

An Examination of the Nature of Sexual Minority Men's Gender-Typed Sport Involvement:
Exploring the Role of Gender Atypicality and Sense of Belonging

by

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A thesis
presented to the University of Waterloo
in fulfillment of the
thesis requirement for the degree of
Master of Arts
in
Recreation and Leisure Studies

Waterloo, Ontario, Canada, 2017

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Authors Declaration

I hereby declare that I am the sole author of this thesis. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

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Abstract

Gender stereotyping of sport has a profound impact on sport activity selection. Men and women alike are found to restrict participation to activities that are societally deemed to be gender appropriate. Despite pressure to engage in to masculine-typed sport, and the societal rewards of doing so, research shows that gay men are underrepresented in masculine-typed, team sports. Instead, some gay men seek alternative, sexual minority-specific sport environments. The current research proposes that gay men may also be more likely than heterosexual men to participate in feminine-typed sport and suggests that gender atypicality and/or sense of belonging may be factors that help to explain this gender-typed sport selection.

Drawing on theories of gender atypicality and the minority stress model, the current study tests the relationship between sexual orientation and gender-typed sport participation using nationally representative sample of gay and straight men. Contrary to expectations, sexual minority status was negatively and significantly associated with feminine-typed sport participation and sense of belonging was not a significant mediator of the association of interest. However, as hypothesized, to the extent that gay men did participate in feminine-typed sport, gender atypicality was found to be an explanatory factor. Findings of this study bridge, challenge, and build upon the bodies of literature focused on sexual orientation and gender atypicality, the experiences of sexual minorities in sport, and the gendered nature of sport.

Acknowledgements

I would like to start by thanking Steve, my supervisor extraordinaire. I am so glad that I knocked on your door as an undergrad looking for a thesis supervisor, and I am even more glad that you (not-so) gently steered me toward quantitative methods. You have taught me an unbelievable amount all while helping to keep my graduate student experience light and fun. Thank you for guiding me into this fascinating area of research and for helping me acquire the tools I needed to do my research well.

I would also like to extend my gratitude to my fabulous committee member, Margo. I am so thankful our paths crossed early in my grad school experience. Not only were you a fantastic knowledge base for me to draw from, but you were also a wonderful support when things got tough. I learned so much from you through our collaborations on this project, on other papers, and through the CIW. Thank you for all your guidance and smiles.

And finally to Richard, thank you for taking an interest in this work and for filling the role of independent reader. I am grateful to you for lending your expertise and pushing me to make this project as strong as it can be.

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1.0 Introduction

Sport plays a major role in the lives of many North Americans, and diversity within sport is cited as one of the most important issues in sport organizations today (Cunningham, 2012; Prettyman & Lampman, 2006). As such, it is unsurprising that a wide variety of social science disciplines have taken up critical evaluation of sport facilitation and participation. Gender stereotyping of sport and gendered experiences within sport environments have been of particular interest to psychologists and leisure scholars alike for nearly five decades (Sabo & Runfola, 1980; Krane, 2016). Gender stereotyping of sport refers to categorization of sport activities based on the extent to which participation conforms to male and female gender role expectations (Koivula, 1995), and has an impact on individual and group activity selection (Wiley, Shaw, & Havitz, 2000). Masculine-typed sports are defined as those that allow for demonstration of stereotypically masculine attributes such as strength and aggression, while feminine-typed sports encourage demonstration of stereotypically feminine attributes such as grace and aesthetics (Koivula, 1995). Men and women alike are likely to restrict sport participation to activities that are societally deemed to be gender appropriate (Wiley, Shaw & Havitz, 2000). A considerable body of research addresses how gender-stereotyping of sport activities influences the sport participation of (presumably heterosexual) men and women in general (Birrell & Cole; Change, 2016; Cunningham, 2008; Demir, 2005; Jun & Kyle, 2012; Knoppers & McDonald, 2010; Royce, Gebelt & Duff, 2003; Schamle & Kerstetter, 2006; Theberge, 2000; Van Tuyckom, Scheerder & Bracke, 2010), but the unique gendered experiences faced by sexual minorities are scarcely explored (Elling & Janssens, 2009). The current study will bring depth to the body of literature on gender stereotyping of sport by providing insight into the gender-typed sport participation patterns of gay men.

Western sport is cited by many as an institution that enforces and reinforces notions of hegemonic masculinity (Connell, 1990; Elling & Janssens, 2009; Kauer & Krane, 2010; Lenskyj, 2013; Messner & Sabo 1990; Sartore & Cunningham, 2009; Wiley, Shaw & Havitz, 2000; Willis, 2015). Individuals and groups that challenge the masculine tenants of sport are subject to marginalization, particularly within masculine-typed, team sports (Anderson 2002, 2006; Kauer & Krane, 2013; Price & Parker, 2003; Pronger, 2000). Heterosexuality is a prominent norm within hegemonic masculinity and accordingly gay males are one group that experience marginalization in this context (Lenskyj, 2013).

Despite pressure to engage in to masculine-typed sport and the societal rewards of doing so (Wiley, Shaw & Havitz, 2000), research shows that gay men are less likely than heterosexual men to participate in team sports (Calzo, Roberts, Corliss, Blood, Kroshus & Austin, 2014; Elling & Janssens, 2009; Herek, 2000; Plumber, 2006). Research also demonstrates that some sexual minority men choose to participate in LGB-specific sport in order to avoid and/or resist expectations of hegemonic masculinity within sport environments (Elling, Knopp & Knoppers, 2003; Jones & McCarthy, 2010; Price & Parker, 2003; Rowe, Markwell & Stevenson, 2006; Symons, 2007; Waite, 2003). The current research proposes that gay men may also be more likely than heterosexual men to choose to engage in feminine-typed sport and provides two potential explanations for this proposition.

First, decades of research demonstrate compelling evidence of a connection between sexual minority status and gender atypical (feminine) behavioural and personality characteristics (Bailey & Zucker, 1995); this connection is particularly strong in the case of men. Work by Calzo and colleagues (2014) found this gender atypicality to be a significant predictor of physical activity participation patterns in young adults. Based on this, it is hypothesized that an

overall inclination toward gender atypical characteristics and behaviours may explain the relationship between sexual minority status and feminine-typed sport selection in gay men.

Second, the Minority Stress Model (Meyer, 2003) suggests that internalization of experiences of marginalization, discrimination, and alienation create a foundation for minority stress, which in turn impacts sexual minority individuals' sense of self, as well as their mental and physical health and wellbeing. In order to overcome or avoid minority stress-inducing experiences, individuals may be motivated to avoid particularly masculine, team sport environments (Anderson, 2006) and/or find alternative environments for sport engagement (Jones & McCarthy, 2010). As such, it is proposed that low perceived support may “push” gay men away from participating in masculine sport environments.

This study will test the Meyer's (2003) Minority Stress Model against gender atypicality theories (Bailey & Zucker, 1995; Lippa, 2005), comparing their individual capacities to explain the association between men's sexual minority status and likelihood of feminine-typed sport participation. Males are the focus of the proposed research due to the prominence of negative attitudes towards gay men in sport (Roper & Halloran, 2007; Gill et al., 2006; Herek, 2002; Kauer & Krane, 2013; Krane, 2016; Symons, Sbaraglia, Hillier & Mitchell, 2010; Plumber, 2006; Shang & Gill, 2013) and compelling evidence of an association between sexual minority status and gender atypical behaviour (Bailey & Zucker, 1995; Lippa, 2005). It is hypothesized that gay males are more likely than heterosexual males to participate in feminine-typed sport, and that gender atypicality and/or low sense of belonging may explain this preference. Findings will bridge the bodies of literature focused on the experiences of sexual minorities in sport and on the gendered nature of sport.

2.0 Literature Review

The following review contains three main components. First, sex, gender, masculinity, and femininity will be defined and briefly discussed. Next, theories connecting gender-typed behaviour and sexual orientation will be reviewed, and gender atypicality will be positioned as a theoretical perspective helping to explain the relationship between sexual orientation and gender-typed sport. Following this, gender stereotyping of sport activities will be summarized, issues of hegemonic masculinity discussed, and the minority stress model will be introduced as a tool to understand the influence of marginalization and belonging on men's gender-typed sport participation. Finally, the concepts of leisure constraints and constraint negotiation will be presented as an additional framework for understanding the potential influence of gender atypicality and sense of belonging on gender-typed sport participation.

2.1 Sex, Gender, Masculinity, and Femininity

Gender and sex, while different concepts, cannot be separated conceptually from one another (Henderson, 1990). Sex refers to a person's biological status and is typically categorized as male, female, or intersex (American Psychological Association, 2011; Parry, 2010). Gender is based upon social constructions of sex, and refers to attitudes and behaviours that are deemed most appropriate for a man or a woman in a specific social or cultural context (Henderson, 1990). As Henderson and colleagues (1996) describe it, "one's biological sex leads to a lifetime of relationships and expectations based on gender" (p. 17). The concepts of masculinity and femininity describe the variation in gender-related traits and behavioural characteristics that exist among and between men and women (Lippa, 2005). A collective cultural understanding of what it means to be masculine and feminine creates a framework for gender role expectations (Parry, 2010); men who display masculine behaviour are thought to be gender conforming, while

women displaying masculine behaviour are labeled gender non-conforming, and vice versa (Diamond, 2008). The present study will use the term “gender atypical” to refer to behaviour and characteristics that do not align with gender role expectations (Halperin, 2012).

The concepts of masculinity and femininity are factors that define the organization of many aspects of society (Lippa, 2005). Historical conceptualizations of masculinity and femininity were essentialist in nature – the two were seen as binary, opposites, and core differentiating factors between men and women (Crompton & Lyonette, 2005; Lippa, 2005; Terman & Miles, 1936). Terman and Miles (1936) characterized femininity in women as emotionally sensitive, artistic, non-aggressive, and sexually attracted to men. Masculinity is described as the direct inverse of this: aggressive, determined, outspoken, and sexually attracted to women. Evident in the aforementioned descriptions, sexual orientation is tightly tied to dominant conceptualizations of gender traits (Looy, 2005), and though perceptions of masculinity and femininity have broadened somewhat over time, these characterizations are still considered relevant today (Lippa, 2005).

Bem (1974) redefined the measurement of masculinity and femininity with the development of the Bem Sex Role Inventory (BSRI), which measures the two concepts as entirely separate dimensions, operating under a new belief that masculinity and femininity can occur simultaneously in one individual. Using this scale, a person who scores high on masculinity and low on femininity is thought to be stereotypically masculine, while opposite scores—high femininity, low masculinity—characterizes a person as stereotypically feminine. Men who score as stereotypically masculine and women who score as stereotypically feminine are said to be “sex-typed” individuals, meaning their behaviours, feelings, and expressions are congruent with their gender role expectations. A person who scores high in both masculinity and

femininity is labeled androgynous, and a person scoring low on both dimensions, undifferentiated.

In the 1980's and early 1990's however, Bem (1981, 1993) shifted from the BSRI to her Gender Schema theory, which proposes that sex-typing is not the outcome of hard-wired personality traits and characteristics, rather it is the result of an individual's inclination to make sense of the world around them in gendered terms: male, female, masculine, feminine (Lippa, 2005). Gender-schematic people, Bem suggests, are more likely to see the world in gendered terms and apply gender not only to people and objects but also to abstract concepts and ideas. Conversely, gender aschematic individuals do not display the same tendency to organize their reality using gender terms. Based on this conceptualization, Bem has relabeled sex-typed individuals as gender schematic and androgynous individuals and gender aschematic, and she suggests that perceptions of masculinity and femininity are entirely socially constructed rather than deeply rooted psychological realities.

Most recently, gender diagnosticity (GD) has emerged as a method of conceptualizing and measuring masculinity and femininity. The GD method (Lippa & Connelly, 1996; Lippa, 2005) blends the essentialist and social constructionist perspectives on masculinity and femininity described above. According to Lippa (2005) the method is rooted in the idea that "masculinity-femininity exist and can be measured, but at the same time vary somewhat over time and across groups and cultures" (p.69). The GD approach uses gender-related variables as a basis for estimating the probability that an individual is masculine or feminine (Lippa, 2005). For example, the extent to which a person's career preferences, health profile, or appearance compares to sample-specific gender trends could be evaluated to create this probability. The approach is similar in some ways to early binary assumptions around masculinity and femininity

(Terman & Miles, 1936), but it allows findings to reflect the definitions of masculinity and femininity in a specific time, place, or cultural group. In other words, this measure allows a researcher to test where a person falls on a continuum of masculinity and femininity in relation to a local and relevant group of women and men (Lippa, 2005).

2.2 Sexual Orientation and Gender-Related Traits

Sexual orientation refers to the nature of a person's attraction to a specific gender or genders, their sexual behaviour, and their related identity (e.g., gay, lesbian, etc.) (LeVay, 2010). The current project will use the term sexual minority to refer to any person that is not exclusively heterosexual (interested in the opposite sex; e.g., gay, lesbian, bisexual). Inversion theories emerged in the early 20th century (Ellis, 1915; Freud, 1905/1953), connecting the concepts of masculinity and femininity with a person's sexual orientation. The theories suggested a reversal of gender traits in people who identify as a sexual minority (Kite & Deaux, 1986; Lippa, 2005). Inversion research in the 1930's and 40's began to test the gender trait differences between heterosexual and gay men, and significant relationships between masculinity, femininity, and sexual orientation were found (Terman & Miles, 1936; Hathaway, 1956; Lippa, 2005). More recent replication of these results suggests the association continues to be relevant: gay males are found to demonstrate more feminine characteristics than straight males, and lesbian women to demonstrate more masculine characteristics than straight women (Lippa, 2000; Lippa, 2002; Pillard, 1991). This incongruence between gender identity and normative gender-related traits and behaviours directly opposes the implicit value judgment that masculinity best suited for men, while femininity is best suited for women (Lippa, 2005).

The exact nature of the association between sexual minority status and gender atypicality is still largely unknown. Biological and psychosocial interpretations exist, but no one theory in

isolation does a particularly strong job explaining the association (Lippa, 2002). Biological theories focus of the role of genetics and biologically relevant environmental factors in masculinizing or demasculinizing the brain through over or under production of androgens (Bailey, 1995; Bailey & Pillard, 1991). Diamond (2008) articulates these biological interpretations as, “the suggestion that gay men are female-like (in their hormone exposure, brain structure, and brain function), whereas lesbian women are male-like” (p. 43).

Three psychosocial theories are most prominently recognized for explaining the development of gender-typed traits and same-sex orientation (Lippa, 2002). The first, sex-role identity theory (Kagan, 1964), suggests that people come to understand their own degree of masculinity or femininity through comparing their overt and covert personal attributes to attributes labeled as masculine and feminine by the dominant culture. Same-sex desire, in accordance with this theory, would cause gay males to view themselves as more feminine and, in turn, act in accordance with this feminine identity (Lippa, 2002). The second theory, differential reinforcement theory, suggests that individual’s sex-typed behaviours are an outcome of the extent to which parents’ enforced sex-typed behaviours during childhood (Bailey & Zucker, 1995; Lippa, 2002). Strong reinforcement of sex-typed behaviours on the part of parents is said to lead to strongly sex-typed adults, which encourages a heterosexual orientation (Lippa, 2002). Opposite of this would be children raised in an environment where sex-typing is not strongly enforced; these children are typically not as strongly sex-typed and may, as a result, be more likely to be same-sex oriented (Lippa, 2002). The third and final theory, Exotic Becomes Erotic theory (Bem, 1996), suggests that children’s interest in interaction with the same or opposite gender is dictated by their own genetically influenced temperament (e.g., aggressive, passive). In the case of gay males, Bem’s (1996) theory attributes adult same-sex orientation to affiliation

with, and behavioural similarity to, opposite-sex peers in childhood. Boys who surround themselves socially with girls may view other boys as different from themselves or exotic. Over time this perception is thought to shift from exotic to erotic, ultimately leading to same-sex attraction.

As previously mentioned, no biological or psychosocial theory is able to independently accurately explain or predict the association between opposite sexual minority status and gender atypicality, though empirically the two are found to be linked (Bailey & Zucker, 1995; Lippa, 2005). Especially in the case of gay males, studies continue to show a significant association between gender-atypical behaviours beginning in childhood, and sexual minority status in adulthood (Bailey & Zucker, 1995). (Stereo)typically-gendered leisure behavior is used as a basis for determining gender atypicality in childhood (i.e. playing with dolls vs. trucks) (Bailey & Zucker, 1995), but little research identifies how gender atypicality manifests in adult leisure behavior. One study by Calzo and colleagues (2014) used gender nonconformity in childhood as a mediator of the relationship between sexual orientation and physical activity participation in young adulthood. The researchers found that sexual minority participants engaged in significantly less physical activity than their heterosexual peers, and that gender non-conformity in childhood accounted for 46% of the variance in physical activity participation. Building on this idea, the present study will use gender atypicality as a mediator of the relationship between sexual minority status and gender-typed sport selection.

The present study will test the extent to which gender atypicality explains the gender-typed sport selection of gay men. It is anticipated that gay men will participate in more feminine-typed sport than heterosexual men, and that this selection may be explained by an intrinsic pull toward feminine-typed sport consistent with other gender atypical characteristics and behaviours.

2.3 The Gendered Nature of Sport

Research on gender stereotyping of sport activities in Western society provides important context for understanding the challenges faced by many gay men in sport. Gender stereotyping refers to the categorization of sport activities based on the extent to which participation conforms to male and female gender role expectations (Koivula, 1995). Masculine-typed sports are typically defined as sports that allow participants to demonstrate speed, strength, and aggression, while feminine-typed sports are those that encourage aesthetics, expressiveness, and grace (Hardin & Greer, 2009; Koivula).

Wiley, Shaw, and Havitz (2000) suggest that gender stereotyping of sports impacts individual and group activity selection. Many men and women restrict their participation to sports that allow them to demonstrate gender-conforming behavior (Barber, 1998; Holland & Andre, 1994; Howard, 1992; Kane, 1990). Further, Wiley, Shaw, and Havitz assert that this is not only an intrinsically motivated issue; those who choose to participate in gender conforming activities are awarded a higher social status compared to those who engage in gender non-conforming sport (Holland & Andre; Kane, 1988).

Sport is considered to be a mechanism of social control as expectations within sport are thought to instill socially acceptable behaviours in young people in accordance with rigid and narrow notions of hegemonic masculinity and femininity (Connell, 1990; Elling & Janssens, 2009; Kauer & Krane, 2014; Lenskyj, 2013; Messner & Sabo 1990; Sartore & Cunningham, 2009; Wiley, Shaw & Havitz, 2000; Willis, 2015). Hegemonic masculinity and femininity refer to sets of attitudes and behaviours that are socially supported, privileged, and considered ideal for men and women respectively (Connell, 1990). Through valuing traditionally masculine attributes such as aggressiveness and competitiveness, many 20th century sport environments

cultivate patterns of behaviour and practices that award superiority and leadership to men who most strongly adhere to hegemonic notions of masculinity (Anderson, 2002; Kauer & Krane, 2013; Messner, 1992; Wiley, Shaw & Havitz); from an early age, boys engaged in sport learn that there is no greater insult than being told they perform ‘like a girl’ (Messner, 1992; Plumber, 2006). As a consequence of these rigid expectations, individuals and groups that challenge narrow norms of masculinity within sport are subject to discrimination and marginalization (Plumber, 2006; Price & Parker, 2013; Sartore & Cunningham, 2009).

In line with the tenants of hegemonic masculinity, many sport environments are heteronormative in nature (Lenskyj, 2013). Lenskyj (2013) defines heteronormativity as “encompass[ing] both homophobia and heterosexism, that is, active prejudice and discrimination against sexual minorities as well as implicit ideological assumptions that shape societal attitudes and practices” (p. 139). As a result of direct deviation of heterosexual norms, sexual minorities are one group that experiences marginalization within sport (Elling & Janssens, 2009; Kauer & Krane, 2013; Plumber, 2006; Pronger, 2000; Sartore & Cunningham, 2009). Specifically in the case of men, heterosexuality is presumed when an athlete participates in team sports and/or masculine-typed sports (Lenskyj, 2013), and there are consequences for men who break these norms (Anderson, 2006; Plumber, 2006).

Marginalization of, and discrimination against, sexual minorities in sport are documented at the community, college/university, and professional levels. In 2010, Australian researchers surveyed 307 community sport participants regarding their experiences in sport (Symons, Sbaraglia, Hillier & Mitchell, 2010). Eighty-six percent of participants reported experiencing verbal homophobia while participating in sport, 3% reported experiences of physical homophobic violence, and 37% of the males surveyed suggested that they did not feel safe in

sporting environments. Nearly half of LGBT community sport participants chose to conceal their sexual minority identity during sport participation.

Roper and Halloran (2007) surveyed 371 athletes at three large American universities regarding their attitudes toward sexual minorities. The authors found that heterosexual men held more negative attitudes towards sexual minorities than did heterosexual women. As well, it was found that heterosexual men viewed gay men in sport more negatively than gay women in sport. Roper and Halloran's findings replicate and are replicated in work by numerous other researchers (Gill et al., 2006; Herek, 2002; Shang & Gill, 2013).

Work by Messner and colleagues (2000) highlights the rigid and narrow portrayal of male athletes in the media—a portrayal consistent with notions of hegemonic masculinity. The image of the professional male athlete that is cultivated and shared by media sources contains themes such as toughness, aggression, and strength. The pressure to prove one's conformity to masculine ideals is thought to encourage behavior that further marginalizes sexual minority athletes (Maurer-Starks, Clemons & Whalen, 2008). An example of such behavior is the many documented accounts of professional athletes and coaches making public homophobic remarks, arguably without much cause as there were no active openly gay athletes in any of the four most prominent leagues in North America (NBA, MLB, NHL, and NFL) prior to 2013 (Maurer-Starks, Clemons & Whalen, 2008).

Over the past half-decade an international movement has started to work toward greater inclusion LGBT athletes within sport environments (Fink, 2012; Sport for LGBT Athletes). In North America, policies and best practices are being revised within school athletics and professional sport organizations, coaches and trainers are intentionally offering support for sexual minority athletes, high profile athletes are publicly stating their support for their LGBT

peers, and sexual minority athletes are bravely speaking their truths (Fink, 2012; Krane, 2016). Certainly, this movement has positively influenced the sport experiences of many LGBT athletes (Anderson, 2011) but especially in the case of gay men in sport, discrimination and marginalization remain prominent today (Krane, 2016).

Perhaps due to the marginalization described above, sexual minority men may be less likely than heterosexual men to participate in team sport activities (Calzo et al., 2014; Elling & Janssens, 2009; Herek, 2000)—a finding that is unsurprising given that team environments are reportedly less accepting of sexual minority identities than individual sports (Anderson, 2006; Roper & Halloran, 2007). Research shows that some sexual minority athletes maintain sport participation in alternative environments. To be specific, some sexual minority athletes seek alternative, sexual minority-specific sport opportunities (Jones & McCarthy, 2010; Price & Parker, 2003). When asked to describe the motivations behind their engagement in sexual minority-specific sport, many described a desire to avoid negative experiences within hostile sport environments and to resist against the homophobic nature of sport (Elling, Knopp & Knoppers, 2003; Jones & McCarthy, 2010; Price & Parker, 2003; Rowe, Markwell & Stevenson, 2006; Symons, 2007; Waitt, 2003). This concept of leisure as resistance is one potential link between sexual orientation, marginalization, and sport participation. Leisure as resistance refers to “the ways in which leisure participation and leisure practice can resist or challenge the structured relations of power and potentially empower disadvantage individuals and groups” (Shaw, 2013, p. 47). Leisure is presumed to be an ideal site for resistance because its attributes such as autonomy and self-expression are inherently empowering (Shaw, 2013).

Of the athletes who chose to participate in less LGBT-friendly (i.e. masculine, team) sport environments, many choose to conceal their sexual minority identity in order to avoid the

negative consequences of disclosure (Krane, 2016; Kauer & Krane, 2013; Plumber, 2006; Symons, Sbaraglia, Hillier & Mitchell, 2010). Athletes who conceal their sexual minority identity have been found to be more guarded and distant from teammates, leading to isolation, frustration, and emotional drain (Krane, Surface & Alexander, 2005). These findings are consistent with the minority stress model (Meyer, 2003) which suggests that fear of discrimination, marginalization and harassment can lead to identity concealment and can in turn be particularly damaging to a person's mental health and self-concept.

Minority stress affects individuals from a stigmatized group and stems largely from negative societal evaluations regarding their minority identity (Meyer, 2003). The minority stress model is rooted in both social and psychological theory, and is focused on the negative outcomes of stigmatization on effected groups (Meyer). Alienation (Durkheim, 1951) is a major component of the minority stress model, and occurs when dominant social norms and policies are in conflict with the needs and interests of minority groups (Meyer). Moss (1973) suggests that in the case of sexual minority individuals there exists an ongoing conflict between self, personal interests, and the dominant societal culture. Individual interactions within society inform our understanding of the world, and when information collected does not match a minority person's life experiences, health is compromised (Moss).

Minority stress is socially-based, chronic, and unique in that it does not occur in lieu of general stressors experience by all—it is additive (Meyer, 2003). Specific to sexual minority groups, minority stress operates through four processes. In order from most distal inward, these processes include: prejudice events, expectations of rejection, concealment of LGB identity, and internalized homophobia (Meyer, 2003). In accordance with this model, sense of belonging will be tested a mediator of the relationship between men's sexual minority status and gender-typed

sport selection. It is anticipated that sexual minority men will be significantly more likely to select into feminine-typed sport environments than heterosexual men, and that low sense of belonging may help to explain the selection of these environments.

2.4 Gender Atypicality and Sense of Belonging as Leisure Constraints

In addition to the Minority Stress Model (Meyer, 2003) and theories of gender atypicality theory (Bailey & Zucker, 1995; Lippa, 2005), work on leisure constraints helps to position the use sense of belonging and gender atypicality as potential mediators of the relationship between sexual orientation and gender-typed sport participation. Early research (Boothby, Tungatt, & Townsend, 1981; Francken & van Raiij, 1981; Romsa & Hoffman, 1980; Witt & Goodale, 1981) viewed leisure constraints as “immovable, static obstacles to participation” which “block or limit” participation in leisure (Jackson, 2013, p. 64), however seminal work by Crawford and Godbey (1987) shifted and broadened understandings of leisure constraints. Rather than blocking or acting as a barrier against leisure participation, Crawford and Godbey suggested that leisure constraints are factors that influence or challenge leisure preference, participation, and enjoyment (Jackson, 2013). Crawford and Godbey also defined three forms leisure constraints including (from the most proximal outward): intrapersonal constraints, interpersonal constraints, and structural constraints.

Intrapersonal constraints typically refer to the influence of a person’s psychological state (i.e. anxiety, perceived self-skill, and perceived appropriateness of an activity) on their leisure preferences. For example, a person who is socially anxious may not prefer to attend a crowded music festival in their leisure time. Interpersonal constraints refer to interpersonal dynamics and relationships that perhaps challenge a person’s leisure preferences and participation (Crawford & Godbey, 1987). A person who is interested in playing badminton but who has no partner to play

with would be experiencing an interpersonal constraint. Structural constraints also challenge both leisure preferences and participation and refer to concrete barriers such as lack of access to necessary transportation or inaccessible scheduling of recreation and leisure activities (Crawford & Godbey, 1987). For example, if a person were interested in seeing a concert but did not have access to the funds necessary to afford a ticket, that person would be experiencing a structural constraint.

Beginning in the early 1990s, constraints research began to focus on the negotiation of leisure constraints (Jackson, Crawford, & Godbey, 1993; Kay & Jackson, 1991; Scott, 1991). Research of this nature found that despite various constraints to leisure, people generally find ways to engage in their activities of interest, even though constraints may still influence their enjoyment and the nature of their participation in an activity (Jackson, 1991; Scott, 1991). The idea that people could negotiate and overcome constraints to leisure led Crawford and Godbey (1983) to rework their model of leisure constraints to account for the influence of both leisure constraints and constraint negotiation processes on a person's leisure preferences, participation, and enjoyment (Jackson, Crawford, & Godbey, 1993).

Given the rigid gender norms within the institution of sport (Connell, 1990; Elling & Janssens, 2009; Kauer & Krane, 2010; Lenskyj, 2013; Messner & Sabo 1990; Sartore & Cunningham, 2009; Wiley, Shaw & Havitz, 2000; Willis, 2015) and the suggested social rewards for participation in gender-conforming sport (Wiley, Shaw & Havitz, 2000), and knowing that despite these, gay men are less likely than straight men to engage in masculine-typed team sport environments (Calzo, Roberts, Corliss, Blood, Kroshus & Austin, 2014; Herek, 2000), it may be useful to view gay men's gender-typed sport participation through a leisure constraints lens. In the context of the current study, gender atypicality could be viewed as an intrapersonal leisure

constraint while sense of belonging may represent an interpersonal constraint. As mentioned, notions of masculinity within sport, particularly within masculine sport environments, are hegemonic in nature and strongly enforced (Connell, 1990; Elling & Janssens, 2009; Kauer & Krane, 2010; Lenskyj, 2013; Messner & Sabo 1990; Sartore & Cunningham, 2009; Wiley, Shaw & Havitz, 2000; Willis, 2015). If an athlete perceives himself to be incompatible with hegemonic masculinity it may influence his preference for certain sports or sport environments. Thus gender atypicality may be an intrapersonal constraint on sport participation preferences. As well, research shows that masculine sport environments can be particularly marginalizing for gay male athletes (Elling & Janssens, 2009; Krane, 2016; Lenskyj, 2013). Negative interpersonal experiences in masculine sport environment or the perception that teammates or co-participants might act in a discriminatory or marginalizing manner may influence a gay male athlete's participation in and/or enjoyment of certain sports. Thus, marginalization or low sense of belonging may be viewed as interpersonal constraints of gay men's sport participation.

In terms of constraint negotiation, it is already known that some gay men choose to take part in sexual minority-specific sport groups in order to maintain sport participation while avoiding and/or resisting the rigid and narrow gender expectations in mainstream sport (Elling, Knopp & Knoppers, 2003; Jones & McCarthy, 2010; Price & Parker, 2003; Rowe, Markwell & Stevenson, 2006; Symons, 2007; Waitt, 2003). The current research proposes that both the intrapersonal and interpersonal constraints described may also be negotiated through participation in feminine-typed sport.

2.5 Summary

In summary, diversity among sport participants has been an important issue of concern among sport organizations over the past two decades (Krane, 2016). Masculine and feminine

sport typologies have been established in the research (Koivula, 1995), and it is suggested that men and women face pressure to participate in sport opportunities that allow them to demonstrate gender ideological behaviors (i.e. strength and aggression for men, grace and aesthetics for women) (Wiley, Shaw & Havitz, 2000). Despite this pressure, the current research proposes that gay men may be more likely to participate in feminine-typed sport than heterosexual men, and two theoretical lenses may help to explain this sport preference. First, literature on gender atypicality suggests that, especially in the case of men, there exists a connection between sexual minority status and opposite-gendered (gender atypical) behavioural characteristics (Bailey & Zucker, 1995; Lippa, 2000, 2002, 2005). Work by Calzo and colleagues (2014) found this gender atypicality to be a significant predictor of physical activity participation patterns in a sample of young adults. Based on this evidence, it is hypothesized that gay men may experience an intrinsic pull to participate in feminine-typed sport consistent with other gender atypical behaviours. Second, the Minority Stress Model (Meyer, 2003) proposes that marginalization, alienation, and discrimination experienced by sexual minority individuals may be internalized leading to decreased sense of belonging and other negative consequences for health and wellbeing. Sport is widely cited as an institution that reinforces notions of hegemonic masculinity (Connell, 1990; Elling & Janssens, 2009; Kauer & Krane, 2014; Lenskyj, 2013; Messner & Sabo 1990; Sartore & Cunningham, 2009; Wiley, Shaw & Havitz, 2000; Willis, 2015), and consequently sexual minority men are known to experience hostility and marginalization especially within masculine-typed sport environments (Anderson 2002, 2006; Kauer & Krane, 2013; Price & Parker, 2003; Pronger, 2000). As such, the current research proposes that low sense of belonging may “push” gay men away from participation in masculine sport environments, and as a result they be more likely to participate in feminine-typed sport

environments than their heterosexual peers. The concept of leisure constraints further reinforces the potential for gender atypicality and sense of belonging to influence feminine typed sport participation by acting as intrapersonal and interpersonal constraints respectively, and in turn challenging preference for and participation in masculine-typed sport.

3.0 Purpose of the Study

Using nationally representative data from the Canadian Community Health Survey (CCHS) (Statistics Canada, 2014), this study will examine gender atypicality and sense of belonging as potential explanatory factors in the association between sexual minority status and feminine-typed sport participation in a sample of men.

3.1 Research Questions

The following research questions will be tested:

1. What is the nature of the association between sexual minority status and the gender-typed sport participation of gay males?
2. Are gay males more likely to select into feminine-typed sport than heterosexual males?
3. In the case of gay males, is feminine-typed sport selection explained by marginalization and a lower sense of belonging?
4. In the case of gay males, is feminine-typed sport selection explained by gender atypicality?

4.0 Methods

4.1 Data Source

Data were drawn from the restricted-use version of the 2013/2014 Canadian Community Health Survey (Statistic Canada, 2015), and were accessed in the South Western Ontario Research Data Centre (SWORDC) located on the University of Waterloo campus. The CCHS is administered every two years and aims to collect information on the health status of Canadians, the determinants of health, and Canadians' use of health care services. Data for the present study were collected between January 2013 and December 2014 and include health-related information on 131,757 Canadians age 12 and over who are living in private households (Statistics Canada, 2015). Persons who are living on a First Nations reserve, are members of the Canadian Armed Forces, are institutionalized, or are living in specific Quebec health regions are not included in the survey—this represents about 3% of the population (Statistics Canada, 2015). A three-step sampling strategy was used for data collection in order to include an appropriate proportion of participants from all provinces and health regions (HRs). Data was collected using computer assisted interviewing. Sixty-percent of interviews were conducted using computer assisted telephone interviewing (CATI), while the other 40% were collected using computer assisted personal interviewing (CAPI). Survey response is voluntary, and in most cases data is collected directly from the respondent. When necessary due to issues of individuals' physical and/or intellectual limitations, a proxy is used for data collection purposes (Statistics Canada, 2015). The primary objectives of the CCHS include: supporting health programming through provision of multilevel data, providing a single source of information on rare groups and small populations, releasing timely information to a large number of users, and providing flexible instruments to capture emerging health-related issues (Statistics Canada, 2015).

4.2 Sample

As mentioned, the 2013/2014 version of the CCHS contains health-related information on 131,757 Canadians. Though larger sub-samples were used for components of the analyses (i.e. gender diagnostic discriminant analysis, $n = 57,509$; creation of gender-typed sport scores), the sub-sample used for the current analyses included 19783 men age 25 to 60 who identify as either exclusively heterosexual or exclusively gay (i.e. not bisexual or unknown) and who participate in at least one of the physical activities used in the creation of the criterion variable.

4.3 Variables and Scales

Participants were asked to report a number of socio-demographic characteristics including gender, age, income, education, marital status, number of young children living at home, whether respondents are living in urban or rural environments. Response options for gender included “male” (1) or “female” (2) and were recoded into “male (0)” and “female” (1). Age is simply captured in years.

Respondents were asked to report their personal income on a 14-point scale ranging from “no income” (1) to “\$100,000 or more” (14). Respondents were also asked to report their level of education from “grade 8 or lower” (1) to “university degree or certificate above bachelor level” (10).

Marital status responses are collapsed into a binary scale: participants who reported being married or in a common-law relationship received scores of 1, while all other marital statuses (i.e. single, widowed/separated/divorced) received scores of 0. Whether or not young children lived at home is captured through respondents self-report of the number of children living in their home who were under the age of 12. Respondents who indicated having at least one child at home under the age of 12 received a score of 1, while all others received a score of 0.

Interview type was assessed through interviewer responses to “was the interview conducted on the telephone or in person?” and response options included “on telephone” (1), “in person” (2), and “both” (3). The current study assigns a value of 1 to “in person” and a 0 to all other responses.

Sexual orientation, the independent variable of interest, was captured by asking respondents “do you consider yourself to be: “heterosexual” (1), “homosexual” (2), or “bisexual” (3).” For the purposes of this project, respondents who report a homosexual orientation were assigned a score of 1 while straight participants were assigned a score of 0. Other responses regarding sexual orientation (bisexual, unknown) were not included in analyses.

Feminine-typed sport participation, the proposed outcome variable, reflects the gendered nature of each sample member’s unique physical activity participation profile, and was operationalized using female participation rates for appropriate each physical activity within the data set. The CCHS includes 21 sports/physical activities, 20 of which were appropriate for the purpose of this project. Gardening/yard work was not used due to potential ambiguity around whether those activities should be considered work or leisure. Participants were asked to indicate if they had participated in each activity any time over the past three months. Using the full data set, a filter was set up for each of the 20 physical activities included in the study, selecting only for those who reported participation in that particular physical activity. One at a time, non-participants for each sport were filtered out and crosstabs were calculated to determine the proportion of female participants in that sport. The percentage of female participants in each sport was then used as feminine-typed score for that sport. Scores fall between zero and one with higher scores indicating a more-feminine activity. Feminine-typed scores for each sport are summarized in Appendix 1. Survey respondents who reported non-participation in a sport were

assigned a score of zero for that sport and respondents who reported participation received the feminine-typed score for that activity. The three highest feminine-typed activities include exercise class (0.77), popular/social dance (0.65), home exercise (0.60) and the three lowest feminine-typed sports (i.e. most masculine-typed sports) include ice hockey (0.17), Golfing (0.31), Basketball (0.34). Finally, overall feminine-typed sport participation scores were calculated by summing participant responses to all 20 sports.

Gender atypicality and sense of belonging were assessed as mediators of the relationship between sexual orientation and gender-typed sport participation. As per the GD technique (Lippa & Connelly, 1990), discriminant analysis was used to determine gender atypicality. Discriminant analysis tests which combinations of continuous variables predict membership in two or more naturally occurring groups (Lippa & Connelly, 1990). Given the health-based nature of the CCHS, Gender Diagnostic probabilities were created using health characteristics and behaviours that demonstrate strong gender patterns in the literature including: frequency of physician visits, perception of weight, chronic pain, flu shot rates, and antidepressant use.

Work by various scholars suggests that women tend to visit their general physician more frequently than men (Bertakis, Azari, Helms, Callahan & Robbins, 2000; Winkelmann, 2004). Frequency of physician visits was captured by asking participants how many times they had visited a GP or family doctor in the past 12 months. Responses range from 1 to 31, with 31 representing all responses of 31 times or more. Based on the literature, a higher frequency of physician visits is used to indicate “more feminine” health behaviour.

Research demonstrates that women are more likely than men to perceive themselves as overweight (Chang & Christakis, 2003; Schieman, Pudrovska, & Eccles, 2007; Wardle & Johnson, 2002). Perceptions of weight were captured by asking participants whether they

perceived themselves to be “overweight”, “underweight”, or “just right.” Responses of “overweight” will receive a score at 1 and other responses will receive a score of 0. Based on the literature, perceptions of self as overweight will indicate a more-feminine health profile.

Chronic pain is a health condition that demonstrates a much greater prevalence among women than men (Van Hecke, Torrance & Smith, 2013). In the current study, chronic pain is operationalized using a “pain health status” variable derived of variables that capture how frequently a person feels pain and how often pain prevents that person from completing activities. Responses were captured on a five-point scale and range from “no pain or discomfort” (1) to “pain prevents most activities” (5). As per the literature on the subject, greater incidence of chronic pain indicates a more-feminine health profile.

Like physician visits, getting an influenza immunization is a health behaviour that is engaged in more frequently by women than men (Pei, 2014; Statistics Canada, 2015; Vaidya, Partha, & Kamakar, 2012). Respondents were asked, “have you ever had a seasonal flu shot?” Response options include “yes” (1), “no” (2), “don’t know” (7). In the current study responses are recoded as “yes” (1) and “no” (0). All other responses are not included in analyses.

Finally, the forth variable is made up of participant responses to the question “in the past month did you take antidepressants?” Responses will be coded “yes” (1) “no” (0). Literature on the subject suggests that women are significantly more like to experience depression than men (Silverstein, Perlick, 1991; Silverstein, Edwards, Gamma, Ajdacic-Gross, Rossler, W & Angst, 2013), and as such a response of “yes” will indicate a more-feminine health profile.

Based on these variables, the discriminant analysis function of SPSS produced a Bayesian probability representing the likelihood a person is female. Scores closer to 1 indicated a gender atypical or more feminine male participant while scores closer to 0 indicated a gender

typical or more masculine participant. The GD technique conceptualizes gender along a single continuum, thus probabilities closer to the middle, or 0.5, would indicate a more gender-neutral participant. Gender atypicality scores among the current sample ranged from .46 to .88.

The influence of marginalization on gender-typed sport selection will be captured using participant responses to a question regarding their sense of belonging to a community.

Specifically, participants were asked “How would you describe your sense of belonging to your local community? Would you say it is...?” and responses were captured on a 4-point scale from “very weak” (1) to “very strong” (4).

4.3 Analysis

Descriptive statistics were calculated for all variables in the regression model. Linear regression models were then constructed to determine the association of sexual orientation and control variables on feminine-typed sport selection. Control variables of age, marital status, the presence of young children at home, self-perceived health, urban vs. rural community, education, income, and interview style were included in Model 1, and potential mediators, sense of belonging and gender atypicality, were added in Model 2.

Tests of mediation demonstrate how a third variable may help to explain the statistical relationship between two other variables. Early work by Baron and Kenny (1986) outlines the process through which mediation is tested. The first step establishes a significant association between a focal and criterion variables; this is referred to as the c path. Next, a series of tests determine significant relationships of the focal variable with the mediator (a path) and the mediator with the criterion variable (b path). Additionally, statistical tests demonstrate the magnitude of the association between focal and criterion variables when a third mediating variable is partialled out (c' path). More recent work suggests modelling the indirect effect of the

a path and *b* path as the product of those two paths demonstrates a greater ability to detect the effects of a mediator (Hayes, 2009; Shourt & Bolger, 2002). Bootstrapping is used to estimate *a* and *b* paths and their product by sampling and resampling with replacement from the data on hand. The process is repeated a number of times thereby creating a distribution of the indirect effect (*ab*). The distribution is then sorted from smallest to largest allowing for the creation of a percentile-based confidence interval. If the confidence interval does not cross zero the test is said to be statistically significant.

PROCESS SPSS macro (Preacher & Hayes, 2013) was used test mediation models; this is shown in Figure 1. The approach uses bootstrapping to create estimates with 95% confidence intervals around the total effect or the association of sexual orientation with gender-typed sport participation (*c* path), the direct effect or the association of sexual orientation with gender-typed sport participation partialling out mediators (*c'* path), and the indirect association of the focal and criterion variables through mediating variables (a_1b_1 or M1, a_2b_2 OR M2).

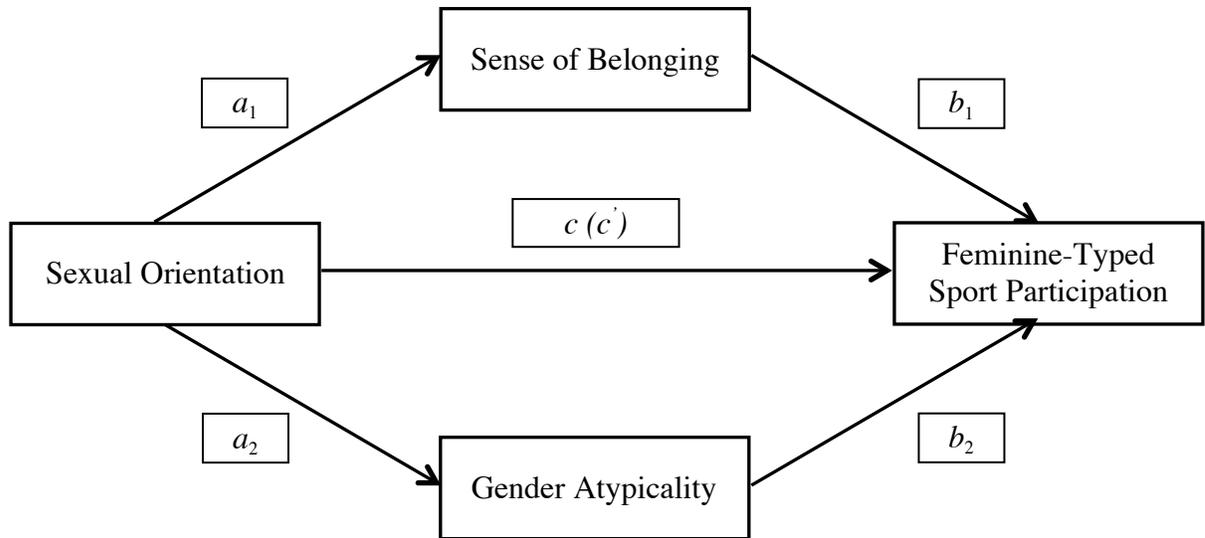


Figure 1. Model of the direct and indirect effects of sexual orientation on feminine-typed sport participation.

5.0 Results

5.1 Descriptive Statistics

Table 1 displays the descriptive statistics for the sample included in regression analyses as well as the means and standard deviations of the focal, criterion, and mediating variables. The average age of the sample was 43 ($SD = 10.38$). Approximately 62% of the sample reported being married or in a cohabitating relationship, nearly 29% reported having children under 12 at home, and nearly 27% reported living in a rural community. Self-perceived health was moderate to high among the sample with an average response of 3.70 ($SD = 0.95$) out of a 5-point scale. Average levels of income ($M = 9.42$, $SD = 3.29$) and education ($M = 6.28$, $SD = 2.31$) were both above the midpoint of their respective scales. Nearly 33% of the sample reported that their survey was completed through in-person interview. As per the focal variable, approximately 2% of the sample identified as gay. The average score for the criterion variable, feminine-typed sport participation, was 1.80 ($SD = 1.17$). The average score gender atypicality was 0.54 ($SD = 0.06$), and average sense of belonging to community was 2.74 ($SD = 0.80$) in a four-point scale.

Table 1. Means and Frequencies for demographics, sexual orientation, Gender Diagnosticity, social support, and gender-typed sport participation.

Variables	Participants	
	<i>M/Percent</i>	<i>SD</i>
Demographics		
Age	43.42	10.38
Married/Cohabiting	61.87	--
Children Under 12	28.78	--
Self-Perceived Health	3.70	0.95
Rural	26.79	--
Education	6.29	2.31
Income	9.42	3.29
In-Person	32.62	--
Sexual Orientation		
Gay	1.96	--
Gender Diagnosticity		
Gender Atypicality	0.54	0.06
Social Support		
Sense of Belonging	2.74	0.80
Sport Participation		
Feminine-Typed Sport	1.80	1.17

5.2 Discriminant Analysis

Using the SPSS statistical package, discriminant function analysis was performed using participant responses to five health characteristics. The sample used for discriminant analysis included 57,509 male and female CCHS respondents age 25-60, and gender was set as the classifying variable. Table 2 displays the means and standard deviations of men and women's responses to the five different health characteristic included. Women were more likely to perceive themselves as overweight, experience chronic pain, have a mood disorder, and get a flu shot. As well, women visited their general practitioner more times per year than men.

The Wilks lambda of .98 with a $\chi^2(5, N = 57,509) = 11,43.40, p < .001$, suggests that the two groups differed significantly on the health variables included. The discriminant analysis function was able to correctly classify participants into predicted gender groups with 56.5% accuracy. A probability that a survey respondent is female was calculated based on their individual responses to these five health characteristics. Estimated probability that a person is female was significantly correlated with self-reported gender ($r = 0.15, p < .001$).

Table 2. *Means and Frequencies for Health Variables Included in Discriminant Analysis, by Gender.*

Variables	Women		Men	
	<i>M/Percent</i>	<i>SD</i>	<i>M/Percent</i>	<i>SD</i>
Overweight	47.00	--	41.68	--
Chronic Pain	24.71	--	20.00	--
Mood Disorder	12.24	--	7.69	--
Flu Shot	61.00	--	53.40	--
GP Visits/Year	3.15	4.99	2.14	4.37

5.3 Linear Regression Analysis

Regression analysis (Table 3) was used to test the association of sexual minority-status and gender atypical leisure behaviour in a sample of men while controlling for a variety of relevant demographic and survey process-related factors. Regression analyses showed that marital status was not significantly associated with feminine-typed sport participation.

Participants with higher levels of education, and participants who completed the CCHS through in-person interview had higher feminine-typed sport participation scores. In contrast, participants with higher levels of self-perceived health, higher levels of income, young children at home, and participants who lived in a rural area had lower feminine-typed sport participation scores. (See Table 3, Model 1). Contrary to previous work, identifying as gay was negatively and significantly associated with feminine-typed sport participation. Both potential mediators, gender atypicality and sense of belonging to community, were significant in the model. Greater sense belonging to community was significantly associated with higher feminine-typed sport participation scores, while gender atypicality was significantly associated with lower feminine-typed scores. The addition of the mediators did not greatly alter the significance of other variables in the model.

Table 3. *Unstandardized Coefficients for Regression Models Showing Association of Demographics, Sexual Orientation, Gender Diagnosticity, and Sense of Belonging with Feminine-Typed Sport participation*

Variables	Model 1		Model 2	
	<i>B</i>	<i>SE</i>	<i>B</i>	<i>SE</i>
Constant	0.70 ***	0.05	0.12	0.10
Age	-0.23 ***	0.05	-0.03 ***	0.00
Married/Cohabiting	-0.02	0.02	-0.02	0.02
Children Under 12	0.16 ***	0.02	0.15 ***	0.02
Self-Perceived Health	0.97 ***	0.01	0.10 ***	0.01
Rural	-0.10 ***	0.02	-0.10 ***	0.02
Education	0.04 ***	0.00	0.04 ***	0.00
Income	0.03 ***	0.00	0.03 ***	0.00
In-Person	-0.13 ***	0.02	-0.13 ***	0.02
Gay	-0.13 **	0.49	-0.15 ***	0.00
Gender Atypicality	--		0.76 ***	0.12
Sense of Belonging	--		0.08 ***	0.01
Adjusted R^2	.35		.35	

Note. $n = 19,783$; * $p < .05$, ** $p < .01$, *** $p < .001$

5.4 Mediation Analysis

Tests of mediation (Table 4; Figure 2) were used to assess gender atypicality and sense of belonging as potential explanatory variables in the relationship between sexual orientation and feminine-typed sport participation. PROCESS SPSS macro (Hayes & Preacher, 2013) was used to calculate the total, direct, and indirect effects of sexual minority status with feminine-typed sport participation through 10,000 resample bootstrap confidence intervals. The total effects (i.e. the association of sexual minority status with feminine-typed sport participation) and direct effects (i.e. association of sexual minority status with feminine-typed sport participation partialling out potential mediators) are demonstrated in the regression analyses summarized above (See Table 3). With feminine-typed sport as the criterion variables, mediation analysis shows that the pathway of sexual minority status through sense of belonging to community was not statistically significant as the confidence interval produced contains zero (see Figure 1; Table 4, M1). However, when the pathway from sexual minority status to feminine-typed sport participation was tested through gender atypicality the confidence interval produced did not contain zero, thus the pathway is significant (see Figure 1; Table 4, M2). This finding supports the hypothesis that sexual minority status in men may indicate a gender atypical behaviour, and that this may to some extent help to explain the diverse leisure participation patterns among and between gay and straight men.

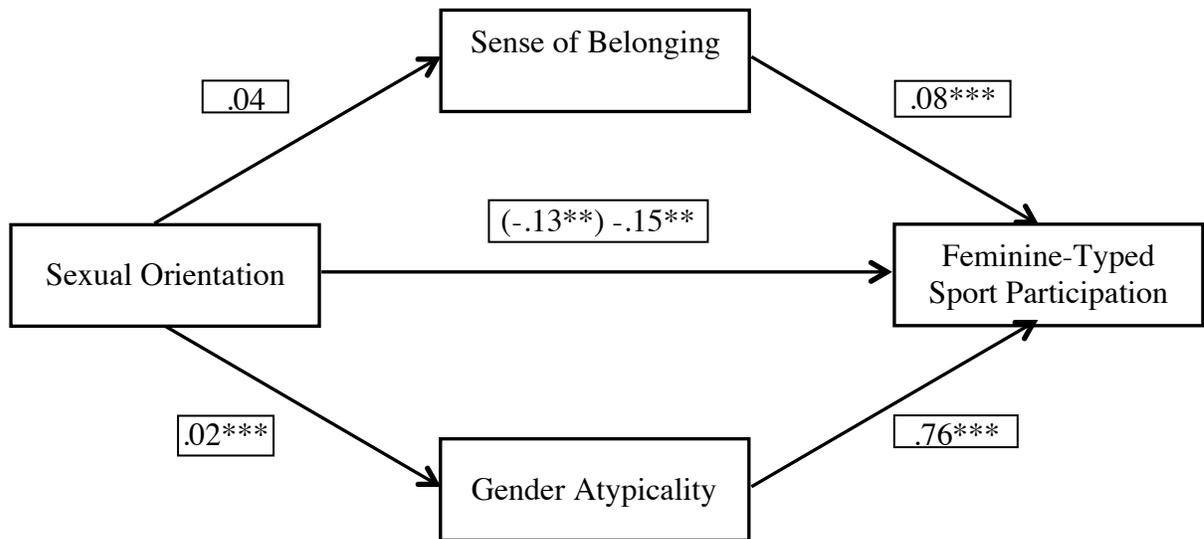


Figure 2. Model of the Direct and Indirect Effects of Sexual Orientation on Feminine-Typed Sport Participation.

* $p < .05$, ** $p < .01$, *** $p < .001$.

Table 4. Bootstrap Analysis of Total Effect for Association of Sexual Orientation with Feminine-Typed Sport Participation, and Indirect Effects Through Gender Atypicality and Sense of Belonging.

	Estimate	SE	Lower Limit CI	Upper Limit CI
Total Effect	.020	.005	.010	.031
M1: Sense of Belonging	.003	.004	-.004	.010
M2: Gender Atypicality	.016	.004	.010	.026

Note. Lower Limit and Upper Limit denote the boundaries of a 95% Confidence Interval (CI).

6.0 Discussion

The current study tested the association of sexual minority status and feminine-typed sport participation in a group of Canadian men. Drawing on theories of gender atypicality (Bailey & Zucker, 1995; Lippa, 2005) and the Minority Stress Model (Meyer, 2003), the study also tests gender atypicality and sense of belonging to community as mediators of the of the aforementioned association. Findings demonstrate that, in the case of men, sexual minority status is significantly associated with gender-typed sport participation, and that this association is partially explained by a pathway through gender atypicality.

The results of the current study show that sexual minority status is directly associated with feminine-typed sport participation. However, contrary to hypotheses the sport participation profiles of gay men in this study were significantly less feminine in nature compared to heterosexual men. Prior to the current study, little research addressed the sport selection patterns of gay men. One of few studies on the topic found that gay men were underrepresented in masculine-typed team and contact sports (Elling & Janssens, 2009) and perhaps overrepresented in fitness centre-type environments. Gay men in the current sample were significantly more likely to engage in more-masculine physical activities, many of which were team sport activities including hockey (.17), basketball (.34), and baseball/softball (0.36), and soccer (.39). This finding appears to challenge Elling and Janssens' work. However, the gender-typed score associated with weight training (0.43), though closer to neutral than the aforementioned sports, also fell onto the more-masculine end of the gender-typed sport typology created. Knowing this, it would be inappropriate to conflate masculine-typed sports with team sports within the current findings. It is possible that the more-masculine score associated with weight training may help to explain, at least in terms of previous research (Elling & Janssens, 2009), why the relationship between identifying as gay and participating in feminine-typed sport defied anticipated results. It

would be useful for future research of this nature to assess gay men's participation in gender-typed team and individual sports separately.

The current research adds to the body of literature on the gendered nature of sport by providing a unique method of operationalizing gender-typed sport. Previously, gender-typed sport was most prominently assessed through survey responses focused on perceived appropriateness of various sports for men, women, or both (Koivula, 1995). Instead, the current work uses the gender breakdown within specific sport participant groups to determine the gender-typing of that sport; sports with a higher percentage of female participants were considered to be more feminine in nature while sports with a greater percentage of male participants were considered to be more masculine in nature. This method of gender-typing activities is unique to the literature and allows a researcher to determine the masculinity or femininity of an activity in a manner that is contextually specific to the sample of interest.

Sense of belonging to community was not found to be a significant moderator of the relationship between sexual minority status and gender-typed sport participation. Given that research demonstrates that notions of the hegemonic masculinity underpinning many sport environments (Connell, 1990; Elling & Janssens, 2009; Kauer & Krane, 2014; Lenskyj, 2013; Messner & Sabo 1990; Sartore & Cunningham, 2009; Wiley, Shaw & Havitz, 2000; Willis, 2015) can lead to the discrimination and marginalization of gay male athletes (Anderson 2002, 2006; Kauer & Krane, 2013; Price & Parker, 2003; Pronger, 2000), it was anticipated that gay men may feel a lesser sense of belonging in masculine typed sports and may in turn avoid sports of that nature. The Minority Stress Model (Mayer, 2003) outlines how experiences of discrimination and marginalization can be detrimental to health and wellbeing, and research shows that some LGBT individuals seek sexual-minority specific sport environments to avoid

and resist hegemonic notions of gender and related hostility in many traditional sport environments (Elling, Knopp & Knoppers, 2003; Jones & McCarthy, 2010; Price & Parker, 2003; Rowe, Markwell & Stevenson, 2006; Symons, 2007; Waitt, 2003). Though there is no research to specifically suggest that gay men may be more likely to seek feminine-typed sport environments to avoid discrimination and marginalization, based on the aforementioned research it was anticipated that this might be the case. Contrary to hypotheses, sense of belonging positively and significantly associated with feminine-typed sport participation, suggesting that participants who felt a greater sense of belonging participated in significantly more feminine activities. Sense of belonging did not function as a mediator because, contrary to previous research (Mayer, 2003), identifying as gay was not significantly associated with sense of belonging. Two potential explanations for this finding are proposed. First, past research has suggested that sport environments are becoming more accepting of diversity among athletes (Anderson, 2011; Fink, 2012; Krane, 2016), so it is possible, though perhaps unlikely, that marginalization was not a concern for a majority of gay male athletes at the time of data collection. Second, it is possible that the global nature of the sense of belonging measure was not specific enough to function as a proxy for discrimination and marginalization as intended.

In contrast to findings regarding sense of sense of belonging, gender atypicality was found to be a significant partial mediator of the relationship between sexual orientation and gender-typed sport participation, though the findings are somewhat challenging to interpret. As discussed, the direct relationship between sexual minority status and feminine-typed sport participation suggests that among the current sample, gay men's sport participation profiles are significantly more masculine in nature compared to heterosexual men. However, when gender atypicality was tested as a mediator, findings demonstrate that identifying as gay is related to

gender atypicality, which is in turn related to a more feminine sport participation profile. Plainly, though overall gay men are less likely than straight men to engage in feminine-typed sport, the extent to which gay men are participating in feminine-typed sport can be at least partially attributed to gender atypical personality and behavioural characteristics in general. This finding supports decades of (somewhat unpopular) research associating sexual minority status in men with femininity (Bailey & Zucker, 1995; Ellis, 1915; Freud 1905/1953; Hathaway, 1956; Kite & Deux, 1986; Lippa, 2005; Pillard, 1991; Terman & Myles, 1936). Many previous studies on the topic use childhood gender atypical behaviour to predict sexual orientation in adulthood and rely heavily on recall data (see review by Bailey & Zucker, 1995). The current research adds to this body of literature as results were generated using a nationally-representative sample of adult men who self-identified as gay at the time of data collection.

The current research adds to literature on gender diagnosticity as the construction of the GD probability in this study was unique to other studies that have employed a similar approach to conceptualizing masculinity and femininity. The current study used discriminant analysis of health-based variables as a basis for determining the probability a participant was female. The health-based nature of the variables used broaden previous approaches to gender diagnosticity which have typically focused on leisure engagement and career-preferences as factors discriminating between masculinity and femininity (e.g. Lippa, 2005; Rieger & Savin-Williams, 2012; Young & Sweeting, 2004).

Results regarding gender atypicality as a mediator are also unique to the body of literature of literature focused on sexual orientation and sport. As previously discussed, a prominent focus of this literature is on marginalization of sexual minority men and women in sport contexts (Anderson 2005; Krane 2001; Messner 1992; Plummer 2006; Sartore &

Cunningham, 2009). Regarding gay men specifically, research highlights the heteronormative nature of many sport environments, particularly team environments, and how that may be detrimental to the wellbeing of gay male athletes (Anderson 2002, 2006; Kauer & Krane, 2013; Lenskyj, 2013; Price & Parker, 2003; Pronger, 2000). Though there is a small amount of work on gay athletes' choices to participate in sexual-minority specific sport groups (Elling, Knopp & Knoppers, 2003; Jones & McCarthy, 2010; Price & Parker, 2003; Rowe, Markwell & Stevenson, 2006; Symons, 2007; Waite, 2003), and some suggestion that gay men are less likely than heterosexual men to participate in team sports (Calzo, Roberts, Corliss, Blood, Kroshus & Austin, 2014; Elling & Janssens, 2009; Herek, 2000), little if any research exists on the explanatory factors behind gay male athletes' participation in mainstream, gender-typed sport activities.

6.1 Limitations

The first limitation of the current study is its cross-sectional nature. As data was only collected at one time point, only conclusions of association are appropriate. Second, the data used for the present analyses were originally collected for the purpose of evaluating overall health status, thus measures were not specifically designed to explore the associations between gender, sexual orientation, and sport. As a result, details that may have enhanced understandings of key concepts may be lacking. For example, the correlation between health-based gender diagnostic scores and self-reported gender was fairly weak. Access to other pieces of gender-related information, such as career preference for example (Lippa, 2005), may have enhanced the gender atypicality measure. Additionally, sense of belonging may not have been specific enough to truly capture the influence of marginalization on the association of interest. Access to specifically targeted variables may have allowed for a more nuanced understanding of the

relationships studied. One strength of the current research is that it draws upon nationally representative data for all analyses, leading to results that are somewhat generalizable.

6.2 Future Research and Implications

There are several ways in which future research could build upon this study. First, future work should continue to explore the influence of marginalization on gay men's selection of gender-typed sport activities and environments, as the current work may not have captured this as effectively as possible. Second, further research should be completed on sexual orientation and Gender Diagnosticity in sport and other leisure contexts. It is evident in the literature that gender atypical behaviour and sexual orientation may be strongly linked (Bailey & Zucker, 1995; Lippa, 2005). Employing the GD method will allow researchers to evaluate self-reported gender and gender-typed behavior as separate constructs, which may in turn bring depth to understandings around how these concepts operate in a leisure context. Third, the wellbeing outcomes of gay men's participation in feminine-typed leisure environments should be assessed, and the influence of gender atypicality on this relationship explored. Finally, research should be completed on the gender-typed sport participation patterns of gay and straight women. Given the strong focus on the marginalizing influence of hegemonic masculinity in this study, it did not seem fitting to include women in analyses. However, future individual attention to women's sexual and gender orientation in a sport context would bring even more depth to the bodies of literature discussed above.

6.3 Conclusion

This study adds to and bridges bodies of literature focused on sexual orientation and gender atypicality, the experiences of sexual minorities in sport, and the gendered nature of sport. Contrary to hypotheses, gay men in the current study were significantly more likely to

participate in masculine-typed sport compared to heterosexual men. However, the extent to which gay men did participate in feminine-typed sport was partially explained by gender atypical characteristics and behavior in general.

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Appendix A
Feminine-Typed Sport Scores

Sport	Participants		Feminine-Typed Score
	N =	% Female	
Walking	91,683	58.0	0.58
Swimming	27,821	56.6	0.57
Bicycling	24,570	45.0	0.45
Popular/Social Dance	19,977	65.4	0.65
Home Exercise	49,501	60.0	0.60
Ice Hockey	5,976	16.5	0.17
Ice Skating	8,373	47.7	0.48
In-line Skating/Rollerblading	2,785	46.9	0.47
Jogging/Running	26,052	49.6	0.50
Golfing	10,988	31.3	0.31
Exercise class/Aerobics	14,739	77.4	0.77
Downhill Skiing/Snowboarding	5,395	40.6	0.41
Bowling	10,883	54.4	0.54
Baseball/Softball	5,660	35.6	0.36
Tennis	3,773	40.0	0.40
Weight-Training	21,029	43.3	0.43
Fishing	15,365	33.6	0.34
Volleyball	6,707	52.5	0.52
Basketball	7,851	34.3	0.34
Soccer	9,161	39.1	0.39