

**WEIGHT-BASED TEASING IN RECREATIONAL SPORTS IN NOVA SCOTIA:
AN EXPLORATORY STUDY**

by

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ABSTRACT

Weight-based teasing (WBT) is associated with negative mental health outcomes for youth. Research indicates WBT is a persistent problem in schools. There is a gap in research on WBT during recreational sports. This study examined the prevalence and beliefs about WBT in youth sports using an online survey of team members, primary caregivers, and coaches. Thirty-five percent of team members experienced WBT during sports. Fifty-six percent of primary caregivers and team members and forty-four percent of coaches witnessed WBT during sports. Between 31% and 71% of participants felt WBT is serious, concerning, and harmful to health. Participants identified coaches promoting WBT through minimizing and accepting the behaviour. Body-weight expectations, media messaging about athletes' bodies, and lack of WBT policies also promoted WBT. Education on good sportsmanship and body positivity as well as anti-bullying programs discouraged WBT. Athlete protection policies that address weight-based victimization are required to reduce WBT in sports.

LIST OF ABBREVIATIONS USED

BMI	Body Mass Index
PHAC	Public Health Agency of Canada
WBT	Weight-based teasing
WHO	World Health Organization

GLOSSARY

This research investigation used the following definitions:

Body Mass Index (BMI)- Weight in kilograms divided by the square of height in meters (kg/m^2). This index is used to assess health risk based on body fat, and is commonly used in classifying overweight and obesity in adults (Centre for Disease Control, 2015).

Coach- an individual who guides the improvement and development in a single sport at identifiable stages of athlete development (International Council of Sporting Excellence, 2012).

Good Health- a state of complete physical, social, and mental well-being, and not merely the absence of disease or infirmity. It is a resource for everyday life, not the object of living, and is a positive concept emphasizing social and personal resources as well as physical capabilities (WHO, 1946).

Inclusion- an active process of integration manifested through perceptions of 1) fairness and respect and 2) value and belonging (Sison, 2017).

Living with Obesity- an individual who has excess fat accumulation on their body compared to what is deemed to be a healthy percentage of their body mass, defined by a BMI of 30 and above (WHO, 2016).

Living with Excess Weight- an individual who has excess fat accumulation on their body compared to what is deemed to be a healthy percentage of their body mass, defined by a BMI between 25 and 29 (WHO, 2016).

Primary Caregiver- the person primarily responsible for the care and upbringing of a child (Government of Canada, 2016).

Recreational Sports- a leisure activity participants mainly engage in to relax and enjoy themselves, rather than seek competition and improvement in athletic performance (Statistics Canada, 2013).

Sport- an activity requiring physical exertion, skill, and coordination, governed by a set of rules, patterns of behaviour, and formal organizations (Richards, 2016).

Team Member- an individual who is part of a recreational sports team.

Weight Bias- pervasive negative weight-related stereotypes and prejudices, which often lead to discrimination in multiple domains of life for those living with obesity (Hilbert, Braehler, Heuser, & Zenger, 2014).

Weight-based Teasing- personal communication directed at a person because of their weight status that combines elements of humour, aggression, or ambiguity (Goldfield et al., 2010, p.283). It can take the form of mocking, making fun of, or demeaning a person because they do not align with the socially prescribed definition of an acceptable body weight (Greenleaf, Petrie, & Martin, 2014).

Weight-based Victimization- a form of bullying in which an individual repeatedly hurt a person or group of people because of their weight status during in-person or electronic communication (Puhl et al., 2013). Weight-based victimization includes excluding, threatening, teasing or being physically aggressive (Puhl & Luedicke, 2012).

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CHAPTER 1: INTRODUCTION

Statement of the Problem

Health promoting behaviors such as healthy eating and being physically active are not being practiced by a large percentage of Canadian youth (Public Health Agency of Canada, 2011). To encourage youth to practice healthy behaviors, it is important we focus on making health-related activities as enjoyable and inclusive as possible. Sports are the most widely practiced health-related activities in which youth participate (Statistics Canada, 2013). Although sports can promote physical well-being, sports environments can inadvertently impact mental and social well-being through the presence of weight-based teasing. Weight-based teasing is defined as “personal communication directed at a target because of their weight status that combines elements of humor, aggression, or ambiguity” (Goldfield et al., 2010, p. 283). Recent research indicates that weight-based teasing causes anxiety, depression, and low self-esteem for youth victims (Goldfield et al., 2010). The literature also reveals that a high percentage of youth experience weight-based teasing during physical education classes and on school sports teams (Puhl et al., 2011; Slater & Tiggemann, 2011). However, there is no research looking at how often weight-based teasing occurs on recreational sports teams. It is important to explore this topic because we want recreational sports to be a safe and inclusive environment where all youth can attain good health, which includes gaining physical, mental, and social well-being (World Health Organization, 1946).

Achievement of Good Health

According to the World Health Organization (1946, p. 1), good health is defined as “a

state of complete physical, social, and mental well-being, and not merely the absence of disease or infirmity. It is a resource for everyday life, not the object of living, and is a positive concept emphasizing social and personal resources as well as physical capabilities.” In Canada, there is growing concern that the health of Canadian children and youth is deteriorating (Colley et al., 2015).

Health of Canadian Youth

Of the different aspects of health, the Public Health Agency of Canada (2011) noted overall increases to the social well-being of youth ages 12-19 years as indicated by improvements in levels of education, employment, and income attainment compared to past decades. However, concerns have arisen over the deterioration of the mental well-being of Canadian youth. Some unique mental health issues Canadian youth face include bullying and suicidal behaviours (Public Health Agency of Canada, 2011). In the Health Behaviour of School-Aged Children’s Report, 36% of students reported being victims of bullying including both direct (physical harm) and indirect (teasing) bullying (Public Health Agency of Canada, 2011). In 2002, 7% of youth ages 15 to 19 years reported they had thought about committing suicide over the past 12 months, compared to 4% of all Canadians over the age of 19 years (Public Health Agency of Canada, 2011). In this public health report, obesity is considered the leading threat to the physical well-being of youth. The reason for concern is the elevated risk of developing chronic diseases such as diabetes, heart disease, and cancer in adulthood (Public Health Agency of Canada, 2011). Rates of obesity have more than tripled in youth aged 12-17 from 3% in 1978 to 11% in 2009 (Public Health Agency of Canada, 2011). Despite the Public Health Agency of

Canada (2011) making strides to encourage Canada's health care system to invest more in addressing the social determinants of health such as income, education, and culture, we continue to see improving the physical well-being of Canadian youth taking priority over improving mental and social well-being (Hancock, 2011). The physical emphasis of health promotion has much to do with the evolving focus and approach to health promotion in Canada over the past few decades (Hancock, 2011; Rapheal, 2008).

Focus of Health Promotion in Canada

The purpose of health promotion is to empower people to reach a state of complete mental, social, and physical well-being through taking a socio-ecological approach to health (WHO, 1986). Health promotion recognizes that socio-ecological factors such as interpersonal relationships, community resources, and broader socioeconomic, environmental, and cultural conditions greatly influence health (Marks, 1996). Health promotion works towards health equity for all through improving access to health resources such as income, shelter, food, and education (WHO, 1986).

Although the mandate of the Public Health Agency of Canada (2016) is to promote health and prevent chronic diseases to improve Canadian's mental, physical, and social well-being, health promotion initiatives focused on physical well-being clearly dominate the agenda. Much of the focus on physical outcomes occurs because of the population health approach to public health renewal in Canada (Kirk, Tomm-Bonde, & Schreiber, 2014). This approach focuses on reducing communicable diseases and on promoting lifestyle changes that are results-oriented and produce short-term measurable health outcomes government agendas crave (Kirk et al., 2014). There is little focus on

chronic disease and injury prevention as well as mental health promotion that requires focusing not only on physical but also psychological and social well-being domains (Hancock, 2011).

One reason health promotion continues to focus on the physical well-being of Canadians is because of the biomedical approach that permeates other aspects of our health care system. Biomedical health care is solely concerned with practicing medicine relating to the biology of humans (Wade & Halligan, 2004). This type of health care evolved from the idea that health can be defined as merely a state of being free of illness or injury (Wade & Halligan, 2004). Many of the health care practitioners who end up in public health roles are taught to practice their disciplines using the biomedical approach (Schrecker, 2013). They are trained to focus only on individual patient lifestyle interventions that address just one aspect of daily life (Schrecker, 2013). This approach tends to neglect mental and social well-being in favor of physical well-being outcomes (Adler, 2009; Johnson, 2013).

Another reason why mental and social well-being are often ignored in health promotion is that different health disciplines tend not to fully appreciate the role and value of each other's professions, and do not end up working together on important projects where the expertise of those trained in mental and social health issues could be very beneficial (Hepworth, 2004; Roberts, 1987). There is a lack of initiative from health disciplines to break down barriers between them such as differing approaches and health languages through working together on each stage of comprehensive major health promotion projects (MacLean, Plotnikoff, & Moyer, 2000).

Lastly, facilitating action on the social determinants of health, including consideration of mental and social well-being, is difficult because of the current Canadian government structure that runs our health care system (Bégin, 2007). The budget and resources for health promotion are scarce compared to our universal acute care medical public health insurance program “medicare.” (Bégin, 2007). In 2015, only 5.5% of Canadian health care dollars were spent on public health (Canadian Institute for Health Information, 2015). One of the reasons for this is the business-focused, health care spending reduction environment of Canadian health care (Kirk et al, 2014). Another reason is the priorities in our health care system come down to what politicians deem to be in demand by the public (Bégin, 2007). Unfortunately, most of the public does not understand what achievement of good health is, nor do they understand the value of investing money into programs and projects that improve all aspects of health at the cost of tax dollars (Bégin, 2007).

Health promoters have an important role in raising awareness of the value of health promotion activities to address physical, mental, and social well-being and through continued research and government advocacy. It is essential we ensure widely-practiced health-related activities focus on all aspects of achieving good health, ensuring that physical, mental and social well-being are all considered within the environments and cultures in which these activities occur.

Promotion of Youth Health

Achieving good health is a complex process, and, counterintuitively, engaging in some widely-practiced health-related activities that promote certain aspects of health may result

in unintended negative experiences that are harmful to the other aspects of health. Sports are an example of a youth-centric activity where this can take place. Participating in sports has proven benefits to physical well-being, such as improved cardio-respiratory and musculoskeletal fitness (Tremblay, 2011). However, the environment on some sport's teams can inadvertently cause deterioration in the mental and social well-being of team members through the appearance of weight bias behaviours such as weight-based teasing (Slater & Tiggemann, 2011).

Weight Bias, Weight-based Victimization, and Weight-based Teasing

Weight bias includes pervasive negative weight-related stereotypes and prejudices, which often lead to discrimination in multiple domains of life for those living with obesity (Hilbert, Braehler, Heuser, & Zenger, 2014). Some of the most commonly held stereotypes that stigmatize those living with obesity include that they have poor self-discipline, poor self-hygiene, are lazy, and are unintelligent (Puhl & Huer, 2009). Weight bias is one of the last socially acceptable forms of prejudice that continues to exist in society (Obesity Action Coalition, 2015). The normative view of weight-related challenges, that they are rooted in insufficient self-control, has led to a negative stigma towards those with excess body weight, perpetuating the acceptance of weight bias in modern society (Obesity Action Coalition, 2015). It is the stereotypes that surface from weight-biased beliefs that often lead to discriminatory behaviour such as weight-based victimization. Weight-based victimization is a form of bullying in which an individual chooses to repeatedly hurt a person or group of people because of their weight status during in-person or electronic communication (Puhl et al., 2013).

Weight-based victimization is an increasing public health issue among adolescents aged 12-17 years (Puhl, Luedicke, & DePierre, 2013). Among the behaviours under the umbrella of weight-based victimization, such as exclusion, threats or physical aggression, teasing is the most prevalent (Puhl & Luedicke, 2012). Weight-based teasing is defined as “personal communication directed at a person because of their weight status that combines elements of humour, aggression, or ambiguity” (Goldfield et al., 2010, p. 283). It can take the form of mocking, making fun of, or demeaning a person because they do not align with a socially prescribed definition of an acceptable body weight (Greenleaf, Petrie, & Martin, 2014).

Weight-based teasing is noted in recent research to have a negative impact on the psychological and social health of youth aged 12-15 years (Greenleaf et al., 2014). It can also have an impact on their physical health, as it is a barrier to continued participation in sports, the most popular form of physical activity for Canadian adolescents ages 15 and older (Slater & Tiggemann, 2011; Statistics Canada, 2013).

There is a growing body of literature that suggests a high prevalence of weight-based teasing during sports in physical education classes and on school-based sports teams (Slater & Tiggemann, 2011; Puhl, Luedicke, & Heuer, 2011). However, there is a gap in research exploring the prevalence and beliefs about weight-based teasing in recreational sports.

Recreational Sports

There is no single, agreed-upon, all-inclusive definition for sport. Research indicates that what is considered a sport is continually changing (Richards, 2016). Most experts would

agree that a sport is an activity requiring physical exertion, skill, and coordination, governed by a set of rules, patterns of behaviour, and formal organizations (Richards, 2016). The distinction between recreational and competitive sport is based on the purpose of participation. Recreational sports are leisure activities that participants mainly engage in to relax and enjoy themselves, rather than seek competition and improvement in athletic performance (Statistics Canada, 2013). Although recreational sports tend to maintain competitive elements, the rigor of training required is much less than in competitive sports (Richards, 2016).

In 2010, 26% of Canadians aged 15 years and older participated at least once a week in sport. Of those participating, 54% were youth ages 15 to 19 years (Statistics Canada, 2013). Canadians' participation in sport is highly concentrated in a few popular sports that are also gendered. Men are most likely to play golf, ice hockey, and soccer, while women, similarly are most likely to participate in golf, swimming, and soccer (Statistics Canada, 2013).

Recreational sports, like other forms of physical activity, offer myriad health benefits such as improvements in cardio-respiratory and musculoskeletal fitness, bone density, blood pressure, cholesterol levels, and aspects of mental health (Tremblay et al., 2011). Of all age groups, Canadian youth deem the health benefits of sport to be the most important aspect of participation. In the General Social Survey, seven out of ten adolescents considered improvements in health and fitness to be a very important benefit of sport participation (Statistics Canada, 2013).

Given the popularity of sports, with over half of Canadian youth regularly

participating, and the importance of sports participation as a means to improve health, it is essential to ensure recreational sport environments support not only physical but also mental and social well-being. This can be achieved through the creation of an environment free of all forms of bullying, including weight-based teasing.

Significance of Research on Weight-based Teasing in Recreational Sports

Although there is a growing body of literature on weight-based teasing in school-based sports, there is a gap in research exploring weight-based teasing in recreational sports. To date, the researcher is unaware of any published literature that has determined the frequency of and beliefs about weight-based teasing in the recreational sport setting. It is essential to explore both the prevalence of and beliefs about weight-based teasing in recreational sport environments in order to ensure that this form of bullying does not pose a barrier to enjoyable sport participation for adolescents. Conducting this research is a vital part of the development of inclusive sport policies that encourage participation in sport regardless of body weight or shape. Development, implementation, and support for such inclusive sport policies has the potential to create inviting sports environments that offer lasting positive impacts on the physical, social, and mental well-being of youth. The ultimate goal of researching weight-based teasing in recreational sport is to recommend changes to increase inclusiveness in this environment and to promote the achievement of good health for as many Canadian youth as possible.

Research Purpose and Questions

The purpose of this study was to describe the prevalence of weight-based teasing among adolescents involved in recreational sports from the perspective of team members, coaches, and primary caregivers. The secondary purpose was to assess participants' concerns and beliefs about the effect of weight-based teasing on health, with the aim of providing valuable information for the development of inclusive sport policies. Guiding the research was the following questions:

1. How often do team members enrolled in recreational sports in Nova Scotia experience weight-based teasing?
2. How often do team members, coaches, and primary caregivers of adolescents enrolled in recreational sports in Nova Scotia observe weight-based teasing directed at participants?
3. Do team members, coaches, and primary caregivers believe weight-based teasing is concerning, serious, and harmful to health for adolescents enrolled in recreational sports?
4. What policies should be developed and implemented within recreational sports organizations in order to create supportive environments for all participants, regardless of body weight or shape?

Introduction Summary

This chapter provided the basis for understanding the complexity and importance of studying weight-based teasing of youth in recreational sport environments. Within chapter two, the literature review, there will be a discussion on the importance of sport as a health-related activity for youth, and the presence of weight-based teasing during recreational sport as a barrier to the achievement of physical, mental, and social well-being. There will also be a discussion on the prevalence of weight-based teasing of adolescents, the implications of weight-based teasing on health, societal beliefs about weight-based teasing, and the need for inclusive sports policies to reduce weight-based teasing in sport. Chapter three includes the methodological basis for conducting this research; chapter four contains the results of the online survey data received from participants within this investigation, while chapter five contains a discussion on the implications of the research results for health promotion research and practice.

CHAPTER 2: REVIEW OF THE LITERATURE

Chapter Outline

In this literature review, the researcher will outline the importance of physical activity for adolescent health, the role of sport in increasing youth physical activity levels, and the barriers to sports participation, including weight-based teasing. There will also be a discussion on the prevalence of weight-based teasing of adolescents, the specific environments in which weight-based teasing is prevalent, the implications of weight-based teasing on health, societal beliefs about weight-based teasing, and the need for inclusive sports policies to reduce weight-based teasing in sport. The conclusion of the chapter will provide a summary of the research on weight-based teasing in the recreational sports environment.

Physical Activity and Adolescent Health

Physical activity is an important aspect of maintaining adolescents' health. Accumulating at least sixty minutes of moderate-to-vigorous physical activity daily can improve cardio-respiratory and musculoskeletal fitness, bone density, blood pressure, cholesterol levels, and aspects of mental health (Tremblay et al., 2011). Despite the myriad health benefits, only 5% of adolescents aged 12-17 years meet the Canadian Physical Activity Guidelines (ParticipACTION, 2015). Of all the different types of physical activity, sports, due to their popularity, have perhaps the greatest potential to increase the daily physical activity of Canadian youth. Over half of Canadian students ages 15 and older regularly participate in at least one type of sport (Statistics Canada, 2013). To increase the physical activity levels of Canadian youth, it is important to identify barriers to physical activity, including

sport, and implement corresponding policies to assist youth in overcoming these barriers.

Barriers to Youth Sports Participation

An American qualitative study on middle-school youth and their primary caregivers' perceptions of barriers to sports participation indicated that the travel distance and costs involved in organized sports kept many from participating (Moore et al., 2010). The participants also noted an increase in sedentary entertainment use including television and video games, which decreased their desire to be physically active (Moore et al., 2010). Similarly, a Canadian qualitative study of thirty-five primary caregivers and children from low-income families participating in sports noted cost and travel time as significant barriers to sports participation (Holt, Kinsley, Tink, & Scherer, 2011). Specific financial barriers identified by participants included the increase in fees with participation in indoor versus outdoor sports as well as the increasing costs of additional practice times and equipment required as their children's skill-level improved and teams became more competitive (Holt et al., 2011). Travel barriers such as lack of access to reliable transportation were also issues for these families (Holt et al., 2011). Australian primary caregivers of children aged 5-17 years also identified cost as a strong influence on their decision to enroll their children in organized sports (Hardy, Kelly, Chapman, King, & Farrell, 2010). Hardy and colleagues (2010) concluded the time commitment of participating in an organized sport also influenced the primary caregivers' decisions to enroll their children in sports. While these are significant barriers that should be minimized, there is a lack of research on weight-based teasing as a barrier to sport participation, despite being frequently documented as a main reason adolescents forego

participation (Slater & Tiggemann, 2011).

Prevalence of Weight-based Teasing in Youth

Research on weight-based teasing in children and youth is an emerging area of study in the last decade as part of an increased recognition of the impacts of weight-based discrimination in society. Weight-based teasing is a form of weight-based victimization that requires study in isolation of other forms of victimization because teasing is a central part of the human social life (Keltner, Capps, Kring, Youg, & Heerey, 2001). Teasing is known to be prompted by social norm violations, therefore, it is not surprising it is directed at those whom society considers having broken social appearance norms (Keltner et al., 2001). Although more awareness is being raised about the damaging effects of weight-based victimization, the emphasis is on certain aspects of bullying perceived to be more damaging such as threatening, excluding, and being physically aggressive (Puhl & King, 2013). However, teasing behaviours are often minimized as harmless because society deems them to be socially acceptable forms of communication (Keltner et al., 2001). Overall, scientific inquiry into weight-based teasing in Canada has been minimal (Goldfield et al., 2010). It is important to conduct research focused solely on weight-based teasing to better understand how it might impact health.

A cross-national study on weight-based victimization in youth in the United States, Canada, Australia, and Iceland revealed between 46.0-49.3% of participants (n=2,866) believed that children were most frequently teased or bullied because of excess body weight (Puhl et al., 2015). Weight-based victimization is when a person or group of people intentionally and repeatedly hurt another person by being mean, spreading rumors,

teasing, harassing, name-calling, insulting, ignoring, excluding, or being physically aggressive because of their weight status (Puhl & King, 2013). A recent review of multiple studies on weight discrimination and bullying revealed that between 34-63% of youth aged 12-17 who are classified as having excess weight have been victims of weight-based teasing (Puhl & King, 2013). Such staggering statistics indicate a significant acceptance of this form of bullying in society, and introduce the question of where this form of weight-based victimization is occurring.

Environments Perpetuating Weight-based Teasing

In terms of specific environments perpetuating weight-based teasing, the literature has mainly focused on adolescents and children in the school environment (Greenleaf et al., 2014; Miyari & Reel, 2011; Puhl & Kelly, 2013). Multiple researchers have documented the prevalence of weight-based teasing within this environment from the perspective of the students, their peers, and primary caregivers (Puhl et al., 2011; Puhl et al., 2013). A Canadian study on the prevalence of weight-based teasing noted that 22% of average weight middle and high school students had experienced weight-based teasing (Goldfield et al., 2010). This percentage increased to 45% for youth who were classified as overweight (Goldfield et al., 2010). In a large American study (n=1,555) on adolescents ages 13-19 years, 92% of participants had witnessed a peer being teased about their weight in the school environment (Puhl et al., 2011). A recent study on parental concerns about weight-based victimization in youth revealed that 53% of parents perceived “being overweight” as the most common reason youth are bullied (Puhl et al., 2013). Although research focused on teachers’ perceptions and reactions to general classroom bullying is

available, there is a gap in the literature specifically looking at their perceptions of weight-based teasing and victimization. Almost half of youth with excess weight have been teased about their size, and more than 90% of students have witnessed weight-based teasing. This indicates widespread acceptance of this kind of bullying behaviour in schools. It also draws attention to the need to investigate other environments where body size is an important aspect of social acceptance, such as sports' environments. These environments would also likely have high rates of weight-based teasing.

Increasing amounts of literature on weight-based teasing indicate sport environments, like school environments, are also conducive to the appearance of weight-based teasing. In an American study (n=1,555) on adolescents ages 13-19 years, 85% of participants had witnessed a peer being teased about their weight during some form of physical activity (Puhl et al., 2011). Research on the prevalence of weight-based teasing on Australian middle-school sports teams indicated 56.9% of boys and 33.1% of girls experienced this kind of teasing by same sex teammates (Slater & Tiggemann, 2011). Interestingly, the amount of weight-based teasing occurring by opposite sex teammates (12.4%) was significantly less for boys compared to the frequency of teasing by same sex teammates (56.9%). However, girls actually noted a slight increase in the prevalence of weight-based teasing by opposite sex teammates (36.1%) compared to same sex teammates (33.1%) (Slater & Tiggemann, 2011). Slater and Tiggemann (2011) also noted a small percentage of the youth, 2.3% of girls and 3.5% of boys, reported experiencing weight-based teasing from their coaches. These substantial levels of teasing among peers in the sports environment could be explained by the perception of a close link between

skill in a particular sport and body shape and size. The interference of excess weight in achieving maximum speed in sport may cause players to direct weight-based teasing towards teammates in a perceived attempt to motivate them to lose weight.

A sparse amount of literature has been published looking specifically at physical activity teachers and coaches' reactions to weight-based victimization of youth. Peterson, Puhl, and Luedicke (2013) conducted an experiment in which 162 physical activity teachers and coaches were randomly assigned to read scenarios of weight-based bullying events they witnessed occurring, and respond with how they would react to the situation. The researchers found that male educators were significantly less likely to indicate they would intervene in weight-based victimization than female educators (Peterson et al., 2013). Overall, the male educators had a higher than expected threshold to the victimization scenarios before they would intervene, being the least likely to intervene for boy victims regardless whether the form of bullying was teasing, pushing, or purposefully excluding (Peterson et al., 2013). The researchers noted that female educators may be more sensitive and empathetic to weight-based stigmatization resulting in the discrepancy seen between genders (Peterson et al., 2013). Further research is needed to clarify gender differences in reactions to weight-based stigmatization. In the conclusion, Peterson and colleagues (2013) noted the need to increase effective interventions to deal with weight-based victimization, including teasing, given the well-documented negative health implications.

Health Implications of Weight-based Teasing

Weight-based teasing experienced by adolescents during sports negatively affects their

mental and physical health. Weight-based teasing literature has clearly indicated victims are susceptible to many psychological issues. In both Canadian and American studies of adolescents who experienced weight-based teasing, many participants reported feeling anxiety, depression, psychological distress, and low self-esteem associated with having been teased (Goldfield et al., 2010; Greenleaf et al., 2014; Puhl & Luedicke, 2012).

Canadian research on the relationship between weight-based teasing and psychological adjustment in adolescents determined there was a statistically significant relationship, with a medium effect size between weight-based teasing by peers and anxiety ($r=0.35$), depression ($r= 0.34$), and negative self-esteem ($r=0.33$) (Goldfield et al., 2010).

Interestingly, the authors found that these associations remained for both boys and girls, and were independent of weight status (Goldfield et al., 2010). These results were surprising as it indicates that even those who were at a perceived socially acceptable body weight, if teased about their weight, had lower self-esteem and higher levels of anxiety and depression. These findings indicate that all adolescents are particularly vulnerable to appearance-based criticism in the form of weight-based teasing, regardless whether the accusation is being too thin or too big. Recent research on the relationship between weight-based teasing and psychological adjustment of American middle school students ($n=1,419$) found that those who had been teased scored lower on the General Self-Esteem Scale ($M=4.46$, $SD=1.03$) than those who have not be teased ($M= 5.03$, $SD= 0.80$) (Greenleaf et al., 2014). Similarly, those who were teased scored higher on the Center for Epidemiological Studies—Depression Scale for Children ($M=20.28$, $SD=13.16$) compared to those were not teased ($M=11.31$, $SD=9.43$) (Greenleaf et al., 2014).

Greenleaf and colleagues (2014) found self-esteem and depression scores between the

teased and not teased groups to be significantly different, representing large effect sizes of Cohen's $d=0.66$, and Cohen's $d=-0.78$, respectively. The magnitude of the effect sizes linking weight-based teasing to poor psychological adjustment is greatly concerning and indicates a substantial deterioration in the mental well-being and therefore overall health of youth subjected to this form of teasing.

Research has not defined the physical health impact of weight-based teasing as clearly as the psychological impact. Recent correlational research indicates adolescents who are teased about their weight have significantly lower levels of health-related physical fitness such as aerobic capacity, muscle strength, and endurance as measured by the progressive aerobic cardiovascular endurance run and push-up test (Greenleaf et al., 2014). Greenleaf and associates (2014) did not find a significant difference in scores on curl-ups and sit-and-reach test performances of those in the teased versus not teased groups. Additional longitudinal research is required to explore possible mechanisms between weight-based teasing and health-related physical fitness as well as its association with the development of chronic diseases.

Beliefs about Weight-based Teasing in the Sports Environment

It is important to investigate why weight-based teasing continues to exist, given its detrimental impact on the health of adolescents. From a health promotion perspective, it is valuable to explore the beliefs that team members, coaches, and primary caregivers hold about body shape and size to guide education and policy development that reduces weight-based teasing in the sports environment.

Research on the weight bias beliefs of American adolescents in grades 9-12

indicate that negative attitudes about individuals with excess weight are prevalent in this population (Puhl et al., 2011). Some common beliefs expressed in the research by participants were that they are lazy (50%), have poor self-control (45%), and are slow (69%) (Puhl et al., 2011). Research exploring American physical activity teachers and athletic coaches indicated that over half of the participants expected students living with obesity to have inferior physical abilities, reasoning, cooperation, and social skills, compared to average weight students (Peterson, Puhl, & Luedicke, 2012). These attitudes suggest team members and coaches may not only be more accepting of weight criticism and teasing but may be participating in these behaviours themselves. In contrast, recent research on American parents with children ages 2-18 years indicated high levels of concern (> 75%) regarding the impact weight-based teasing has on the health of youth (Puhl et al., 2013). The research indicated that parents were more likely to feel empathetic to the bullying experiences of their children, especially if they have experienced weight-based teasing themselves (Puhl et al., 2013). Therefore, it is likely parents who have struggled with their weight will be less likely to participate in weight-based teasing in the sports community.

Weight-Based Teasing is a Health Inequity

Given the detrimental impact of weight-bias and weight-based teasing on the physical, mental, and social well-being of youth living with obesity, it is time to address the problem as it really is - a health inequity. A health inequity is inequality among a specific group of people with respect to the determinants of health, including access to the resources required to maintain or improve health outcomes (World Health Organization,

2016). Reducing the health inequities associated with weight bias is essential because health is a fundamental human right for all people (World Health Organization, 2016). As health promoters, it is important to address health inequities that occur for marginalized groups in society based on their gender, sexual orientation, race, ethnicity as well as body weight and shape.

We can no longer ignore the detrimental impact that weight-based discrimination and victimization found in the schools, workplaces, and the health care system in our country has on achieving good health. Health promoters must take care to address all aspects of weight-based victimization, including those deemed socially acceptable by society, such as weight-based teasing. We must challenge the acceptability of teasing in society and bring awareness to its presence and damaging effects in our communities. It is especially important we challenge its appearance in health promotion activities such as sports, where we specifically encourage youth participation to improve their health. It is our duty to ensure the health-related activities we promote and encourage are inclusive to all youth and achieve the goal of improving their health.

Inclusive Sport Policies for All Body Sizes

The pervasiveness of weight bias continues to impede the inclusion of all body shapes and sizes in sport (Miyari & Reel, 2011). It is important to understand that inclusion is not just the ability to access or be a part of something but is an active process of integration that is manifested through perceptions being treated fairly and respected as well as feelings of value and belonging (Sison, 2017). To date, most research has focused on creating inclusive sport environments for all genders and ethnicities (Comeau, 2013;

Flintoff, 2008; Kanters, Bocarro, Edwards, Casper, & Floyd, 2013). There is also an increase in literature on inclusive sports for those with disabilities (Cunningham, 2013; Darcy & Dowse, 2013; Dieringer & Judge, 2015; Misener & Darcy, 2013). To date, no research has focused on promoting an inclusive sport environment for those of differing shapes and sizes. A small amount of literature has begun to recognize the adverse impact of weight-based teasing on participation in physical education. Miyairi and Reel (2011) recognized that weight-based teasing in physical education class and on school-based sports teams is an issue that must be addressed through education on the impact of weight stigmatization and organization-wide policies prohibiting weight bias.

Canadian sport policies have expanded over time to recognize the importance of improving the recreational sport environments in the country (Sport Information Research Centre, 2012). One of the core policy objectives of Canadian recreational sport policy is to ensure “programming is accessible, equitable and inclusive to meet the needs, motivation and interests of participants in a fun and safe experience.” (Sport Information Research Centre, 2012, p.10). Although there is no elaboration in the policy document about how to achieve this, it indicates that improving the social environment of sport is a top priority of federal, provincial and territorial ministers responsible for sport. Furthermore, Canadian Sport for Life, a national not-for-profit organization of leaders from the sport, recreation, education, health, and business sectors, is also addressing important implications of sport such as socio-cultural dynamics. In the organization’s sport training documents, they recognized that parents and coaches must address negative sport subcultures and guard against group dynamics that create cultures of bullying and

abuse towards certain team members (Sport for Life Society, 2016). Although no specific forms of bullying or abuse are mentioned, the society indicated they value inclusiveness by recognizing bullying as an issue, and recommending ethics training for all coaches and players (Sport for Life Society, 2016). It also suggests the organization would be open to supporting research and policy development in creating a sports environment for those of all different sizes and shapes.

Summary of the Literature

In conclusion, research indicates that participation in sport is very important part for maintaining good health of Canadian youth. Weight-based teasing has been identified as a barrier to continued sport participation because it affects the mental and social well-being of adolescents. Given the high prevalence of weight-based teasing in other youth-dominated environments such as schools, it is important to determine the prevalence of weight-based teasing on recreational sports teams in our communities. This research is essential to inform the development of more comprehensive inclusive sport policies in Canada that create a fun and safe experience for all participants regardless of body weight and shape. This is especially vital in recreational sports where the purpose is for relaxation and fun, therefore, these environments by nature should be open and encourage engagement for all. Continuing to engage youth in safe sports environments is integral not only for their physical well-being but also for their mental and social well-being and therefore the complete health of this population.

CHAPTER 3: METHODOLOGY

Chapter Outline

The following chapter includes an outline of the cross-sectional survey design of the research. The researcher will provide a description of the web-based questionnaire administered to determine the prevalence of weight-based teasing in recreational sports, participants' beliefs about how serious, concerning, and harmful to health weight-based teasing is, and what is currently being done to promote or discourage weight-based teasing in recreational sports' organizations. In this chapter, there will be a discussion on the population and sample size of participants who were recruited based on their self-identification as a team member, coach, or primary caregiver, and the recruitment plan to sample from Nova Scotia provincial sport associations. A review of the selected instrument as well as its administration will be completed. This chapter will conclude by providing a detailed description of the data analysis and ethical considerations of the research.

Research Design

The researcher used a cross-sectional survey design for this research because it is well suited to determine the prevalence of weight-based teasing in a community sample. The main reason a survey design was selected is that the population under study is large and geographically distributed throughout Nova Scotia, which made this option more time and cost-effective for data collection and analysis (Fowler, 2009). The access to advanced survey software from Dalhousie University simplified the survey design process and created an effective instrument.

Data Collection

The data collection process included administering a web-based survey. The researcher selected an online data collection method for this specific study because it provided the maximum time-and-cost-effectiveness for data collection and analysis compared to other survey methods (Sue & Ritter, 2007). Another major advantage is that online surveys reduce the tendency to report socially desirable responses that may occur with in-person or phone-based survey administration (Sue & Ritter, 2007). The main disadvantages of online surveys are coverage bias, reliance on software, and inability to know who is responding to the survey (Sue & Ritter, 2007). Two of the three main disadvantages were not issues for this particular research, and the third disadvantage was unable to be mitigated because the recruitment plan structure explained below. It was assumed that the majority of participants of the study, namely adolescents aged 14-17, primary caregivers, and coaches involved in recreational sports, had access to the internet and personal email through school, work, and public spaces, reducing coverage bias. In terms of reliance on software, the researcher had the technical ability to create an online survey and access to software support. The researcher specifically chose a web-based survey over an email-based survey for this study. A web-based survey was selected for its ability to add content options, use expanded questions, and ask sensitive questions and preserve participant anonymity (Sue & Ritter, 2007). The researcher used the survey software Opinio to complete the research. This survey system was selected because the web server on which the data is stored is located within the Dalhousie network and the data remained in Canada.

Population

The inclusion criteria for the population in this study was adolescents aged 14-17 years enrolled in recreational sports teams in Nova Scotia as well as their coaches and primary caregivers. The researcher selected the age range of 14-17 years because of their unique psychosocial development stage, which makes them extremely reliant on peers for self-esteem, identity formation, and social support (Goldfield et al., 2010). Being in a crucial social development stage, bullying such as teasing has a more profound impact on these adolescents than children of other age ranges (Greenleaf et al., 2014). Because of the aforementioned facts, it was important to know how prevalent weight-based teasing is within this age range in the context of recreational sports. The researcher had chosen to include coaches because there is a gap in the literature exploring their experiences and beliefs about weight-based teasing. Primary caregivers were also included in the study for an additional perspective, as participants not on the team but present at practices and games.

In this study, the researcher had chosen to exclude recreational sports team participants under or over the aforementioned age range as well as their primary caregivers and coaches. The researcher chose to exclude children under the age of 14 years from this study due to the need to protect young children from potential distress and negative emotions that questions surrounding weight-based teasing could cause (Angell, Biggs, Gahleitner, & Dixon-Woods, 2010). Adults 18 years or older were also excluded because the prevalence of weight bias and weight-based teasing is already well-documented in this population (Puhl & Heuer, 2009). Although weight-based teasing has

not been explored in this population group within the recreational sport environment, the literature indicates only a small portion of adults over 18 years old actively participate in sports (Statistics Canada, 2013). The researcher had also chosen to exclude school-based sports teams from the study because research is already available on weight-based teasing within the school environment (Miyairi & Reel, 2011; Slater & Tiggemann, 2011).

Population Size. In Nova Scotia, 170,000 people over the age of 15 years, which is 18.4% of the population, participated in some form of sport in 2010 (Statistics Canada, 2013). Of those who participated, 91,800 (54%) were students ages 15-19 years (Statistics Canada, 2013). Although no statistics exist to determine the exact number of players specifically within recreational sport versus school or competitive levels, some sporting organizations do offer demographic information that assisted in the compilation of an estimate of participants. Soccer Nova Scotia (2012) reported 610 recreational soccer participants aged 14-17 in their 2012 year. Although the researcher could not find any other demographic data from other sports organizations in Nova Scotia, there are 50 active registered recreational sport organizations with Sport Nova Scotia (Sport Nova Scotia, 2015). Of those registered, the writer assumed that the 30 noted as the most popular sports in the Canadian Sport Participation Research Paper were most likely to have a significant portion of Nova Scotian youth participating (Statistics Canada, 2013). Knowing from Statistics Canada (2013) that soccer is one of the most popular sports children and youth play, when the researcher made a modest estimate that all other 30 recreational sports for this age group had only one-third the participant enrollment of soccer (202 participants per sport), there were still approximately 6,060 Nova Scotian

youth ages 14-17 years enrolled in a recreational sport. If 25% of the youth were in single parent families, and 75% were in households where two primary caregivers were accessible, that was another 10,600 potential participants added. In terms of coaches, no data is available but an estimate provided by the Director of Sport Development for Sport Nova Scotia included 400 youth coaches of those aged 14-17 in the province. By these estimates, the potential population size was around 17,000.

Sampling Design and Procedure

The researcher used a non-probability convenience sample based on participants' availability to take part in the research. The researcher selected this type of sampling because of the inability to compile a complete list of people composing the population, and therefore the inability of everyone in the population to have had an equal probability of being selected (Babbie, 2007). The sampling procedure took place over a five-month period between September 2016 to January 2017. The recruitment time-frame had implications on the researcher's ability to obtain support from sport associations, due to the nature of sport seasons and the human resource capacity of these organizations at certain off-season months. The lack of response during recruitment may have been in part due to the study's timing.

Email Recruitment Procedure

Sport Nova Scotia Endorsement. The first step in the email recruitment process was to obtain an endorsement from Sport Nova Scotia in the form of a support letter for this research study. The researcher chose to obtain their support before conducting recruitment from specific sports associations and individual sports teams to attain some

credibility in the amateur sports world. Sport Nova Scotia has over 50 sport-governing bodies and 160,000 members (Sport Nova Scotia, 2015). Their well-established connections in the sports community in Nova Scotia made them a sensible partner to assist in achieving an adequate sample size through their support for the study. The researcher met with the Director of Sport Development, Amy Walsh on July 20th, 2016 and obtained an official support letter for the research that was sent to the Dalhousie Department of Ethics on July 27th, 2016 (See Appendix A). Sport Nova Scotia supported the research by providing the initial introduction and contact to each provincial sport association's president through an email outlining the project created by Ms. Walsh. Along with the email invitation, there was a letter to express Sport Nova Scotia's support of the research and encouragement for the sport associations to participate.

Provincial Sport Association Recruitment. The researcher chose purposive sampling of the ten provincial sport associations that Sport Nova Scotia indicated were the ten most-popular team-based sports played by Nova Scotians (Amy Walsh, Personal Communication, July 20th, 2016). The sports selected were soccer, hockey, swimming, baseball, volleyball, basketball, gymnastics, figure skating, curling, and canoe/kayak. The researcher believed the sports on this list of ten vary sufficiently in type to have some diversity in participants.

The initial recruitment strategy for these sport associations started with an email invitation to participate in the research sent out by Ms. Walsh on September 7th, 2016 as an introduction to the lead researcher and invitation for further questions and a decision on participation. The email described the study's purpose and procedure, and made two

requests for their support. The first request was for the administration of the association to forward the study's email invitation to all members on their email distribution list. This first level of recruitment was selected because of the large number of potential participants that could be reached through distribution from a provincial association. The second request in the email was to ask for assistance in providing a contact in their clubs in the Nova Scotia to gain access to the coaches, team members, and primary caregivers. The email invitation can be found in Appendix B. After a two-week period, a second reminder email was sent on September 21st to all sports associations who had not responded to the initial email invitation. A third and final invitation to participate in the study was sent out on October 5th, requesting a response of accepting or declining participation by October 19th.

Of the ten provincial sports associations contacted, five sport associations responded to the research request in various ways. Swim Nova Scotia, Curling Nova Scotia, and Skate Canada - Nova Scotia agreed to send off the email invitation through their email distribution lists to all clubs in Nova Scotia. They did not provide the researcher permission to contact individual clubs herself nor participate in recruitment through social media. Basketball Nova Scotia met with the researcher and decided they would assist by personally inviting clubs at their yearly association meeting as well as sending off email invitations to each club. Volleyball Nova Scotia was the only provincial sport association who favoured the researcher directly contacting the Nova Scotia clubs herself to invite them to participate in the research. The lack of responsiveness from 50% of the sport associations and the hesitation by the associations

contacted to allow the researcher to directly contact their associated clubs, reduced the scope and effectiveness of email recruitment.

Because there was only a 50% response rate from the initial purposive sampling of the top ten Nova Scotia sport associations, the researcher conducted a second wave of recruitment on an additional ten sport associations with the next highest levels of youth participation in the province. The sports selected were cheerleading, rugby, tennis, soft ball, ringette, rowing, field hockey, synchronized swimming, equestrian, and rhythmic gymnastics. An initial email invitation was sent out to these sport associations on October 19th (Appendix B). After a two-week period, a second reminder email was sent on November 2nd to all sports associations who had not responded to the initial email invitation. A third and final invitation to participate in the study was sent out on November 16th, requesting a response of accepting or declining participation by November 30th. Of the ten provincial sports associations contacted in this wave of recruitment, only Rhythmic Gymnastics Nova Scotia responded to the research request. The lack of responsiveness from this second group of sport associations was also a setback in the researcher's ability to effectively recruit participants.

Sport Club and Coach Recruitment. As the research was directed by the provincial sport associations themselves, no direct contact was made by the researcher to any individual head coaches of youth sport teams. All provincial sport associations involved preferred they communicate the study information to their clubs. Because of this there was no available numbers on how many sport clubs from each association received the email invitation and how many head coaches within these associations received the email

invitation and passed this on to the participants and primary caregivers of their youth sport teams. The lack of direct interaction to this level in the recreational sport environment was a hindrance to the researcher's ability to gauge recruitment progress and the research's support.

Team Member and Primary Caregiver Recruitment. As noted above, both players on recreational sports teams and their primary caregivers were invited to participate in the study through email invitations provided to them by their associated provincial sports organization, and a small percentage by their sport club executive director. See Appendix D for a copy of the email invitation.

Due to ethical constraints and the preservation of participant confidentiality, it was not possible to collect data on the number of team members and primary caregivers who received an email invitation through the provincial associations distribution list or from their clubs' executive directors. There was also no readily available information on the number of members in each sports association that met this research's inclusion criteria to provide an estimate of the number of potential participants contacted.

Because of the limited responsiveness from the sport associations, the researcher expanded recruitment to include targeted social media posts to increase participation numbers that had been lacking after the initial email recruitment strategy was completed.

Social Media Recruitment Procedure

The researcher conducted a social media recruitment strategy through Sport Nova Scotia and other health-affiliated research organizations to increase the reach of the study's invitation to other team members, primary caregivers, and coaches who were not invited

through their sport associations.

Sport Nova Scotia. Sport Nova Scotia participated in social media recruitment through posting recruitment messages on both Facebook and Twitter created by the researcher and approved through the ethics board (See Appendix E). These messages were posted on a weekly basis on Tuesday and Fridays during the month of November in 2016. The messages received several shares and re-tweets from those following Sport Nova Scotia on social media.

Dalhousie-Affiliated Health Organizations. The researcher also contacted other relevant organizations affiliated with Dalhousie University to assist in social media recruitment. Health-affiliated organizations were contacted because they have connections to the provincial sport community through other research and public health projects that included potential participants for this research. Given that information retention is increased when someone comes across the same information in multiple different channels, participation in this research may have increased by expanding the social media recruitment to include these organizations. The School of Health and Human Performance, Applied Research Collaborations for Health, and Health Populations Institute all agreed and assisted in social media recruitment through posting the recruitment messages on their Twitter and Facebook accounts. The Canadian Obesity Network, Halifax Chapter that has academic members from Dalhousie University also promoted the research on their Facebook page. There was no way to determine how effective these social media posts were as it was not possible to track the number of participants who completed the survey through the link provided on these posts.

However, increasing the reach of the invitation by hundreds of potential participants through numerous social media pages in theory increased the likelihood the researcher obtained a greater number of participants than just using email recruitment.

Print and Radio Media Recruitment Procedure

Along with social media recruitment, the researcher also completed print and radio media recruitment through a press release provided to multiple local news outlets on November 28th, 2016. Media recruitment involved multiple channels including interviews on the radio outlets News 95.7 and CBC Information Morning, as well as a print article published in the Chronicle Herald. Although the exact number of participants obtained from these recruitment methods could not be accurately determined, the researcher did see a bump in survey completion by 10% during the few days of the media recruitment campaign. A copy of the media release can be found in Appendix F.

Survey

The researcher created a survey comprised of multiple instruments used in similar studies to measure weight-based teasing. These instruments were minimally modified to be relevant to the specific populations in this study. The following sections of the instrument are described below: welcome screen, questionnaire items, and closing instructions.

Welcome Screen. The welcome screen of this online survey sought the informed consent of all respondents (Sue & Ritter, 2007). It included the necessary information for informed consent as outlined in Tri-Council Policy Statement Ethical Conduct for Research Involving Humans 2014 (Government of Canada, 2014). The principles are as follows: consent shall be given voluntarily, consent shall be informed, consent shall be an

ongoing process, and consent shall proceed collection of, and access to, research data (Government of Canada, 2014). Because the study involved youth under the age of 16 years, parental consent was required for their participation. To preserve participant anonymity, this was completed through passive consent as youth under 16 years were instructed to obtain their primary caregiver's consent before proceeding to the survey. This type of parental /guardian consent has also been used in similar research on weight-based victimization in a similar participant group (Puhl & Heur, 2011). Once the survey was accessed, all participants had to click "start" at the bottom of the welcome screen to confirm that they consented to participate in the survey before they could move onto the questions. See Appendix G for the consent form.

Demographics and Weight Information. The questionnaire asked participants to report if they were a recreational sports participant, coach, or primary caregiver of a participant. It also asked them the specific the sport they play, coach, or for which they are a primary caregiver of a participant. The remaining questions required responses of their age, gender, height, and weight. BMI percentiles for youth were calculated using the Centre for Disease Control growth curves, and this information was used to classify participants into weight categories of "underweight," "healthy weight," "overweight," or "obese" (Centre for Disease Control, 2015). "Healthy weight" status is defined as a BMI ranging from higher than the fifth to lower than the 85th percentile. "Overweight" is defined as a BMI from the 85th to lower than the 95th BMI percentile, while "obesity" is defined as having a BMI at the 95th percentile or higher for age and sex (Goldfield et al., 2010). Adult BMIs were calculated using the Centre for Disease Control (2015) adult

overweight and obesity guidelines (“underweight” < 18.5, “healthy weight” 18.5-24.9, “overweight” 25-29.9, “obese” ≥ 30). Although the researcher used BMI categories as an indicator of weight status for the purpose of this study, the researcher does not agree with labelling an individual based on their weight categories and has used People-First language when referring to weight status. The purpose of People-First language is to not label individuals based on their disease or disability, as this creates stigma and bias for the individual (Obesity Action Coalition, 2017). Therefore, the researcher chose to refer to participants in this study as living with a low weight, excess weight or obesity rather than “underweight,” “overweight,” or “obese.” The demographic questions provided were necessary to answer the question about the prevalence of weight-based teasing in a more detailed manner. Being exploratory research in recreational sports, it was important to identify if teasing was more prevalent in specific sports to assist future research in determining if cultural norms of that sport support weight-based teasing. Obtaining information on age, gender, and weight status was also necessary to achieve the research objectives. Recent research has identified youth 12 to 15-years-old (Puhl & King, 2013), females (Puhl & King, 2013), and those who are living with excess weight (Goldfield et al., 2010), as experiencing more weight-based teasing than their peers of a different age-range, gender, and weight status. It was important to determine if the same pattern of weight-based teasing experiences occurred within the context of recreational sports to ultimately achieve the aim of providing valuable information for the development of inclusive sport policies.

Survey Items. To measure the prevalence of weight-based teasing, the researcher used

part of the McKnight Risk Factor Survey III Weight-teasing Incidence Scale (Shisslak et al., 1999). This scale was selected because the test-retest reliability, internal consistency, and convergent validity was well-established (Goldfield et al., 2010). The test-retest reliability of the weight-based teasing scale for high school girls was $r = 0.76$, and the alpha coefficient was $r = 0.79$ (Shisslak et al., 1998). This tool uses a 5-point likert scale anchored by “never” (1) to “always” (5). The prevalence of weight-based teasing during the past year is operationally defined by any responses of “a little” teasing or more (Goldfield et al., 2010). The only adaptation to the scale was the inclusion of the specific context of weight-based teasing occurring during recreational sports. The researcher received permission from the developer to modify and use this tool.

To measure beliefs about weight-based teasing, the Perception of Weight-based Victimization Scale was also used (Puhl et al., 2013). This instrument is comprised of questions to assess beliefs about how serious, concerning, and harmful weight-based victimization is to health (Puhl et al., 2013). The scale was found to have good internal consistency reliability of $r = 0.85$. This tool uses a 5-point likert scale anchored by “not at all” (1) to “very” (5) regarding these beliefs (Puhl et al., 2013). The researcher modified this instrument by altering the responses from discussing the domain of weight-based victimization to weight-based teasing, a specific form of victimization. The researcher received permission from the developer to modify this tool.

To determine the participants’ perspectives on policy development to create an inclusive sporting environment, the researcher developed an open-ended question with the objective of determining at all different levels of recreational sport in the province,

what, if anything, was being done to address weight-based teasing. An open-ended question was chosen for this aspect of the survey to ensure the question did not lead participants to respond based on what they perceived to be favourable (Dillman, 2007). See Appendix H and I for complete questionnaire versions for both team members as well as coach and primary caregiver participants.

Closing Instructions. As soon as the participants exited the survey, a second dialogue box popped up asking if they were interested in entering the name of the sport club their sport team is a part of into a draw for a \$50.00 donation. The second survey pop-up design was intentional to make certain their response was not linked to their questionnaire responses, preserving participant anonymity. The closing instructions of the survey thanked the participants for completing the survey and provided information on where they could find a community report of the study's results. See Appendix J for the honorarium questionnaire.

Survey Administration and Follow Up

The survey was accessible to participants over a three-month period from October 12th, 2016 to January 1st, 2017, per standard protocol for survey research (Creswell, 2014).

Data Analysis

Data Management. The researcher developed and used a data codebook as an ongoing source of data management for the research. The lead investigator assigned all questionnaire responses with a numerical code and all participants with an ID number. Data was exported from the Opinio software and uploaded into SPSS statistical software into an encrypted file. Data cleaning occurred through wild code checking and

consistency checking (Robinson, 2015).

Internal Consistency Reliability. Because the researcher used a compilation of previously validated weight bias tools, the researcher re-established the reliability of the modified instrument used in this research by calculating Cronbach's Alpha for both the McKnight Risk Factor Survey III Weight-teasing Incidence Scale and the Perceptions of Weight-based Victimization Scale. A reliability coefficient of $r = 0.70$ or higher is considered acceptable to establish reliability (Sue & Ritter, 2007). The question of how often you have been teased about your weight was related to how often you have witnessed someone being teased about their weight $r = 0.27$, 95% Bca CI [0.12, 0.41], $p = 0.002$. The correlation coefficient was not large enough at the recommended $r = 0.70$ to re-establish the internal consistency of the McKnight Risk Factor Survey III Weight-teasing Incidence Scale. However, this was expected given only a small number of questions from the entire scale were used. The question of how serious weight-based teasing is in general was related to how concerning weight-based teasing is in general, $r = 0.82$, 95% Bca CI [0.75, 0.87], as well as related to how harmful to health weight-based teasing is in general, $r = 0.76$, 95% Bca CI [0.68, 0.84]. How concerning weight-based teasing is in general, was also related to how harmful to health weight-based teasing is in general, $r = 0.79$, 95% Bca CI [0.71, 0.86]. This test had reestablished the internal consistency for the Perceptions of Weight-based Victimization Scale as a reliability coefficient of $r = 0.70$ or higher is considered acceptable (Sue & Ritter, 2007). See Appendix K.

Descriptive Analysis. The researcher completed a statistical analysis of the data using IBM SPSS statistical software version 23. Descriptive statistics were used to answer the

exploratory research questions, within the limitations of the survey design and sampling method.

Demographic Data. The researcher calculated the demographic data of participants using percentages, medians, means, and standard deviations depending on what was most appropriate for reporting. The sample characteristics were broken down into the three separate participant groups of team members, coaches, and primary caregivers.

Beyond answering the research questions, the researcher cross-tabulated the descriptive statistics of age, gender, and weight status with participants' experiences and beliefs about weight-based teasing to determine any notable differences arose between groupings in each characteristic. Age was split into 10-year ranges starting with the youngest inclusion cut off range of 10-19 years, collapsing recommended five-year categories to suit this data set (Statistics Canada, 2015). Gender was grouped into male, female, and rather not disclose. Participants were categorized into four different weight status groups as per the Centre for Disease Control's guidelines for BMI but using People-First language of living with a low weight, healthy weight, living with excess weight, and living with obesity (Centre for Disease Control, 2015).

Summary Statistics for Weight-based Teasing Prevalence. The researcher calculated the overall prevalence of weight-based teasing adolescent participants endured in the past year in a percentage using the number of respondents who noted "a little" or more teasing in the questionnaire.

The researcher calculated the overall prevalence of weight-based teasing observed in the past year by all participants in a percentage, using the number of respondents who

noted “a little” or more teasing as their response when asked about witnessing weight-based teasing. The researcher calculated the overall prevalence of witnesses in each individual participant group (team members, coaches, and primary caregivers) and cross-tabulated the data to compare differences in observations between groups. The researcher also cross-tabulated the number of participants who had been teased about their weight in the past year with those who witnessed the teasing to look for differences.

The researcher calculated the median, mean, and standard deviations for the question related to the prevalence of weight-based teasing to determine the average participant responses and the variability in the responses (Sue & Ritter, 2007). The researcher utilized bootstrapping as a robust way to determine 95% confidence intervals for all means and standard deviations (Sue & Ritter, 2007)

Summary Statistics for Weight-based Teasing Beliefs. The researcher calculated the percentage of all participants who believed that weight-based teasing was serious, concerning, and harmful to health using the number of respondents who endorsed these beliefs. The researcher had defined endorsement as the top two categories (4 and 5) on the 5-point likert scale when asked about how serious, concerning, and harmful weight-based teasing is. This decision was made to follow the analysis plan in the research that originally used the instrument (Puhl et al., 2013). The researcher also calculated the overall prevalence of the beliefs in each individual participant group (team members, coaches, and primary caregivers) and cross-tabulated them to compare differences in beliefs between groups.

Lastly, the researcher calculated the median, mean, and standard deviations

separately for each question related to how serious, concerning, and harmful to health weight-based teasing is. The researcher utilized bootstrapping as a robust way to determine 95% confidence intervals for all means and standard deviations.

Frequency Distributions. The researcher calculated the frequency distribution percentages of specific responses on the 5-point likert scale from “never” (1) to “always” (5) regarding weight-based teasing for the four separate questions tailored to team members, coaches, and primary caregivers.

The researcher also calculated the frequency distribution percentages of specific responses on the 5-point likert scale from “not at all” (1) to “very” (5) regarding each separate weight-based teasing belief question for team members, primary caregivers, and coaches.

Lastly, the researcher cross-tabulated the results from all survey questions in each group to evaluate differences among participant groups.

Thematic Analysis. For the open-ended question, “please describe what you think is being done to promote or discourage weight-based teasing on the recreational sports teams you are involved with?”, the researcher conducted thematic analysis using the six steps as outlined by Braun and Clarke (2013); familiarizing yourself with the data, coding, searching for themes, reviewing themes, defining themes, and writing up. The researcher carefully read the transcripts and field notes to identify emerging words and themes about what was being done to promote or discourage weight-based teasing in recreational sports, and identified similar themes amongst participants. The significant statements from these themes were organized under the appropriate environment level

within the Social Ecological Model (SEM) using the descriptions of the model outlined in Table 3.1. Emerging themes were categorized using all aspects of the SEM. From this analysis, the researcher concluded what participants would like included, if anything, in inclusive sport policies.

Table 3.1 Using the SEM to inform policies on weight-based teasing

Level of the Social-Ecological Model	Connection to Weight-based Teasing
Individual	On this level, it is important to reflect on the individuals' own perceptions of themselves in relation to being teased about their weight and how this impacts their enjoyment of recreational sports.
Interpersonal	On this level, it is important to investigate the participants' relationships with team members, coaches, and primary caregivers and their role in promoting or discouraging weight-based teasing and how this impacts team members' enjoyment of recreational sport.
Organizational	On this level, it is important to investigate the participants' experience with the sports leagues and their role in promoting or discouraging weight-based teasing and how this impacts team members' enjoyment of recreational sport.
Community	On this level, it is important to look at the broader provincial sport associations role in promoting or discouraging weight-based teasing and how this impacts team members' enjoyment of recreational sport.
Policy	On this level, it is important to look at the participants' awareness of policies in place prohibiting weight-based victimization including weight-based teasing, if any exist.

(Bronfenbrenner,1977).

To ensure data quality assurance and trustworthiness, the analysis strategy included the primary researcher and her supervisor carefully reading the transcripts and independently coding and identifying emerging themes to enhance interrater reliability. Codes were cross-checked by other team members to determine whether there was agreement on the codes used for the same passage of texts. The researcher followed the recommended guideline of consistency in coding agreement at least 80% of the time for good qualitative reliability (Creswell, 2014).

Ethical Considerations

This project received and adhered to the Dalhousie University's Human Research Ethics Guidelines for Health Sciences research with approval granted on July 28th, 2016. The following ethical considerations were considered in the completion of this research:

Informed Consent. The researcher obtained all participants' free, informed, and ongoing consent. The researcher included all necessary information as outlined in the Tri-Council Policy Statement for Ethical Conduct for Research Involving Humans 2014 (Government of Canada, 2014). Because the study involved youth under the age of 16 years, parental consent was required for their participation. To preserve participant anonymity, parental consent was completed passively as youth under 16 years were requested on the consent form to only complete the questionnaire after parental consent was obtained. The researcher and Dalhousie Ethic's Board agreed that if youth aged 14-15 did not obtain consent as requested, they were mature enough to understand the risks and benefits of this specific study and could provide fully informed consent of their own if they did not follow our instructions. There were no reported complaints about the choice of passive parental consent by any participants.

Autonomy. The researcher chose to provide a small thank you to show appreciation to participants for the time they had spent on the questionnaire. The main concern ethically is that participants felt undue pressure to participate because the incentive was very high. In order to inhibit that from happening, the researcher invited participants to enter their name into a draw for a \$50.00 donation to their sports-based organization of choice. In this instance, the participants did not directly benefit from the incentive but indirectly

through the ability of their sport organization to utilize the money for new equipment, etc. (Appendix J). There was no report that any participants felt undue pressure to have participated in the research based on the incentive offered.

Anonymity. The construction of the online survey tool, Opinio, allowed for participant anonymity. The Opinio software did not track or store the IP addresses of anyone who took part in the survey (Object Planet Inc., 2015). Consent for the survey did not require the use of any personal identifying information. Information on the participating sports clubs were collected in a separate second survey where the data was stored in a separate file not associated with participants' initial survey responses. There were no reported breaches of anonymity in the Opinio software during its use for this research.

Confidentiality. The lead researcher kept all participant information private and confidential. The researcher did not disclose the fact they participated in the study or the responses they provided to a third party. All information was stored in the Opinio software, which is password protected and encrypted so it was only accessible to the lead researcher and her supervisor (Object Planet Inc., 2015).

There was a remote transmission of the numerical data from the Opinio software to IBM SPSS Statistics 23 during the analysis phase of the project. To minimize any confidentiality breaches, this transfer occurred on a private computer designated for research use at the ARCH office at Dalhousie University. Once transferred, the researcher encrypted the IBM SPSS Statistics data file and stored it on a secure USB stick in a locked filing cabinet. The researcher deleted any data including consent forms and questionnaire responses from the Opinio software as well as numerical data in the IBM

SPSS data file when the research was completed. The research data is not recoverable as per the systems guidelines (Object Planet Inc., 2015). There were no known breaches of confidentiality from the Opinio software or the IBM SPSS Statistics data file during its use for this research.

Foreseeable Risks. The completed research was about weight-based teasing, a form of bullying that research has indicated can create psychological distress for recipients (Goldfield et al., 2010). Because of the sensitive nature of the topic, the researcher made certain the questions surrounding the participants' experiences with weight-based teasing were general, close-ended questions that did not require participants to elaborate on specific personal experiences. Despite the careful construction of the questionnaire, the researcher recognized that some of the participants are part of a vulnerable population under the age of 16. The risk was minimized by the consent form clearly indicating the participant could stop the survey at any time if they become uncomfortable. There was also information on their online invitation to the survey directing participants to the Kid's Help Phone web address and toll-free phone number as well as the toll-free number for the mobile mental health crisis team in Nova Scotia. The researcher did not receive any information on the completed surveys that indicated any participants were in psychological distress when they completed the survey.

Justice. The main challenge with justice in this research was the potential for imbalance of power between the youth and coach or primary caregiver participants. There was a risk that youth felt obligated to participate in the study because their coach or primary caregiver who is in a position of authority presented them the study information and

encouraged them to participate. This risk was partially mitigated by making it very clear to the potential youth participants that participation in the study was voluntary, and they were in no way obligated to take part because of who was presenting them the research information. The researcher also clearly outlined this in the invitation and welcome screen of the survey. The researcher received no complaints by youth participants regarding pressure to participate by adults.

Summary of the Methodology

In this chapter, the details of the target population as well as sample size of team member, coach, and primary caregiver participants in Nova Scotia were reviewed. The researcher outlined the recruitment strategy starting with Sport Nova Scotia's support and endorsement, leading to support from the provincial sport associations, and their help in recruiting individual sport clubs located in Nova Scotia. The recruitment strategy also included the role of various forms of media. The details of the online questionnaire including the compilation of the McKnight Risk Factor III Teasing Incidence Scale and the Perception of Weight-based Victimization Scale were reviewed. The data management plan included the specific descriptive statistics that were used as well as the thematic analysis plan for the open-ended question posed on the questionnaire. The conclusion of the chapter included an outline of the ethical concerns of anonymity, confidentiality, autonomy, foreseeable risks, possible benefits, and justice. The methodology outlined provides the detailed context required for understanding the structure and significance of the results obtained in the detailed text and tables in the next chapter.

CHAPTER 4: RESULTS

Chapter Outline

The purpose of this chapter is to provide a description of the research results. The researcher will provide a summary of the survey response analysis including completion rate. The first section includes descriptive statistics such as percentages, means, and standard deviations, as well as frequency distributions for the number of participants who have experienced weight-based teasing during recreational sports over the past year. The next section includes descriptive statistics, such as percentages, means, and standard deviations, as well as frequency distributions for the number of participants who have witnessed weight-based teasing during recreational sports over the past year. The third section includes percentage endorsement of beliefs regarding how serious, concerning, and harmful to health weight-based teasing is. Lastly, the fourth section of the results includes a theoretical thematic analysis using the SEM framework to discuss what participants shared has been done to promote or discourage weight-based teasing on the recreational sports teams they are involved with.

Demographic Statistics

Participants. The survey had 198 responses stored in the Opinio software. Of the 198 stored, 155 were fully completed for a completion rate of 78.20%. The majority of the 43 non-completed surveys were missing demographic data including age-range, sex, height, and weight. Of the 166 questionnaires with responses in addition to the yes or no response of the consent form, 79.50% (n=132) were team members, 10.80% (n=18) were coaches, and 9.70% (n=16) were primary caregivers (See Table 4.1).

Table 4.1 Descriptive statistics for participant group breakdown

	Number of Participants	Percentage of Total Participation
Team Members	132	79.50%
Coaches	18	10.80%
Primary Caregivers	16	9.70%
Total Participant Count	166	100%

Participant Sport Association. A total of 22 distinct types of sports were represented by participants (See Appendix L). In all participant groups, the majority of participants were involved in multiple sports: 42.40% (n=56) of team members, 33.30% (n=6) of coaches, and 31.30% (n=5) of primary caregivers. Of those participants in a sole sport, basketball, hockey, soccer, and volleyball had the highest participation rates among all participant groups varying from 5.00-22.00%. A complete list and breakdown of participation rates for each sport can be found in Appendix L.

Participant Gender. Of the 166 participants, 51.80% (n=86) were female, and 42.20% (n=70) were male. An additional 4.20% (n=7) responded they would rather not disclose their gender, and 1.80% (n=3) chose not to respond (See Table 4.2). In the team member participant group, there was an almost even representation of females and males (48.50% vs. 45.50%). However, in the coaches and primary caregiver groups there were a larger percentage of females, 55.60% vs. 38.90% of coaches, and 75.00% vs. 18.80% of primary caregivers (See Table 4.2).

Table 4.2 Percentage of each participant group in each gender category

Participant Group \ Gender Category (%)	Female	Male	Rather Not Say	Did Not Respond
Team Members	48.50	45.50	3.80	2.30
Coaches	55.60	38.90	5.50	-----
Primary Caregivers	75.00	18.80	6.20	-----
All Participants	51.80	42.20	4.20	1.80

Participant Age. The average age of all the participants was 20 years (M=20.08, SD=10.01). Broken down by participant group, the average age of the team members was 16 years (M=15.95, SD=1.16), the average of the coaches was 36 years (M=35.56, SD=12.19), and the average age for primary caregivers was 40 years (M=40.00, SD=11.64).

Table 4.3 Descriptive statistics for age of each participant group

	Mean Age in Years (a)	Standard Deviation (a)
Team Members	15.95, [15.75, 16.14]	1.16, [1.05, 1.26]
Coaches	35.56, [30.39, 40.83]	12.19, [8.56, 14.89]
Primary Caregivers	40.00, [33.23, 45.69]	11.64, [3.25, 15.48]
All Participants	20.08 [18.62, 21.78]	10.01, [7.91, 11.83]

a. Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples

Participant Weight Status. Each participant's Body Mass Index (BMI) was calculated using the height and weight they provided on the questionnaire. 9.60% (n=16) of participants were classified as living with a low weight, 59.00% (n=59) were classified as a healthy weight, 16.30% (n= 27) were classified as living with excess weight, and 10.80% (n=18) were classified as living with obesity. Among participant groups, 62.10%

team members were at a healthy weight, compared to 50.00% of coaches and 43.80% of primary caregivers. Whereas, coaches and primary caregivers had higher rates of living with excess weight and obesity (38.90% of coaches and 43.80% of primary caregivers, compared to 23.50% of team members). See Table 4.4 for details.

Table 4.4 Percentage of each participant group in each weight status category of the Body Mass Index

Participant Group Weight Status (%)	Living with a Low Weight	Healthy Weight	Living with Excess Weight	Living with Obesity	Could Not Measure
Team Members	11.40	62.10	14.40	9.10	3.00
Coaches	5.60	50.00	22.20	16.70	5.60
Primary Caregivers	-----	43.80	25.00	18.80	12.50
All Participants	9.60	59.00	16.30	10.80	4.20

Descriptive Statistics: McKnight Risk Factor Survey III Weight-teasing Incidence

Scale, Prevalence of Weight-based Teasing. Of the 132 team members asked, in the past year during recreational sports, how often have you been teased about your weight, the average response was between “never” (1) and “a little” (2), $M=1.72$, [1.93, 1.97], $SD=1.12$, [0.93, 1.29]. The median response to the question was never (1). See Table 4.5 for details.

Table 4.5 Descriptive statistics of team members who have been teased about their weight in the past year

In the past year during recreational sports, how often have you been teased about your weight? (1= Never, 5= Always)	Median	Mean (a)	Standard Deviation (a)
Team Members	1.00	1.72, [1.93, 1.97]	1.12, [0.93, 1.29]

a. Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples

In terms of the frequency, 35.60% (n=47) responded they experienced “a little” to “always” being teased. 59.10% (n=78) “never” experienced any weight-based teasing, and 5.30% (n=7) did not respond to the question (Table 4.6). Of those who experienced weight-based teasing, most reported “a little” teasing (n=22, 16.70%), followed by “sometimes” (n=12, 9.10%), “a lot” (n=8, 6.10%), and “always” (n=5, 3.80%). See Appendix M for a detailed frequency distribution table.

Table 4.6 Percentage of team members who reported being teased about their weight in the past year

In the past year during recreational sports, how often have you been teased about your weight	Number	Percentage %
Never (1)	78	59.10%
“A Little” (2) to “Always” (5)	47	35.60%
Did not Respond	7	5.30%

Crosstabulation of Prevalence of Weight-based Teasing and Gender. Slightly more than one-third of male team members (38.40%, n=23), reported experiencing weight-

based teasing. Slightly less than one-third of female team members (31.30%, n=20) reported weight-based teasing over the past year. See Appendix M, Table M2 for details.

Crosstabulation of Prevalence of Weight-based Teasing and Weight Status. When comparing incidence of weight-based teasing to team members' body weight status, over half (58.30%, n=8) of those living with obesity reported being teased about their weight. Just under half of team members considered to be living with a low weight (46.60%, n=6) and living with excess body weight (42.10%, n=8) were teased about their weight. Those in the healthy weight category (28.00%, n= 23) reported a lower percentage of experiencing weight-based teasing. See Table M3 in Appendix M for details.

Prevalence of Witnessing Weight-based Teasing. Of the 166 team members, coaches, and primary caregivers asked, in the past year during recreational sports, how often have you witnessed a team member being teased about your weight, the average response was “a little” (2), $M=2.03$, [1.86, 2.20], $SD=1.06$, [0.94, 1.15]. The average response of team members and coaches was also “a little” (2), $M=2.07$, [1.87, 2.27], $SD=1.09$, [0.96, 1.20] (team members), and $M=2.07$ [1.50, 2.64], $SD=1.07$, [0.62, 1.33] (coaches). Primary caregivers reported a lower average of witnessing teasing at $M= 1.63$, [1.31, 2.00], 0.72, [0.48, 0.87], between “never” and “a little.” See Appendix M, Table M4 for complete descriptive statistic breakdown on each group.

Table 4.7 Descriptive statistics of participant groups who have witnessed a team member being teased about their weight in the past year

In the past year during recreational sports, how often have you witnessed a team member being teased about their weight? (1= Never, 5= Always)	Median	Mean (a)	Standard Deviation (a)
All Participants	2.00	2.03, [1.86, 2.20]	1.06, [0.94, 1.15]

a. Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples

In terms of the frequency, just over half of team members (56.80%, n=75) and primary caregivers (56.20%, n=9) had witnessed a team member experience weight-based teasing during recreational sports over the past year. Slightly below half (44.40%, n=8) of the coaches surveyed witnessed weight-based teasing on their sports teams during the past year (Table 4.8). Looking at the frequency distribution of responses from never (1) to always (5), all participant groups reported they never witnessed weight-based teasing more than other responses; 39.70% of team members, 44.40% of coaches, and 31.30% of primary caregivers. Of the percentage of respondents who had witnessed weight-based teasing, most had only witnessed “a little” teasing, between 24.20%-33.30% among all the participant groups. This response was followed by “sometimes” (11.10%-22.70%), “a lot” (7.60%-12.50%), and “always” (2.30%-12.50%). Interestingly, among the coaches group, no one reported “a lot” or “always” in terms of how often they witnessed weight-based teasing on their teams. See Appendix M, Table M5 for the complete frequency distribution table.

Table 4.8 Percentage of team members, coaches, and primary caregivers who witnessed weight-based teasing in the past year

In the past year during recreational sports, how often have you witnessed a team member being teased about their weight?	Team Members	Coaches	Primary Caregivers
Reported in Percentages (%)			
Never (1)	37.90% (n=50)	44.40% (n=8)	31.30% (n=5)
“A Little” (2) to “Always” (5)	56.80% (n=75)	44.40% (n=8)	56.20% (n=9)
Did Not Respond	5.30% (n=7)	11.10% (n=2)	12.50% (n=2)

Crosstabulation of Witnessing of Weight-based Teasing and Gender. Almost two-thirds of male participants (63.20%, n=43) and female participants (58.40%, n=45) witnessed weight-based teasing. Those participants who would rather not disclose their gender (42.90%, n=3), or did not respond to the question (33.30%, n=3), reported a lower percentage of witnessing weight-based teasing. However, given such a low number of participants in these subgroups it is difficult to utilize this information to draw conclusions. See Appendix M, Table M6 for complete details.

Crosstabulation of Witnessing of Weight-based Teasing and Weight Status. When comparing witnessing weight-based teasing to body weight status, 66.70% those living with obesity (n=12) had witnessed weight-based teasing, followed by 64.50% of those categorized as living with a low weight (n=9) and 58.70% of those at a healthy weight (n=54). Those living with excess weight (53.80%, n=14) reported a lower percentage of witnessing weight-based teasing during recreational sports. However, given such a low

number of participants in some of these weight category subgroups, it is difficult to utilize this information to draw conclusions (See Appendix M, Table M7).

Crosstabulation of Witnessing of Weight-based Teasing and Age Range. When comparing the 10-year age brackets to witnessing weight-based teasing, the data were skewed by one participant at a higher age-range (aged 60-69) that caused this age bracket to have witnessed weight-based teasing all the time (100.00%, n=1). Over three-quarters of those aged 40-49 years witnessed weight-based teasing (84.60%, n=11). Participants aged 10-19 years (57.90%, n=51) and those 20-29 years (50.00%, n=2) witnessed a similar percentage of weight-based teasing. Those aged 30-39 years (14.30%, n= 1) and 50-59 years (0.00%, n=0) reported lower percentages of witnessing weight-based teasing over the past year. Again, given such a low number of participants in some of these age-range subgroups, it is difficult to utilize this information to draw conclusions. See Appendix M, Table M8 for complete details.

Descriptive Statistics: Perception of Weight-based Victimization Scale

Perception of the Seriousness of Weight-based Teasing. When comparing participants' perceptions of the severity of weight-based teasing, the average response of all three participant groups was between "somewhat serious" (3) and "serious" (4); team members (M=3.20, SD=1.32), coaches (M=3.31, SD=1.40), and primary caregivers (M=3.93, SD=0.92). See Table 4.9.

Table 4.9 Descriptive statistics of participants’ responses to how serious weight-based teasing is in general

How serious is WBT in general (1= not at all serious... 5= very serious)	Median	Mean (a)	Standard Deviation (a)
Team Members	3.00	3.20, [2.98, 3.42]	1.32, [1.19, 1.42]
Coaches	3.00	3.31, [2.69, 4.00]	1.40, [1.02, 1.63]
Primary Caregiver	4.00	3.93, [3.43, 4.36]	0.92 [0.65, 1.00]

a. Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples

Participant endorsement of weight-based teasing as serious was estimated by calculating the frequency of those who responded that it was “serious” (4) to “very serious” (5) on the 5-point likert scale. Out of all the participant groups, half of primary caregivers (50.10%, n=8) endorsed weight-based teasing as serious, followed by lower percentages reported by team members (45.50%, n=60), and coaches (38.90%, n= 7). See Table 4.12 for details.

Looking at the frequency distribution of responses from not at all (1) to very serious (5), primary caregivers reported weight-based teasing as higher on the spectrum of seriousness than any other group. Participants labelled the behavior as “somewhat serious” (37.50%, n=6), followed by “very serious” (31.30%, n=5) and “serious” (18.10%, n=3). Interestingly, coaches perceived weight-based teasing as “slightly serious” and “very serious” at the same rate (27.80%, n=5). The remaining participants felt weight-based teasing was “somewhat serious” (16.70%, n=3), “serious” (11.10%, n=2), and “not at all serious” (5.60%, n=1). Team members responded with weight-based

teasing as “serious” (28.80%, n=38), followed by “somewhat serious” (20.50%, n=27), and “very serious” (16.70%, n=22). However, given the very small number of participants in the coaches and primary caregiver categories the researcher is unable to determine that primary caregivers in fact have higher endorsement of this belief. See Table N1 in Appendix N for details.

Perception of How Concerning Weight-based Teasing is. When comparing participants’ perceptions of how concerning weight-based teasing is, the average response of team members was between “slightly concerning” (2) and “somewhat concerning” (3) (M=2.82, SD=1.20). On average, coaches perceived weight-based teasing to be “somewhat concerning” (3) to “concerning” (4) (M=3.44, SD=1.03). Whereas primary caregivers perceived weight-based teasing to be “concerning” (4) to “very concerning” (5) (M=4.14, SD=0.86). See Table 4.10.

Table 4.10 Descriptive statistics of participants’ responses to how concerning weight-based teasing is in general

How concerning is WBT in general (1= not at all concerning... 5= very concerning)	Median	Mean (a)	Standard Deviation (a)
Team Members	3.00	2.82, [2.61, 3.03]	1.20, [1.09,1.30]
Coaches	3.00	3.44 [2.94, 4.00]	1.03 [0.68, 1.24]
Primary Caregivers	4.00	4.14, [3.64, 4.57]	0.86 [0.63, 0.98]

a. Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples

Participant endorsement of weight-based teasing as concerning was calculated by calculating the frequency of those who responded that it was “concerning” (4) to “very

concerning” (5) on the 5-point likert scale. Almost three-quarters of primary caregivers (71.50%, n=10) endorsed weight-based teasing as concerning. Coaches (38.90%, n=7) and team members (31.90%, n=42) reported lower endorsement percentages identifying weight-based teasing as concerning (See Table 4.12).

Looking at the frequency distribution of responses from not at all (1) to very concerning (5), primary caregivers labelled the behaviour as “very concerning” (37.50%, n=6), followed by “concerning” and “somewhat concerning” at the same rate (25.50%, n=4). Coaches percentage rankings of the seriousness of weight-based teasing were as follows; “somewhat concerning” (33.30%, n=6), “concerning” (22.20%, n=4), followed by “very concerning” and “not at all concerning” (16.70%, n=3). Team members ranked weight-based teasing at an equal percentage as “somewhat concerning” and “concerning” (25.80%, n=4). Their responses had similar percentages for “slightly concerning” (19.70%, n=26) and “not at all concerning” (17.40%, n=23). Only a small percentage of team members perceived weight-based teasing as “very concerning” (6.10%, n=8). However, given the very small number of participants in the coaches and primary caregiver categories the researcher is unable to determine that primary caregivers in fact have higher endorsement of this belief. See Table N2 in Appendix N for details.

Perception of How Harmful to Health Weight-based Teasing is. When comparing perceptions of how harmful to health weight-based teasing is, the average response of team members was between “somewhat harmful” (3) to “harmful” (4) (M=3.45, SD=1.20). On average, the two other participant groups perceived weight-based teasing to be “harmful” (4) to “very harmful” (5); coaches (M=4.19, SD=0.98) and primary

caregivers (M=4.36, SD= 0.75).

Table 4.11 Descriptive statistics of participants' responses of perceived harmfulness weight-based teasing is to adolescent health

How harmful to health is WBT in general (1= not at all harmful... 5= very harmful)	Median	Mean (a)	Standard Deviation (a)
Team Members	4.00	3.45, [3.23, 3.66]	1.20, [1.09,1.30]
Coaches	4.50	4.19, [3.69, 4.63]	0.98, [0.62, 1.20]
Primary Caregiver	4.50	4.36, [3.93, 4.71]	0.75, [0.45, 0.91]

a. Unless otherwise noted, bootstrap results are based on 1000 boots trap samples

Participant endorsement of weight-based teasing as harmful to health was calculated from the frequency of those who responded that is was “harmful” (4) to “very harmful” (5) on the 5-point likert scale. Almost three-quarters of primary caregivers (71.50%, n=10) reported weight-based teasing as harmful to health. Coaches (66.60%, n=12) and team members (48.50%, n=64) reported lower percentages. See Table 4.12 for complete details.

Looking at the frequency distribution of responses from not at all (1) to very harmful (5), primary caregiver’s percentage rankings of the behaviour’s harmfulness were as follows; “very harmful” (43.80%, n=7), “harmful” (31.30%, n=5). “somewhat harmful” (12.50%, n=2), and did not respond to the question (12.50%, n=2). The coach’s rankings were as follows; “very harmful” (44.40%, n=8), “harmful” (22.20%, n=4), followed by “somewhat harmful” (16.70%, n=3) and “slightly harmful” (5.60%, n=1). Team members responded that weight-based teasing was “harmful” (25.80%, n=34),

followed by “very harmful” (22.70%, n=30) and “somewhat harmful” (22.00%, n=29). Only a small percentage of team members perceived weight-based teasing as “not at all harmful” (5.60%, n= 6). However, given the very small number of participants in the coaches and primary caregiver categories the researcher is unable to determine that primary caregivers in fact have higher endorsement of belief. See Table N3 in Appendix N for details.

Comparison of Percentage Endorsement for Each Weight-based Teasing

Perception. Of the three beliefs about weight-based teasing participants were asked about, all groups reported high endorsement rates of weight-based teasing as harmful to health: team members (48.50%, n=64), coaches (66.60%, n=12), and primary caregivers (71.50%, n=10). Almost half of team members endorsed weight-based teasing as serious (45.50%, n=60), with a lower percentage endorsing the behaviour as concerning (31.90%, n=32). Coaches endorsed weight-based teasing as serious and concerning at an equal rate (39.90%, n=7). Whereas, primary caregivers endorsed weight-based teasing as concerning (71.50%, n=10) at a higher rate than endorsing it as serious (50.10%, n=8). See Table 4.12 for complete details.

Table 4.12 Percent endorsement of participants’ beliefs about weight-based teasing as serious, concerning, and harmful to health

Beliefs about Weight-Based Teasing	Team Members	Coaches	Primary Caregivers
Percent Endorsement (%) (response of 4 or 5 on likert scale)			
How serious is WBT in general (1= not at all	45.50% (n=60)	38.90% (n=7)	50.10% (n=8)

serious... 5= very serious)			
How concerning is WBT in general (1= not at all concerning... 5= very concerning)	31.90% (n=42)	38.90% (n=7)	71.50% (n=10)
Perceived harmfulness of WBT to adolescent health (1= not at all harmful... 5= very harmful)	48.50% (n=64)	66.60% (n=12)	71.50% (n=10)
Did Not Respond	5.30% (n=7)	11.10% (n=2)	12.50% (n=2)

Crosstabulation of Participants’ Beliefs about Weight-based Teasing with Gender.

Over half of female participants endorsed weight-based teasing as being serious (58.20%, n=50), concerning (52.30%, n=45), and harmful to health (73.30%, n=63). Thirty percent (n=31) of males endorsed weight-based teasing as serious and harmful to health, whereas only 14.30% (n=10) endorsed it as concerning. See Appendix N, Table N5 for details.

Crosstabulation of Participants’ Beliefs about Weight-based Teasing with Weight Status.

Out of all the weight status categories as outlined in BMI, almost two-thirds of those living with excess weight endorsed weight-based teasing as serious (62.90%, n=17). Participants living with a low weight (50.00%, n=8), living with obesity (44.40%, n=8), and at a healthy weight (38.80%, n=38) reported lower percentage endorsement rates.

About half of those living with excess weight endorsed weight-based teasing as concerning (51.80, n=14). Those living with obesity (38.90%, n= 7), those at a healthy weight (31.60%, n=31), and those categorized as underweight (31.30%, n=5) reported lower percentage endorsement rates.

Lastly, about half of all participants groups endorsed weight-based teasing as harmful to health; 55.10% of those living with excess weight (n=14), 51.80% of those living with obesity (n=14), and 50.00% of those at a healthy weight (n=9) and living with a low weight (n=8).

Of the participants whose weight status was unknown, 57.20% (n=4) endorsed weight-based teasing as serious, 28.60% (n=2) endorsed it as concerning, and 42.90% (n=3) endorsed it as harmful to health. However, given the very small number of participants in certain weight status categories, the researcher is unable to definitely determine that those living with excess weight actually had higher endorsement of these beliefs. Appendix N, Table N6 for details.

Crosstabulation of Participants' Beliefs about Weight-based Teasing with Age

Range. Those participants within the age ranges of 10-19 years (46.60%, n=62), 20-29 years (50.00%, n=2), 40-49 years (46.20%, n=6) had very similar percentage endorsements for weight-based teasing as serious. Those aged 30-39 (42.90%, n=3), 50-59 (33.30%, n=1), and those whose age is unknown (20.00%, n=1) reported somewhat lower rates of endorsement for this belief.

Almost two-thirds of participants aged 40-49 (63.90%, n=9) endorsed weight-based teasing as concerning. Half of those aged 20-29 endorsed this belief (50.00%, n=2).

Those aged 50-59 years (33.30%, n=1) and 10-19 years (33.10%, n=44) had a very similar percentage endorsement rates. Those participants ages 30-39 years old (28.60%, n=2) and those whose age was unknown (20.00%, n=1) reported lower percentage endorsement rates of weight-based teasing as concerning.

Participants aged 40-49 years and 20-29 years had very similar percentages of endorsement of weight-based teasing as harmful to health at 76.90% (n=10) and 75.00% (n=3), respectively. Following were those aged 50-59 years (66.60%, n=2), those with an unknown age (60.00%, n=3), and those aged 30-39 years (57.20%, n=4), and those aged 10-19 years (49.60%, n=66).

Only one participant was within the 60-69-year age category. This participant did not endorse weight-based teasing as serious, concerning, or harmful to health. Although this data provides some idea of percentage endorsement across age ranges, given the very small number of participants in certain age range categories (e.g. 20-29 years), the researcher is unable to definitely determine that these age groups endorse these beliefs at these specific rates. Appendix N, Table N7 for details.

Data Outliers. Data outliers were examined in thirteen of the fourteen questions by completing box and whisker plots. The examination for data outliers within the Weight-based Teasing Incidence Scale, found eight outliers in the question, “during the past year, how often have you been teased about your weight”. The researcher chose not to remove these outliers as they were valuable in determining the severity of the occurrence of weight-based teasing in the team member population. The researcher felt it was important

to assess the impact of this specific participant group (See Appendix O).

The researcher calculated the frequencies of the eight-outlier team member participants' demographic information including, sport played, gender, and weight status to determine if there were any striking similarities in these characteristics. In regard to sport played, half (50.00%, n=4) reported to have played multiple sports. The remaining half (50.00%, n=4) reported all different sports with no specific link to sport category. Concerning gender, half (50.00%, n=4) reported to be male, a little over one-third (37.50%, n=3) reported to be female, and one participant (12.50%, n=1) did not disclose their gender. Lastly, concerning weight status, three-quarters (75.00%, n=6) were at a healthy weight, with only one participant (12.50%, n=1) reporting to be living with a low weight and one participant living with excess weight (12.50%, n=1). Overall, given the very small sample of outliers and characteristic frequencies calculated above, no identical characteristic between all participants was found that could assist in informing why these participants were teased more often about their weight.

Thematic Analysis: The Promotion or Discouragement of Weight-Based Teasing on Youth Recreational Sports Teams

Four key themes related to the promotion of weight-based teasing on recreational sports teams were identified within the interpersonal, organizational, community, and policy level of the SEM across participant groups. No major themes were identified within the individual level. However, it is important to note that all the levels of the SEM are grounded in an individual's perceptions of their experiences and therefore could be categorized as occurring in the individual level of the SEM.

Interpersonal Level

Minimization of weight-based teasing by coaches and team mates

Some participants described what would be considered minimization, lowering the importance of someone being teased about their weight. From the perspective of one team member when asked about what was being done to discourage weight-based teasing, “I do not think anything is being done. Because whenever I had told a coach [about weight-based teasing] they wouldn’t do anything and say it was harmless.”

Similarly, a primary caregiver of a team member reported, “I haven’t seen it addressed at all. I heard about the teasing from my son. He said the coach knew but said “kids are kids”....” Additionally, another team member felt prefacing the teasing with the word “just” insinuated it was not serious, promoting its occurrence on her sports teams. In her words, “I think that people are promoting by saying that “We’re just teasing.”

Interestingly, another participant responded to the question regarding the promotion of weight based teasing as a joke on his team, inferring there was no harm done. In his words, “Mostly joking around about some people’s weight on my sports team so no serious harmful teasing affecting negative long-term consequences.”

These quotes suggest that at least a handful of the participants had felt that weight-based teasing was minimized and not appropriately addressed as a negative behaviour on their recreational sports teams. Weight-based teasing was also noted to be accepted on some sports teams, likely because it was minimized and therefore treated as an acceptable behaviour.

Acceptance of weight-based teasing by coaches

The idea that weight-based teasing is a normal behaviour that youth engage in was brought up in the discussion on what promotes weight-based teasing during recreational sports. Of the comments made, coaches tended to set the expectation as to what was normal in regard to responding to weight-based teasing. It was their interpersonal relationships with their team members that set a tone of acceptance of weight-based teasing.

In the opinion of one primary caregiver, coaches were thought to normalize the behaviour by ignoring or even encouraging it, “It is not discouraged; it is ignored by coaches from my observations. In fact, sometimes it is encouraged to cause children to drop out and quit the team instead of being cut from the team.” The coaches’ responses to witnessing weight-based teasing was also thought to promote acceptance. One participant noted, “Coaches are promoting it by laughing at the jokes people are making at the bigger people.” Another team member also spoke about coaches discussing the weight of their team members as a source of promotion of weight-based teasing. In her words, “It is being promoted by...coaches telling a player to lose weight.”

Organizational Level

Sport-specific body shape and size expectations

Multiple participants commented on sport-specific body weight requirements as the main promoter of weight-based teasing on their sports teams. In the concise words of one team member, “Weight classes might encourage weight-based teasing.” Another team member noted that having weight categories announced during sporting events can cause weight-

based teasing because other participants will become aware if you go up a weight category. In her words, “You need to be in a certain weight bracket for tournaments and if you gain weight everyone knows because you'll go up a bracket and it's very discouraging.” An additional female team member noted that weight-based teasing may occur as part of pressure put on by a coach in certain sports, “With wrestling, if you're competitive, your coach may be pressuring you to keep weight or go down in weight. This can be difficult as you're judged by your weight.”

Other participants alluded to the fact that weight-based teasing could occur on sports teams because players are selected to play certain sports based on body shape and size. In the words of one team member, “Well there is an " ideal size " for certain sports. like volleyball, tall and thin. football, big shoulders and tall.”

Participants identified messages within specific sport organizations on certain body type and sizes expected of team members to be good at the sport. This may promote weight-based teasing behaviours on sports teams directed at those players that do not meet the expected standards. Similarly, in the community, a main theme discussed is the idea of the media perpetuating weight-based teasing because of unrealistic body shape and weight portrayals of athletes.

Community Level

Media messaging about body weight and shape in sport

Numerous team members participating in the study noted that the media had an impact on promoting weight-based teasing by perpetuating the message that only those with what is perceived to be a very fit body size and shape could be successful athletes. They

discussed seeing these messages on television shows and commercials, radio advertisements, and in social media outlets.

In the words of one team member regarding the promotion of weight-based teasing, “The media telling people they can't play or do well in sports unless they are extremely fit. Only ever showing fit men and women in sport-related pictures.” Similarly, another female team member noted the influence of photographs of athletes playing specific sports having an impact on her perception of what a volleyball player should look like. In her words, “There are photos of how a player should look, volleyball players are tall and strong in people’s eyes but that’s not always the case.”

Interestingly, the influence of the media in shaping the expectations of athlete body types was not mentioned by coaches or primary caregivers. It seems that media messaging may have more influence on youth team members.

Policy Level

Lack of weight-based victimization prevention programs or policies

No participants mentioned a sport-specific program that addressed weight-based victimization or more specifically weight-based teasing on any of the sports teams they were affiliated with. More than a dozen of the team member participants felt that nothing was being done to discourage weight-based teasing. Few participants elaborated on why the behaviour was not being discouraged. However, one female participant had a detailed response, “Weight-based teasing is a problem in any sport but it's an even worse problem in dance. And despite how serious it is, it's almost never addressed as far as I've heard.”

It is important to note that the youth participants may pay less attention to

provincial level programs or procedures regarding weight-based victimization. However, none of the coaches that participated listed any type of sport association initiative to reduce weight-based teasing, therefore, it is likely the teams represented did not have any.

Now that what is being done to promote weight-based teasing on youth recreational sports teams has been discussed, it is important to look at specific ways weight-based teasing is discouraged on youth recreational sports teams to get a better grasp on what is working well and should be part of an inclusive sport policy.

Discouragement of Weight-based Teasing on Youth Recreational Sports Teams

Four key themes related to the discouragement of weight-based teasing on recreational sports teams were identified within the interpersonal, organizational, community, and policy levels of the SEM across participant groups. No major themes were identified within the individual level. However, it is important to note that all the levels of the SEM are grounded in an individual's perceptions of their experiences and therefore could be categorized as occurring in the individual level of the SEM.

Interpersonal Level

Use of education to create a culture of good sportsmanship

Multiple team members, coaches, and primary caregivers felt that there were certain expected behaviours from team members when they join a sports team that would deter weight-based teasing. Many of these expectations were surrounding what good sportsmanship includes, such as being kind, supportive, respectful, and understanding of team diversity. The most common expectation expressed was that team members needed to respect one another. Education on mutual respect typically involved team huddles. As

noted by two primary caregivers, “[Weight-based teasing is discouraged] by educating students to accept all students and to show support for all students participating” and “I see coaches trying to teach their team about the importance of respecting one another.” Coaches also acknowledged their role in initiating discussions about respect, “[Weight-based teasing is discouraged by] discussions with players in general terms about respect for each other.... Nothing specific to weight.” This coach noted that the education on respect did not specifically mention weight or initiatives to reduce weight-based teasing. A second coach who responded noted that he had started initiatives on his team beyond discussing respect for diversity to specifics about weight sensitivity. In his words,

With our team, a pre-season discussion on respect and understanding of diversity takes place every year. We ask players to report any concerns throughout our season to a coach or team manager. We eliminated the "shirts vs skins" games for our boy's teams so kids would not be expected to participate in a practice without wearing a shirt (has never been a problem, but a proactive approach to not leave a child in an uncomfortable situation).

This coach recognized that weight-based teasing could become an issue on his team and took positive steps to make certain no team member would feel uncomfortable or open up a potential situation that could welcome weight-based teasing.

Team members also expressed their coaches played an important role in initiating discussions on team expectations that reduce weight-based teasing. In the words of one team member, “My coach makes it his personal mission to make sure my team is kind, caring, and encouraging to other people and teams in our sport.” It is clear from this team

member that encouraging positive, team building behaviours such as respect and support are important protective factors against weight-based teasing.

Body positivity and acceptance discussions

The idea of having team body positivity and acceptance discussions developed as part of the comments made from multiple team members and two coaches. Both coaches acknowledged the work they had done in promoting positive self-image for all players involved on their teams. In their words, weight-based teasing is discouraged by, “Acknowledging and valuing the strengths/benefits of different body types within our sport.” and “More supervision for teams and work with positive self-image.” Team members also had suggested points of discussion they felt were important to have on sport teams. In their words, “People talking about everyone's weight and how they treat one another because of their weight.” and “[Being] accepting of people, no matter their size, and only based on their skill level of that sport.”

Along with the encouragement of positive behaviours to discourage weight-based teasing, participants also discussed penalty systems in place to discourage negative bullying behaviours on teams.

Organizational Level

Anti-bullying penalty systems

All three participant groups noted there was typically some kind of anti-bullying program or regulation set up in various sport organizations throughout the province. The level of penalty a player received appeared to vary throughout different sports. At one end of the spectrum a team member noted that verbally it would be discouraged by, “Just being told

to stop.” In other cases, the penalty appeared to be game specific. In the words of one team member, “There is not a whole lot of weight-based teasing in softball, but the few times I’ve seen it, the player was put on the bench.” In this case, the player described the youth being removed from playing a specific game if they were caught participating in weight-based teasing by their coach.

In other cases, there were stiffer penalties for those participating in weight-based teasing. In the words of two team members, “People are being suspended or kicked off teams for bullying.” And “Getting kicked off the teams for putting others down.” A coach also described a strict penalty system starting with an initial warning then a much longer-term consequence, “In short simple terms, we 100% disallow any form of weight-based teasing. Team mates who do tease are warned once, second time it happens, you are asked to leave the team.”

It is clear from the comments above that many of the teams represented had some form of bullying penalty system in which weight-based teasing is considered a part of. Now that we have discovered what is done at the league level to discourage weight-based teasing, it is important to look at what is being done at provincial sport organizations.

Community Level

At the community level, it is important to look at the broader provincial sport associations’ role in promoting or discouraging weight-based teasing during recreational sports. Only one participating coach made mention of a sports regulation that could have implications for discouraging weight-based teasing. The coach mentioned that many coaches in youth sport are obligated to take courses on ethics in sport as part of their

certification. However, the coach did not elaborate on what topics were covered in these courses, and if weight-based victimization or weight-based teasing on youth sport teams were ever addressed. Although courses in sports ethics are a positive way to increase awareness on things such as bullying in sport, it is unknown if their curriculum addresses the issue of weight-based teasing at hand.

As for the other participants, it is unknown if they were simply not aware of the initiatives in place on the provincial level or that there simply were not any to discuss. The next step is to look within the policy level to determine if participants are aware of anti-bullying policies within their sports.

Policy Level

Anti-bullying policies

Only two participants within the study noted any form of policy present. In the words of one coach, “We have an anti-bullying policy on our team, and we're all really supportive of each other as a team.” and one team member, “We have a fairness policy and punishments if you disrespect others.”

These two comments were the extent of discussion surrounding any inclusive sport policy that would address weight-based teasing. It is unknown if the policies these participants mentioned were developed at the team, league, or provincial association level or if they were standardized across the sport. They also did not provide insight into if weight-based teasing is specifically addressed in these policies or not. Overall, it appears there are minimal policies available in sport organizations that address weight-based victimization.

A summary of the key themes found at each level of the SEM that promote or discourage weight-based teasing can be found in Appendix P.

Response Bias Analysis

A respondent/non-respondent analysis was conducted to determine the effect of non-responses on survey estimates given the lower than expected response rate. The researcher calculated the sample size using the estimated population, a confidence level of 95%, a margin of error of +/- 5%. Using this calculation, a sample size of 376 was required (Creative Research Systems, 2012). To account for an expected non-response rate of up to 75%, a sample size of 801 was required. Of the sample required, 35.60% (n=292) should have been team members, 62.30% (n=499) should have been primary caregivers, and 2.10% (n=17) should have been coaches. The researcher only obtained 21.00% of the required sample size (n=166) needed to obtain a representative sample, therefore external data sources with similar key survey variables were used as a benchmark. The researcher compared the benchmark studies results to the survey results in this study to look for significant variations.

Prevalence of Weight-based Teasing. The researcher found one bench-mark study that compared percentages of weight-based teasing experienced by youth aged 12-17 who had been victims of weight-based teasing (Puhl & King, 2013). Puhl and King's (2013) review found that between 34-63% of participants living with excess weight or obesity had experienced weight-based teasing. The researcher also found results within this percentage range, with 58.30% of those living with obesity and 42.10% of those living with excess weight noting they experienced weight-based teasing over the previous year.

In terms of the prevalence of weight-based teasing experienced for specific genders, the researcher compared her results to a benchmark study looking at weight-based teasing on Australian middle school sports teams (Slater & Tiggemann, 2011). Slater and Tiggemann (2011) indicated 56.9% of boys and 33.1% of girls experienced weight-based teasing. The researcher also found that male team members (38.40%) were teased more often about their weight than female team members (31.30%) in somewhat similar percentages.

In terms of witnessing weight-based teasing, the researcher could only find one benchmark study looking at the percentage of adolescents ages 13-19 years who had witnessed a peer being teased about their weight during some form of physical activity (Puhl et al., 2011). Puhl and colleagues (2011) found that 85.00% of participants had witnessed a peer being teased about their weight. The researcher found that 56.80% of team members surveyed had witnessed a team member being teased about their weight over the past year. The benchmark study revealed a higher percentage of participants witnessing weight-based teasing than in this research. The differing environments of schools to recreational sports teams may be a factor in the differences. No research could be found on coaches or primary caregivers witnessing weight-based teasing.

Beliefs about Weight-based Teasing. The researcher was only able to find one benchmark survey to compare the endorsement rates of beliefs about weight-based teasing in this research to. The researcher compared the percent endorsement of primary caregivers in this study to the responses of parents in the Puhl and colleagues (2013) study looking at parental concerns about weight-based victimization in youth. Primary

caregivers in this study had similar percentage endorsement of weight-based teasing as concerning (71.50% vs 74.00%) and harmful to health (71.50% vs 85.00%) compared to parents in the weight-based victimization study. There was a larger degree of difference in the percent endorsement of weight-based teasing as serious (50.10% vs 82.00%). This may be explained by the fact that weight-based teasing is only one aspect of weight-based victimization, and the parents in the comparison study may have endorsed victimization as more serious because it could involve physical violence and threats. The researcher could not find a benchmark study for the beliefs about weight-based teasing of team members and coaches as it appears to be a gap in the literature.

Response Bias Summary

Overall, the researcher found that the results of this study were similar to the results of the benchmark studies except in relation to witnessing weight-based teasing. Unfortunately, there was a limited amount of research available with similar key variables that could be used as benchmarks. There were gaps in the research that limited the researcher's ability to draw conclusions about the impact of response bias on survey results in a complete manner. Overall this study's sampling method and small sample size limited the researcher's ability to obtain a representative sample of the entire population. Therefore, it is possible there is a bias in the data and the sample statistics calculated may be an over or under-estimate of the weight-based teasing population parameters measured.

Summary of the Results

Of those responding to the survey, 36.00% of team members experienced weight-based teasing during recreational sports. Over one-third of male team members were teased about their weight (38.00%), whereas, slightly under one-third of female team members were (31.00%). Over half of team members living with obesity (58.00%) were teased about their weight.

Slightly over half of team members and primary caregivers (56.00%) had witnessed a team member experience weight-based teasing during recreational sports over the past year. Slightly below half (44.00%) of the coaches surveyed witnessed weight-based teasing on their sports teams. Both genders had witnessed weight-based teasing to about the same extent (~60.00%). Those living with obesity reported high rates of witnessing weight-based teasing (67.00%). In terms of age, over three-quarters of those aged 40-49 witnessed weight based teasing (85.00%). Other age groups reported lower percentages (0.00-58.00%).

Regarding beliefs about weight-based teasing, a half to almost three-quarters of primary caregivers reported weight-based teasing as serious, concerning, and harmful to health (50.00-72.00%). Similarly, over half to also three-quarters of female participants labelled weight-based teasing as serious, concerning, and harmful to health (52.00%-72.00%). Male participants reported lower percentage endorsements of all beliefs (14.00%-30.00%). Over half of participants living with excess weight endorsed weight-based teasing as serious (63.00%) and concerning (52.00%), and over half of those at a healthy weight (55.00%) endorsed the behavior as harmful to health.

The researcher identified five key themes that promoted weight-based teasing on youth recreational sports teams. In the interpersonal environment, *weight-based teasing minimization by coaches and team members* and *acceptance of weight-based teasing by coaches* were identified themes. In the organization environment, *sport specific body shape and size expectations* was identified as a theme promoting weight-based teasing. In the community level, *media messaging about body weight and shape in sport* was identified as a theme. Lastly, in the policy level, *lack of weight-based victimization programs or policies* surfaced as a theme.

The researcher identified four key themes that discouraged weight-based teasing on youth recreational sports teams. In the interpersonal environment, *the use of education to create a culture of good sportsmanship and body positivity discussions* were identified. In the organizational environment, *anti-bullying penalty systems* was identified as the main theme. Lastly, in the policy level, *anti-bullying policies* was identified as a theme.

The significance of the quantitative and qualitative results of this research in relation to the literature on weight-based teasing is outlined in the discussion chapter.

CHAPTER 5: DISCUSSION

Chapter Outline

In this chapter, the researcher will discuss how the objectives of the study were achieved, namely, to describe the prevalence of weight-based teasing among adolescents involved in recreational sports from the perspective of team members, coaches, and primary caregivers, as well as assess participants' concerns and beliefs about the effect of weight-based teasing on health, with the aim of providing valuable information for the development of sport policies. The researcher will outline the significance of both the quantitative and qualitative results of this research in relation to current literature on weight-based teasing during recreational sports. The researcher will also review the significance and limitations of this study, and close by discussing the implications of this study on future research and practice as it relates specifically to the field of health promotion.

Prevalence of Weight-based Teasing

Under the guidance of the research question, how often do team members enrolled in recreational sports in Nova Scotia experience weight-based teasing, this study found that, 35.60% (n=47) of team members surveyed had experienced weight-based teasing on recreational sports teams at some point over the previous year. To the best of the researcher's knowledge, this is the first study to determine the prevalence of weight-based teasing specifically on recreational sports teams. The researcher was only able to identify one study prior to this that specifically researched weight-based teasing on youth school sports teams. Slater and Tiggemann (2011) broke the prevalence down based on

participant gender and who initiated the teasing; team-mates, coaches, or family members. Participants could indicate more than one group had teased them about their weight, therefore, they were unable to calculate a total percentage of weight-based teasing occurrence for all team members. Between 9.60-16.30% of participants had been teased by a team member, 2.30-3.50% had been teased by a coach, and 10.90-18.80% had been teased by a family member (Slater & Tiggemann, 2011).

Recent research on weight-based teasing prevalence in the general youth population provides estimates of the typical rates of teasing for this cohort. Greenleaf and colleagues (2012) found that 17.30% (n=245) of the American youth aged 12-15 surveyed (n=1419) had experienced weight-based teasing in the past. A Canadian study on weight-based teasing of students in grades 7 to 12 (n=1491) indicated that 29.00% (n=432) had experienced weight-based teasing (Goldfield et al., 2010). Overall, more research is required to determine if weight-based teasing is more prevalent in the sporting environment compared to the school setting.

When looking at prevalence based on gender, 38.40% of male team members reported experiencing weight-based teasing while playing recreational sports (n=23). Female team members reported a lower percentage (31.30%, n=20). Research on school-based sport's teams also found higher percentages of teasing for male team members (56.90%, n=115) compared to female team members (33.10%, n=86) when looking at same-gender teasing (Slater & Tiggemann, 2011). The results reversed when looking at different genders teasing one another. Only 12.40% (n=25) of male team members were teased by female peers, whereas, 32.60% (n=94) female team members were teased by

male peers (Slater & Tiggemann, 2011).

Studies on weight-based teasing prevalence in the general youth population contradict this study's findings, indicating that girls tend to experience higher-rates of weight-based teasing than males (Goldfield et al., 2010; Puhl & King, 2013). Goldfield and colleagues (2010) reported 33.00% of females reported experiencing weight-based teasing compared to only 18.00% of males. A recent review of weight discrimination and bullying reported studies in which female youth were teased five to fourteen more percentage points than male youth (Puhl & King, 2013). However, research as part of the Project EAT study on eating behaviours in teens (n=2516) found only a small difference in weight-based teasing prevalence between females (23.00%) and males (21.00%) (Haines, Neumark-Sztainer, Eisenberg, & Hannan, 2006).

Research on weight-based pressure to attain a muscular physique provides one theory as to why male athletes may experience higher levels of weight-based teasing than female athletes. It appears that in addition to those who are teased due to excess weight, male team members living with a low weight may be teased by team members or coaches as a form of motivation to attain a certain muscle mass deemed important for athletic performance (Galli & Reel, 2009; Galli et al., 2014). It appears that many female athletes would not be subjected to weight-based teasing for being too thin as a higher percentage participate in aesthetic and endurance-based sports where being thin is the desired body size (Galli, Reel, Petrie, Greenleaf, & Carter, 2011). More research on gender specific weight-based teasing in sport is needed to confirm these findings.

Examining the prevalence of weight-based teasing based on BMI status, over half

(58.30%) of those living with obesity experienced (n=8) weight-based teasing. Just under half (46.60%) of those who were living with a low weight (n=6) and excess body weight (42.10%, n=8), and slightly more than a quarter (28.00%) those considered to be at a healthy weight (n= 23) also experienced the teasing. It is difficult to draw conclusions given the very small sample sizes in each weight category examined. However, it appears those living with obesity and those living with excess weight may be teased more often than those considered to be at a healthy weight.

A recent systematic review on weight discrimination and bullying revealed that between 34-63% of youth aged 12-17 who were classified as living with excess body weight had been victims of weight-based teasing (Puhl & King, 2013). In terms of comparing those considered “overweight” or “obese” to those considered a healthy weight status, Goldfield and colleagues (2010) found weight-based teasing was significantly higher among youth living with excess weight or obesity compared to those at a healthy body weight (45.00% vs 22.00%). The researcher’s findings on prevalence rates of weight-based teasing for those living with excess weight or obesity in recreational sports is consistent with what is typically found in the literature.

The difference in weight-based teasing of youth living with excess weight compared to those in a healthy weight range is likely due to weight bias and stereotypes that develop in early childhood (Puhl & Latner, 2007). By four years old, children can identify that the negative stereotypes they hold of some of their peers is due to their excess body weight (Cramer & Steinwert, 1998). By middle school, these weight bias beliefs have manifested into weight-based teasing, noted to be more frequent and

distressing for those living with excess weight compared to peers considered to be at a healthy weight (Hayden-Wade et al., 2005).

The prevalence of weight-based teasing for those living with a low weight may be uniquely present on sports teams because of the specific muscular ideal deemed necessary to be a successful athlete (Galli et al., 2014). Qualitative research on male athletes indicated specific sports pressures to attain a muscular physique often presented itself in the form of teasing or negative comments about body weight, shape, and size by team mates and coaches (Galli & Reel, 2009). The relationship between the muscular ideals in sport and presence of pressure to gain muscle in the form of teasing has been established in male athletes through the relatively new *weight pressure in sports scale* (Galli et al., 2014; Galli et al., 2011). There is a gap in research looking at female athletes' weight pressures in sports where muscularity is considered a performance enhancer. This is likely due to the fact females have traditionally gravitated towards participating in aesthetic and endurance-based sports where the body size ideal is thinness (Galli et al., 2011).

The researcher has established a rate of weight-based teasing on youth recreational sports teams in Nova Scotia along with varying teasing rates for different genders and weight statuses. However, given the small sample size obtained, the researcher cannot generalize this rate to all youth recreational sports teams in Nova Scotia. Overall, additional research on weight-based teasing during youth recreational sports is needed to determine if this behaviour occurs at higher rates during sports compared to other youth-centric settings.

Now that prevalence of weight-based teasing occurrence has been discussed, it is important to look at the prevalence of witnessing weight-based teasing to determine if team members, coaches, and primary caregivers not involved in the weight-based teasing incidents are observing these interactions during sports.

Prevalence of Witnessing Weight-based Teasing

Under the guidance of the research question, how often do team members, coaches, and primary caregivers of adolescents enrolled in recreational sports in Nova Scotia observe weight-based teasing directed at participants, the researcher found just over half of team members and primary caregivers (~56.00%) had witnessed a team member experience weight-based teasing during recreational sports over the past year. The coaches surveyed had a slightly lower rate of witnessing weight-based teasing on their sport teams (44.40%). Of those who have witnessed weight-based teasing, a similar percentage were male and female (63.20% vs. 58.40%). The sole participant in 60-69-year age range was most likely to have witnessed weight-based teasing (100%), followed closely by those aged 40-49 years (84.60%). About half of participants aged 10-19 years (57.90%) and 20-29 years (50.00%) witnessed weight-based teasing. In those aged 30-39 years, a smaller percentage reported having witnessed weight-based teasing (14.30%) and no participants 50-59 years old reported witnessing weight-based teasing in the past year.

There is a gap in research exploring how often youth team members witness peers being teased about their weight during sports. However, the percentage of team members who witnessed weight-based teasing (~56.00%) in this study was lower than adolescent peers who had witnessed weight-based teasing during school-based physical activity

research. In an American study on adolescents ages 13-19 years (n=1,555), 85% of participants had witnessed a peer being teased about their weight during some form of physical activity (Puhl et al., 2011). The lower incidence of weight-based teasing in this environment may be due to anti-bullying penalty systems held by multiple sport organizations in Nova Scotia that were noted by participants as discouraging weight-based teasing. Additional research on the effectiveness of anti-bullying policies and penalty systems in school physical activity classes compared to sporting environments would be needed to confirm if differences exist.

No research could be found on how often primary caregivers and coaches witness weight-based teasing during recreational sports. It seems surprising that primary caregivers would witness weight-based teasing at the same rate that team members did, given the common assumption that any peer-to-peer weight-based teasing would be done discretely out of the view of adults whom may reprimand the behaviour. However, a recent review indicates that 23.00-58.00% of youth living with excess weight and obesity have experienced weight-based teasing by a parent (Puhl, 2011). Therefore, it may be that primary caregivers in the stands are listening to other primary caregivers tease their youth about their body weight before or after the actual sporting event. It is possible the coach would not be present during this time and thus a potential explanation as to why coaches report lower rates of witnessing weight-based teasing.

Two-thirds (66.70%) of those living with obesity witnessed weight-based teasing over the past year, with those categorized as living with a low weight witnessing this behavior at almost the exact rate (64.50%). Interestingly, those living with excess weight

(53.80%) reported a lower rate of witnessing weight-based teasing during recreational sports. It is not surprising participants with the two highest incidence rates of experiencing weight-based teasing were also most likely to have witnessed weight-based teasing of other team members. One theory for this result is that they are sensitive to weight-based teasing and on heightened alert of others being teased about their weight, as they fear being victimized by the same bully. Knowing who the bullies are on their teams is a protective factor in terms of being able to strategize plans to avoid contact with them (Puhl et al., 2011).

The variation in incidence rates of witnessing weight-based teasing can be attributed to the typical age ranges of the three participant groups involved. Primary caregivers typically reported an age range of 40-49 years and team members were solely within the 10-19-year age range, making up two of the higher rates of witnessing weight-based teasing. Coaches tended to be within the 20-39-year age range, with a lower incidence of witnessing weight-based teasing. There is no research investigating the association of age to witnessing weight-based teasing during recreational sports to assist in drawing conclusions about the data found. The small sample sizes within certain age ranges also limits the ability to make specific conclusions about age range breakdowns.

The researcher has established the prevalence of witnessing weight-based teasing on youth recreational sports teams in Nova Scotia along with variations in the rates depending on gender, weight status, and age range. However, given the small sample size obtained, the researcher cannot generalize these rates to all youth recreational sports teams in Nova Scotia. Overall, additional research on the prevalence of witnessing

weight-based teasing on youth recreational sports teams is required to confirm the validity of these findings.

Now that we have discussed the prevalence of experiencing and witnessing weight-based teasing on recreational sports teams in Nova Scotia, it is important to look at team members, coaches, and primary caregivers' beliefs about weight-based teasing and how these may have shaped the prevalence of weight-based teasing witnessed.

Beliefs about Weight-based Teasing

The researcher sought to determine if team members, coaches, and primary caregivers believe weight-based teasing is serious, concerning, and harmful to health for adolescents enrolled in recreational sports. This research question was answered through calculating a percentage endorsement for each believe as well as cross-tabulating the percentage endorsements of participant's beliefs to gender, weight status, and age range.

Participant Groups Comparisons of Weight-based Teasing Beliefs. When looking at participant group perceptions about how serious weight-based teasing is, 45.50 % (n=60) team members, 38.90% (n=7) coaches, and 50.10% (n=8) of primary caregivers considered weight-based teasing to be serious. When determining participant group perceptions about how concerning weight-based teasing is, primary caregivers (71.50%, n=10) reported the highest percentage endorsement of weight-based teasing as concerning. Coaches (38.90%, n=7) and team members (31.90%, n= 42) reported lower percentage endorsements of this belief. Lastly, when determining participant group perceptions about how harmful to health weight-based teasing is, primary caregivers (71.50%, n=10) had the highest endorsement of weight-based teasing as harmful to

health, followed by coaches (66.60%, n=12), and team members (48.50%, n=64).

Primary caregivers had the highest percentage endorsement of beliefs about weight-based teasing as serious, concerning, and harmful to health (50.10-71.50%) as was expected based on recent research. A national survey in the United States of primary caregivers of children ages 2-18 years (n=918) revealed 70.00-85.00% of all participants indicated that weight-based victimization was serious, concerning, and harmful to children's health (Puhl et al., 2013). However, the primary caregivers in this study had lower percentage endorsement rates for each belief (50.10-71.50%) compared to the primary caregivers in the United States study (70.00-85.00%) (Puhl et al., 2013).

One possible explanation for the lower percentage endorsement of weight-based teasing beliefs would be due to teasing being perceived as less serious, concerning, and harmful to health than other behaviours weight-based victimization includes such as harassment, ignoring, excluding, embarrassing, threatening or being physically aggressive (Puhl et al., 2013). All forms of teasing have become a central part of human social life and therefore teasing behaviours are often minimized as harmless because society deems it as a socially acceptable form of communication (Keltner et al., 2001). This would explain the lower percentage endorsement of weight-based teasing as serious (50.10%) compared to other beliefs (71.50%). Overall, the half to almost three-quarters of primary caregiver participants endorsing weight-based teasing beliefs is a good indication that they have a heightened awareness of its harm to health compared to the other participant groups.

Coaches had the second highest percentage range of endorsements of weight-

based teasing as serious, concerning, and harmful to health (38.90-66.60%). Coaches were most likely to endorse weight-based teasing as harmful to health (66.60%) compared to the other two beliefs (38.90%). The reason for the relatively higher percentage endorsement of weight-based teasing as harmful to health is unknown. One potential explanation is that there is increasing awareness through education on the harmful health effects of bullying within the sporting environment through resources provided to coaches by organizations such as Coaching NS (Coaching NS, 2017).

The overall coach endorsement rates of weight-based teasing beliefs were higher than the researcher expected given the results of research on physical education teachers and coaches beliefs about weight and reactions to weight-based victimization. Peterson and colleagues (2012) found that out of the American physical activity teachers they surveyed (n=162), the majority expected their students living with excess weight to have inferior physical abilities compared to healthy-weight children. These weight bias attitudes are concerning given that coaches' beliefs may manifest into more acceptance of weight-based victimization such as teasing as well as potential participation in these behaviours (Peterson et al., 2012). Peterson and colleagues (2012) also found that male teachers and coaches indicated low likelihoods of intervening in most weight-based victimization incidents, especially if the victim was male (Peterson et al., 2012). The low likelihood of intervening is thought to be due to their beliefs about the lack of harm in engaging in these behaviours (Peterson et al., 2012). Women teachers and coaches were more likely to respond as they may be more susceptible to the effects of weight-based stigmatization themselves, and therefore more empathetic to students who are victims of

weight-based victimization (Peterson et al., 2012).

Additional research on coaches' beliefs about weight-based teasing is needed to confirm what the typical beliefs are in this specific population. It is possible the small number of coaches represented in this study (n=18) volunteered to complete the research because they held strong beliefs regarding weight-based teasing as a negative behaviour, overestimating the typical endorsement by Nova Scotian coaches.

As expected, team members had the lowest percentage range of endorsements of weight-based teasing as serious, concerning, and harmful to health (31.90%-48.50%). A lower percentage of team members endorsed weight-based teasing as concerning (31.90%) compared to it being serious or harmful to health (~45.00-50.00%). Although team members had the lowest percentage endorsement of the beliefs about weight-based teasing, almost half of all team member participants viewed weight-based teasing as serious and harmful to health, much higher than would be expected based on weight-based victimization research.

Negative stereotypes about those living with obesity are shown to begin as young as preschool-age and worsen into elementary, middle, and high school years (Puhl, 2011). Some stereotypes expressed include that peers living with obesity are mean, ugly, stupid, lazy, and undesirable (Puhl & Kelly, 2013). A study of American high school students (n=1555) perceptions of weight-based victimization, revealed that 43.00-75.00% of the students felt their peers living with obesity were lazy, slow, lacked endurance, and were physically inactive (Puhl et al., 2010). Such negative beliefs regarding weight in relation to physical activity, make it likely that weight-based teasing during sports could be used

as a form of communication to motivate their peers to change their body shape to increase athletic performance. Additionally, over 85.00% of youth in this study had witnessed weight-based teasing. However, half of the students indicated they did not help their peers they witnessed getting teased (Puhl et al., 2010). This could be another indication that they do not perceive this behavior as serious, concerning, or harmful to health.

Although there is a gap in the literature looking at team members' beliefs about weight-based teasing, the fact that the general youth population hold negative stereotypes surrounding the capabilities of those living with obesity and identify weight-based teasing as occurring at high rates without peer intervention, indicate a low likelihood youth would endorse the behaviour as serious, concerning, or harmful to health. One potential reason for the higher rates of endorsement of weight-based teasing as serious, concerning, and harmful to health may be due to team members self-selecting to complete the study whom have been victims of weight-based teasing. Therefore, they may have experienced health-related consequences due to the teasing and would agree more than a general population of athletes that weight-based teasing is harmful to health.

Gender Differences in Participants' Beliefs about Weight-based Teasing. Female participants had a higher percentage endorsement of weight-based teasing beliefs (52.30-73.30%) compared to male participants (14.30-30.00%). This gender difference was expected given the differences in the prevalence of weight-based teasing and emotional reaction to teasing between genders.

Both quantitative and qualitative studies on weight-based teasing indicate that

female youth are more likely to be teased about their weight compared to males (Goldfield et al., 2010; Puhl & King, 2013; Taylor, 2011). Their responses to teasing are also found to be different. An ethnographic study on American high school students (n=50) found that girls were more likely to be teased and to be emotionally hurt by the teasing (Taylor, 2011). In comparison, boys were more likely to consider weight-based teasing as “just joking around” and “all in good fun.” (Taylor, 2011). Given that female youth experience more weight-based teasing and have more negative emotional responses to being teased (Puhl & King, 2013), it is not surprising that female team members had endorsed weight-based teasing as more serious, concerning, and harmful to health.

Within the adult female population in the study (coaches and primary caregivers), it appears they may also be more sensitive to weight bias and stigmatization. An American study looking at weight-based discrimination compared with race and gender discrimination found that women with a BMI above 30 (considered to be living with obesity) were three-times more likely to report weight-based discrimination than males of the same weight category (Puhl, Andreyeva, & Brownell, 2008). A study on weight-based discrimination in the workplace found that of the adults surveyed (n=2838), women were 16-times more likely to have perceived weight-related discrimination at work than male participants (Roehling, Roehling, & Pichler, 2007). Given the percentage of females in this study who had experienced weight-based discrimination for themselves, they probably recognize the dangers of weight-based teasing more clearly than male participants.

Comparison of Participants' Weight Status and Beliefs about Weight-based

Teasing. Out of all the weight status categories as outlined by BMI, those living with excess weight reported the highest percentage endorsement for weight-based teasing as serious (62.90%, n=17), followed by those categorized as living with a low weight (50.00%, n=8), living with obesity (44.40%, n=8), and at a healthy weight (38.80%, n=38).

Given that team members who may have experienced weight-based teasing make up most participants, it is surprising those living with obesity did not have the highest percentage endorsement for weight-based teasing beliefs as they were the most likely to be teased (see prevalence section of results). It would seem logical that those who have experienced teasing themselves would have experienced associated harms from the teasing and potentially to have endorsed the weight-based teasing beliefs. However, it may be that those living with obesity were also likely to be male participants whom research indicates may perceive weight-based teasing as “just joking around.” (Taylor, 2011). The fact that those living with excess weight and those living with a low weight have higher prevalence percentages of weight-based teasing experiences and higher endorsement percentages of weight-based teasing beliefs compared to those of a healthy weight, provide evidence that those who have been victims of weight-based teasing typically view the behaviour to be harmful.

Age Differences in Participants' Beliefs about Weight-based Teasing. Participants in the 40-49-year age range reported the highest percentage endorsement rates of all weight-based teasing beliefs (46.20-76.90%). The other age ranges' percentage endorsements

varied more widely depending on the belief (0.00%-75.00%).

It is not surprising those participants ages 40-49 years had the highest percentage endorsement rates of weight-based teasing beliefs, as most participants in this age group were primary caregivers (See descriptive statistics for age). As noted previously, research on primary caregivers of children in the US (n=918) found that two-thirds to over three-quarters of parents believe weight-based victimization is serious, concerning, and harmful to health (Puhl et al., 2013). No other research on beliefs about weight-based victimization or weight-based teasing could be found. Additional research is needed to confirm this high degree of concern surrounding weight-based victimization, and the rationale behind the concern. It is likely primary caregivers are concerned about weight-based victimization for the same reason they are concerned about bullying, the lasting social, psychological, and physical health impacts on their children (Puhl et al., 2013).

Now that a thorough discussion was provided on the beliefs about weight-based teasing from the perspective of all three participant groups, it is important to look at how these beliefs translate into actions that promote or discourage weight-based teasing on recreational sports teams.

Promotion of Weight-based Teasing

The researcher conducted a thematic analysis looking at what participants perceived was being done to promote weight-based teasing on their recreational sports teams. This information was collected to inform the final research question, what policies should be developed and implemented within recreational sports organizations in order to create supportive environments for all participants, regardless of body weight or shape?

The researcher identified the most prominent themes that promoted weight-based teasing on recreational sports teams, and categorized them within the SEM. In the interpersonal environment, two themes were identified, (a) *Minimization of weight-based teasing by coaches and team members* and (b) *Acceptance of weight-based teasing by coaches*. In the organizational environment, one main theme was identified, *Sport-specific body weight expectations*. In the community environment, one major theme was identified, *Media messaging about body weight and shape in sport*. In the policy environment, one major theme was identified, *Lack of weight-based victimization programs or policies*.

Minimization of Weight-based Teasing by Coaches and Team Members. Within the interpersonal environment, some team members and primary caregivers felt weight-based teasing was minimized by coaches and other youth on their teams. Some of the ways coaches and team members lowered the importance of someone being teased about their weight included: stating it was harmless when brought to attention, classifying it as a typical behaviour youth engage in, and prefacing statements about the behaviour as “just teasing.”

The minimization of weight-based teasing by coaches and team members is not surprising considering earlier findings regarding these groups’ perceptions of those living with obesity. Although there is a gap in research looking specifically at their opinion on weight-based teasing, we know as previously discussed, that youth tend to hold negative weight-related stereotypes of peers living with obesity such as they are mean, ugly, stupid, lazy, slow, lacked endurance, and were undesirable (Puhl et al., 2010; Puhl &

Kelly, 2013). Such negative beliefs regarding weight in relation to physical activity make it likely that weight-based teasing during sports may be deemed socially acceptable among the team members. Therefore, this behaviour ends up minimized if complained about by another team member or primary caregiver.

Likewise, previously discussed research on physical activity teachers and coaches found that male physical activity teachers and coaches indicated low likelihoods of intervening in most weight-based victimization incidents, especially if the victim was male (Peterson et al., 2012). The low likelihood of intervening is thought to be due to their beliefs about the lack of perceived harm of the behaviour (Peterson et al., 2012), providing one possible explanation as to why coaches in this research would minimize weight-based teasing. Additional research on coaches' perceptions and responses to weight-based teasing in youth recreational sports teams is needed to confirm and determine all potential reasons why minimization of weight-based teasing occurs.

Along with minimization of weight-based teasing, this research indicated that there was also a general acceptance of weight-based teasing behaviours by coaches based on their responses to the behaviour when it was brought forward to them.

Acceptance of Weight-based Teasing by Coaches. Within their interpersonal relationships with coaches, some participants felt coaches expressed acceptance of weight-based teasing as a normal behaviour through both their comments and actions. Some team members felt coaches encouraged weight-based teasing by pointing out a team member's weight and telling them around their team mates that they need to lose weight. A primary caregiver felt coaches promoted the behaviour by ignoring it was

happening, and even using weight-based teasing as a tool to essentially encourage those players with excess weight to drop out of the team. Other participants identified specific actions such as coaches laughing at the “jokes” made by one team member about another’s weight.

As noted in the previous section regarding weight-based teasing minimization, preliminary research shows that certain coaches are not likely to intervene when they witness weight-based victimization on their sports teams (Peterson et al., 2012). The reason being they accepted the behaviour as normal and harmless (Peterson et al., 2012). This research provides additional support that some coaches appear to accept this form of weight-based victimization as normal. Additional research on coaches’ reactions to weight-based teasing on youth recreational sports teams is required to further substantiate this claim.

Additionally, some participants identified situations where their coaches clearly accepted the behaviour as they were identified as active participants. Although there is a gap in research exploring coaches’ participation in weight-based teasing and victimization, increasing research is looking at bullying behaviours in youth athletic coaches. A critical review of human rights in youth sports noted that aspects of bullying such as name-calling, shaming, and demeaning remain a too common aspect of coaching sports at any level (David, 2004). An American study of youth athletes’ (n=803) perceptions of good and poor sports behaviour found that 45% of participants had experienced verbal misconduct including naming calling and verbal insults during sport participation (Shields, Bredemeier, LaVoi, & Power, 2005). Furthermore, an online

survey of 6124 youth aged 18-22 from the United Kingdom reported that 32% of participants had experienced criticism about their looks or weight by coaches during their experience with youth sports (Stafford, Alexander, & Fry, 2013). Although there are many positive anti-bullying initiatives occurring in sport (Coaching NS, 2017; Sport Information Research Centre, 2012), research does indicate bullying of team members by coaches may be a cause of concern. Additional Canadian research on weight-based bullying by coaches is required before an accurate report on this form of bullying in the sport's environment can be made.

Now that we have discussed the interpersonal factors that have promoted weight-based teasing, we will move into the organizational environment and what practices within each sport league promote weight-based teasing.

Sport-specific Body Shape and Size Expectations. Within the organizational level, the promotion of weight-based teasing through sport-specific body expectations surfaced as the most prominent theme. Many participants spoke about the underlying body shape and size expectations for multiple sports that influenced team members playing time or even selection for the team. Participants noted team members who were tall and thin were of “ideal size” for sports like volleyball, whereas those who were muscular and broad fit within the expected size and shape for football. Participants felt those who did not fit within the expected body shape and size for each sport were likely to be teased about their weight. Additionally, participants mentioned specific sports like wrestling with weight categories as a core structure of the sport. They felt having these weight expectations as such a prominent part of the sport invited the presence of weight-based

teasing by coaches or other team members if they failed to “make the weight.”

Recent research has focused on weight pressure in sport, pressure to change your body weight, shape or size to meet a perceived athletic ideal (Galli et al., 2014; Reel, Petrie, Soohoo, & Anderson, 2013). A specific weight pressures in sport scale has been developed and validated for both female and male athletes to determine the sources of weight pressure in sports (Galli et al., 2014; Reel et al., 2013). The research acknowledges that each sport has its own exclusive set of demands regarding optimal body weight, shape, and size, typically focusing on thinness or muscularity. However, the sources of this pressure in the sporting environment are typically the same (Reel et al., 2013). The research indicates that the following contributes to weight pressure in sport: comments made by coaches and team members about weight, weight requirements and appearance expectations as part of sport performance, and the shape and style of sports uniform required (Galli et al., 2014; Reel et al., 2013).

Most studies looking at the health impact of weight pressure in youth sport focus on the physical impact of unhealthy weight control behaviours and psychological impacts from the development of eating disorders (Bean, Fortier, Post, & Chima, 2014). Both the International Olympic Committee Medical Commission and National Athletic Trainers Associations have recently put out position statements regarding weight loss and maintenance in sport, given the health risks such as disordered eating, low bone density, and menstrual dysfunction associated with weight sensitive sports (Sundgot-Borgen et al., 2013; Turocy et al., 2011). Furthermore, a Norwegian study of 611 high school athletes and 355 youth control participants found that the prevalence of eating disorders among

athletes was 7.0%, compared to only 2.3% of the control group (Martinsen & Sundgot-Borgen, 2013). This specific research was focused on competitive and elite youth athletes. There is a gap in research looking at the impact of body weight expectations and pressures experienced in recreational youth sport. Additional research is needed to confirm if body size and shape expectations in sport contribute to weight-based teasing and its associated health concerns.

Now that we understand the internal weight pressures in the sporting environment, it is important to consider the external environment and the messaging youth receive regarding body weight and shape in sport.

Media Messaging about Body Weight and Shape in Sport. Within the community environment, media messaging about what is considered an athletic body size and shape emerged as an influencer of weight-based teasing on youth sports teams. Quite a few team members expressed that the images and messages they viewed on television shows and commercials, radio advertisements, and in social media outlets emphasized that only individuals with very fit body shapes could be successful athletes. The participants indicated categorizing athletes as a certain body type in the media facilitates weight-based teasing of those team members who do not meet these standards. They are viewed as breaking the social norm of body shape within sports, and teasing is likely a way for other team mates to verbalize their disapproval of this. Interestingly no coaches or primary caregivers indicated that media messaging about athletes' bodies had an impact on weight-based teasing.

Research on media messaging on body shape in sport to date has focused on the

role of media exposure of sexualized female athlete bodies on female athletes' health. A study of 350 American adolescents aged 13-18 looking at the impact of media portrayals of female athletes in a sexualized or performance-based manner found that those who viewed the sexualized female athlete photos made negative beauty-related statements about their own bodies, and those who viewed performance-based athletes' photos made positive statements about their physical abilities in sport (Daniels, 2009). Additionally, a study of 374 American female adolescents ages 10-19 years indicated that those who watched lean female athletes participate in sport had higher rates of self-objectification, a measure of concern regarding their appearance, compared to watching lean male athletes participate in sport (Harrison & Fredrickson, 2013). This study noted self-objectification of adolescents increased mental health risks such as body shame and disordered eating (Harrison & Fredrickson, 2013).

The researcher could not find any research looking at the impact of the media's portrayal of athletic bodies on youth perceptions and behaviours towards team members who do not meet the ideal athletic body. Additional research is needed to determine if the media's portrayal of the ideal athletic body type encourages youth to engage in weight-based teasing of peers who do not meet these standards.

Now that there has been a discussion on community level influences on the promotion of weight-based teasing, it is important to see if there are sport policies that may be encouraging the occurrence of weight-based teasing

Lack of Weight-based Victimization Programs or Policies. Within the policy environment, not one participant mentioned a sport-specific program that addressed

weight-based victimization or more specifically weight-based teasing on any of the sports teams they were affiliated with. Over a dozen participants noted nothing was being done to discourage weight-based teasing on their recreational sports teams. There was little dialogue as to why they felt this was the case. However, having no specific programs or standardized practices may itself promote the behaviour due to lack of expectations or accountability of coaches to address this form of bullying in any specific way.

It is not surprising that many participants did not mention any weight-based victimization policies within their sport organizations. A Canadian review of the harassment policies of 42 national sport organizations and 42 provincial sport organizations (Ontario) found that only 86% of national and 71% of provincial sport organizations had accessible harassment policies (Donnelly, Kerr, Heron, & Dicarolo, 2014) Furthermore, when looking at the specific content in the policy, only 30% of the provincial sport organizations identified bullying in their policy, and only 10% actually defined bullying and provided examples of it (Donnelly et al., 2014). There was no mention in the research of any of the examples of bullying included in the policies that would be considered weight-based victimization.

The researcher searched the websites of the following five provincial sport organizations; Soccer Nova Scotia, Hockey Nova Scotia, Volleyball Nova Scotia, Basketball Nova Scotia, and Swim Nova Scotia, looking for any specific section or document on weight-based victimization. Of the top five youth sport organizations, only Soccer Nova Scotia and Hockey Nova Scotia had accessible harassment policies available through their websites. Both sport associations provided a definition and

examples of harassment, including unwelcomed teasing about a person's body (Hockey Canada, 2004; Soccer Nova Scotia, 2013). However, there was no specific section or even example of other forms of weight-based victimization in their policies. The remaining three sport associations, Volleyball Nova Scotia, Basketball Nova Scotia, and Swim Nova Scotia did not have harassment policies but a code of conduct and ethics posted on their websites. These sport organizations had a definition and examples of harassment as part of the section on responsibilities and behaviours to refrain from (Basketball Nova Scotia, 2016; Swim Nova Scotia, 2010; Volleyball Nova Scotia, 2013). They did not have any specific section on weight-based victimization including definitions or examples. Overall, it appears that although some of the popular sport associations in the province do have policies and procedures to deal with harassment in general, they do not have specific sections or stand-alone policies to deal with weight-based victimization.

Now that there has been a detailed discussion on the main factors participants indicated promote weight-based teasing on recreational sports teams, it is equally important to look at the positive things being done to discourage weight-based teasing in youth recreational sport.

Discouragement of Weight-based Teasing

The researcher conducted a second thematic analysis looking at what participants perceived was being done to discourage weight-based teasing on their recreational sports teams. This information was also collected to inform the final research question, what policies should be developed and implemented within recreational sports organizations to

create supportive environments for all participants, regardless of body weight or shape?

The researcher identified the most prominent themes that discouraged weight-based teasing on recreational sports teams and categorized them within the SEM. In the interpersonal environment, two themes were identified, (a) *Use of education to create a culture of good sportsmanship* and (b) *Body positivity and acceptance discussions*. In the organizational environment, one main theme was identified, *Anti-bullying penalty systems*. In the policy environment, one major theme was identified, *Anti-bullying policies*. No major themes were found in the individual or community level.

Use of Education to Create a Culture of Good Sportsmanship. Within the interpersonal environment, multiple participants from all groups identified creating a culture of mutual respect and support among the team as an important way to deter weight-based teasing. Team members were typically educated by coaches on the concept of good sportsmanship and what that includes. Some of the behaviours expected of team members included being respectful, supportive, understanding of others' differences, and being kind to each other. The belief among participants was that if all players displayed good sportsmanship, no weight-based teasing or any other form of bullying would occur.

Good sportsmanship is displayed through behaviours that reflect fundamental values such as responsibility, respect, fairness, honesty, and civility by all participants in sports (Goldstein & Iso-Ahola, 2006). Good sportsmanship is defined both by someone's values as well as their reaction to events that happen during sport (Kevorkian & D'Antona, 2010). When looking at good sportsmanship in relation to bullying in athletics, Kevorkian and D'Antona (2010), claim teaching good sportsmanship to youth is

unquestionably the most important bully prevention tactic in sport. Canadian qualitative research on bullying in sports centres in New Brunswick found that the majority of the 71 administrators, supervisors, and coaches interviewed felt that creating a safe environment for youth through education on good sportsmanship like qualities was an effective way to reduce bullying (Shannon, 2013).

To assist in the creation of a culture of good sportsmanship on youth sports teams, sports psychology research has outlined recommendations for implementing sportsmanship initiatives. Goldstein and Iso-Ahola (2006) recommend youth sport organizations adopt a philosophy of good sportsmanship that is integrated into all aspects of sport. They need to develop measurable standards including policies and procedures in relation to expected sportsmanship conduct. They also need to educate coaches, parents, administrators, and team members on the fundamental values of sportsmanship and expected behaviours as well as conduct evaluations for all efforts undertaken. Kevorkian and D'Antona (2010) spoke about the importance of making good sportsmanship part of the team brand, acknowledging and rewarding sportsmanship like behaviours. Additionally, Goldstein and Iso-Ahola (2006) acknowledged the power of having both coaches and parents invested in and modeling the behaviours of good sportsmanship. An evaluation of the Play Hard, Play Fair, Play Fun initiative to promote youth good sportsmanship noted practical applications such as hanging large signs promoting good sportsmanship outside and inside sports facilities as well as awarding players for good sportsmanship behaviour were effective ways to promote good sportsmanship (Wells, Ellis, Paisley, & Arthur-Banning, 2005).

Overall, it appears promoting and sustaining a culture of good sportsmanship on youth sports teams may reduce bullying behaviours. Additional research looking specifically at the role of education on good sportsmanship in the reduction of weight-based victimization will need to be completed to confirm how effective this form of prevention is. Now that there has been a discussion on fundamental values and morals important in promoting a teasing-free environment, it is time to discuss specific values and beliefs surrounding body shape and size and how education on body positivity may discourage weight-based teasing.

Body Positivity and Acceptance Discussions. Along with creating a culture of mutual respect and support, both team members and coaches acknowledged specific discussions occurring on their teams about body positivity and acceptance as a deterrent of weight-based teasing. One participant specifically noted that her coach discussed in detail the value and benefits of having teammates of different body sizes on their specific team.

Within the very limited research on promoting healthy body image in sport, all the literature focuses on improving body image to prevent disordered eating and eating disorders. There is a gap in research looking at the role of body positivity in reducing weight-based victimization on sports teams.

Bodysense is the only known national comprehensive program whose goal is to promote positive body image and self-esteem in athletes at all levels and sports across Canada (Buchholz, Mack, Mcvey, Feder, & Barrowman, 2017). This program is implemented by the Children's Hospital in Eastern Ontario in partnership with the Canadian Centre for Ethics in Sport and the True Sport Foundation as well as supported

by the Coaching Association of Canada. The project was formed out of a research initiative to address a gap in disordered eating prevention programs focusing on promoting a healthy body image (Buchholz et al., 2017). Bodysense includes modules on several topics such as “Respect for the Individual” (information on unique body size and shape), “Natural and Healthy Bodies” (helping the athlete feel good about themselves), “The Facts” (accurate information about body healthy), and “A Positive Approach to Food” (resisting the temptation to diet). The researcher could not find any provincial body image in youth sport programs through Sport Nova Scotia or other provincial sport organizations.

An evaluation of the Bodysense program implemented in seven gymnastics clubs across Ontario found that there was a reduction in the youth athletes’ perceptions of the pressure from their sport clubs to be thin (Buchholz, Mack, Mcvey, Feder, & Barrowman, 2008). However, they did not find any significant differences in body-esteem and eating awareness and behaviours (Buchholz et al., 2008). Additional research is needed on the most effective educational interventions to promote positive body image and acceptance of all body types in the sports environment.

Now that we have discussed some of the interpersonal factors that discourage weight-based teasing on sport teams, it is important to look at what is being done at the organization level of sport to discourage weight-based teasing.

Anti-bullying Penalty Systems. Within the organizational environment, anti-bullying penalty systems surfaced as a method of discouraging weight-based teasing. The level of penalty provided to the team member for participating in weight-based teasing appeared

to vary based on the specific coaches' discretion. Some participants indicated a team member would only receive a verbal reprimand if they were caught teasing someone about their weight. Others indicated they would be benched from participating in the game if weight-based teasing occurred. A few team members and coaches expressed more of a zero-tolerance approach to weight-based teasing on their teams. A team member was typically warned once, and if they continued to tease another team member about their weight, they would be either suspended from participating for a specific period or removed from the team for an entire season. It was not clear by participants' comments if these rules were passed down by the specific sport leagues or created at a specific coach's discretion.

There is a lack of research looking at disciplinary approaches to bullying in the youth sport environment. However, interventions to reduce bullying behaviours in youth typically involve some form of disciplinary approach (Evans, Fraser, Cotter, 2014). In 2012, The Nova Scotia Task Force on Bullying and Cyberbullying released a report on their findings and recommendations to combat bullying in Nova Scotia (MacKay, 2012). In their information on bullying interventions in schools, the task force spoke about progressive discipline as being a necessary pillar of effective bullying interventions. Progressive discipline is a continuum of responses to bullying behaviour emphasizing early prevention programs and support as well as interventions and consequences to address inappropriate behaviour and utilize strategies that promote positive behaviours in the future (MacKay, 2012). Penalties for those engaging in bullying are applied based on individual situations and may involve meeting with parents, reflective written

assignments on their behaviour, conflict mediation, referral for counselling, and suspension or expulsion (MacKay, 2012). Overall, the experts in this task force valued certain forms of discipline as part of an effective intervention to reduce the incidence rates of youth bullying behaviours.

A recent systematic and meta-analytic review of 44 evaluations on the effectiveness of school-based bullying programs indicated that anti-bullying programs resulted on average in a 20-23% reduction in bullying (Ttofi & Farrington, 2011). Out of the several components to the bullying prevention programs, notably firm disciplinary methods had some of the largest effect sizes along with improved playground supervision and a large number of program components (>11) (Fox, Harrington, & Ttofi, 2012). However, a more recent meta-analysis of 32 articles evaluating bullying prevention programs found mixed results on the effectiveness of bullying prevention programs. The researchers did not find that any specific components of the interventions were significantly more effective than other components (Evans et al., 2014).

Overall, evaluation research needs to be completed on sport-specific bullying prevention programs, evaluating the effectiveness of the program's components. Although firm disciplinary methods seem to be effective in reducing general bullying-based behaviours in schools, we cannot infer these methods would be effective in specifically reducing weight-based teasing in the youth sport environment. Once broader research on bullying prevention in the sport environment is completed, specialized research on weight-based victimization prevention in this environment is warranted.

Now that a core aspect of bullying prevention programs (penalties) have been

discussed in relation to its impact on reducing weight-based teasing, it is important to look at anti-bullying policies put in place in sport organizations and their effectiveness in reducing weight-based teasing on youth recreational sports teams.

Anti-bullying Policies. Within the policy environment, participants identified their teams' fairness and anti-bullying policies as an important deterrent of weight-based teasing. Unfortunately, the participants did not discuss if the policy was developed at the team, league, or provincial sport association level. It was also not clear if weight-based teasing was specifically addressed within the policies they were speaking of.

There appears to be a gap in research on the creation of sport specific policies and educational programs to address weight-based victimization. The only pertinent research on strategies to prevent weight-based victimization the researcher could find is within the context of the school system. Puhl and colleagues (2012) were the first to document youth preferences for intervention and prevention efforts to combat weight-based victimization in schools. In a survey of 361 adolescents aged 14-18, the researchers found that the youth preferred both supportive strategies such as social inclusion and weight loss support as well as disciplinary and regulatory interventions such as enforcement of rules that prevent the bullying from occurring (Puhl, Peterson, & Luedicke, 2012).

Looking at national anti-bullying policies in sport, Sport Canada, who funds national sport organizations through the Sport Funding and Accountability Framework requires organizations who receive funding to have existing policies on harassment and abuse, discrimination, conflict of interest as well as dispute resolution (Canadian Centre for Ethics in Sport, 2015). Sport Canada requires their policies meet certain criteria such

as having a formal reporting and investigation of complaints process (Canadian Centre for Ethics in Sport, 2015). Furthermore, the Canadian Centre to Ethics in Sport (2009) has created the *Canadian Policy on Prohibited Conduct in Sport* which applies to administrators, coaches, officials, and volunteers. This policy is officially adopted by sport organizations on a volunteer basis and covers harassment and bullying behaviours as part of the prohibited conduct. The policy is implemented in partnership with the Canadian Centre for Ethics in Sport who are the review authority of the policy (Canadian Centre for Ethics in Sport, 2009). The researcher could not find any specific requirements or sections in either of these documents outlining harassment specific to body weight and shape.

Provincially, each individual provincial sport association typically has their own anti-bullying and harassment policies, sometime created by their national organization (e.g. Hockey Canada). As noted previously, the provincial sport associations of some of the most popular sports have either harassment policies or codes of conduct that typically contain a definition of harassment including specific examples of the behaviour. Although a few provincial sport organizations recognize that teasing someone about their body is considered harassment, none have placed an emphasis on addressing the issue of weight-based victimization through the provision of thorough definitions and examples of what this includes.

Within the Canadian sports environment, there are wide variations in harassment and abuse policies content as well as their utilization among both national and provincial organizations (Canadian Centre for Sport Ethics, 2015). Although participants in this

study felt that the anti-bullying policies their provincial sport associations follow were effective in reducing weight-based teasing, evaluation research is required to confirm the degree of effectiveness of current policies in protecting athletes from all forms of harassment during sports. Looking specifically at weight-based victimization, additional Canadian research is needed on the prevalence of this type of bullying in sport to inform anti-bullying policy development that sufficiently covers and protects athletes from this specific type of harassment.

Research Strengths and Significance

Completion of this research has addressed a gap in the literature on the prevalence of weight-based teasing within the recreational sports environment. The research revealed that within the small sample obtained, a significant percentage of adolescents have experienced weight-based teasing during recreational sports, that a substantial number of primary caregivers and coaches are concerned about weight-based teasing's effect on youth health, and provided information on what is currently being done to promote or discourage weight-based teasing on recreational sports teams. At the team level, this research has the potential to raise awareness of weight-based teasing and reduce its occurrence on Nova Scotia youth sports teams through knowledge translation of the study's findings to the provincial sports community. This will be completed through a community report that educates both parents and coaches on what is promoting weight-based teasing in sports that should be minimized as well as the positive aspects that discourage weight-based teasing that should be emphasized. At the league level, the findings in this research have been utilized to build an additional project funded by an

NSHRF Catalyst Grant exploring how to provide better training and intervention programs for Nova Scotian coaches on weight-based victimization from the perspective of Nova Scotian youth. The goal of this research is to develop standardized weight stigma and weight-based victimization education sessions for Nova Scotian coaches. At the provincial sport association level, the proposed project will have a second longer-term focus of developing and evaluating a pilot weight-based victimization prevention program that addresses the gap in both education on as well as regulations and policies surrounding the elimination of weight-based victimization in youth sports. The findings from this study will be used to help shape the content of the prevention program. The goal of this future research would be the refining of a standardized weight-based victimization prevention program in partnership with Sport Nova Scotia that is implemented in all their member sport associations across the province.

Research Limitations

The cross-sectional design of this research limits the ability to determine if the weight-based teasing rates and beliefs that were captured are representative of what typically occurs in recreational sports settings or are an under or over representation due to factors that change over time. Because this research is exploratory in nature, the cross-sectional research design is a start in determining if weight-based teasing is an issue within recreational sports. The results of this research provide additional justification to conduct a longitudinal study on this topic.

The non-probability sampling methods selected including focusing recruitment to only the top 20 team-based sports in Nova Scotia also limited the researcher's ability to

generalize results to the entire population of youth ages 14-17 years enrolled in recreational sports. It is possible that those sports the researcher did not include in the study have a significant number of team members who are being teased about their weight, and would have benefited from voicing their experiences and opinions on what should be done about weight-based teasing. It is also plausible those who had experienced weight-based teasing were more interested in completing the research and the prevalence of weight-based teasing was overestimated in this study in comparison to the entire population of youth ages 14-17 years participating in recreational sports in Nova Scotia.

The timing of the research recruitment may have limited the representation of certain types of sports in the research. Because recruitment was completed in the fall and winter, there were likely some summer sports without active sport organizations at that time, who did not have capacity to participate in the research. Ideally additional research on the topic would recruit over a longer period to include all sports' season start times.

The smaller sample size than anticipated limits the researcher's ability to generalize the prevalence rates of weight-based teasing and beliefs about weight-based teasing to all youth aged 14-17 participating in recreational sports. Of the estimated 6,000 Nova Scotian youth aged 14-17 who participate in recreational sport, only 2.20% (n=132) of this population participated in the study. The researcher obtained a sample size of 166 participants, compared to the calculated sample size of 376 that was required for a confidence level of 95%, a margin of error of +/- 5%. Of the three different participant groups, team members made up the largest proportion (79.50%) of participants, despite

primary caregivers being the largest in size in the actual population (~10,500). Because only sixteen primary caregivers participated in the study, the analysis of their incidence of witnessing weight-based teasing and beliefs about this behaviour cannot be generalized as the typical beliefs of this cohort.

The researcher did not survey participants on the region of the province in which they reside. Therefore, it may be that the participants were only from the one major urban area of the province and the rural parts were not represented in the study or vice versa. Because of this, it is not possible to generalize the results to the entire province as there may be different cultural factors that increase or decrease rates and beliefs about weight-based teasing in rural Nova Scotia compared to the Halifax Regional Municipality.

Completing recruitment solely through active recreational sports teams limited the research from capturing participants who may have participated in recreational sports in the past but dropped out due to weight-based teasing. This missing participant group could have affected the research results. Capturing this specific population is important for future research on weight-based teasing in this environment.

The retrospective self-reported data on weight-based teasing incidences could have resulted in inaccurate estimates of the actual amount of teasing experienced or witnessed. The data collection method was limited to those who have access to a computer and internet connection. This method could have excluded participants who had the potential to change the results of the research in a significant way.

The researcher initially planned on completing a secondary data categorization looking for responses that speak about the impact weight-based teasing has on

participants' health. The writer wanted to identify health themes and categorize them as affecting one of the three main health domains: physical, psychological, and social well-being as outlined by the World Health Organization (World Health Organization, 1946). Unfortunately, the researcher did not obtain detailed quotes or themes in regard to the impact of teasing on participants' health. Not having themes specific to the impact of weight-based teasing on health limits the researcher's arguments for the need to reduce this behaviour in the sporting environment compared to the school environment where the negative health impacts of weight-based teasing have been established.

In terms of meeting the overall goal of improving the physical, mental, and social well-being of Nova Scotian youth, the researcher recognizes that improving the recreational sports environment to increase participation and promotion of physical activity is only one of many initiatives needed to reach the goal of obtaining good health for all youth. There are many other important ways to increase physical, mental, and social well-being out of the scope of this research. The researcher recognizes that increasing sports participation will assist youth in meeting the Canadian physical activity guidelines. However, sport being the sole form of physical activity youth participate in is not a practical means of acquiring the 60 minutes of moderate-to-vigorous physical activity daily. Additionally, reducing weight-based teasing incidences will not change other mental or social well-being struggles certain youth face that require other interventions to achieve good health.

Implications for Health Promotion Research

This research suggests the need for further study on the prevalence of weight-based

teasing in recreational sports using a larger and more representative sample size and robust study design. Additional research should also expand to other geographical locations, with different age groups, and a wider variety of sports. There is also a need for longitudinal research to determine how the prevalence of weight-based teasing in recreational sports changes over time and influences drop-out rates among those being teased. The research should also include a component focusing on the health impacts participants who have experienced weight-based teasing have encountered. Future research should also concentrate on the effectiveness of current harassment and code of conduct policies of sport organizations in reducing the occurrence of weight-based teasing and other form of weight-based victimization in sport. Lastly, a pilot implementation and evaluation project on a comprehensive weight-based victimization prevention program and policy profile should be completed to determine if increasing awareness and expectations regarding the prohibition of these behaviours reduces its occurrence.

Implications for Health Promotion Practice

This exploratory research on weight-based teasing on recreational sports teams in Nova Scotia has indicated that weight-based teasing is occurring at an alarming rate within this environment, and primary caregivers, coaches, and team members alike are expressing substantial concerns regarding its impact on health. Given the well-documented detrimental impact of weight-based teasing on the mental, and social well-being of youth (Goldfield et al., 2010; Greenleaf et al., 2014; Puhl & Luedicke, 2012), health promoters should assist in addressing this public health issue in our youth population.

Health promoters must take care to address all aspects of weight-based victimization, including those deemed socially acceptable by society, such as weight-based teasing. We must challenge the acceptability of teasing in society and bring awareness to its presence and damaging effects in the recreational sports environment. It is our duty to ensure the health-related activities we promote and encourage such as sports, are inclusive to all youth and achieve the goal of improving their health.

Health promoters should work together with Sport Nova Scotia, Coaching NS, and individual provincial sport associations to develop and deliver comprehensive education programs on weight-based victimization. They should also assist in the revision and standardization of a detailed sport code of conduct policy as recommended by the Canadian Centre of Ethics in Sport (2015) and implement it in all sport associations part of Sport Nova Scotia. The policy should be developed in consultation with all stakeholders, specifically address weight-based victimization and teasing, and include current practices expressed in this study as effective ways to discourage this form of teasing. The code of conduct should include an in-depth outline and education on what good sportsmanship is and the expected behaviours such as mutual respect and support associated with it. It should also provide specific information on what weight-based victimization is and include the concept of body positivity and the value of respecting those of different body shapes and sizes in sport. There should also be supporting policies to this document including a dispute resolution policy, discipline and complaints policy, and appeals policy. This policy package should be clearly communicated at the beginning of the season by coaches to both parents and athletes alongside a signed agreement of

athlete behaviour (Canadian Centre for Ethics in Sport, 2015).

Concluding Statements

This exploratory research investigated the prevalence of weight-based teasing of adolescents involved in recreational sports teams in Nova Scotia. Results from the small sample size obtained suggest that weight-based teasing is a significant problem for youth involved in recreational sports, that is it witnessed by a large percentage of team members, coaches, and primary caregivers, and that primary caregivers are particularly concerned about weight-based teasing's impact on youth health. Weight-based teasing is both promoted and discouraged in many ways in youth recreational sport, and health promoters should utilize what is already being done to discourage this behaviour as a foundation for the development of programs and policies aimed at reducing weight-based victimization in sport. With the increasing awareness of bullying in the sport environment, now is the time to act to address this problematic form of bullying through comprehensive weight-bias education and standardized athlete protection policies. These policies must consider the severity of weight-based teasing and victimization and the consequences of engaging in this behaviour should be no different than other forms of harassment. It is essential to raise awareness of the prevalence and associated health-related harms of weight-based teasing with all stakeholders involved in sport to encourage unified support for the changes necessary to eliminate weight-based teasing and victimization in youth sport.

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APPENDIX A: SUPPORT LETTER, SPORT NOVA SCOTIA



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E-mail: sportns@sportnovascotia.ca
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Amy Walsh, Director of Sport Development
5516 Spring Garden Road., 4th Floor
Halifax, Nova Scotia, B3J 1G6

Catherine Connors, Director, Research Ethics
Henry Hicks Building, Room 231
Dalhousie University, PO Box 15000
Halifax, Nova Scotia, B3H 4R2

Dear Ms. Connors,

It is my pleasure to let you know that Sport Nova Scotia is happy to partner with Kathryn Rand to conduct her research titled, “The Prevalence of Weight-based Teasing in Recreational Sports in Nova Scotia.” The main goal of this research, improving the health of all Nova Scotian youth through providing safe and inclusive sports environments, complements our vision “that all Nova Scotians will attain better health and a sense of achievement through active participation in recreational and competitive sport experiences throughout their lives.” We look forward to learning more about the impact of weight-based teasing on sport participation and the health of athletes as we strive to promote our core values of health, participation and excellence, fair play, fun and safety, and responsibility to our members.

We will be assisting Kathryn during her recruitment process by introducing her to our main contacts at the ten provincial sports associations she will be partnering with. We will also be providing a letter of support for the research to each association so they are aware we are in full support of learning more about weight-based teasing in recreational sports. At the end of her research, we will also be assisting Kathryn with knowledge translation through posting the community report of her research findings on our website, and sending it to relevant members on our email distribution list. We are open to partnering with other researchers in the future to expand our policies on increasing inclusion in sport to address the issue of weight-based teasing and other weight-based victimization in sport.

If you require any additional information regarding our partnership, please contact me at (902) 425-5450 ext. 366 or awalsh@sportnovascotia.ca.

Sincerely,

Amy Walsh, Director of Sports Development

Dear [*president's name*],

My name is Kathryn Rand and I am a master's student working under the supervision of Dr. Sara Kirk, Professor of Health Promotion in the School of Health and Human Performance at Dalhousie University. I am contacting you because we are conducting a study to examine the occurrence of weight-based teasing among adolescents involved in recreational sports, from the perspective of coaches, team members, and their primary caregivers.

We are seeking volunteer coaches, team members, and primary caregivers from recreational sports teams of youth ages 14-17 as participants in this study. I am contacting you as the President of the Board of Directors of [*insert sports association*] to request your support in recruitment for the study. This would require your association to distribute an email invitation to our study to your members' email distribution list in Halifax. I am also requesting your permission to contact coaches associated with your organization through the email addresses provided on your website.

Participating in this study requires completing an online questionnaire requesting general demographic information such as age, gender, height, and weight, as well as the sport they play. The remainder of questions will seek information on participants' experiences with weight-based teasing and their opinion on it. Completing the survey will take 10 to 15 minutes of their time. In appreciation of their time commitment, they will be invited to enter a sports club's name into a draw for a \$50.00 donation.

The study has been reviewed by Dalhousie University's Research Ethics Board. The study has also been reviewed and deemed valuable for the sports community by Sport Nova Scotia. Please see attached the support letter from Sport Nova Scotia and email invitation for team members and primary caregivers.

Please contact me at kathryn.rand@dal.ca or 902-497-4990 in the next two weeks to let me know if the Board of Directors at [*sports association name*] support my request to send out the study's email invitation to participate through your members' email distribution list and to contact coaches associated with your organization.

If you have any questions, please feel free to contact me by email or phone.

Sincerely,

Kathryn Rand, MA Health Promotion (Candidate)

Hello,

My name is Kathryn Rand and I am a master's student working under the supervision of Dr. Sara Kirk in the School of Health and Human Performance at Dalhousie University. I am contacting you because we are conducting a study to determine how often youth are being teased about their weight during recreational sports. We are seeking volunteer coaches as participants in this study. We have sought and obtained permission to contact you through [*sports association name*].

We are requesting your help in two ways. First, we would like you to complete a questionnaire. Second, we ask you to forward the attached email invitation to all the players aged 14-17 and their primary caregivers. As the main point of contact for your team, we would greatly appreciate your help in facilitating recruitment for our study.

Participating in this study requires completing an online questionnaire gathering general information including age, gender, height and weight, along with sports played. The remainder of the questions will seek information on your experience witnessing team members being teased about their weight, and your opinion on this form of teasing. The researchers foresee very minimal risks associated with completing this questionnaire. If any of the questions about witnessing your team members being teased about their weight causes you to become upset, you are under no obligation to complete the questionnaire, and may stop participating at any time.

Completing the survey will take 10 to 15 minutes. In appreciation of your time commitment, you will be invited to enter your sports club's name into a draw for a \$50.00 donation.

If you would like to participate, please click on the link below, this will take you to the welcome page for the survey, which will describe the study in detail and ask for your consent to continue before completing the questionnaire. The survey will remain open for completion until [*survey end date*].

Link: <https://surveys.dal.ca/opinio/s?s=33872>

If you have any questions about the research before completing the survey, please contact me at kathryn.rand@dal.ca or 902-497-4990.

Sincerely,

Kathryn Rand, MA Health Promotion (Candidate)

**APPENDIX D: SURVEY INVITATION
EMAIL INVITATION FOR PRIMARY CAREGIVERS AND TEAM
MEMBERS**

Hello,

My name is Kathryn Rand and I am a master's student working under the supervision of Dr. Sara Kirk in the Health Promotion Department at Dalhousie University. I am contacting you because we are conducting a study to determine how often youth are being teased about their weight during recreational sports. We are looking for recreational sports team members aged 14-17 and their primary caregivers to participate in this study. We have sought and obtained permission to contact you through [*sports association name*].

Participating in this study requires access to a computer to complete an online questionnaire. The questionnaire will ask you general information such as your age, gender, height and weight, and sports you play or have youth who play. The second part of the questionnaire will seek information on any experience you have with being teased about your weight, and your opinion on this type of teasing. There are very little risks involved with completing this questionnaire. We will be asking general questions regarding your experiences being teased about your weight or witnessing this form of teasing.

If these questions make you feel upset, you do not have to complete the questionnaire, and may stop participating at any time. If you are a youth and would like to speak to a counsellor about any negative feelings you have experienced from completing this questionnaire, please contact the Kids Help Phone at 1-800-668-6868. For mental health emergencies please call the Nova Scotia Health Mobile Crisis Team at 1-888-429-8167. Completing the survey will take 10 to 15 minutes. In appreciation of your time commitment, you will be invited to enter the name of your sport club into a draw for a \$50.00 donation.

If you would like to participate, please click on the link below, this will take you to the welcome screen of the survey, which will review the study in detail and ask for your consent to continue before answering the questionnaire. The survey will remain open for completion until [*survey end date*].

Link: <https://surveys.dal.ca/opinio/s?s=33872>

If you have any questions about the research before completing the survey, please contact me at kathryn.rand@dal.ca or 902-497-4990.

Sincerely,

Kathryn Rand MA Health Promotion (Candidate)

**APPENDIX E: SOCIAL MEDIA RECRUITMENT
TWITTER AND FACEBOOK RECRUITMENT MESSAGES**

Table 9. Twitter Recruitment Messages

Attention Nova Scotia athletes, parents, and coaches, check out: https://surveys.dal.ca/opinio/s?s=33872 .
Interested in research looking at teasing during sports? Check out: https://surveys.dal.ca/opinio/s?s=33872 .
Wanted: participants in Nova Scotia for a study on teasing during sports. Check out: https://surveys.dal.ca/opinio/s?s=33872 .

Table 10. Facebook Recruitment Message

<p>Wanted: Participants in a research study on teasing during sports</p> <p>Are you 14-17 years old and a member of a recreational sport’s team? OR Are you a coach or primary caregiver of a 14-17-year-old who is a member of a recreational sport’s team? If so, and you live in the Nova Scotia, we invite you to participate in a study looking at team members being teased about their weight during recreational sports.</p> <p>During this online survey, we will ask you general information such as your age, gender, height and weight, and sports you play or have youth who play. The second part of the survey will seek information on any experience you have with being teased about your weight, and your opinion on this type of teasing.</p> <p>Completing the survey will take 10 to 15 minutes. In appreciation of your time commitment, you will be invited to enter the name of your sport club into a draw for a \$50.00 donation.</p> <p>This research is being conducted by Dr. Sara Kirk, Dalhousie University Health Promotion Professor, and Kathryn Rand, MA Health Promotion Candidate. This research study is approved by the Dalhousie University Social Sciences and Humanities Research Ethics Board (ethics approval # 2016-3919).</p> <p>If you would like to participate, please click on the link provided below. This will take you to the welcome screen of the survey, which will review the study in detail and ask for your consent to continue before answering the questions.</p> <p>Survey Link: https://surveys.dal.ca/opinio/s?s=33872.</p>

APPENDIX F: MEDIA RELEASE

Media Release

Avis aux medias



Applied Research Collaborations for Health

Is weight-based teasing occurring on youth sports teams?

November 28th, 2016- **For immediate release**

Halifax NS- Weight bias, pervasive negative weight-related stereotypes and prejudices, which often leads to discrimination of those living with obesity, is one of the last socially acceptable forms of prejudice that exist in society. It is the stereotypes that surface from weight bias beliefs that often lead to weight-based victimization, a form of bullying in which an individual chooses to repeatedly hurt a person or group of people because of their weight status. Weight-based victimization is becoming an increasing public health issue among Canadian youth. Weight-based teasing, personal communication directed at a person because of their weight status that often includes mocking, making fun of, or demeaning comments, is the most prevalent form of victimization among youth.

Given the growing body of evidence that weight-based teasing is particularly an issue in physical education classes and on school-based sports teams, Dalhousie University Professor and Canada Research Chair, Dr. Sara Kirk and Research Associate, Kathryn Rand are conducting research to determine if this form of weight-based victimization is also an issue on recreational sports teams outside of the school environment. The purpose of this study is to describe the prevalence of weight-based teasing of youth involved in recreational sports from the perspective of team members, coaches, and primary caregivers. The secondary purpose is to assess participants' concerns and beliefs about the effect of weight-based teasing on health.

We are inviting any youth aged 14-17 who participate on a recreational sports team in Nova Scotia as well as their primary caregivers and coaches to fill out an online questionnaire found at <https://surveys.dal.ca/opinio/s?s=33872>. This will help us to determine whether weight-based teasing is an issue among youth participating in recreational sports. Sports are a popular health-related activity among youth, and we do not want the presence of weight-based teasing to impact the mental and social well-being of those who choose to participate or deter others from engaging in physical activity. This is particularly important today, as rates of physical activity among youth are declining. This research is essential to inform the development of inclusive sport programs in Nova Scotia that create a fun and safe experience for all participants regardless of body weight and shape.

Please contact Canada Research Chair, Dr. Sara Kirk, for more information (902-494-8440 or sara.kirk@dal.ca)

APPENDIX G: CONSENT LETTER



CONSENT FORM

Project Title: The Prevalence of Weight-based Teasing in Recreational Sports in Nova Scotia

We invite you to take part in a research study being conducted by Kathryn Rand, who is a student at Dalhousie University, as part of her Masters of Arts in Health Promotion. Taking part in the research is up to you, and you can leave the study at any time. There will be no impact on your role on the recreational sport team if you decide not to participate in the research. The information below tells you about what you will be asked to do and about any benefit, risk, or discomfort that you might experience.

Who Is Conducting the Research Study

The research will be conducted by Kathryn Rand, Masters of Arts in Health Promotion student, under the supervision of Dr. Sara Kirk, Professor of Health Promotion. Please contact Kathryn Rand (at 902 497-4990, kathryn.rand@dal.ca) or Dr. Sara Kirk (at 902 494-8440, Sara.Kirk@dal.ca) with questions, comments, or concerns about the research study.

Purpose of the Research Study

This research looks at how often youth are being teased about their weight during recreational sports from the perspective of coaches, team members, and their primary caregivers.

Who Can Participate in the Research Study

You may participate in the study if you meet the following criteria:

- Are 14-17 years old and are a member of a recreational sport's team or you are a coach or primary caregiver of a 14-17-year-old who is a member of a recreational sport's team
- Resident of the Nova Scotia
- Have access to a computer to complete an online survey

What You Will Be Asked to Do

To help us understand how often team members enrolled in recreational sports in Nova

Scotia are being teased about their weight or witness this type of teasing, we will ask you to complete a short on-line survey. It is expected to take about 5-10 minutes to complete. This survey will involve collecting general personal information such as what sport(s) team you play on, coach, or support, your age, gender, height and weight. The remainder of questions will seek information on your experience of being teased about your weight or witnessing this type of teasing.

Possible Benefits, Risks and Discomforts

Potential Benefit: The main potential benefit to this research is the findings will be used to implement programs within recreational sports teams that promote a positive sports experience for all children and youth. Participating in this study may not directly benefit you depending on the time line to adopt such a program on your team, but may benefit other team members in the future.

Risks: The potential study in question is about a form of teasing which research has indicated can make youth upset and feel bad about themselves. In order to minimize bringing up memories that may cause you to become upset, the survey will not ask you to discuss the details of any personal experiences you had with being teased. Information for counselling services including Children's Help Phone and the mobile mental health crisis team is provided on your email invitation should you require it.

Compensation

To thank you for your time, we will provide you with the opportunity to complete a short second survey that simply asks for the name(s) of the sport club(s) you are a part of so they can be entered into a draw for a \$50.00 donation.

Privacy and Confidentiality

Information that you provide to us will be kept private. Only the research team at Dalhousie University will have access to this information. We will describe and share our findings in a report. We will be very careful to only talk about group results so that no one will be identified. The survey does not ask for your name, email address, phone number or any other information that could identify you as a person who completed the survey. This means that ***you will not be identified in any way in our reports.***

We are required by law to report any information you provide us that indicates you are likely to harm yourself or another person or may have been or are being abused. We would do this by contacting the Nova Scotia Regional Police or RCMP with the information you provided us on the survey.

If You Decide to Stop Participating

You are free to leave the study at any time. If you decide to stop participating at any point in the study, your responses up until the time you decide to exit the survey will be deleted and not used in the study.

How to Obtain Results

We will provide you with a short description of group results when the study is finished. No individual results will be provided. You can obtain these results through a one-page community report that will be provided on the website of the provincial sport association you are a part of.

Questions

We are happy to talk with you about any questions or concerns you may have about your participation in this research study. Please contact Kathryn Rand (at 902 497-4990, kathryn.rand@dal.ca) or Dr. Sara FL Kirk (at 902 494-8440, Sara.Kirk@dal.ca) with questions, comments, or concerns about the research study. We will also tell you if any new information comes up that could affect your decision to participate.

If you have any ethical concerns about participation in this research, you may also contact Catherine Connors, Director, Research Ethics, Dalhousie University at (902) 494-1462, or email: ethics@dal.ca

Consent Instructions

If you agree to participating in this survey, please click Yes to the next question asking if you consent to participating in the research. If you click No, you will only be asked about entering your sport club into a draw for a donation. You will be unable to remove your consent to participate in the research once you have responded to all the questions and submitted your responses by clicking the finish button at the end of the survey.

Do you consent to participating in this research?

- Yes
- No

APPENDIX H: QUESTIONNAIRE, VERSION ONE
WEIGHT-BASED TEASING QUESTIONNAIRE FOR TEAM MEMBERS

Section One: Demographic Questions

The following section will ask for some general personal information the researcher will use to determine when, where, and to whom weight-based teasing occurs in recreational sports. Please report your height and weight as accurately as possible.

What recreational sports do you play?

What is your age in years?

What is your gender?

- Male
- Female
- Other
- Rather not say

What is your current height? (drop down menu to report in either centimeters or feet and inches)

What is your current weight? (drop down menu to report in either kilograms or pounds)

Section Two: Weight-Based Teasing Questions

Weight-based teasing is defined as teasing someone about their body weight. This can involve mocking or making fun of someone because of their body weight.

Please select one response on the 5-point scale for each of the questions regarding weight-based teasing below.

For the final question, you may type a response as long as needed to answer the question.

In the past year, during recreational sports, how often have you been teased about your weight?

1	2	3	4	5
Never	A little	Sometimes	A lot	Always

In the past year, during recreational sports, how often have you witnessed a team member being teased about their weight?

1	2	3	4	5
Never	A little	Sometimes	A lot	Always

How serious do you think weight-based teasing is in general?

1	2	3	4	5
Not At All Serious	Slightly Serious	Somewhat Serious	Serious	Very Serious

How concerned are you about the presence of weight-based teasing in general?

1	2	3	4	5
Not At All Concerned	Slightly Concerned	Somewhat Concerned	Concerned	Very Concerned

To what extent do you believe weight-based teasing is harmful to health?

1	2	3	4	5
Not At All Harmful	Slightly Harmful	Somewhat Harmful	Harmful	Very Harmful

Please describe what you think is being done to promote or discourage weight-based teasing on the recreational sports teams you are involved with?

Do you agree to the researcher quoting part of your response to the previous question in the results of the study? Any quotes used will in no way personally identify you.

- Yes
- No

Thank you for your participation.

The results of this research will be available in a one-page community report that will be distributed to participants through the provincial sport association they are involved in. The sports associations will either distribute the information directly through email or will post the report on their website. Information on the study's results should be available for participants in the fall of 2017.

SUBMIT

APPENDIX I: QUESTIONNAIRE, VERSION TWO
WEIGHT-BASED TEASING QUESTIONNAIRE FOR PRIMARY CARE GIVERS AND COACHES

Section One: Demographic Questions

The following section will ask for some general personal information the researcher will use to determine when, where, and to whom weight-based teasing occurs in recreational sports. Please report your height and weight as accurately as possible. If you are both a coach and a primary caregiver of a team member, please indicate this on the first question by clicking on both roles. You only need to complete the questionnaire once.

What is your role(s) in recreational sport?

- Coach
- Primary caregiver

What recreational sports do you coach or have an adolescent who plays?

What is your age in years?

What is your gender?

- Male
- Female
- Other
- Rather not say

What is your current height? (drop down menu to report in either centimeters or feet and inches)

What is your current weight? (drop down menu to report in either centimeters or feet and inches)

Section Two: Weight-Based Teasing Questions

Weight-based teasing is defined as teasing someone about their body weight. This can involve mocking or making fun of someone because of their body weight.

Please select one response on the 5-point scale for each of the questions regarding weight-based teasing below.

For the final question, you may type a response as long as needed to answer the question.

In the past year, during recreational sports, how often have you been teased about your weight?

1	2	3	4	5
Never	A little	Sometimes	A lot	Always

In the past year, during recreational sports, how often have you witnessed a team member being teased about their weight?

1	2	3	4	5
Never	A little	Sometimes	A lot	Always

How serious do you think weight-based teasing is in general?

1	2	3	4	5
Not At All Serious	Slightly Serious	Somewhat Serious	Serious	Very Serious

How concerned are you about the presence of weight-based teasing in general?

1	2	3	4	5
Not At All Concerned	Slightly Concerned	Somewhat Concerned	Concerned	Very Concerned

To what extent do you believe weight-based teasing is harmful to health?

1	2	3	4	5
---	---	---	---	---

Not At All Harmful Slightly Harmful Somewhat Harmful Harmful Very Harmful

Please describe what you think is being done to promote or discourage weight-based teasing on the recreational sports teams you are involved with?

Do you agree to the researcher quoting part of your response to the previous question in the results of the study? Any quotes used will in no way personally identify you.

- Yes
- No

Thank you for your participation.

The results of this research will be available in a one-page community report that will be distributed to participants through the provincial sport association they are involved in. The sports associations will either distribute the information directly through email or will post the report on their website. Information on the study's results should be available for participants in the fall of 2017.

SUBMIT

APPENDIX J: HONORARIUM QUESTIONNAIRE
QUESTIONNAIRE OF SPORTS CLUB AFFILIATION FOR HONORARIUM DISTRIBUTION

If you are interested in entering the name of the sport club(s) your sport team(s) is a part of to be entered into a draw for a \$50.00 donation, please provide the name(s) in the box below. The names of the clubs will in not be linked to the responses you provided on the questionnaire.

I am not interested in providing the names of the sports clubs I am a part of.

SUBMIT

**APPENDIX K: INTERNAL CONSISTENCY RELIABILITY TEST
CORRELATION COEFFICIENT OUTPUT TO REESTABLISH INSTRUMENT RELIABILITY.**

Table K1 Cronbach's Alpha for internal consistency the McKnight Risk Factor Survey III Weight-teasing Incidence Scale

Question	In the past year, how often have you been teased about your weight?	In the past year, how often have you witnessed someone be teased about their weight?
Question		
In the past year, how often have you been teased about your weight?	-----	r=0.27 Bca CI [0.12, 0.41] p= <0.01
In the past year, how often have you witnessed someone be teased about their weight?	r=0.27 Bca CI [0.12, 0.41] p= <0.01	-----

Table K2 Cronbach's Alpha for internal consistency of the Perception of Weight-based Victimization Scale

Question	How serious is WBT in general?	How concerning is WBT in general?	How harmful to health is WBT in general?
Question			
How serious is WBT in general?	-----	r=0.82 Bca CI [0.75, 0. 87] p= <0.01	r=0.76 Bca CI [0.68, 0.84] p= <0.01
How concerning is WBT in general?	r=0.82 Bca CI [0.75, 0.87] p= <0.01	-----	r=0.79 Bca CI [0.71, 0. 86] p= <0.01
How harmful to health is WBT in general?	r=0.76 Bca CI [0.68, 0.84] p= <0.01	r=0.79 Bca CI [0.71, 0. 86] p= <0.01	-----

APPENDIX L: DEMOGRAPHIC STATISTICS
SUMMARY TABLES OF PARTICIPANT GROUPS SPORT ASSOCIATION

Table L1 Percentage of each participant group in each participating sport

Sport Category (%) Participant Group	Team Members	Coach	Primary Caregiver
Badminton	0.8	-----	-----
Baseball	2.3	-----	-----
Basketball	7.6	22.2	18.8
Bowling	0.8	-----	-----
Curling	0.8	-----	6.3
Dance	2.3	-----	-----
Football	0.8	5.6	12.5
Gymnastics	3.0	5.6	-----
Hockey	7.6	-----	6.3
Lacrosse	0.8	-----	6.3
Ringette	0.8	-----	-----
Rugby	2.3	5.6	-----
Skiing	1.5	-----	-----
Soccer	5.3	5.6	6.3
Softball	2.3	-----	-----
Swimming	1.5	11.1	-----
Track and Field	0.8	-----	-----
Water Polo	3.8	-----	6.3
Wrestling	0.8	-----	-----
Volleyball	4.5	11.1	-----
Multiple Sports	42.4	33.3	31.3
Unknown	7.6	-----	6.3

APPENDIX M: DESCRIPTIVE STATISTICS

McKnight Risk Factor Survey III Weight-teasing Incidence Scale Analysis

Experiencing Weight-based Teasing Scale

Table M1 Frequency distribution of team members being teased about their weight in the past year

In the past year during recreational sports, how often have you been teased about your weight	Number	Percentage (%)
Never (1)	78	62.40%
A Little (2)	22	17.60%
Sometimes (3)	12	9.60%
A Lot (4)	8	6.40%
Always (5)	5	4.00%

Bold= highest response frequency

Table M2 Cross-tabulation of team member gender and experience with being teased about their weight over the past year

In the past year during recreational sports, how often have you been teased about your weight	Male	Female	Rather not Say	Unknown
Reported in Percentages (%)				
Never (1)	58.30% (n=35)	60.90% (n=39)	40.0% (n=2)	66.70% (n=2)
“A Little” (2) to “Always” (5)	38.40% (n=23)	31.30% (n=20)	60.00% (n=4)	33.30% (n=1)
Did not Respond	3.30% (n=2)	7.80% (n=5)	-----	-----

Table M3 Cross-tabulation of team member weight status and experience with being teased about their weight over the past year

In the past year during recreational sports, how often have you been teased about your weight	Living with a low weight	Healthy Weight	Living with Excess Weight	Living with Obesity
Reported in Percentages (%)				
Never (1)	46.70% (n=7)	68.30% (n=56)	42.10% (n=8)	41.70% (n=5)
“A Little” (2) to “Always” (5)	46.60% (n=6)	28.00% (n=23)	42.10% (n=8)	58.30% (n=7)
Did Not Respond	6.70% (n=1)	3.70% (n=3)	15.80% (n=3)	-----

Witnessing Weight-based Teasing Scale

Table M4 Descriptive statistics of participant groups who have witnessed a team member being teased about their weight in the past year

In the past year during recreational sports, how often have you witnessed a team member being teased about their weight? (1= Never, 5= Always)	Median	Mean	Standard Deviation
Team Members	2.00	2.07, [1.87, 2.27]	1.09, [0.96, 1.20]
Primary Caregivers	1.50	1.63, [1.31, 2.00]	0.72, [0.48, 0.87]
Coaches	2.00	2.07 [1.50, 2.64]	1.07, [0.62, 1.33]
All Participants	2.00	2.03, [1.86, 2.20]	1.06, [0.94, 1.15]

Table M5 Frequency distribution of witnessing weight-based teasing among team members, coaches, and primary caregivers

In the past year during recreational sports, how often have you witnessed a team member being teased about their weight?	Team Members	Coaches	Primary Caregivers
Frequency Distribution in Percentages (%)			
Never (1)	37.90 % (n=50)	44.40% (n=8)	31.30% (n=5)
A Little (2)	24.20% (n=32)	33.30% (n=6)	31.30% (n=5)
Sometimes (3)	22.70% (n=30)	11.10% (n=2)	12.50% (n=2)
A Lot (4)	7.60% (n=10)	-----	12.50% (n=2)
Always (5)	2.30% (n=3)	-----	12.50% (n=2)
Did not Respond	5.30% (n=7)	11.10% (n=2)	12.50% (n=2)

Bold= highest response frequency

Table M6 Cross-tabulation of participants' gender and experience witnessing a team member being teased about their weight in the past year

In the past year during recreational sports, how often have you witnessed a team member being teased about their weight?	Male	Female	Rather Not Say	Unknown
Reported in Percentages (%)				
Never (1)	36.80% (n=25)	41.60% (n=32)	57.10% (n=4)	66.70% (n=2)
“A Little” (2) to “Always” (5)	63.20% (n= 43)	58.40% (n=45)	42.90% (n=3)	33.30% (n=1)

Table M7 Cross-tabulation of participants' weight status and experience witnessing a team member being teased about their weight in the past year

In the past year during recreational sports, how often have you witnessed a team member being teased about their weight?	Living with a Low Weight	Healthy Weight	Living with Excess Weight	Living with Obesity	Unknown
Reported in Percentages (%)					
Never (1)	35.50% (n=5)	41.30% (n=38)	46.20% (n=12)	33.30% (n=6)	40.00% (n=2)
"A Little" (2) to "Always" (5)	64.50% (n=9)	58.70% (n=54)	53.80% (n=14)	66.70% (n=12)	60.00% (n=3)

Table M8 Cross-tabulation of participants' age groupings and experience witnessing a team member being teased about their weight in the past year

In the past year during recreational sports, how often have you witnessed a team member being teased about their weight?	10-19 years	20-29 years	30-39 years	40-49 years	50-59 years	60-69 years
Reported in Percentages (%)						
Never (1)	37.60% (n=50)	25.00% (n=1)	57.10% (n=4)	15.40% (n=2)	100.00% (n=3)	-----
"A Little" (2) to "Always" (5)	57.90% (n=71)	50.00% (n=2)	14.30% (n=1)	84.60% (n=11)	-----	100.00% (n=1)
Did Not Respond	4.50% (n=6)	25.00% (n=1)	28.20% (n=2)	-----	-----	-----

APPENDIX N: DESCRIPTIVE STATISTICS
PERCEPTIONS OF WEIGHT-BASED VICTIMIZATION SCALE

Table N1 Frequency distribution of participants' beliefs about weight-based teasing as serious

How serious is WBT in general?	Team Members	Coaches	Primary Caregivers
Reported in Percentages (%)			
Not at all Serious (1)	14.40% (n=19)	5.60% (n=1)	-----
Slightly Serious (2)	14.40% (n=19)	27.80% (n=5)	-----
Somewhat Serious (3)	20.50% (n=27)	16.70% (n= 3)	37.50% (n=6)
Serious (4)	28.80% (n=38)	11.10% (n=2)	18.80% (n=3)
Very Serious (5)	16.70% (n=22)	27.80% (n=5)	31.30% (n=5)
Did Not Respond	5.30% (n=7)	11.10% (n=2)	12.50% (n=2)

Table N2 Frequency distribution of participants' beliefs about weight-based teasing as concerning

How concerning is WBT in general?	Team Members	Coaches	Primary Caregivers
Reported in Percentages (%)			
Not at all Concerning (1)	17.40% (n=23)	-----	-----
Slightly Concerning (2)	19.70% (n=26)	16.70% (n=3)	-----
Somewhat Concerning (3)	25.80% (n=34)	33.30% (n=6)	25.50% (n=4)
Concerning (4)	25.80% (n=34)	22.20% (n=4)	25.50% (n=4)
Very Concerning (5)	6.10% (n=8)	16.70% (n=3)	37.50% (n=6)
Did Not Respond	5.30% (n=7)	11.10% (n=2)	12.50% (n=2)

Table N3 Frequency distribution of participants' beliefs about weight-based teasing as harmful to health

How harmful to health is WBT in general?	Team Members	Coaches	Primary Caregivers
Reported in Percentages (%)			
Not at all Harmful (1)	4.50% (n=6)	-----	-----
Slightly Harmful (2)	19.70% (n=26)	5.60% (n=1)	-----
Somewhat Harmful (3)	22.00% (n=29)	16.70% (n=3)	12.50% (n=2)
Harmful (4)	25.80% (n=34)	22.20% (n=4)	31.30% (n=5)
Very Harmful (5)	22.70% (n=30)	44.40% (n=8)	43.80% (n=7)
Did Not Respond	5.30% (n=7)	11.10% (n=2)	12.50% (n=2)

Table N5 Percent endorsement of participants' beliefs about weight-based teasing as serious, concerning, and harmful to health cross-tabulated with gender

Beliefs about WBT Teasing Gender	Percentage endorsement of weight-based teasing as serious (4-5)	Percentage endorsement of weight-based teasing as concerning (4-5)	Percentage endorsement of weight-based teasing as harmful to health (4-5)
Male	30.00% (n=21)	14.30% (n=10)	30.00% (n=21)
Female	58.20% (n=50)	52.30% (n= 45)	73.30% (n=63)
Rather not Say	49.20% (n=3)	49.20% (n=3)	28.60% (n=2)
Not Disclosed	33.33% (n=1)	66.70% (n=2)	66.70% (n=2)

Table N6 Percent endorsement of participants' beliefs about weight-based teasing as serious, concerning, and harmful to health cross-tabulated with weight status

Beliefs about WBT Teasing Weight Status	Percentage endorsement of WBT as serious (4-5)	Percentage endorsement of WBT as concerning (4-5)	Percentage endorsement of weight-based teasing as harmful to health (4-5)
Living with a Low Weight	50.00% (n=8)	31.30% (n=5)	50.00% (n=8)
Heathy Weight	38.80% (n= 38)	31.60% (n= 31)	55.10% (n=54)
Living with Excess Weight	62.90% (n=17)	51.80% (n=14)	51.80% (n=14)
Living with Obesity	44.40% (n=8)	38.90% (n=7)	50.00% (n=9)
Unknown	57.20% (n=4)	28.60% (n=2)	42.90% (n=3)

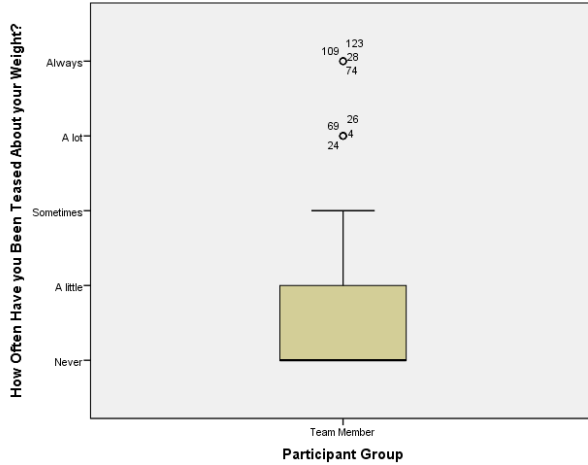
Table N7 Percent endorsement of participants' beliefs about weight-based teasing as serious, concerning, and harmful to health cross-tabulated with age groupings

Beliefs about WBT Teasing Age Group	Endorsement of weight-based teasing as serious (4-5)	Endorsement of weight-based teasing as serious (4-5)	Endorsement of weight-based teasing as harmful to health (4-5)
10-19 years	46.60% (n=62)	33.10% (n=44)	49.60% (n=66)
20-29 years	50.00% (n=2)	50.00% (n=2)	75.00% (n=3)
30-39 years	42.90% (n=3)	28.60% (n=2)	57.20% (n=4)
40-49 years	46.20% (n=6)	63.90% (n=9)	76.90% (n=10)
50-59 years	33.30% (n=1)	33.30% (n=1)	66.60% (n=2)
60-69 years	0.00% (n=1)	0.00% (n=1)	0.00% (n=1)
Unknown	20.00% (n=1)	20.00% (n=1)	60.00% (n=3)

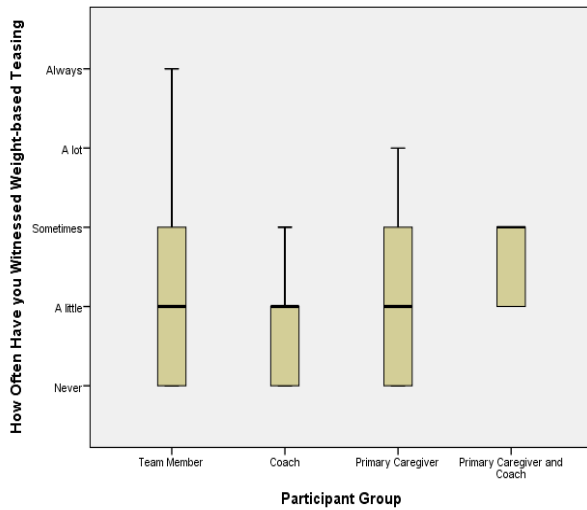
APPENDIX O: DATA OUTLIERS
BOX AND WHISKER PLOTS TO DETERMINE DATA OUTLIERS IN SURVEY RESPONSES

Section 1. Weight-based Teasing Incidence Scale

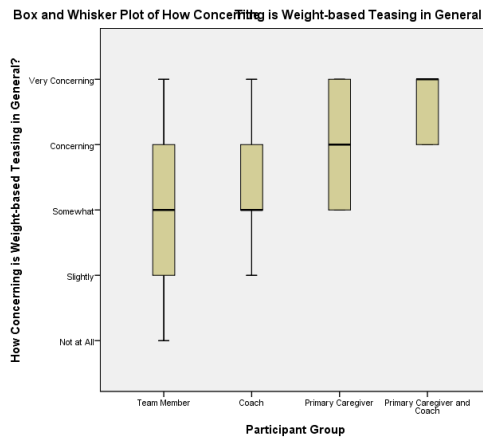
Box and Whisker Plot of In the Past Year, How Often Have you Been Teased About your Weight



Box and Whisker Plot of How Often have you Witnessed Weight-based Teasing



Section 2. Beliefs about Weight-based Teasing Scale



APPENDIX P: THEMATIC ANALYSIS
Summary of Key Themes for the Promotion and Discouragement of Weight-based Teasing on Sports Teams

Table P1 Key themes promoting weight-based teasing on sports teams categorized using the Social-Ecological Model

Level of the Social-Ecological Model	Practices that promote weight-based teasing
Individual	-----
Interpersonal	Minimization of weight-based teasing by coaches and team members Acceptance of weight-based teasing by coaches
Organizational	Sport-specific body shape and size expectations
Community	Media messaging about body weight and shape in sport
Policy	Lack of weight-based victimization programs or policies

Table P2 Key themes discouraging weight-based teasing on sports teams categorized using the Social-Ecological Model

Level of the Social-Ecological Model	Practices that discourage weight-based teasing
Individual	-----
Interpersonal	Use of education to create a culture of good sportsmanship Body positivity and acceptance discussions
Organizational	Anti-bullying penalty systems
Community	-----
Policy	Anti-bullying policies