (ATV, snowmobiling, etc.)	114	89.7	13	10.3
Bicycling	73	81.1	17	18.9
Winter sports				
Hockey	24	92.3	2	7.7
Alpine skiing	12	80.0	3	20.0
Other	11	44.0	14	56.0
Field sports				
Football	5	100.0	0	0.0
Rugby	3	100.0	0	0.0
Soccer	5	100.0	0	0.0
Track and field	2	100.0	0	0.0
Baseball	18	94.7	1	5.3
Miscellaneous (17 activities, e.g., inline skating, skydiving, hiking)	35	81.0	8	19.0

SOURCE: Data are taken from McLaren (1992).

admitted to the hospital or held for observation as a result of their injuries. This difference might, in part, be explained by variations in the nature of injuries experienced by males and females. For respondents over the age of 10, boys were more likely than girls to have been treated for a bone fracture, a cut or laceration, a concussion, or an abrasion. Females were more commonly treated for sprains and strains (particularly of the lower extremities), inflammation, or swelling. These differences possibly reflect

boys' propensities to be more often involved in high-risk sports or physical contact sports and for them to play sports more aggressively than girls (Messner, 1990d; Nicholl, Coleman, & Williams, 1993; Zaricznyj, Shattuck, Mast, Robertson, & D'elia, 1980).

Gender differences in sports injury also were examined in a recent study of Finnish athletes (Kujala et al., 1995). Reporting on acute injuries requiring medical treatment, the findings showed gender differences to be more pronounced among athletes aged 20 to 34 than among adolescents, a difference attributed by the authors to adult men having a "rougher style than women" (p. 1467). Among the sports included in the study (soccer, ice hockey, volleyball, basketball, judo, and karate), the highest risks were in judo, karate, and ice hockey, suggesting a positive relation between bodily contact and injury. Interestingly, the authors speculated that catastrophic hockey injuries are less frequent in Finland than in Canada, possibly because of the larger playing surface but also because of the less aggressive European style of play. Both of these possibilities suggest differing cultures of sport between males and females, types of sports, and societies.

Gender also has consequences beyond the physical toll that sports injury exacts on the lives of individual men and women. The risks associated with sport also have economic consequences for the community as a whole. On this issue, Nicholl, Coleman, and Williams (1995) projected that each year in England and Wales there are 29 million sports injury incidents, of which 9.8 million require medical treatment or render the victims unable to take part in their usual activities. Among injury incidents reported in the study, 75% were sustained by males, and more than one third were incurred by men aged 16 to 25 years. Soccer accounted for more than 25% of injuries, or an estimated 8.6 million incidents per year, although the rate of injury in soccer was not as high as for other sports. In relative terms, rugby was more hazardous than soccer and other sports. The risk of injury in rugby was 95.7 per 1000 occasions of participation, about 50% higher than for soccer.

Several studies have offered estimates of the health care costs of managing and treating sport and exercise-related injuries. Nicholl et al. (1993), for example, estimated that the total annual cost of sport and exercise-related injuries in the population aged 16 to 45 in England and Wales was £643 million, with a possible annual cost of £354 million for the treatment of recurring injuries. Given that males participate more than females in physically risky sports, it is likely that they are also more responsible for a higher proportion of health care costs attributable to the treatment and

management of sports injuries. As Nicholl, Coleman, and Brazier (1994) reported, "The rates of injury associated with jogging, keep-fit exercising (such as aerobics), and swimming are all less than one-fifth of the rates associated with rugby, soccer, (ice) hockey, and cricket" (p. 118).

Other international studies have included estimates of health care costs of sports injuries, although methodological disparities make comparisons difficult, and few examine gender effects. In the United Kingdom, a Sports Council study (1991) found that 7% of sports injuries resulted in participants taking time off work, resulting in a total of 11.5 million working days lost annually in England and Wales, at a cost of £575 million in production value. In Denmark, Sorensen and Sonne-holm (1980) estimated that the annual cost of treating "acute sport injuries" was £2.3 million. A Swiss study, based on data from the Swiss Accident Insurance Association for the years 1963 to 1973, estimated that the total direct and indirect costs of sport accidents in 1976 were £400 million (1976 prices) (Fasler, 1976). From New Zealand, Hume and Marshall (1994) reported that 15% of the treatments received at the Dunedin Hospital Emergency Department were for sports injuries and that sport accounted for 17% of all injuries compensated by the Accident Compensation Corporation.

In sum, we believe that these aggregate data provide strong support for the position that gender is a key determinant of both sports injury as well as the costs of injury to the individual and to society as a whole.

Rethinking Masculinity: Directions for Future Research

In his hugely popular book *Iron John: A Book About Men*, Robert Bly (1990) has contended that

we are living at an important and fruitful moment now, for it is clear to men that the images of adult manhood given by the popular culture are worn out; a man can no longer depend on them. By the time a man is thirty-five he knows that the images of the right man, the tough man, the true man which he received in high school do not work in life. Such a man is open to new images of what a man is or could be. (p. ix)

Although we share Bly's concerns with the unreliability of traditional masculinity codes, and although our earlier research (Young et al., 1994) suggests that some injured male athletes reflect critically on what he calls

the "images . . . of the tough man" (p. ix), we do not recognize the sweeping social change in hegemonic masculinity that Bly's writing so cavalierly implies. Indeed, far from "worn out," the evidence that we have reported here and earlier findings on the suppression of sports-related pain suggest an ongoing complementarity between these ascendant codes of masculinity and the sports-related injury process. Rather than the football lineman who revels in the pain he inflicts on his opponents (Young, 1993), the ice hockey player, coach, administrator, or commentator who insists that fist-fighting remains an essential and "honorable" part of the game (Faulkner, 1973; Gillett, White, & Young, 1996), or the downhill skier who remains unreflexive about the implications of his injury-jinxed career for his long-term health (Young et al., 1994), we think it likely that Bly is speaking to still relatively small numbers of males for whom conventional forms of masculinity through sport no longer carry cultural meaning.

There remains a fundamental association, albeit one that is often contested, between sport involvement in boyhood and dominant (and, we might add, heterosexual) masculinity in adulthood. Playing sport, particularly those sports connected with aggression and toughness, distances the participant from the possibility of being labeled a "sissy" or a homosexual. To relinquish the opportunity to participate in the sporting rite of passage, or at the very least to identify with sports heroes or teams, is to risk estrangement from other boys.

In saying this, we do not mean to argue (deterministically) that hegemonic modes of masculine body expression are universal or exhaustive, as we wrote in an earlier article:

Counter-hegemonic challenges to the hypermasculine body and masculinist physical culture not only exist but are precipitating resistant forms which resonate for thousands of participants. Across Canada, for example, young hockey players, unimpressed by their toothless professional counterparts, are finding new non-contact versions of their favoured pastime both empowering in the pursuit and emancipatory in the avoidance of injury. . . . Elsewhere, gay men continue to resist the compulsory heterosexuality of modern sport organizations and strategically carve out new spaces both within and outside the mainstream . . . while men of colour chip away at the racist foundations of sports apartheid as they construct broader opportunities for participation. (White et al., 1995, p. 174)

Nevertheless, our research suggests that for males to use sport and athletic bodies as key sites for "masculinity verification" (Dubbert, 1979) remains

meaningful enough, even when the outcomes may be literally incapacitating.

The preliminary evidence that we have reported here derives from a variety of sources and research methodologies that make gender comparisons between sports difficult. Although our overview of existing data suggests a relation between sports injury, contemporary sports norms, and gender processes, further research is required to more accurately assess the validity of the argument that masculinizing processes within sport contribute to a disproportionate level of damage to athletic bodies. Smith's (1991) observation that circumstantial evidence "allows those who are predisposed to do so to dismiss it as such" (p. 108) reminds us of the preliminary and as yet unsubstantiated nature of our argument.

A number of questions come to mind in terms of fruitful directions for future research. First, as we suggested previously, there is a general paucity of benchmark data on gender differences in rates and types of sports injury. To better understand these issues, future work might profitably introduce controls for levels and types of sport involvement when looking at gender differences in sports injury. Though we believe strongly in the benefits of in-depth qualitative work, this approach would be suited to quantitative methods, such as sample surveys, an approach often relegated to the methodological junkyard in research based on feminist and other critical perspectives. As Lewis (1997) suggested, however, given Bourdieu's (1980; see also Dimaggio, 1982) use of surveys to analyze class and cultural distinction in France, "There is nothing intrinsically implausible about the use of statistics and surveys in cultural studies research" (p. 84).

Second, our use of the notions of "dominance-based" and "forceful" masculinities in this chapter and elsewhere has been useful in helping to open up the area for research consideration. However, these notions may have simultaneously obscured other realities surrounding men, their bodies, sport, and injury. In this regard, our research is only a start, and much remains to be done in exploring processes whereby men and boys involve themselves in activities that are at once pleasurable and thrilling but also extremely hazardous. It remains to be seen, for example, how activities such as heli-skiing, bungee-jumping, skydiving, or the so-called extreme sports are linked to gender processes (if at all), and to what extent such activities are explained by factors beyond gender. To do this, it is crucial that the voices of participants themselves be represented in research to directly tap the key question of meaning. It could be argued that, so far at least, sports injury researchers have been more concerned with saving par-

ticipants from themselves than with understanding the sources of pleasure and meaning derived from risky pursuits.

Third, most of the existing research has focused on injuries sustained through trauma (sprains, dislocations, fractures, concussions, etc.) among children, youth, and young adults. This limited approach leaves open a plethora of sports injury issues that remain uncharted. For example, little is known about injuries that are sustained through repetitive activity such as that found in swimming, Nordic skiing, and long-distance running. Furthermore, there has been almost no research on the cumulative effects over the life span of intense physical activity and related injuries suffered during youthful athletic careers. Long-term wear and tear on joints, rheumatoid arthritis, and the compounded effects of concussions and the like may only present themselves symptomatically later in life, potentially creating physical, emotional, and financial costs—costs not anticipated during one's youth, when the body seemed vibrant and invulnerable. This brings us back to gendered body norms.

With firmer evidence at hand, discussions addressing interventionist and transformational efforts to improve the safety of sport for both males and females may be more productive. For the moment, however, we conclude from the existing research that the way that sport is played matters for sports injury as much as the game itself. In this regard, males are more likely than females to be socialized into ways of playing that are potentially injurious. If this pattern were challenged, the sparing of only one victim of a catastrophic sport injury would be a resounding step forward.

As suggested in our analysis, gender differences in the economic outcome of sports injuries also have to be considered. The often taken-for-granted relation between exercise, health, and health care cost reduction is, in reality, complex, particularly when age and gender are taken into account. Research needs to be carried out to unravel these complexities. However, on the basis of what we know about gender and injury, it seems plausible to suggest that the balance of costs and benefits for sport and exercise is likely different for women and men because women are less involved in high-risk activities.

Gender influences on the cost-benefit ratio for exercise and health care costs also likely interact with age and class effects. For example, the benefits of exercise for health may be more pronounced for older men who have higher risk for cardiovascular problems (Morris, Everitt, Pollard, Ghave, & Semmence, 1980). On the other hand, it also seems reasonable to postulate that younger men are at higher risk because they have had less of an

opportunity, or simply are not ready, to reflect critically on the exploitive and dangerous aspects of the sports process. In a recent related review of the relation between exercise, health, and health costs, gender effects were not reported (Nicholl et al., 1994). Results indicated that for younger adults (aged 15 to 44), the annual medical care costs per person incurred by sport and physical activity involvement exceeded the costs that would have been avoided by the health-promoting effects of exercise. Conversely, among older adults (older than 44), the annual benefits to health care costs resulting from exercising outweigh the costs. Similar conclusions were reached by a Dutch study that noted a reversal of the cost-benefit ratio in the exercise-health relation with aging (Reijner & Veltuijsen, 1989). The evidence that injury in sport tends to be skewed toward the young calls into question broader images of risky behavior among adolescents and young adults. To better understand this process, epidemiological and sport studies might productively be merged. In particular, longitudinal analyses of population-based data could begin to interrogate the place of sport within a range of risky behaviors and their relations with gender. Again, such an approach could be combined profitably with more qualitative procedures to tap the question of the experience and meanings of sport injury.

As it stands, the available evidence suggests that the dividends of what Connell calls hegemonic masculinity paradoxically are accompanied by certain dangers, as indicated by this review of Canadian and international sports injury data, our earlier work on injury (Young et al., 1994), and the disproportionately high morbidity and mortality rates of male athletes. Reverence for risky sport promoted by dominant masculinities is closely linked to disproportionately high and often preventable levels of physical incapacitation. Given various safety awareness campaigns and rule changes addressing particularly hazardous sports practices like spearing in football (i.e., using the helmeted head as a battering ram in the tackle), there are signs of progress and change. But the cultures of some sports continue systematically to produce high injury rates not only because of the financially driven emphasis on winning but also because of the connection between aggression and the process of masculinization. For this reason, if we are correct in our thinking, it is unlikely that rule changes alone will be able to counter the health risks these sports and the dangerous masculinities they represent impart.