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Testing a Sociocultural Model of Body Image in Women Athletes with Disabilities

A Dissertation

Presented to

the Faculty of the Morgridge College of Education

University of Denver

In Partial Fulfillment

of the Requirements for the Degree

Doctor of Philosophy

by

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August 2021

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Title: Testing a Sociocultural Model of Body Image in Women Athletes with Disabilities

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Degree Date: August 2021

Abstract

Evidence suggests that athletes and people with disabilities (PWD) experience multiple body images that change relative to their social context (e.g., Petrie & Greenleaf, 2012). The powerful influence of social factors on body image and disordered eating in women athletes is well-documented (e.g., Schaefer, et al., 2015; Fitzsimmons-Craft et al., 2014), as is the centrality of the body in the lived experience of athletes and PWD (Behel & Rybarczyk, 2012; Galli et al., 2016); yet, limited research has explored the effects of social factors on body image in athletes with disabilities (i.e., AWD; e.g., Galli et al., 2016; Sousa et al., 2009). This project examined the effects of social pressures about body and appearance, in and outside of sport, on body dissatisfaction and body appreciation in women AWD, in light of evidence identifying sport as a source of body acceptance, pride, and competence for AWD (Galli et al., 2016). Further, internalization of body ideals and social comparison were evaluated as mediating mechanisms underlying relationships between sport appearance pressures and body image in AWD. Results demonstrated that both social and sport pressures had significant direct effects on body image outcomes. Additionally, the direct effect of sport pressures on body dissatisfaction was partially mediated by internalization and social comparison, while the direct effect of sport pressures on body appreciation was partially mediated by social comparison. Results provided a foundation for future explorations of the effects of social factors on body image in AWD, including initial support for sociocultural frameworks of

body image in this context. Results, limitations, and implications for clinical practice and research are discussed.

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Chapter I

Introduction

Recent U.S. Census data suggest that the number of Americans with physical disabilities has grown significantly in recent years (Taylor, 2018), as has the number of people with disabilities (PWD) participating in sport (Diffenbach & Statler, 2012). The Paralympic Movement, a growing social movement focused on demonstrating the power of sport in the promotion of the health, rights, and inclusion of PWD, has spearheaded the widespread growth of disability sport in the United States (Blauwet & Willick, 2012). According to the International Paralympic Committee (IPC), people with ten impairment types are eligible for participation in Paralympic-sanctioned sports: impaired muscle power, impaired passive range of movement, limb deficiency, leg length difference, short stature, hypertonia, ataxia, athetosis, visual impairment, and intellectual impairment (IPC, 2006; 2015). Each sport outlines unique sets of criteria that classify athletes into levels based on the type or severity of their impairment. Athletes whose disability falls within established criteria are eligible to compete in that sport (IPC, 2006). Systems of classification differ across sports and are intended to even the playing field by creating an environment where athletes with various disabilities can compete fairly (IPC, 2015). While these criteria do not apply universally across disability sports, they generally capture characteristics of athletes who compete in Paralympic sports. Since their inception in 1948, the Paralympic Games, like the Olympic games, have served as a

platform for athletes with disabilities (AWD) from around the world to compete at the highest echelon of athletic achievement. Approximately 4,350 athletes in 22 sports, from more than 160 international delegations, competed in the Summer Paralympic Games in Rio de Janeiro in 2016. The 2018 Winter Paralympic Games in PyeongChang hosted over 560 athletes from 49 international delegations, competing across six sports (International Paralympic Committee [IPC], 2018). Among these Paralympic athletes, 1,802 identified as women (Women's Sports Foundation, 2017; 2018). Women have historically been underrepresented at the Paralympic Games, due in large part to limitations of current Paralympic programming. Inequitable structures at all levels of disability sport exclude women from participating in certain events or competitions, and women AWD receive fewer opportunities to participate in disability sport compared to men, specifically Paralympic sport (Division for the Advancement of Women, 2007; Smith & Wrynn, 2013). Representation of women in leadership positions, including coaches, staff, and administrative positions in Paralympic sport is also limited (IPC, 2010).

Despite the lack of opportunities and systemic barriers faced by women AWD, the number of women Paralympic athletes has continued to rise, with 23.6% and 38.7% of all athletes identifying as women in the 2016 and 2018 Paralympic Games respectively. Women accounted for approximately 44% of the American delegation at the 2016 Games and 27.5% in 2018 (Women's Sports Federation, 2017; 2018). The IPC has started to address gender disparities in Paralympic sport by adding medal events that increase opportunities for women athletes, and by spearheading initiatives to address the unique physical health needs of women AWD (e.g., Blauwet, 2014). Despite these efforts, greater attention must be paid to the social and psychological experiences of this

underserved population (e.g., Jeffries, Gallagher, & Dunne, 2012) to cultivate health, well-being, and optimal performance for women AWD.

From the perspective of the social-relational model of disability (Thomas, 2007; 2010) the body facilitates interactions between the individual and society, resulting in body and self-perceptions that are shaped by interactions with the surrounding sociocultural world (Behel & Rybarczyk, 2012; Galli, Reel, Henderson, & Detling, 2016). Evidence suggests the centrality of the body in lived experience is heightened for PWD due to perceived physical differences between the disabled body and predominant social norms related to ideal body type, appearance, and weight (e.g., Charmaz & Rosenfeld, 2006). Consequently, exploring PWD's body perceptions within the sociocultural context in which they are constructed is vital in understanding the lived experiences of PWD (Smith & Perrier, 2014). As no research to date has examined the specific influences of social factors on body perceptions in AWD, the current study drew upon well-established sociocultural theories of disordered eating and body image to provide a framework for initial explorations of these relationships.

Body image – a multidimensional construct incorporating perceptions, attitudes, and feelings toward one's body as well as actions or behaviors taken to alter one's body in any way (Cash & Smolak, 2011) – has been widely studied across psychological disciplines. Social perspectives on body image are prominent, and the effects of social processes, group membership or identities, and interactions on body image are well-documented, particularly in samples of girls and women (Cafri, Yamamiya, Brannick, & Thompson, 2005). Sociocultural models of disordered eating, such as the tripartite influence model (Thompson, Heinberg, Altabe, & Tantleff-Dunn, 1999), offer

frameworks that are useful for understanding the various way by which social pressures to achieve body or appearance ideals influence body image and disordered eating. The tripartite influence model posits that women face pressure to adhere to a socially ascribed ideal body type, typically one that is ultra-thin or slender (e.g., Fitzsimmons-Craft, Harney, Koehler, Danzi, Riddell, & Bardone-Cone, 2012). Women perceive these pressures through micro (e.g., interpersonal interactions) and macro (e.g., mass media) social channels that espouse the viewpoint that an ultra-thin body ideal is desirable and attainable, despite the unrealistic and dangerous nature of this endeavor for many (e.g., Thompson, Heinberg, Altabe, & Tantleff-Dunn, 1999; Homan, 2010). The degree to which women internalize (i.e., thin-ideal internalization) or reject the thin-ideal and the degree to which women engage in social comparison (e.g., comparing one's body to the thin-ideal) facilitate the effects of social pressures on body image and subsequent disordered eating (Thompson et al., 1999; Rodgers et al., 2015). The tripartite influence model has been widely tested and validated among girls and women of various ages (e.g., Keery, Van den Berg, & Thompson, 2004; Shroff & Thompson, 2006); however, this model has not yet been examined in women athletes or AWD. Both positive and negative relationships between body image and sociocultural influences have been identified in samples of AWD, highlighting participation in sport both as a source of pressure to adhere to certain body types or weights, and as a source of pride, competence, and comfort with one's body (e.g., Galli, et al., 2016). Exploring the potential negative and positive effects of social factors on body image in women AWD represents an important first step in translating existing sociocultural theories of body image to this context.

An expanded version of a well-tested model, such as the tripartite influence model (Thompson et al., 1999), that incorporates social pressures both in and outside of sport, and accounts for both positive and negative body image outcomes, may greatly add to understanding of body perceptions in women AWD. The purpose of the study was to test initial pathways for such a model. First, we evaluated the predictive effects of social pressures (i.e., pressures from peers, family, significant others, and the media) on body dissatisfaction and body appreciation in women AWD. Next, social pressures specific to weight and appearance in sport were added to the models to evaluate the unique influences of the context of disability sport on body image in AWD. Then, predicted interaction effects between social and sport pressures were evaluated to determine whether the degree of sport pressures experienced influenced the effect of social pressures on either negative or positive body image. Finally, internalization of body ideals and social comparison behaviors were evaluated as partial mediators of the effects of sport pressures on both positive and negative body image outcomes.

The sections that follow include discussions of rationale for the present study and provide a review of preliminary evidence in support of the utility of an expanded tripartite influence model as a framework for understanding body image in women AWD. Specifically, the Philosophical Foundations sections delineates frameworks from intersectionality theory, counseling psychology, sport psychology, and disability studies that informed and guided this project. The Literature Review section will discuss research on body image as an over-arching construct, body image in athletes, sociocultural factors that influence body image in and outside of sport, social comparison and body image, body image in PWD, body image in AWD, and the relationship between social media

use, body image, and disability sport. The Literature Review ends with an outline of the tested hierarchical multiple regression (HMR) and mediation models. Then, the Method section outlines participants, procedures, and measures; the Results section includes a summary of findings from three phases of analysis; and the Discussion section delineates the meaning and importance of relevant findings, clinical implications, limitations, and future directions for this work.

Philosophical Foundations

Intersectionality & Counseling Psychology

The emergence of intersectional frameworks in counseling psychology research has encouraged researchers to consider how membership in social groups contributes to the development of multiple social identities that influence and interact with each other (Cole, 2009). Research from this perspective espouses the importance of exploring the additive effects of identifying with multiple minority identities, for example, as a woman and person with a disability. By doing so, researchers can contextualize experiences of participants relative to their social groups instead of articulating how they are different from the experiences of dominant social groups (Cole, 2009; Blodgett, Schinke, McGannon, & Fisher, 2015). Thus, research on AWD should incorporate an intersectional framework to emphasize the influence of social identities and group membership in shaping lived experiences of this underserved population.

As a field, counseling psychology has identified commitments to diversity and social justice as central to its core values (Goodyear, Lichtenberg, Hutman, Overland, Bedi, et al., 2016). This commitment emphasizes the influence of social realities, identities, or processes on psychosocial distress and well-being, while calling for

attention to issues of social justice in science and practice (Vasquez, 2012). Research has supported the role of social constructs such as race, gender, and disability - as well as experiences with discrimination or microaggressions associated with one's social identities - in shaping one's beliefs about what society considers acceptable or desirable, particularly regarding perceptions of body and beauty (e.g., Bonilla-Silva, 1997; Risman, 2004). Yet, what we know about psychosocial outcomes like body image is largely couched in traditional gender ideology that focuses on the experiences of dominant social groups (i.e., White, able-bodied, cisgender women; Cole, 2009). Intersectional frameworks allow researchers to explore the roles of multiple identities in shaping beliefs about the self, others, and society in general, and to explore the influence of social stigma and inequality on psychosocial outcomes in marginalized populations. Research that adopts an intersectional framework, and is grounded in counseling psychology's core values of diversity and social justice, presents an appropriate and contextualized avenue for exploring the lived experiences of women AWD.

Intersectionality & Sport Psychology. Intersectionality frameworks have gained broad application and acceptance in counseling psychology research (e.g., Shin, Welch, Kaya, Yeung, Obana et al., 2017); yet, the application of intersectionality theory in sport psychology research is still rare (Blodgett, Schinke, & McGannon, 2017). Researchers operating from a critical or cultural sport psychology (CSP) perspective have adopted intersectionality-based understandings of self and identity as plural and socially constructed, particularly the idea that identity is both a product and process of interpersonal interaction and discourse (e.g., Ronkainen, Kavoura, & Ryba, 2016; Schinke & McGannon, 2015; Smith, 2010; Smith & Sparkes, 2008). Such trends in sport

psychology research reflect the growing importance of interactions between personal and interpersonal narratives shaped by the sociocultural, historical, and political context in constructing identity (e.g., McGannon & Smith 2015) – a perspective consistent with another core value of counseling psychology: a focus on interactions between person and environment instead of an exclusive focus on one or the other (Goodyear et al., 2016). According to Blodgett et al. (2017), the inclusion of intersectionality theory in sport psychology research can better illuminate layered and interacting identities, as well as the complex connections between identities, experiences of well-being, performance outcomes, and issues of social justice in sport contexts (Blodgett et al., 2017; Douglas, 2014; Schinke & McGannon, 2015).

An emphasis on activism and stimulation of social change is a core component of intersectional research (Cole, 2009). Recent trends in CSP research have called for increased attention to the voices of members of marginalized subgroups in sport who have thus far been largely excluded from the production of knowledge in the field (e.g., Blodgett, Schinke, Smith, Peltier, & Pheasant 2011), and to connect sport contexts to missions of social change (Schinke, Stambulova, Lidor, Papaioannou, & Ryba, 2016). Intersectional perspectives are thus imperative in future sport psychology work as a means of bringing awareness to processes of marginalization in sport, and to encourage more inclusive and culturally responsive practice (Blodgett et al., 2017). Moreover, a recent special section of the *Psychology of Sport and Exercise* journal on CSP and intersecting identities also called for increased focus on sociocultural issues that influence the lives of diverse members of the sport community to facilitate empowering and inclusive clinical and empirical practices (Schinke & McGannon, 2015). The project is

intended as an answer to these calls by exploring the lived experiences of AWD, an often marginalized and systematically under-represented group in sport (Smith & Jose-Perrier, 2014), through an integration of theoretical frameworks from counseling and sport psychology research.

Further, sport psychology emphasizes the cultivation of mental, emotional, and social skills that contribute to optimal human functioning across performance domains. This approach prioritizes the identification and development of individual strengths as a foundation for excellence or well-being (Aoyagi & Poczwardowski, 2012). Counseling psychology's focus on *hygiology* - its emphasis on cultivation of strengths, assets, or resources (Goodyear et al., 2016) – is philosophically aligned with the core values of sport psychology, facilitating a strong partnership between two strengths-based psychological disciplines. Conducting research that falls within the realm of counseling and sport psychology involves an important multidisciplinary approach that incorporates athletes' multiple social identities, focuses on the cultivation of psychosocial aspects of well-being, and considers the sociocultural context in making sense of lived experience. This project sought to align with the core values and strengths-based focus of these psychological disciplines by exploring connections between social factors, sport, and positive body image.

Disability Studies

Despite the growing number of AWD across sport and physical activity domains, research has only begun to unpack the lived experiences of this population, particularly research in sport psychology. Smith and Perrier (2014) clearly outlined the importance of engaging with ideas and research from other disciplines, such as disability studies, for

sport psychology researchers to develop a critical study of the psychology of disability sport. Counseling psychology also provides valuable theoretical foundations for research on AWD due to its inherent emphasis on social justice, diversity, and the effects of intersecting identities on well-being. Historically, scholarship in disability studies has emphasized four models of disability: the medical model, the social model, the social-relational model, and the biopsychosocial model. Thomas' (2004) social-relational model conceptualizes disability as a social construction resulting from experiences with both macro and micro social processes. Macro perspectives include vehicles of social oppression of PWD, such as economic polarization or social stigmatization. Micro perspectives include the psychoemotional impact of disability, derived from sources such as interpersonal relationships or interactions (e.g., familial relationships), and interpretation of social processes in one's immediate social context or system (Thomas, 2004; 2010). From this perspective, disability and impairment represent different, but not mutually exclusive, experiences. Where disability is conceptualized as a form of social oppression resulting from social barriers, limitations, and social stigma, impairment is understood as physical limitations to movement or activity (Thomas, 2010). A key tenet of the social-relational model of disability is the centrality of the body to human experience. This perspective, derived from work such as Merleau-Ponty's conceptualization of the 'lived body' and the sociological theory of symbolic interactionism (Thomas, 2007; Goffman, 1959), calls for the development of a phenomenological study of the body in which disability and impairment are experienced and influenced by cultural narratives and social interactions.

Social-Relational Model of Disability in Sport

Few researchers have integrated the social-relational model of disability in work pertaining to disability sport (e.g., Smith & Perrier, 2014). In fact, Smith, Perrier, and Martin (2016) identified only five articles that have included this perspective in sport psychology scholarship, despite its potential as a socially and culturally responsive framework from which to examine lived experiences of AWD. Existing work has acknowledged the importance of two key tenets of the social-relational model in understanding the experiences of AWD: the interaction of both intrinsic and extrinsic factors, and the centrality of the body to lived experience. Smith and Perrier (2014) espoused the importance of conceptualizing one's experience of body and impairment as biological, experiential, and psychosocial entities, while noting the emphasis that the social-relational model places on social processes that limit the well-being of PWD. Further, Martin (2013) presented the social-relational model as the only model of disability that is complex enough to honor of the unique lived experiences of AWD. He noted that the social-relational model incorporates physical (medical) and social factors in a manner that allows researchers to conceptualize variations in these experiences across individuals, and better understand the overall complexity of living with disability. Therefore, the social-relational model of disability represents an appropriate foundation for this study as it emphasizes the central role of social processes in shaping perceptions of self and body.

Literature Review

Body Image

A large body of research has explored the concept of body image and relationships between body image and physical, psychological, and social functioning. Body image is understood as a dynamic construct involving cognitive, emotional, social, and behavioral dimensions (Cash & Smolak, 2011), that changes relative to one's social context (de Bruin et al., 2011; Tiggemann, 2004). It has also been described as the compilation of perceived evaluations of appearance with regard to one's social environment (Davison, 2012) and the product of transactions between external (e.g., social) and internal (e.g., psychological) forces (e.g., Menzel & Levine, 2011). As a construct, body image involves an important interpersonal dimension – one's experience of body image is shaped by environmental influences, such as sociocultural norms or stigma, and by perceived outcomes of interactions with others (Thompson et al., 1999; Cash & Pruzinsky, 2002). Holistically, body image consists of both positive and negative factors including body image concerns, body (dis)satisfaction, body shame, body appreciation, body esteem, body functionality, and body image quality of life (e.g., Avalos, Tylka, & Wood-Barcalow, 2005; Varnes, Stollefson, Miller, Janelle, Doff, & Pigg, 2016). Low levels of negative body image cannot be considered equivalent to positive body image as the absence of negative experiences does not guarantee the presence of positive experiences; thus, positive and negative body image are not opposites, but exist as inversely correlated factors on parallel but related continua (Tylka, 2011; Crawford & Henry, 2004).

Body Dissatisfaction. Body dissatisfaction is a well-researched construct that reflects cognitive and affective components of negative body image (Kearney-Cooke & Tieger, 2015); body dissatisfaction involves the negative subjective evaluation of the weight, shape, appearance, or functionality of one's body. Body dissatisfaction results from a perceived discrepancy between an individual's body and the body ideal that they wish to attain (Kong & Harris, 2015), and is associated with negative psychosocial experiences such as drive for thinness (Hargreaves & Tiggemann, 2003; Stice & Shaw, 2002), dieting (Stice, Ng, & Shaw, 2010), disordered eating behaviors (Shroff & Thompson, 2006; Stice, Ng, & Shaw, 2010; Stice et al., 2011), and eating pathology (Goldschmidt, Wall, Loth, LeGrange, & Neumark-Sztainer, 2012; Stice et al., 2011).

Body Appreciation. While psychological research has historically focused on negative body image (Smolak & Cash, 2011; Tylka, 2011), a large body of research exploring positive body image has recently emerged (Tiggemann, 2015). Positive body image typically involves "love and acceptance of one's body (including aspects inconsistent with socially-prescribed ideals) and appreciation of its uniqueness and the functions it performs" (Tiggemann, 2015, p. 168; Tylka & Wood-Barcalow, 2015). Body appreciation represents an important component of positive body image (Avalos, Tylka, & Wood-Barcalow, 2005) and involves acceptance of one's body, showing respect toward one's body by prioritizing its health, and protecting one's body by rejecting unrealistic body ideals (Avalos et al., 2005). Research has identified numerous associations between body appreciation and markers of positive psychological functioning (e.g., well-being; Tylka, 2018). Body appreciation has also been identified as a protective factor against negative body image (Avalos et al., 2005), a predictor of

intuitive eating (i.e., eating in response to authentic hunger and satiety cues as opposed to in response to emotional or social cues; Tylka, 2006; Tylka et al., 2015) and is inversely related to markers of eating disorder pathology (e.g., Tylka et al., 2015). Both body dissatisfaction and body appreciation have important interpersonal components; body dissatisfaction involves internalization of unrealistic body ideals, whereas body appreciation involves rejection of these ideals. As such, it is important to explore both body dissatisfaction and body appreciation from a sociocultural perspective to build holistic understanding of body image experiences. Exploration of positive aspects of psychosocial experience (i.e., body appreciation) also aligns with counseling and sport psychology's emphases on the cultivation of assets to support positive holistic functioning in underserved populations (Goodyear et al., 2016; Williams & Krane, 2013).

Body Image in Athletes

Sport as a Risk Factor. Participation in sport both positively and negatively affects body image in athletes (Petrie & Greenleaf, 2012). Elements of negative body image, such as body image disturbance (Sundgot-Borgen, 1993), have been associated with eating problems in athletes (Berry & Howe, 2000; Byrne & McLean, 2002; Williamson, Netemeyer, Jackman, Anderson, Funsch, & Ralabais, 1995) including endorsement of the female athlete triad (co-occurrence of disordered eating, amenorrhea, and osteoporosis), and body and muscle dysmorphia (Torstveit & Sundgot-Borgen, 2005). Athletes who report disordered eating are significantly more negative about their bodies compared to those that do not endorse disordered eating, across social contexts (i.e., in and outside of sport), suggesting that negative body image and disordered eating are strongly correlated in women athletes (Jacobi, Hayward, de Zwann, Kraemer, &

Agras, 2004; de Bruin, Oudehans, Bakker, and Woertman, 2011). Sport has also been described as a high-risk context for the development of eating pathology. Structural aspects of sport and sport culture, such as weigh-ins, cutting weight, social comparisons regarding weight or physical appearance that are related to performance evaluations, extreme focus on diet and weight, and objectification of athletes' bodies in the media, have been identified as risk factors for experiences of negative body image in athletes. These cultural processes send the message that body appearance is just as important, if not more important, than body functionality for athletes, which can be problematic given the importance of functionality, strength, fitness, and health in sport (Petrie & Greenleaf, 2012; Varnes et al., 2013).

Sport as a Protective Factor. Most research examining body image in sport has focused on risk factors that contribute to the development of disordered eating or body image concerns in athletes. However, sport participation may also enhance positive body image as evidence suggests that athletes tend to report more positive body image than non-athletes (Varnes et al., 2013). Enhancing positive body image can serve as a protective mechanism against experiences of body image distress, and participation in embodying activities - pursuits in which one takes ownership of one's body, and develops pride, trust, and respect in its abilities (e.g., Menzel & Levine, 2011) - plays a central role in the development of positive body image. Participation in competitive sport has often been described as an embodying activity, as athletics represent an important source of embodying experiences such as flow, mind-body integration, body awareness, responding to the body's needs, and feelings of physical empowerment and competence (Menzel & Levine, 2011). These experiences are associated with positive body image, improved

well-being, and higher subjective ratings of performance in athletes (e.g., Souillard, Kauffman, Fitterman-Harris, Perry, & Ross, 2019). Menzel and Levine (2011) also noted that participation in sport has been found to protect against harmful effects of self-objectification in women (i.e., the perception by an individual woman of her own body as an object to be viewed and evaluated by other people; Fredrickson & Roberts, 1997; Szymanski, Moffitt, & Carr, 2011), as participation in sport has had negative effects on self-objectification, eating symptomology, and aspects of negative body image including body shame (e.g., Daniels, 2006).

Moderating Factors. Differences in body image in athletes are related to gender, sport type, and level of competition. First, research has demonstrated that women athletes are more likely to engage in disordered eating or compulsive exercise/weight loss behaviors compared to men athletes (e.g., Bratland-Sana & Sundgot-Borgen, 2012). Research has also found that body appreciation tends to be higher for men than for women, across many western cultural groups (Kroon Van Diest & Tylka, 2010; Tylka, 2013; Tylka & Kroon Van Diest, 2013; Swami, Stieger, Haubner, & Voracek, 2008; Lobera & Rios, 2011; Swami & Jaafar, 2012). Second, athletes who participate in sports that emphasize thinness, weight, or appearance – often termed leanness-focused sports – may be at greater risk for body image concerns and disordered eating behaviors compared to those who participate in non-leanness focused sports (i.e., ball, stick, or bat sports; Reel, Petrie, SooHoo, & Anderson, 2013). Existing research has not yet accepted a universal definition of leanness-focused sports; therefore, for the purposes of this study, leanness-focused sports include sports that have a body shape or weight requirement in competition, such as figure skating, cycling, cross country or distance running,

gymnastics, and wrestling (Kong & Harris, 2015). Athletes that participate in leanness-focused sports appear to be at higher risk for disordered eating behaviors, experience more pressure in sport related to their appearance, weight, and shape, and tend to have higher body dissatisfaction compared to athletes from non-leanness-focused sports (e.g., soccer; Kong & Harris, 2015). Additionally, Torstveiet et al. (2008) found that 46.7% of women athletes participating in leanness-focused sports met criteria for clinical eating disorders compared to only 19.8% of women athletes participating in non-leanness-focused sports.

Second, athletes' body image has varied based on the level of sport competition. Elite sport – defined as competition in professional sports at the national or international level - has been identified as a high-pressure environment that results in unique experiences of body image for elite athletes compared to athletes at lower levels of competition (Varnes et al., 2013). A linear relationship has been established between body image concerns and level of sport competition: as the level of competition goes up, athletes report greater concerns with body image (Varnes et al., 2013). However, evidence is mixed regarding whether elite athletes are at higher risk for body image concerns or protected against these concerns through participation in sport. On one hand, elite athletes have reported significantly higher levels of disordered eating patterns than athletes in lower levels of competition (Kong & Harris, 2015). On the other, research has also found that elite athletes report higher levels of body satisfaction compared to non-athletes (e.g., Kamal, Blais, Kelly, & Ekstrand, 1995). Additional research is needed to clarify changes in athlete body image relative to the level of sport competition.

For elite athletes, body image appears to be related to a performance-oriented lifestyle and is influenced by performance outcomes (Stephan & Bilard, 2003); thus, the better an elite athlete performs, the more positively they feel about their bodies. The performance-oriented lifestyle may also cultivate a “discourse of excellence” that influences the development of norms in elite sport subcultures (Williams, 2012). This discourse of excellence informs athletes’ actions and decisions about appropriate dietary and exercise habits, with the primary goal of enhancing performance outcomes. Eating behaviors deemed appropriate within elite athlete subcultures may be considered unhealthy or disordered in other contexts; yet, they serve a purpose greater than losing weight or building muscle in sport: they are intended to support the achievement of performance excellence (Williams, 2012). Thus, dietary restrictions or rigid adherence to nutritional guidelines can become acts of discipline and commitment to elite performers, resulting in positive experiences and perceptions of the body (Williams, 2012). Importantly, Williams’ (2012) findings support the potential protective role of participation in elite sport against body image concerns. Williams (2012) determined that one’s relationship with the discourse of excellence can have both positive and negative influences on athletes’ body image, based on the degree to which they buy into or adhere to performance norms and expectations in their sport culture.

Significant interactions between sport type and sport level have also been identified (Kong & Harris, 2015), indicating that elite athletes who participate in leanness-focused sports have significantly higher body dissatisfaction and greater disordered eating compared to other sport groups. In fact, Kong and Harris (2015) estimated that 23% of their total sample of women athletes scored greater than or equal to

20 on the EAT-26, which indicates high risk for the development of an eating disorder. Among this 23%, 82.4% participated in leanness-focused sports, and 66% identified as elite athletes (Kong & Harris, 2015). Kong and Harris' (2015) findings highlight the importance of contextual pressures (e.g., pressure to perform) related to elite sport in fostering body dissatisfaction and disordered eating. Overall, findings pertaining to the relationship between sport participation and body image are mixed, and continued research is needed to explore cultural factors in sport that influence body image perceptions. Understanding both risk and protective factors associated with body image and eating pathology in the context of disability sport, and elite disability sport in particular, is essential to understanding the lived experiences of AWD.

Athletes vs. Non-athletes. Research on the relationship between body image and athletic participation has demonstrated that, generally, athletes endorse more positive body image than non-athletes (e.g., Hausenblas & Downs, 2001). Participation in sport has been described as a means of developing perceptions of personal competence, connecting with others, expressing oneself, and displaying power (Menzel & Levine, 2011; Piran, 2015). In a systematic review updating the findings of Hausenblas and Downs (2001), Varnes et al. (2013) found that athletes scored more positively on measures of body image compared to non-athletes in eight out of nine included studies. For example, athletes reported more positive body esteem with moderate to large effect sizes for each outcome variable (i.e., physical condition, $d = 1.11, p < .001$; weight concern, $d = .080, p < .001$; and sexual attractiveness, $d = 0.39, p = .001$; Fellows, 1999), compared to non-athletes. Additionally, athletes appeared to desire a different ideal body type compared to non-athletes. Results suggested that athletes described an ideal body as

one that was strong, and “larger and more muscular” compared to an ultra-thin ideal body desired by non-athletes (Varnes et al., 2013, p. 427). Body functionality (i.e., focusing on how one’s body functions and feels internally instead of the body’s external appearance; Tylka, 2006) has also been identified as an important element of positive body image for athletes, as the body’s skill, strength, speed, and physical abilities are especially relevant in sport (Tiggemann, 2015). Women athletes, in particular, report greater appreciation of their body’s functionality as a result of participation in sport, compared to women non-athletes (Blinde, Taub, & Han, 2001; Krane, Choi, Baird, Aimar, & Kauer, 2004).

Additional evidence suggests that experiences of body dissatisfaction and disordered eating differ for athletes compared to non-athletes. For example, while disordered eating behaviors have been closely related to negative body image in the past, disordered eating behaviors and preoccupation with weight have been reported by women athletes who also endorse high body satisfaction and self-esteem compared to non-athlete peers (de Bruin et al., 2011). Thus, examining factors that influence the development of positive body image in athletes will add to understanding of the influence of sport or athletic identities (i.e., social group memberships) on body image, providing an important avenue for the application of intersectional frameworks in sport psychology research.

Body Image in AWD

Few studies have explored body image in AWD, particularly from a social-relational perspective (Galli et al., 2016; Sousa, Corredeira, & Pereira, 2009). Galli and colleagues (2016) conducted a qualitative exploration of body image in AWD with acquired physical disabilities, paying specific attention to the role of sport participation. Findings were mixed, indicating both positive and negative effects of sport participation

on body image. On one hand, participants identified sport as a source of improved pride and comfort with their bodies, improved body esteem and self-esteem, body appreciation, positive relationships with prosthetics or new body parts, and as an opportunity to manage their health more effectively. Participants also noted that sport served as a vehicle of socialization by providing opportunities to connect with others with similar life experiences, creating a sense of normalcy and feelings of belonging (Galli et al., 2016). On the other hand, participants experienced challenges related to their disability and its impact on sport participation. Some participants described their disability as a barrier to achieving a desired athletic-ideal body, noting that functional limitations related to disability created difficulties maintaining desired weight and fitness levels. Additionally, participants reported stereotypical comments or assumptions of others, discrepancies between their bodies and perceived social ideals, and negative social messages about disability contributed to negative body perceptions. Participants also reported regularly comparing their bodies to the bodies of others both with and without disabilities to evaluate their own appearance and functionality. In general, participants described acute awareness of others' perceptions of disability, noting that perceived perceptions of others influenced personal perceptions of their bodies (Galli et al., 2016), underlining the impact of the sociocultural context on the development of body image.

Overall, Galli et al.'s (2016) results lend support to the argument that athletes and AWD experience body image in similar ways, and are similarly impacted by the social environment. However, results did not indicate that AWD experience pressures from their sport environment to change their body, or adhere to a certain ideal, highlighting the positive role of important social others in sport in shaping body image. Coaches and

teammates were described as a source of social support and contributed to participants' identification of themselves in terms of their "sporting ability" as opposed to their disability (Huang & Brittain, 2006). While Galli et al. (2016) provided valuable insights into a little studied area of psychosocial functioning for AWD, their study is not without limitations. The qualitative nature of Galli et al.'s (2016) study serves as a valuable platform for future research on body image in AWD, but limits the generalizability of findings. Further, Galli et al. (2016) did not explore the role of social pressures outside of sport in shaping body image in AWD, despite research indicating that athletes face pressures from multiple social contexts to adhere to certain body or appearance norms (Petrie & Greenleaf, 2012). Thus, further research is needed to both substantiate and build upon Galli et al.'s (2016) findings, and to better understand intersecting social and sport-related pressures on body image in AWD.

Negative Effects of Sport Participation for AWD. From the perspective of the social-relational model of disability, individuals' perceptions of social interactions and the social environment influence perceptions and experiences of the body (Thomas, 2010). Therefore, negative perceptions of one's body or disability are likely related to internalized messages regarding failure to live up to social ideals, or social stigmatization of disability. While sport has been identified as a context in which AWD can develop more positive self and body images (e.g., Sousa et al., 2009), and myriad benefits of participation in sport and exercise for PWD have empirical backing (e.g., Martin, 2013; Shapiro & Martin, 2010; Huang & Brittain, 2006; Blinde, Taub, and Greer, 1999; Taub, Blinde, & Greer, 1999), negative social perceptions internalized by PWD can act as barriers to sport participation for many (e.g., Brittain, 2004). On a larger scale, disability

sport as a social institution is often met by skepticism in larger society, and AWD have been portrayed as inferior to able-bodied athletes and believed to be incapable of living up to the strong cultural ideal of athletics (Brittain, 2004). In particular, socially constructed and accepted beliefs about disability and sport have been found to influence self-perceptions in PWD, as well as their openness to participation in sport (Brittain, 2004). Brittain (2004) argued that changing or bringing more awareness to the entrenched, and often negative, social narratives surrounding disability should be a primary focus of efforts to change the culture of disability sport.

Positive Effects of Sport Participation for AWD. Similar to able-bodied athletes, participation in sport also has benefits for PWD. These benefits include, but are not limited to, more positive body image (Tartar, 2010); improved fitness, self-confidence, and access to social relationships with peers (Valliant, Bezzubik, Daley, & Asu, 1985); positive adjustment to amputation (Wetterhahn, Hanson, & Levy, 2002; Sabiston, Pila, Vani, & Thogersen-Ntoumani, 2018), greater satisfaction with one's appearance and fitness (Wetterhan et al., 2002), more positive evaluations of health (Yuen & Hanson, 2002), and increased autonomy, increased feelings of social inclusion, and positive body perceptions (Taub et al., 1999) compared to PWD who do not participate in sport. Additionally, participation in sport can facilitate post-traumatic growth for PWD; Day (2013) reported that participation in Paralympic sport presents an opportunity for PWD to increase autonomy, confidence, and other psychological and physical strengths in the pursuit of meaning and growth. Development of an athletic identity through participation in sport may also have psychosocial benefits for PWD. Perrier, Smith, Strachan, and Latimer-Cheung (2014) determined that the degree to which

PWD identified as athletes related to beliefs pertaining to whether they embodied socially constructed athletic characteristics. The stronger one's athletic identity, generally, the more successful one's adjustment to acquired disability (Perrier et al., 2014). Perceptions of the body have also differed between PWD involved in sport and those not involved in sport (Sousa et al., 2009). For example, PWD not engaged in sport have demonstrated increased desires and actions in pursuit of societal body ideals, whereas PWD who participate in sport reported feeling less impaired, stronger, and described more positive perceptions of their body image and body functionality (Sousa et al., 2009). These benefits of sport participation are not unique to PWD and have received empirical support across varying ability statuses (Sands & Wettenhall, 2000; Sabiston et al., 2018).

Furthermore, PWD have reported feeling more comfortable with their disability in the context of sport, explaining that disability is not perceived as negatively in sport settings as it may be in broader social settings, and expressing greater comfort exposing their disability in the company of others with similar experiences (Sousa et al., 2009). More broadly, Taleporos et al. (2001) noted that close relationships with supportive social others – others who do not perpetuate negative social stigma about disability – positively affected body image in PWD. Limited research has explored the influence of supportive social others in disability sport on markers of well-being in AWD. As such, future research is needed to better understand the influence of teammates, coaches, judges, and other important social figures in sport on body image in AWD.

Sociocultural Perspectives on Body Image

The powerful influence of perceived social norms and pressures concerning ideal body shapes or types on body image is well-documented (e.g., Tiggemann, 2006; Cafri,

Yamamiya, Brannick, & Thompson, 2005), as are differences in the experience of body image across cultural identities, including gender, race or ethnicity, ability status (e.g., Smolak & Murrain, 2008), and social group membership (e.g., sport; Varnes et al., 2013). Research has paid particular attention to the role of sociocultural factors in the development of negative body image, specifically body dissatisfaction. Results of a meta-analysis comparing effect sizes across studies that evaluated the influence of sociocultural factors on body image demonstrated strong support for a three-factor sociocultural model of body dissatisfaction (Cafri et al., 2005). Their results evaluated the effects of awareness of the existence of a thin body ideal portrayed in the media ($r = .29$, $CI = .25, .34$, $p < .05$), internalization of this thin ideal ($r = .50$, $CI = .5-, .59$, $p < .05$), and perceived social pressures to be thin ($r = .48$, $CI = .43, .53$, $p < .05$) on body dissatisfaction in women and identified moderate to large effect sizes for each sociocultural predictor across included studies. Beyond the results of Cafri et al.'s (2005) meta-analysis, evidence supports robust positive associations between social pressures and body image dissatisfaction in women (e.g., Groesz, Levine, & Murnen, 2002). Despite the large body of evidence supporting the relationships social factors and body dissatisfaction, researchers have highlighted the lack of clarity regarding inter-relationships between these predictors, and emphasized the need for further research into relationships between context-specific sociocultural factors (e.g., participation in sport) and body image (e.g., Ramme, Donovan, & Bell, 2016).

Tripartite Influence Model. As stated, the tripartite influence model is a well-established model that evaluates the influence of perceived social pressures, internalized body ideals, and social comparison on body dissatisfaction (Thompson, Heinberg, Altabe,

& Tantleff-Dunn, 1999). This model, in its original form, holds that societal ideals of body exist and that these ideals are often culturally-bound, transmitted through sociocultural channels (e.g., media exposure, social relationships), and internalized by individuals. Internalization is the process of cognitively endorsing or believing in (i.e., buying into) cultural ideals of attractive bodies (Homan, 2010; Thompson & Stice, 2001). While some definitions of internalization involve both cognitively buying into the desirability of body ideals and engaging in behaviors in efforts to adhere to those ideals (Heinberg, Thompson, & Stormer, 1995), internalization, for the purposes of this project, encapsulated only cognitive components of the construct (Schaefer et al., 2015).

Both cross-sectional and longitudinal research have demonstrated that the degree to which thin body ideals are internalized (i.e., the level of thin-ideal internalization) affects the degree to which social pressures predict body dissatisfaction, and subsequently, eating pathology (Homan, 2010; Homan & Boyatzis, 2010; Shroff & Thompson, 2006). In other words, the degree of body dissatisfaction experienced is understood as a function of the extent to which a woman has internalized the thin-body ideal and her perception of whether her body does (or does not) live up to this ideal (Tiggemann, 2011). Social comparison has also been identified as a significant mediator in the relations between social pressures and body dissatisfaction (e.g., Myers & Crowther, 2009). Social pressures for thinness, then, are both directly and indirectly related to body dissatisfaction via thin-ideal internalization and social comparison (Stice & Shaw, 2002). Finally, the degree of body dissatisfaction experienced predicts engagement in disordered eating behaviors (Thompson et al., 1999). This model has been tested and modified in a variety of contexts, garnering consistent support across samples

of adolescent, college-aged, and adult women (e.g., Tiggeman, 2011; Keery et al., 2004; Shroff & Thompson, 2006; Yamamiya, Shroff & Thompson, 2008; Fitzsimmons-Craft et al., 2014; Ramme et al., 2016).

Thin vs. Athletic Ideal. Traditionally, the socially defined ideal body for women has been one of extreme or ultra-thinness; thus, most studies of internalization of social body ideals have focused on thin-ideal internalization (Homan, 2010; Thompson & Stice, 2001). However, recent research highlights a cultural shift away from the historically predominant thin-ideal toward an “ultra-fit”, toned, or athletic body ideal (i.e., athletic-ideal; e.g., Grogan, 2008; Thompson, van den Berg, Roehrig, Guarda, & Heinberg, 2004). Generally, the athletic-ideal body is portrayed as one that promotes strength, fitness, and muscularity compared to previous portrayals of an ultra-thin body without shape or curves, though conceptualizations of the new athletic-ideal have varied (Ramme et al., 2016). Internalization of an athletic-ideal involves cognitively affirming the desirability of fit, muscular, or athletic body ideals portrayed in the media. While limited research has explored the role of athletic-ideal internalization in predicting body image or body dissatisfaction, factors such as increased portrayal of exercise-related references in the media (Wiseman, Gray, Mosimann, & Ahrens, 1992), increased numbers of magazines targeting fitness and television programs promoting fitness or weight loss (Ramme et al., 2016), increased dissatisfaction with muscle tone reported by women (e.g., Cash, 2008), and the intimation by many media outlets that anyone can achieve a lean, fit body (i.e., athletic-ideal) if they work hard enough suggest that the athletic-ideal is gaining traction (Homan, 2010).

Research has argued that athletic-ideal internalization may have a less detrimental impact on body image than thin-ideal internalization. Homan (2010) tested the respective relationships between internalization of the athletic-ideal and thin-ideal and the outcome variables of body dissatisfaction, dieting, and compulsive exercise in a sample of adult women. Results indicated that levels of thin-ideal internalization predicted subsequent levels of body dissatisfaction ($\beta = .12, p = .04$), dieting ($\beta = .17, p = .02$), and compulsive exercise ($\beta = .15, p = .01$); however, athletic-ideal internalization predicted increases only in compulsive exercise ($\beta = .11, p = .02$; Homan, 2010). These findings suggest that internalization of an athletic-ideal does not predict change in body dissatisfaction. Homan (2010) went on to postulate that pressures to adhere to an athletic-ideal may only affect body dissatisfaction when “packaged” with the predominant thin-ideal. That is, women may internalize both thin and athletic body ideals, but the ideal that is most important or salient for each individual may exert the most influence on subsequent experiences of body image (Homan, 2010). These findings suggest that people with different cultural identities may prioritize one societal body ideal over another. Had Homan (2010) tested this model in a population of women athletes, who theoretically place high value on components of the athletic-ideal such as strength, leanness, and fitness, their results may have differed. Findings from Homan, McHugh, Wells, Watson, and King (2012) support this hypothesis, as they identified a significant effect of exposure to images of women who embody both the thin and athletic ideals simultaneously on body dissatisfaction in college women, relative to a control condition. Their results further demonstrated that exposure to images of women with normal-weight athletic-ideal bodies did not have a significant effect on body dissatisfaction, suggesting

that athletic-ideal internalization alone may serve as a protective factor against body dissatisfaction (Homan et al., 2012).

In contrast, research has indicated that attainment of an athletic-ideal is equally as unrealistic as attainment of a thin-ideal for many women, suggesting that internalization of an athletic-ideal should theoretically have a positive effect on body dissatisfaction (e.g., Curioni & Lourenco, 2005). Higher levels of athletic-ideal internalization have been significantly associated with clinical eating disorders and disordered eating behaviors, specifically anorexic tendencies in women (e.g., Calogero, Davis, & Thompson, 2004; Harrison & Cantor, 1997; Harrison, 2000). Further, excessive or over-exercise behaviors have been significantly associated with increased severity in eating pathology (Shroff et al., 2006), longer stays in higher levels of treatment for disordered eating concerns (e.g., inpatient; Solenberger, 2001), and psychosocial concerns (e.g., depression or anxiety) in women with eating disorders (Fallon & Hausenblas, 2005; Penas-Lledo, Vaz Leal, & Waller, 2002). Furthermore, Ramme, Donovan, and Bell (2016) found significant indirect effects of peer pressures ($\beta = .27, p < .001$), family pressures ($\beta = .16, p < .001$) and media pressures ($\beta = .42, p < .001$) on body dissatisfaction via thin-ideal internalization; however, none of the hypothesized indirect effects of social pressures on body dissatisfaction were significantly mediated by athletic-ideal internalization. Several potential explanations for this finding were proposed, including the exclusion of context-specific sociocultural pressures and the exclusion of social media influences from the media pressures factor in the model, the decision by the authors to omit social comparison as a mediator, the possibility that internalization of an athletic-ideal is associated with positive and not negative body image, and the potential unevaluated

contribution of other factors that are related to internalization of an athletic ideal, such as athletic identity (Ramme et al., 2016). As it is unclear whether internalization of an athletic-ideal or thin-ideal occur as mutually exclusive processes, future research is warranted to clarify cognitive processes involved in internalization of body ideals relative to evolving social norms and social group membership.

Social Comparison. Social comparison theory holds that humans naturally assess their progress and standing in life by comparing themselves to others (Festinger, 1954). Social comparison with regard to body image involves the act of comparing one's body to others' bodies or a perceived ideal body (Davison, 2012). Social body comparison includes both upward comparisons (i.e., comparisons made with others who are perceived as "better off" or "better than" oneself in some way) and downward comparisons (i.e., comparisons made with others deemed "lesser than" or "worse off than" oneself). Evidence suggests that social comparison behaviors provide a means of assessing one's standing relative to the thin-ideal, highlighting perceived discrepancies between actual and idealized bodies (e.g., Fitzsimmons-Craft et al., 2014; Myers & Crowther, 2009). Further, Davison (2012) identified social comparison as an important factor in the development of women's body image, noting that social comparison has been found to facilitate the relationship between social pressures and body dissatisfaction. Results of a meta-analysis conducted by Myers and Crowther (2009) produced a moderate and significant effect for social comparison on body dissatisfaction (0.77), indicating that social comparison behaviors on the basis of appearance predict greater levels of body dissatisfaction, providing support for the mediating role of social comparison in the tripartite influence model (Thompson et al., 1999).

Gaps in Existing Research. Despite the large body of evidence in support of the tripartite influence model, additional work is needed to address several gaps in existing research. First, much of the evidence in support of the original tripartite influence model was gleaned from samples of young (usually college-age) European-American women. Support for the original model in more diverse samples is limited (Tiggemann, 2011) and the tripartite influence model has never been tested, to our knowledge, in a sample of athletes or PWD. Additionally, few studies have explored the contribution of sociocultural agents specific to the unique social identities of participants, despite high likelihood that members of specific subcultures (e.g., athletes) may experience pressures to adhere to a certain body type from sources other than peers, family, and the media. Further research is needed to identify moderating factors that either enhance one's risk of body dissatisfaction or protect against it. Examining potential moderating factors is particularly important in designing and implementing more effective interventions targeting both positive and negative aspects of body image (Tiggemann, 2011; Tylka, 2011).

Sociocultural Perspectives on Body Image in Athletes

Dual Body Images. Athletes face social pressures to adhere to certain body ideals both within their sport and from society more broadly. Because of these competing pressures and ideals, athletes tend to develop both a sporting body image and a social body image (de Bruin et al., 2011), and have different perceptions of body image based on their social context (e.g., Krane et al., 2004). Athletic body image includes the internal image or evaluation of one's body in relation to its role in sport (Greenleaf, 2002), whereas social body image constitutes an evaluation of one's body in daily life (Petrie &

Greenleaf, 2012). Athletes are often satisfied with one of these images while experiencing distress related to the other, contributing to cognitive dissonance. For example, Krane et al. (2004) reported that women athletes have shared struggles with the intersection between their women and athletic identities as a result of conflicting pressures to be both feminine and athletic. Where athletes have expressed insecurity about the size of their muscles or athletic body type in social contexts (i.e., outside of sport), they also expressed pride and confidence in their strength and physical abilities in their sport (e.g., Krane et al., 2004). This dissonance between perceived and ideal body image can influence athletes across social settings (i.e., in and outside of sport); thus, it is important to identify social pressures in and outside of sport that influence body image outcomes (Kong & Harris, 2015).

Social pressures from sport coaches, teammates, and judges related to weight and appearance play an important role in the development of athletic and social body images (Reel et al., 2013; Reel, 2012). Evidence suggests that women athletes experience pressures to change their weight, shape, or size to meet expectations for their sport (de Bruin et al., 2011; Thompson & Sherman, 2010). Additionally, athletes face social pressures to live up to stereotypical ideals associated with the “best body type” for a specific sport, pressures to lose weight to improve performance, and requirements to wear revealing uniforms or uniforms that are not designed for all body types (Petrie & Greenleaf, 2012). Kong and Harris (2015) found that 60% of included elite athletes, across sport type, reported feeling pressure from coaches to maintain a leaner figure. This is consistent with previous research (e.g., Muscat and Long, 2008) demonstrating that large percentages of elite women athletes experienced pressure from coaches to maintain

a certain weight, body type, or physique. Pressures from parents and peers to look a certain way or maintain a certain weight, interactions with teammates in which teammates notice or comment on weight gain, the perceived importance of weight and appearance to friends outside of sport, and self-consciousness while wearing one's sport uniform have also had positive effects on body dissatisfaction in athletes (Reel, SooHoo, Petrie, Greenleaf, & Carter, 2010; Francisco, Alarcao, & Narciso, 2012). Additional research has identified significant relations between perceived social pressures from coaches, teammates, and judges and disordered eating behavior in athletes (e.g., Ferrand, Magnan, Rouveix, & Filaire, 2007; Greenleaf, 2004; Kerr et al., 2006; Reel & Gill, 1996; 2001). Clearly, social interactions specific to the sport environment effect body dissatisfaction in athletes.

However, social interactions are also related to positive body image in athletes, based on the degree to which athletes perceive others as accepting of their bodies. Hahn Oh, Wiseman, Hendrickson, Phillips, and Hayden (2012) tested Avalos and Tylka's (2006) model of intuitive eating in a sample of college women athletes to explore relationships between perceived acceptance from others, women's perceptions or attitudes toward their bodies, and eating. Their model of intuitive eating demonstrated excellent fit to the data (CFI = 1.0, TLI=.99, RMSEA=.04, SRMR = .03). Specifically, they found significant direct effects between body acceptance by others and body appreciation and body functionality, between body appreciation and intuitive eating, and a significant total direct effect of total intuitive eating on body acceptance by others ($b=.25$, 95% CI: [.16, .39]; $\beta = .31$; Hahn Oh et al., 2012). They also identified body appreciation and body functionality as significant mediating variables in the relationship

between body acceptance by others and intuitive eating. In short, Hahn Oh et al.'s (2012) results indicated that college women athletes were more likely to eat intuitively when they perceived acceptance of their bodies by coaches, teammates, and important social others. Thus, behaviors or attitudes of coaches, teammates and others in sport can also positively influence athletes' perceptions of their bodies (Hahn Oh et al., 2012).

To our knowledge, no sociocultural model of body image has been tested in a sample of women athletes, whether positively or negatively valenced. Testing an expanded tripartite influence model that explores the influence of sport and social pressures on women athletes' body image will elucidate connections between social relationships and body image in a context that can involve elevated risk for body image distress. It is important to understand how social relationships influence body image to inform interventions targeting body-related pressures in sport, with the goal of protecting and promoting athlete well-being. Further, as the tripartite influence model was originally conceptualized with the thin-ideal in mind, future research is needed to better understand the role of internalization of the athletic-ideal. According to Ramme et al (2016), this research should include participants who identify as athletes or identify with a social group or context that may be more closely aligned with the emerging athletic-ideal. Testing the tripartite influence model with specific social groups, such as AWD, and customizing the model to include a more diverse array of possible social pressures specific to the context and cultural identities of the sample (i.e., sport), will allow researchers to contextualize knowledge of factors that influence positive and negative body image outcomes, as well as mechanisms underlying these relationships (Ramme et al., 2016).

Sociocultural Perspectives on Body Image and Disability

Similar to research on able-bodied participants, PWD have endorsed the effects of perceived social influences and pressures on body image. Sousa et al. (2009) identified several social processes that influence body image for PWD, including the perception and appraisal of facial expressions of others in the environment, perceived discrepancies between the ideal body portrayed in the media and the disabled body, and social interactions informed by stereotypes or false beliefs about disability. Awareness of the body is often heightened for PWD, as members of this population live in a social world full of stigma, stereotypes, and lack of understanding of the experience of living with a disability (Paterson & Hughes, 1999). When faced with these social barriers, among others, PWD have reported that having a disability can inhibit social interactions and relationship building. Participants reported that such difficulties contributed to negative affect or self-perceptions related to their beliefs about the perceptions of others (Sousa et al., 2009). The media has been identified as a particularly negative influence on body image in PWD due to stark discrepancies between the disabled body and media portrayals of attractive or desirable bodies (Sousa et al., 2009).

For PWD, broader societal factors may have a greater influence on body image than individual social interactions, as the internalization of negative social stigma pertaining to disability has been closely related to body image (Behel & Rybarczyk, 2012). Internalization of social stigma about disability has also been found to have a broader negative impact on the psychosocial functioning of PWD compared to able-bodied controls, including reported experiences of self-hatred and shame (Taleporos & McCabe, 2002). In general, PWD who endorsed internalization of negative social

attitudes toward disability viewed their disability in a negative light, as the “antithesis of attractiveness,” and as a barrier to building relationships with others (Taleporos & McCabe, 2002). Additionally, body image appears to influence psychosocial markers of well-being in PWD in a similar fashion to members of able-bodied groups (e.g., Galli et al., 2016). For instance, links between body image and depression, as well as body image and disordered eating or eating pathology have also been established in PWD (Blashill & Wilhelm, 2014; Rybarczyk, Nyenhuis, Nicholas, Cash, & Kaiser, 1995; Stice and Shaw, 2002).

In contrast, evidence further suggests that body image plays a positive and predictive role in adjustment to disability for people with acquired physical disabilities (Behel & Rybarczyk, 2012). Psychosocial adjustment to acquired disability has been positively associated with quality of life and decreased concerns about the stigmatizing attitudes and behaviors of others (Wright, 1983; Rybarczyk, Nyenhuis, Nicholas, Cash, & Kaiser, 1995). In fact, research has demonstrated that most individuals with an acquired physical disability develop healthy self- and body-concepts by integrating and accepting changes to their body into their sense of self (Wetterhahn et al., 2002). For example, Wetterhahn et al. (2002) discussed amputees’ experiences adjusting to new perceptions of their body, describing a process involving the integration of three different body images in the development of a new sense of self: the intact or pre-amputation body image, the body with a lost limb, and the body with a prosthesis. Integration of all three body images facilitated well-being of people with acquired disabilities and the use of a prosthesis proved especially important in the adjustment process. This finding is consistent with additional research that identified prosthetic limbs as a means of

recovering positive perceptions of body functionality and mobility, maintaining participation in valued life activities, such as sport and exercise, and promoting self-acceptance and adjustment (Wetterhan et al., 2002; Sousa et al., 2009).

Furthermore, research has identified variability in the relationship between disability and body image based on the type, severity, or location of one's disability. Behel and Rybarczyk (2012) reported that people with differences in functioning in the upper extremities or face tend to report more difficulties in psychosocial adjustment to their disability compared with people who have disabilities of lower extremities. They also found that people whose disabilities involved changes in sexual, bowel, or bladder functioning reported greater negative body image compared to PWD without these components. Research has further demonstrated that participants with more severe physical disabilities (i.e., a greater level of physical impairment in functioning, or those who require greater assistance with daily tasks) endorsed lower body esteem compared to those with less severe disabilities (Taleporos & McCabe, 2005). Thus, disability appears to have both positive and negative effects on body image.

Sociocultural Perspectives on Body Image in AWD. The tripartite influence model has not been tested in a sample of AWD, nor, to our knowledge, in a sample of PWD. As such, it is important to outline connections between this sociocultural model of body image and a theoretical approach consistent with the social-relational model of disability. First, these perspectives emphasize the role of social interactions in shaping self-concept and perceptions of self (Thompson et al., 1999; Thomas, 2010). Social interactions are understood as transactions between two parties that result in outcomes that individuals interpret or assign meaning to. This derived meaning is then associated

with some aspect of oneself, contributing to the development of self-concept or body image. Second, the tripartite influence model captures the influence of both external social pressures and internal attitudes or beliefs about one's body on body image as a result of experienced pressures (Thompson et al., 1999). These pathways are consistent with recommendations made by Smith and Perrier (2014) pertaining to the applicability of the social-relational model in studying AWD, as they called for research exploring relationships between internal and external social processes. Third, from the perspective of the social-relational model of disability, one's perception of reality is dependent upon lived bodily experience, and the body is the vehicle through which we interact with and construct meaning from our world (Thomas, 2010; Smith & Perrier, 2014). For PWD, disability is not experienced only as a change in the body, but also as a change of one's way of being in the world (Goodwin, Thurmeier, & Gustafson, 2004). To understand disability, then, within the social world that constructs it, we must seek to understand the role of the body and body perceptions (i.e., body image) in that process (Sousa et al., 2009).

Social Comparison in Sport. Body or social comparison behaviors are also common in women athletes (Petrie & Greenleaf, 2012). Upward social comparisons in athletes have been found to contribute to negative psychosocial consequences, while downward comparisons have yielded positive effects (van den Berg, Paxton, Keery, Wall, Guo, & Neumark-Sztainer, 2007). De Bruin et al. (2011) found that women high performance athletes engaged in different kinds of body comparison relative to their social context. Women athletes seemed to engage in downward body comparisons in social contexts outside of sport, and upward social comparisons in sport. In other words,

women athletes expressed greater comfort with their bodies in social settings and more pressure to adhere to a particular body type in sport (De Bruin et al., 2011). Other studies of social comparison in women athletes have drawn different conclusions. For example, Krane, Choi, Baird, Aimar, and Kauer (2004) described women athletes as members of two paradoxical cultures: a sport culture that values traditionally masculine traits such as speed and strength and a larger social culture that celebrates traditionally feminine traits in women, such as dependence and humility. From this perspective, different bodies are afforded different values relative to the predominant body ideal for women; specifically, women who identify as someone with a disability receive social messages that their bodies are less than ideal simply because they are different from the predominant social ideal (Holliday & Hassard, 2001). Women athletes report receiving similar messages; Krane et al. (2004) reported that women athletes felt marginalized in larger social settings because their athletic bodies differed from what is expected of women in those contexts. As a result, women athletes described engaging in constant comparisons with the perceived social body ideal that elicited dissonance between the body they wanted and needed to succeed in sport and one that was considered acceptable or desirable in social settings (Krane et al., 2004). While social comparisons appear to play an important role in women athletes' perceptions of their bodies, it is unclear how social comparisons affect positive and negative body image for women AWD.

Social Media and Body Image

As the tripartite influence model includes media pressures from traditional print media outlets, some have argued that this model is in need of updates that reflect the quickly growing and powerful influence of social media on internalization of body image

ideals, particularly fit or athletic-ideals (Ramme et al., 2016). Social media (e.g., Facebook) use differs from traditional media (e.g., newspaper) use in several ways: social media features users themselves, as well as celebrities, models, or athletes; people tend to present idealized versions of themselves or their lives on social media that may or may not be based in reality; social media is generally used to interact with peers; and social media provides increased opportunities for social comparison with similar others (e.g., Fardouly & Vartanian, 2016). In light of these differences, research examining the unique role of social media use and pressures in predicting body image and disordered eating is warranted.

Correlational research has identified significant relations between social media use and body and eating-related constructs. For example, Facebook use was positively associated with body dissatisfaction, drive for thinness, internalization of the thin-ideal, body surveillance, and self-objectification among pre-teenage, high school, and undergraduate women (Tiggemann & Slater, 2013; Tiggemann & Miller, 2010; Cohen & Blaszczynski, 2015; Fardouly, Diedrichs, Vartanian, & Halliwell, 2015; Fardouly & Vartanian, 2016), and the importance of Facebook in one's social life was associated with objectified body consciousness and body shame in undergraduate students (Manago, Ward, Lemm, Reed, & Seabrook, 2015). Significant associations between time spent on social networking sites and thin-ideal internalization, self-objectification, and social comparison have also been identified (Holland & Tiggemann, 2016). Additionally, thin-ideal internalization and appearance comparison facilitated effects of social network site use on body dissatisfaction, in line with the tripartite influence model (Fardouly et al., 2015; Vandenbosch & Eggermont, 2012). The ease and speed with which people can

connect with (and engage in comparison with) others via social networking sites (Tiggemann & Miller, 2010) and established patterns of seeking out comparison with similar others (e.g., peers) more frequently than dissimilar others (e.g., celebrities) also support the potentially important role of social media in the tripartite influence model.

Finally, Tiggemann and Miller (2010) were among the first to investigate the influence of internet use (or social media consumption) on body image in a sample of adolescent girls from a sociocultural perspective. Their results demonstrated that internet-exposure to appearance-related images or ideals was significantly related to internalization ($r = .30, p < .01$), appearance comparison ($r = .22, p < .01$), weight satisfaction ($r = -.17, p < .05$), and drive for thinness ($r = .32, p < .01$). Importantly, these relationships varied by the types of social networking sites utilized by participants. For example, participants who spent more time on Facebook reported higher drive for thinness and thin-ideal internalization compared to those with less Facebook use. Further, internalization and appearance comparison significantly mediated the effects of internet exposure on weight satisfaction, and internet exposure on drive for thinness. The initially significant relationship between internet exposure and weight satisfaction ($\beta = .17, p < .05$) became non-significant with internalization ($\beta = -.53, p < .05$) and appearance comparison ($\beta = -.19, p < .05$) included in the model, whereas internalization ($\beta = .41, p < .001$) and appearance comparison ($\beta = .20, p < .05$) partially mediated the relationship between internet exposure and drive for thinness. These findings are consistent with pathways posited by the tripartite influence model, and potentially explained by interactive components of social networking sites that generate conversations about appearance, changing the way users perceive and interact with media

portrayals of ideal bodies (Tiggeman & Miller, 2010). Tiggeman and Slater (2013) reported similar findings, noting that internet exposure and social media use were positively correlated with thin-ideal internalization (internet exposure, $r = .11$; social media use, $r = .16, p < .001$), drive for thinness (internet exposure, $r = .12$; social media use, $r = .16, p < .001$), and body surveillance (internet exposure, $r = .17$; social media use, $r = .24, p < .001$) in adolescent females. Overall, this body of research lends support to the inclusion of social media pressures or patterns of use in future evaluations of the tripartite influence model to better capture the effects of cultural shifts in media use and consumption.

Social Media and Disability Sport. Both traditional and social media outlets play an important role in the representation and dissemination of information pertaining to disability sport. It has not been uncommon for traditional media outlets, such as broadcast news and print media, to have misrepresented or ignored experiences of PWD (French & Le Clair, 2018). For example, popular narratives in traditional media have framed PWD as dependent, abnormal, or objects of pity or humor, with a decidedly negative valence (French & Le Clair, 2018). They have also espoused a “Triumph Over Tragedy” narrative frame that depicts PWD as those who have triumphed in the face of adversity or overcome their disability in the pursuit of success (French & Le Clair, 2018). Traditional media coverage of Paralympic athletes, specifically, has emphasized a “supercrip” stereotype in which elite AWD are presented as special, brave, or in possession of a superhuman ability or talent that has allowed them to overcome their disability to succeed in sport (Ellis & Goggin, 2015). Paralympic athletes have reported discomfort and dislike of such stereotypical portrayals in the media, noting that their

achievements as athletes should stand alone, regardless of whether they identify as someone with a disability (French & Le Clair, 2018). Further, in line with the social-relational model of disability, Paralympic athletes have endorsed perceptions of social media outlets and Internet use as opportunities to change dominant social narratives about disability and parasport, often taking active roles in sharing their stories on these platforms (French & Le Clair, 2018).

While the Paralympic Games have consistently received less media coverage than the Olympic Games (Ellis & Goggin, 2015), emerging social media platforms have offered new opportunities for engagement with Paralympic athletes, increasing the global visibility and accessibility of Paralympic sport. Social media has also provided increased opportunities for AWD to promote their sport and interact with potential fans, sponsors, and other social communities (Pate, Hardin, & Ruihley, 2013). Social media platforms differ from traditional media outlets in that they are interactive and dynamic, information is more readily available and accessible to broader audiences, and information is generated and shared by non-professional (non-media) people (French & Le Clair, 2018). In fact, anyone with access to the internet can create and share content (Carah & Louw, 2015), which has transformed how sport-related media (or any media for that matter) is produced and consumed (Boorstin, 2016). These new media outlets have the potential to act as catalysts of social change in media discourse about disabled bodies. The emergence of narratives such as the “prosthetic aesthetic” described by Tamari (2017), which celebrates the use of prostheses as a method of self-empowerment, redefining prostheses as a source of attractiveness and synthesized human-machine body image for AWD,

represents an important example of the potential role of social media in shaping more inclusive and empowering social narratives surrounding AWD.

Despite the prominent role of social media in coverage of the Paralympic Games, and the potential role of social media in the development of body image in AWD, limited research has explored relations between body image and social media in this population. Because of important changes in media portrayals of AWD, and clear differences in the content, accessibility, and consumption of traditional media versus social media content in recent years, it is important to explore possible relationships between social media pressures about appearance, thin-ideal internalization, appearance comparison, and body image in AWD. No published research, to our knowledge, has included social media pressures in explorations of sociocultural models of body image in AWD or PWD. Thus, inclusion of social media in the media pressures component of the tripartite influence model is warranted for exploration of this model in women AWD.

Statement of Purpose

No investigation of the influence of social pressures on body image in women AWD has been conducted to date. In fact, no studies to our knowledge have evaluated the utility of a sociocultural model of body image in AWD or PWD, despite research identifying important contributions of social factors in shaping body image for members of these populations. Due to the dearth of studies exploring body image in AWD (Galli et al., 2016), and the lack of clarity regarding unique components of the lived experience of AWD, further research is needed to address these gaps in understanding. Additionally, as participation in sport can have both positive and negative effects on body image, research examining the effects of social and sport pressures on both positive and negative body

image outcomes is warranted. As such, the purpose of this study was threefold: (1) to evaluate the predictive effects of social and sport-related pressures about appearance on body dissatisfaction and body appreciation in women AWD; (2) to test proposed conditional effects of social and sport pressures on body image outcomes; and (3) to examine the mediating effects of body-ideal internalization and social comparison on the relationship between sport pressures and body image outcomes in AWD. This project was intended to generate initial support for the utility of sociocultural theories of body image, such as the tripartite influence model, as frameworks for understanding body image in women AWD.

Hypotheses

Hierarchical Multiple Regression Models

The following Hierarchical Multiple Regression (HMR) models tested the influence of social pressures (i.e., peer, family, significant other, and composite media) pressures and sport pressures (i.e., pressures from coaches, teammates, judges and the sport environment) regarding appearance on body dissatisfaction and body appreciation in women AWD. Hypotheses both mirrored and expanded on the predictions of the original tripartite influence model.

Model 1. Relationships for Model 1 were based on the direct effects established in the original tripartite influence model, which holds that higher levels of perceived social pressures are associated with higher body dissatisfaction in women (Thompson et al., 1999). Hypotheses included the following:

Hypothesis 1: Social pressures will explain additional variance in body dissatisfaction after accounting for significant demographic variables.

Hypothesis 2: Sport pressures will explain additional variance in body dissatisfaction after accounting for significant demographic variables and sociocultural pressures.

Hypothesis 3: There will be a statistically significant conditional effect between composite social pressures and sport pressures in that the effects of social pressures on body dissatisfaction will be stronger when sport pressures are higher.

These hypotheses were also supported by the established negative influence of perceived appearance pressures from coaches, teammates, judges, and the sport environment on body image in athletes (e.g., Petrie & Greenleaf, 2012). The predicted conditional effect was evaluated to ascertain whether a significant relationship exists between social pressures related to appearance in and outside of sport, based on evidence suggesting that athletes experience dual or shifting body images relative to their social roles (Petrie & Greenleaf, 2012).

Model 2. Research has demonstrated that participation in sport can have both positive and negative effects on body image (Petrie & Greenleaf, 2012); yet, no model has tested the effects of perceived social pressures on positive body image outcomes in athletes or PWD. Therefore, we also examined relationships between perceived sociocultural pressures in and outside of sport on body appreciation in women AWD to ascertain the influence of social pressures on body appreciation. Hypotheses included the following:

H4: Social pressures will explain additional variance in body appreciation after accounting for significant demographic variables.

H5: Sport pressures will explain additional variance in body appreciation after accounting for significant demographic variables and social pressures.

H6: There will be a statistically significant conditional effect between social pressures and sport pressures such that the effects of sociocultural pressures on body appreciation will be weaker when sport pressures are lower.

Research has identified positive associations between perceived social pressures and body dissatisfaction (Thompson et al., 1999; Homan, 2010); thus, it was predicted that a significant inverse relationship will exist between perceived social and sport pressures and body appreciation. Reported pressures from coaches, teammates, and the sport environment related to weight, body, or appearance, have been associated with negative body image outcomes in women athletes (e.g., Reel et al., 2013); yet, associations between these social agents and body appreciation have not been tested in women athletes within the context of the tripartite influence model. Therefore, it is important, first, to establish whether a significant relation between perceived sport pressures and body appreciation exists, and second, to identify which social pressures effect body appreciation.

Mediation Models

Research has demonstrated that perceived sociocultural pressures about weight or appearance affect internalization of beliefs about ideal body types, and subsequently, that the degree to which body ideals are internalized facilitates the experience of body dissatisfaction (e.g., Homan, 2010). Social comparison between one's body and others' bodies, or between one's body and the internalized social ideal body, has also been found to facilitate the relationship between social pressures and body dissatisfaction (Myers &

Crowther, 2009). Additionally, the mediating role of internalization and social comparison in the relations between social pressures and body appreciation in athletes has not yet been tested. These hypotheses are founded in research on the tripartite influence model that established strong relations between these factors and body dissatisfaction (Cafri et al., 2005; Tiggemann, 2011; Homan, 2010; Thompson et al., 1999), research identifying higher positive body image in athletes compared to non-athletes (Varnes et al., 2013), and research that identified positive relations between athletes' beliefs or perceptions of acceptance of their body by others and markers of positive body image (Hahn Oh et al., 2012). Hypotheses for two mediation models included the following:

Model 3. *Hypothesis 7: A significant positive indirect effect will exist for sport pressures on body dissatisfaction via internalization and social comparison.*

Model 4. *Hypothesis 8: A significant negative indirect effect will exist for sport pressures on body dissatisfaction via internalization and social comparison.*

Chapter II

Method

Participants

Participants for this study included women athletes with both acquired and congenital physical disabilities and/or sensory impairments, between the ages of 18 and 70. Athletes with both acquired and congenital disabilities that contribute to physical impairment, activity limitations, impaired muscle power, impaired range of movement, limb deficiency, leg length difference, hypertonia, ataxia, athetosis, short stature, and athletes with sensory impairments (i.e., vision or hearing impairments) were eligible for this study, in line with eligibility criteria for participation in Paralympic sport established by the International Paralympic Committee (IPC, 2013). Due to the nature of this study, athletes with intellectual impairments (who are eligible for participation in some sports in the Paralympic Games; IPC, 2006, 2015) or those who identified their biological sex or gender identity as male were not be eligible for inclusion. Exclusion criteria were established to ensure that the survey items were accessible to all participants and in light of established significant differences in body image perceptions between women and men athletes (e.g., Petrie & Greenleaf, 2012). Following preliminary analyses, a total of 136 participants were deemed eligible for inclusion in the sample.

The mean age of the sample was 32.7 years ($SD = 12.14$), the minimum age was 18 and the maximum age was 70. 80.4% of eligible participants self-identified as White

or European American, 6.5% as Multiracial, 5.1% as Asian or Asian American, 4.3% as Black or African American, 0.7% as Hispanic or Latinx, 0.7% as Native Hawaiian or Pacific Islander, and 1.4% did not specify a racial or ethnic identity. Regarding the disability characteristics of the sample, 50% of participants reported having an acquired disability, while 44.2% reported having a congenital disability and 5.8% did not specify. 86.2% of participants had a physical disability, 11.6% a visual impairment, and 2.1% endorsed having both a physical disability and sensory impairment. Regarding athletic status, the majority of participants identified as elite or professional athletes (72%) and were actively competing in their sport (63.8%) at the time of study participation. 32.6% competed in team sports, 38.4% in individual sports, 10.1% in pseudo individual sports, 3.6% in dyadic sports, and 15.3% did not specify a type of sport. Participants included athletes from 36 disability sports (all 28 Paralympic sports, and eight recreational sports). Of the participants who identified as elite athletes, 67.8% reported winning at least one medal at an international competition for their sport. Sociodemographic characteristics of participants and sports represented in the sample are depicted in Tables 1 and 2 respectively. A complete list of items included on the demographic questionnaire is included in Appendix B.

Table 1
Sociodemographic Characteristics of Participants

Characteristic	<i>n</i>	%
Race/Ethnicity		
White, European American, or Middle Eastern	111	80.4
Multiracial	9	6.5
Asian or Asian American	7	5.1
Black or African American	6	4.3
Hispanic or Latinx	1	.7
Native Hawaiian or Pacific Islander	1	.7
Unspecified	2	1.4
Age		
18-19	7	5.1
20-29	58	42
30-39	42	30.4
40-49	9	6.5
50-59	17	12.3
60-69	4	2.9
70-79	1	.7
Disability Type		
Acquired	69	50
Congenital	61	44.2
Other	8	5.8
Disability Category		
Physical	119	86.2
Visual Impairment	16	11.6
Multiple	3	2.1
Self-Identified Biological Sex		
Female	138	100
Gender Identity		
Woman	138	100
Highest educational level		
High School or GED	30	21.7
Professional Certificate or Associate's Degree	15	10.9
Undergraduate Degree	48	34.8
Post-Graduate Degree	40	29
Other	5	3.6
Employment Outside of Sport		
Yes	80	58
No	50	36.2

Other	8	5.8
Competition Level		
Paralympic	89	64.5
Professional	10	7.2
Collegiate	5	3.6
Club	11	8
Recreational	19	13.8
Other	4	2.9
Competition Status		
Active	88	63.8
Retired	10	7.2
Other	10	7.2
Missing	30	21.7
Sport Type		
Team	45	32.6
Individual	53	38.4
Dyadic	5	3.6
Pseudo individual	14	10.1
Other	1	.7
Multiple	20	14.4
Years Participating in Disability Sport		
<1	8	5.8
1-2	18	13
3-4	15	10.9
5-6	21	15/2
7-8	16	11.6
9-10	18	13
10+	42	30.4
Medals at Int'l Competition		
0	32	32.2
1-9	20	20.2
10-19	7	7.1
20-29	5	5.1
30-39	3	3
40-49	2	2
Missing	30	30.3

Table 2*Sports represented in sample*

Sport	<i>n</i>	Percentage
Alpine skiing	2	1.4
Archery	2	1.4
Para Athletics	20	13.9
Biathlon	2	1.4
Boccia	1	.7
Bowling	1	.7
Canoe	1	.7
Climbing	4	2.8
Cross country	1	.7
Cross country skiing	1	.7
Crossfit	1	.7
Curling	2	1.4
Cycling	12	8.3
Equestrian	6	4.2
Goalball	4	2.8
Para Snowboarding	1	.7
Power lifting	3	2.1
Recreation	1	.7
Rowing	4	2.8
Running	4	2.8
Sailing	6	4.2
Shooting	2	1.4
Sitting volleyball	15	10.4
Sled Hockey	1	.7
Snowboard	1	.7
Surfing	1	.7
Swimming	12	8.3
Track and Field	1	.7
Triathlon	8	5.6
Wheelchair basketball	12	8.3
Wheelchair curling	3	2.1
Wheelchair racing	1	.7
Wheelchair skateboarding	1	.7
Wheelchair softball	1	.7
Wheelchair tennis	3	2.1
Yoga	1	.7
Not reported	1	.7

Data Collection

Participant Recruitment. Participants for this study were recruited via snowball sampling in partnership with the United States Olympic and Paralympic Committee (USOPC). Participation was voluntary and self-selected. All recruitment and consent materials included confirmation of participant anonymity, confidentiality, and assurance that no coaching or staff members affiliated with the USOPC or the athletes' sporting organization would know of athletes' participation in the study or have access to the data. The principal investigator distributed the survey request for participation via email to 51 High Performance Directors, Executive Directors, or Head Coaches affiliated with 28 National Governing Bodies (NGBs) or Health Maintenance Organizations (HMOs) that oversee all 28 Paralympic sports in the United States. These 51 contacts received two email requests to disseminate the survey to all women disability sport athletes above the age of 18 affiliated with their respective NGB/HMO. These email messages requested support in disseminating study information to athletes and included a copy of the participant recruitment email to be forwarded to athletes. Athlete email recruitment messages included a brief overview of the purpose of the proposed study, a request for participation, description of what participation will entail, an explanation of opportunities for participant compensation after completion of the survey, confirmation that no USOPC coaches or staff associated with their team will have access to information collected during this study, and a URL that directly linked participants to the Qualtrics survey utilized for data collection. A sample recruitment electronic message can be found in Appendix A. The initial request was sent via e-mail on January 4, 2020, and the second on April 1, 2020. Six USOPC Sport Dietitians also assisted with survey dissemination by

emailing participation requests to eligible athletes in March 2020. Further requests for participation in this study were disseminated to Resident Paralympic Athletes at the Olympic and Paralympic Training Center in Colorado Springs, Colorado, via posting of printed, one-page flyers with a QR code to access the study in the athlete dormitories, and an announcement on an internal social networking platform for resident athletes. Per approved recruitment procedures, these requests were sent out twice, on January 9 and March 3, 2020.

Due to initial low survey response, the principle investigator submitted an IRB amendment for permission to recruit athletes through community organizations external to the USOPC. Following approval of this amendment by the DU IRB on February 3, 2020, the principle investigator initiated community recruitment efforts. Community recruitment efforts utilized snowball sampling to recruit participants through relationships with individuals and organizations affiliated with the disability sport community in the United States. A total of 150 representatives received email recruitment requests to support data collection for this study. Of these 150 representatives, 24 were former or current colleagues of the principal investigator, and 126 were previously unknown. Contact information for all previously unknown representatives was publicly available, and retrieved through the US Paralympics Disability Sport Organization and Club Registry website (<https://www.teamusa.org/US-Paralympics/Find-A-Club>). All representatives were initially contacted via email, and follow up contacts included both email and phone based on representative requests. All representatives received two requests to disseminate the link for the study, approximately one month apart. Requests were sent between March 25, 2020, and May 15, 2020. 57 replies were received

confirming that survey results were distributed in response to the principal investigator's request.

Procedures. The survey was administered online via Qualtrics, included 132 multiple choice items, and took approximately 30 minutes to complete (see Appendix D for a complete list of included multiple choice items). After clicking on the link to access the study, participants were directed to Qualtrics. Prior to accessing the survey, participants were prompted to review the informed consent document (see Appendix A for a copy of the Informed Consent Form). This document included an explanation of the purpose, procedures, procedures, and minimal potential risk involved in the study; the parameters of participant confidentiality and privacy; a statement of the voluntary and self-selected nature of participation; and provided contact information for the principal investigator. If participants consented to be part of the study, they were directed to the first page of the Qualtrics survey. If they did not consent, they were directed to a debriefing page that reviewed the purpose of the study, reiterated potential benefits of the research, and provided contact information for the primary researcher (see Appendix A for a sample debriefing statement). The Qualtrics survey included the following measures, each of which is discussed in detail in the section below: the Social Attitudes Toward Appearance Questionnaire – 4 – Revised – Female (SATAQ-4-RF; Schaefer, Harriger, Heinberg, Soderberg, & Thompson, 2017), the Weight Pressures in Sport Questionnaire – Female (Reel, Petrie, SooHoo, & Anderson, 2013), the Body, Eating, and Exercise Comparison Orientation measure (BEECOM; Fitzsimmons-Craft, Bardone-Cone, & Harney, 2012), the Body Image Concern (BIC) subscale of the Body Image and Body Change Questionnaire (Ricciardelli & McCabe, 2002), and the Body Appreciation

Scale - 2 (BAS-2; Tylka & Wood-Barcalow, 2015). Several short answer questions exploring participants' experiences of body appreciation in and outside of sport followed administration of the multiple choice items in the survey, and took approximately 15-20 minutes to complete. Six short answer questions regarding athlete's positive body perceptions and perceived success in sport were included in data collection; however, the resulting qualitative data were not included in analyses for the current study. Of note, participants were aware of the purpose of the study prior to providing consent and no masking was employed. All cases were deidentified and assigned a numeric code prior to data analyses. Data were stored on a double password-protected external hard drive per IRB Data Security requirements.

Measures

Sample Characteristics. The following information was collected through administration of the demographic survey: participant age, height and weight (for calculation of estimated Body Mass Index; BMI, kg/m²), disability status, disability classification in Paralympic sport, sport and performance history, race and ethnicity, religious or spiritual status, gender identity, sexual orientation, biological sex, relationship status, education, occupation, brief medical history (e.g., history of chronic illness or traumatic brain injury), brief mental health history, and history of disordered eating or body image concerns (see Appendix B for a complete list of items included on the demographic survey). Data pertaining to participants' social media use and social media platform preferences was also collected, but not included in the current study (see Appendix C for a list of items included on the social media use questionnaire).

Sociocultural Attitudes and Pressures Regarding Appearance. The Social Attitudes Toward Appearance Questionnaire – 4 – Revised – Female (SATAQ-4-R-F; Schaefer, Harriger, Heinberg, Soderberg, & Thompson, 2017) was utilized to examine sociocultural influences on body image and the internalization of thin and athletic body ideals in women AWD. The SATAQ-4-R-F included 31 items separated into seven subscales: Internalization: Thin/Low Body Fat; Internalization: Muscular; Internalization: General Attractiveness; Pressures: Peers; Pressures: Family; Pressures: Media; and Pressures: Significant Others. Participants are asked to indicate their level of agreement with each item by selecting a number on a 5-point Likert scale (1 = Definitely Disagree, 2 = Mostly Disagree, 3 = Neither Agree nor Disagree, 4 = Mostly Agree, 5 = Definitely Agree). The following are examples of items from each subscale: “It is important for me to look muscular” (Internalization: Muscular); “I think a lot about looking thin” (Internalization: Thin/Low Body Fat; “I don’t really think much about my appearance” (reverse scored item; Internalization: General Attractiveness); “I feel pressure from family members to look thinner” (Pressures: Family); “I feel pressure from my peers to improve my appearance” (Pressures: Peers); “I feel pressure from significant others to look in better shape” (Pressures: Significant Others); “I feel pressure from the media to decrease my level of body fat” (Pressures: Media; Schaefer et al., 2017). During scale construction, Schaefer et al. (2017) validated total scores for each subscale; thus, four total scores were calculated – one for each pressures subscale (i.e., family, peers, significant others, media). A composite sociocultural pressures score was calculated for inclusion in the hypothesized interaction terms by taking the average of all four social pressures scores. Additionally, the four Pressures subscales included equivalent wording

across items; thus, the influence of family, peer, significant others, and media can be compared (Schaefer et al., 2015; 2017).

The SATAQ-4-R-F was designed to address several conceptual limitations in the original SATAQ-4 (Schaefer et al., 2015). First, Schaefer et al (2017) eliminated items focusing on behavioral aspects of internalization on the Internalization: Athletic subscale to be consistent with the cognitive focus of the other Internalization subscales. Second, while the SATAQ-4 assessed three sources of appearance pressures: family, peers, and traditional media outlets (Schaefer et al., 2015), research has also suggested that significant others (i.e., romantic partners, teachers, or coaches) influence body image and eating behaviors (e.g., Tylka & Andorka, 2011; Biesecker & Martz, 1999; Reel, Petrie, SooHoo, & Anderson, 2013; Murray, Touyz, & Beumont, 1995). Thus, Schaefer et al (2017) included a fourth pressures subscale in the SATAQ-4R to assess influences from significant others as well as family, peers, and traditional media outlets. Third, an internalization subscale that assessed more general elements of appearance – not focused on either the thin or muscular/athletic ideal – was added to capture a broader spectrum of appearance related cognitions (Schaefer et al., 2017).

A large body of research has demonstrated strong psychometric support for the original SATAQ-4. Initial confirmatory factor analyses demonstrated excellent model fit in a sample of 859 female undergraduate students ($\chi^2=489.41$, $p < .001$; CFI = .96; RMSEA = .06; SRMR = .04; Schaefer et al., 2015, p. 59). Fit statistics were cross-validated based on geographic location of participants; participants were divided into East Coast ($\chi^2=698.05$, $p < .001$; CFI = .93; RMSEA = .08; SRMR = .05), West Coast ($\chi^2=481.89$, $p < .001$; CFI = .94; RMSEA = .07; SRMR = .05), and North/Midwest

($\chi^2=582.66$, $p < .001$; CFI = .93; RMSEA = .07; SRMR = .05) samples, and results indicated good model fit across geographic regions (Schaefer et al., 2015). Good model fit was also demonstrated across included racial subgroups, including participants who identified as Caucasian ($\chi^2=980.86$, $p < .001$; CFI = .94; RMSEA = .07; SRMR = .04), versus Non-Caucasian ($\chi^2=769.43$, $p < .001$; CFI = .94; RMSEA = .07; SRMR = .04; Schaefer et al., 2015). Finally, the SATAQ-4 has also been validated in cross-cultural samples of women, including women from Italy, Australia, England, Spain and France (Schaefer et al., 2015; Llorente, Gleaves, Warren, Perez de Eulate, & Rakhovskaya, 2014; Rodgers, Schaefer, Thompson, Girard, Bertrand, & Chabrol, 2016).

Confirmatory factor analyses for the SATAQ-4-R-F indicated acceptable to good model fit in a sample of 558 undergraduate women (CFI = 0.91, RMSEA = 0.07, SRMR = 0.05; Schaefer et al., 2017). Internal consistency for the SATAQ-4-R-F was good, with Cronbach's alphas of .82 or higher, and test-retest reliability for all subscales on the SATAQ-4R-F was also good, over a two-week time period (Cronbach's alphas included the following: Internalization: Thin/Low Body Fat = 0.86, Internalization: Muscular = 0.90, Internalization: General Attractiveness = 0.86, Pressures: Family = 0.88, Pressures: Peers = 0.72, Pressures: Significant Others = 0.79, and Pressures: Media = 0.85; Schaefer et al., 2017, p. 109).

Construct validity was established based on correlations between SATAQ-4-R-F subscale scores and the following constructs: medium to large significant positive correlations were found with scores on measures of eating disorder symptomology (i.e., Eating Disorder Examination Questionnaire), significant negative medium correlations were found with scores on measures of body satisfaction (i.e., Multidimensional Body

Self-Relations Questionnaire – Appearance Evaluation Subscale) , and small to medium significant negative associations were found with participant scores on measures of global self-esteem (i.e., Rosenberg Self-Esteem Scale; Schaefer et al., 2017).

Additionally, scores from each of the internalization subscales were significantly associated with scores from drive for thinness and drive for muscularity measures in college women (Schaefer et al., 2017). Strong convergent validity was also established as SATAQ-4 scores were significantly and positively correlated with scores from measures of eating disorder symptomology, and significantly and negatively correlated with scores from measures of body satisfaction and self-esteem (Schaefer et al., 2015).

Internal consistency scores for the present sample ranged from .82 to .97 across the pressures and internalization subscales included in the SATAQ-4-R-F. A Cronbach's alpha of .72 was calculated for the composite social pressures scores. These scores provide support for the use of the SATAQ-4-RF in research with samples of AWD, as well as the potential utility of the tripartite influence model as a framework for understanding body image in this social group.

Social Media Pressures. The emphases on pressures from traditional media outlets (i.e., newspaper, magazines, television) in both the tripartite influence model and SATAQ-4-R-F are outdated in light of recent technological advances and new media platforms for communication and dissemination of information (Ramme et al., 2016). Use of social media platforms such as Facebook and Twitter differs from use of traditional media outlets in that social media users tend to interact more with users like themselves and are exposed to images of peers instead of primarily celebrities or public figures (Fardouly & Vartanian, 2016). Additionally, social media allows users greater

access to a broader scope of information and increases the ease and frequency of connection with others from diverse social groups (Tiggemann & Miller, 2010). Significant connections have also been found between social media use and body image (e.g., Holland & Tiggemann, 2016). As such, the proposed study included a fifth Pressures subscale in the SATAQ-4-R-F that captured perceived social media pressures. This subscale mirrored the language utilized on the other Pressures subscales on the SATAQ-4-R-F (Schaefer et al., 2017) and included four items scored on the same 5-point Likert scale described above. The following item is an example of those included on the Pressures: Social Media subscale: “I feel pressure on social media to look in better shape.” A composite media pressures score was created by calculating the average score of all eight items included on the traditional and social media subscales to account for concerns with multicollinearity. The composite media pressures scores demonstrated strong internal consistency with a Cronbach’s alpha of .97 in the present sample.

Social Pressures in Sport. The Weight Pressures in Sport for Females Questionnaire (WPS-F; Reel, Petrie, SooHoo, & Anderson, 2013) assessed pressures athletes experience in sport related to weight and appearance. Pressures in the sport environment include pressures from coaches, teammates, judges, or other staff to look a certain way or maintain a certain weight, as well as competition and performance-related expectations regarding appearance, weight, and body type (Reel et al., 2010). The WPS-F included 11 items that are scored on a 6-point Likert scale ranging from 1 (never) to 6 (always). WPS-F items load onto two factors: Pressures from Coaches and Sport about Weight (Factor 1), and Pressures Regarding Appearance and Performance (Factor 2). The following is an example of an item included in Factor 1: “My coach encourages me

and/or my teammates to maintain a below average weight.” The following is an example of an item included in Factor 2: “My performance would improve if I lost five pounds (Reel et al., 2013).” Reel et al. (2013) established preliminary psychometric support for the WPS-F through exploratory and confirmatory factor analyses that utilized two samples of 207 NCAA Division I female collegiate athletes, from 26 universities in the United States. The results of their confirmatory factor analyses indicated good fit for a two factor model ($\chi^2=144.21$, $df=39$, $CFI=.93$, $SRMR=.07$) including Pressures from Coaches and Sport about Weight (Factor 1) and Pressures Regarding Appearance and Performance (Factor 2; Reel et al., 2013). Convergent and concurrent validity were also established for the WPS-F, as scores for both factors and the total WPS-F score were significantly correlated with scores on the Perceived Sociocultural Pressures Scale (PSPS; Stice & Argas, 1998), measures of internalization (e.g., SATAQ-4; Schaefer et al., 2015), and measures of eating disorder symptomology (Reel et al., 2013). Further, results from the initial validation studies demonstrated that sport-specific pressures had a unique contribution to athletes’ experiences of body dissatisfaction, dietary intent, and bulimic symptoms. This suggested that pressures in the sport environment, while moderately related to general sociocultural pressures, have a unique influence on women athletes’ perceptions of body image (Reel et al., 2013). Finally, the two factors included in the 11-item WPS-F were found to be internally consistent (Reel et al., 2013), and strong internal consistency was identified for the Coach and Sport Pressures subscale in a sample of 248 women members of collegiate cheer and dance teams ($\alpha = .87$; Coker-Cranny & Reel, 2015). The WPS-F was found to have strong internal consistency in the

present sample, with a Cronbach's alpha of .87, indicating support for the utility of the WPS-F in samples of women AWD.

Social Comparison. The Body, Eating, and Exercise Comparison Orientation Measure (BEECOM; Fitzsimmons-Craft, Bardone-Cone, & Harney, 2012) assessed social comparison behaviors of participants. This administration of the BEECOM included all 18 items across three factors: Body Comparison Orientation (Factor 1), Eating Comparison Orientation (Factor 2), and Exercise Comparison Orientation (Factor 3). Participants were asked to rate each of the 18 items regarding how they compare themselves to same-sex peers, and are rated on a 7-point Likert scale (1=never, 2=almost never, 3=seldom, 4=sometimes, 5=often, 6=almost always, 7=always). Example items from each of the BEECOM subscales include the following: "I pay attention to whether or not I am as thin as, or thinner than, my peers" (Factor 1); "I look at the amount of food my peers leave on their plate in comparison to me when they are finished eating" (Factor 2); "When working out around other people, I think about how many calories I am burning in comparison to my peers" (Factor 3; Fitzsimmons-Craft et al., 2012). Three subscale scores and one total score were calculated, the total score as a sum of the three subscale scores. Higher scores in each area indicated greater tendencies to engage in eating-disorder related social comparisons in general, and in each of the included domains (i.e., BEECOM total score; Fitzsimmons-Craft et al., 2012).

Psychometric support for the BEECOM has been established primarily in samples of college women. Fitzsimmons-Craft et al. (2012) found strong estimates of internal consistency for the BEECOM subscale and total scores, with Cronbach's alphas ranging from .93 - .97. Internal consistency scores for BEECOM subscale scores in the present

sample fell between .935 and .97, and the Cronbach's alpha for the total score was .97. Temporal stability for BEECOM scores in college women over a period of one year were also high, for both subscale and total BEECOM scores (Total Score: $\beta=.80$, Body Comparison Orientation: $\beta=.75$, Eating Comparison Orientation: $\beta=.72$, Exercise Comparison Orientation: $\beta=.68$, $p < .001$; Fitzsimmons-Craft & Bardone-Cone, 2014). Construct validity was established for the BEECOM, as BEECOM subscale and total scores were significantly and positively correlated with general social comparison orientation, eating disorder symptomology, and body dissatisfaction (Fitzsimmons-Craft et al., 2012). The BEECOM has also been utilized effectively in examinations of the tripartite influence model in samples of collegiate women (e.g., Fitzsimmons-Craft et al., 2014).

Body Dissatisfaction. The Body Image Concern (BIC) subscale of the Body Change Inventory (Ricciardelli & McCabe, 2002) was utilized to evaluate body dissatisfaction. The BIC subscale included 10 items that assessed satisfaction with various body parts or experiences, including the following: weight, shape, muscle size, hips, thighs, chest, abdominal region, shoulders, legs, and arms. Participants were asked to rate each item on a 5-point Likert scale ranging from 1 (Extremely Satisfied) to 5 (Extremely Dissatisfied). The following items are examples of those included on the BIC subscale: "How satisfied are you with your weight?" and "How satisfied do you feel with your arms?" Item scores were summed to produce a total score that ranged from 10 to 50, with higher scores indicating greater body dissatisfaction (Ricciardelli & McCabe, 2002). The BIC subscale has been established as a valid and reliable measure of body dissatisfaction in women aged 17-40 years (Ramme et al., 2016; Bell et al., 2016), and

has described as a more comprehensive measure of body dissatisfaction due to incorporation of items evaluating degree of satisfaction with physical attributes associated with the emerging fit body ideal (e.g., Bell et al., 2016). Ricciardelli and McCabe's (2002) results also demonstrated content, concurrent, and discriminant validity and internal consistency for scales included in the Body Image and Body Change Questionnaire. The BIC demonstrated strong internal consistency in the present sample, with a Cronbach's alpha of .88, thus supporting the utility of the BIC as an assessment of body dissatisfaction in women athletes with disabilities.

Body Appreciation. Body appreciation was assessed utilizing the Body Appreciation Scale – 2 (BAS-2; Tylka & Wood-Barcalow, 2015). The BAS-2 has been widely employed as a measure of appreciation, love, acceptance, and positivity felt or shown toward one's body (Tylka & Wood-Barcalow, 2015). The revised BAS-2 contained 10 items (e.g., "I respect my body," and "I feel love for my body") scored on a 5-point Likert scale ranging from 1 (never) to 5 (always). However, due to an error in survey construction on the online platform, this administration of the BAS-2 included only nine out of the original ten items. Responses from the included nine items were averaged to create a total score, per scoring procedures for the BAS-2, with higher scores indicating greater levels of body appreciation. Reliability analyses indicated strong internal consistency for the 9-item scale scores in the present sample, with a Cronbach's alpha of .87. Confirmatory factor analyses provided evidence of adequate model fit for the unidimensional factor structure of the BAS-2 in samples of 161 college women and 150 community women, supporting use of the BAS-2 in the present sample. BAS-2 scores indicated strong internal consistency (Cronbach's alpha = .97) and item-total

correlations between .79-.92 for women (Tylka & Wood-Barcalow, 2015). Scores on the BAS-2 were also strongly positively correlated with scores on measures of appearance evaluation and negatively correlated with body dissatisfaction, indicating good construct validity for the measure. Finally, inverse relationships between BAS-2 scores and scores on measures of eating disorder symptomology provide evidence of criterion validity for the BAS-2 (Tylka & Wood-Barcalow, 2015).

Data Analysis

The proposed study utilized an exploratory, non-experimental design due to the concurrent and observational nature of data collection; thus, causal relationships could not be confirmed by evaluating the included models (Kline, 2016). Hierarchical multiple regression (HMR) was utilized to assess the ability of social and sport pressures to predict variance in negative and positive body image outcomes after controlling for the influence of competition level in women AWD. HMR models can be utilized to evaluate how well sets of predictor variables predict variability in an outcome variable, or to explain theoretical predictions derived from a model (e.g., Azen & Budescu, 2012). In this case, the hypothesized HMR models were predictive and intended to establish support for the utility of an expanded tripartite influence model of body image in women AWD. In HMR, the coefficient of interest captures the amount of variance accounted for in each model step beyond that accounted for by the predictors included in the previous step. As such, the unique contributions of social and sport pressures respectively were examined. Finally, the mediation models were tested via bootstrapping with Hayes' PROCESS macro for SPSS (Hayes, 2013). Bootstrapping, an advancement on previous forms of mediation testing (e.g., Baron & Kenney, 1986), is an asymmetric confidence interval

approach that has become a popular method of evaluating indirect or conditional effects (Hayes, 2018).

Chapter 3: Results

Preliminary Analyses

Preliminary analyses were conducted prior to hypothesis testing to evaluate missing data, outliers, and the assumptions of normality, multicollinearity and singularity, linearity, and homoscedasticity in hierarchical multiple regression (HMR; Tabachnick & Fidell, 2013). Data for the following key variables were checked for errors: family pressures, peer pressures, pressures from significant others, composite media pressures, total sport pressures, body image concern, body appreciation, composite internalization, and total social comparison. No errors were identified as all values fell within the expected range of scores for included measures.

Sample Size. 251 potential participants accessed the online survey, and 188 participants provided consent and submitted their completed survey responses. Of these 188 cases, six described their biological sex and/or gender identity as male and were excluded from the study, bringing the total sample size to 182.

Missing Data Analysis. 43 cases with greater than 20% missing data on key variables included in the hypothesized HMR and mediation models were eliminated via listwise deletion, per the recommendation of Tabachnick and Fidell (2013), bringing the sample size to 139. The majority of these cases had greater than 75% missing data on key variables. These missing values were determined to be the result of participants accessing the survey, completing the consent form, then failing to complete the survey items for th

variables included in the model. Many potential explanations for this exist, including potential fatigue related to the length of the demographic questionnaire that was administered prior to items measuring key variables (e.g., the maximum number of items participants completed was 72, though every item was not administered to each participant, based on their responses).

After the elimination of cases with greater than 20% missing data, remaining missing values were designated as system missing and were not assigned a unique value. Little's Missing Completely at Random (MCAR) test was then conducted via the Expectation-Maximization (EM) feature in SPSS' Missing Value Analysis package to evaluate whether the remaining data were missing completely at random (Little & Rubin, 2020). The results of this test indicated that all variables included in the proposed models had equal to or less than 5% missing data (Pressures Significant Other: 7 missing values (5%); Total Sport Pressures: 4 (2.9%); Total Social Comparison: 2 (1.4%); Body Image Concern: 1 (0.7%); see Table 3 below), and that data were missing completely at random ($p = .638$). While multiple imputation methods are considered standard practice for addressing missing data in counseling research, the amount of remaining missing data was not large enough to warrant multiple imputation (Little & Rubin, 2020; van Ginkel, 2019). Consequently, EM was utilized to impute missing values for items included in the above key variables to increase available power. Following EM, updated scale scores were generated for Pressures from Significant Others, Total Sport Pressures, Total Social Comparison and Body Image Concern including the imputed missing scores, leaving 139 cases with 0% missing data. See Table 3 for an overview of missing data pre- and post-EM.

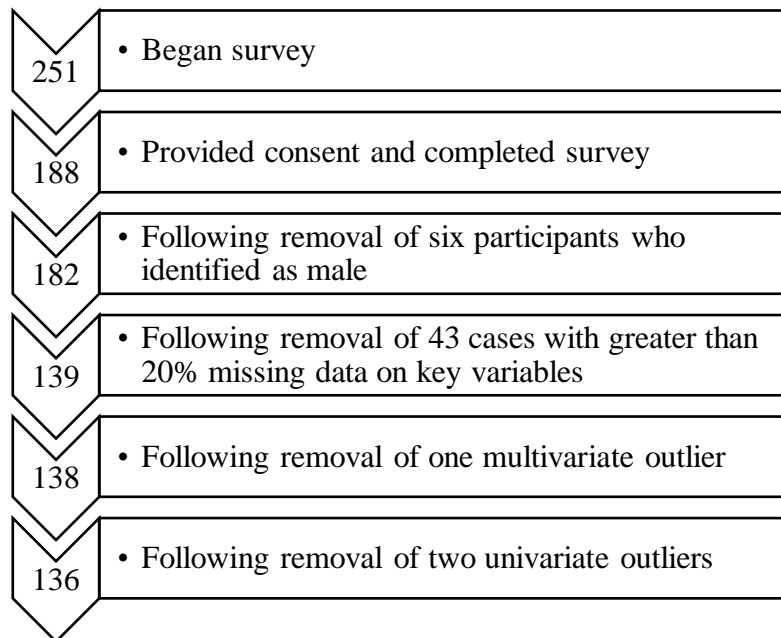
Table 3
Missing Data Pre- and Post-Expectation Maximization

Variable	Total Cases Pre-EM	Total Missing Values	% Missing Pre-EM	Total Cases w/ 0% Missing Post-EM
Family Pressures	138	0	0	138
Peer Pressures	138	0	0	138
Sig. Other Pressures	131	7	5.1	138
Composite Media Pressures	138	0	0	138
Total Sport Pressures	134	4	2.9	138
Total Body Dissatisfaction	137	1	0.7	138
Total Body Appreciation	138	0	0	138
Composite Internalization	138	0	0	138
Total Social Comparison	136	2	1.4	138

Outliers. The Mahalanobis Distance (MD) test was utilized to assess for multivariate outliers utilizing a critical value of 26.125 at $p < .001$ and six degrees of freedom for the eight included predictor variables (Tabachnick & Fidell, 2013, p. 952). One case with an MD value that exceeded the critical value of 26.125 (Case 44, MD = 28.965, $p = < .001$) was identified and removed from the study, bringing the sample size to 138. The second highest MD value was 20.823, and the lowest remaining multivariate outlier probability score was $p = .002$. As such, no further multivariate outliers were removed. Due to slightly elevated skewness values for the distributions for two predictor variables (Peer Pressures, Pressures from Significant Others), and the potential drawbacks of the MD test, data were also examined for univariate outliers utilizing standardized scores. According to Tabachnick & Fidell (2013), univariate outliers are

cases with standardized scores (i.e., z scores) greater than 3.29 ($p < .001$, two-tailed test). Z scores were calculated for all nine key variables, and two cases were identified as univariate outliers with Z scores exceeding 3.29 on Total Sport Pressures (Case 11, $Z = 3.364$; Case 124, $Z = 3.435$). These cases were removed from the dataset via listwise deletion, bringing the total sample size to 136 participants. Figure 1 portrays a flow chart of participant attrition and exclusion.

Figure 1
Flow Chart of Participant Attrition and Exclusion



Power. A priori power analyses were conducted to determine the minimum required sample size to test the hypothesized HMR and mediation models. At the recommendation of Tabachnick and Fidell (2013), the following equation, originally described by Green (1991), was utilized to determine the minimum sample size for HMR analyses given the estimated medium effect sizes: $N \geq 50 + 8m$, where m equals the number of independent variables in the model. This rule assumed a medium size relationship between the independent variables and dependent variable in each model,

alpha = .05, and $\beta = .20$ (Tabachnick & Fidell, 2013). Model 1 and 2 each included six predictor variables and one criterion variable, while models three and four included one predictor, two mediators, and one criterion variable respectively. As such, the minimum sample size required to run the HMR analysis for Models 1 and 2 was: $N \geq 50 + 8(6)$, or $N \geq 98$. Minimum required sample size for models three and four was: $N \geq 50 + 8(3)$, or $N \geq 74$. As such, the 136 eligible cases in this sample satisfied requirements for adequate power to test the hypothesized HMR and mediation models (Tabachnick & Fidell, 2013).

Normality. The statistical assumption of normality was evaluated in several ways. First, Normal Q-Q Plots and Detrended Normal Q-Q Plots were generated to assess univariate normality. These plots indicated that the observed standardized residuals were normally distributed for seven out of nine included variables. The Q-Q plots for peer pressures and pressures from significant others exhibited slightly S-shaped lines, suggesting mild non-normality in the distributions for these variables. Additionally, Shapiro-Wilk's Tests indicated that the distributions for the following variables violated the assumption of normality at $p < .05$: pressures from family, pressures from peers, pressures from significant others, composite media pressures, total sport pressures, body appreciation, and social comparison. As significant statistical tests of normality are common in larger samples, normality was further assessed by obtaining skewness and kurtosis values for each variable. Table 4 provides information about the distribution of scores for the variables included in all four models.

Table 4
Psychometric Properties of Key Variables

Variable	Valid	Percent	Missing	Mean	Std. Dev.	Skewness	Kurtosis
Family Pressures	136	100	0	2.06	1.10	.935	-.120

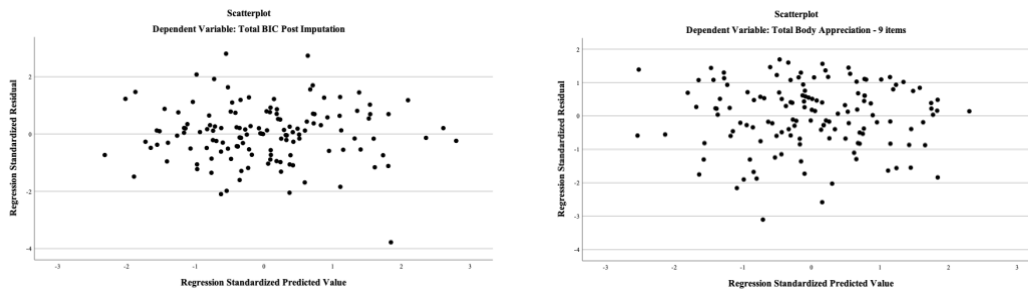
Peer Pressures	136	100	0	1.77	.97	1.125	.347
Pressures from Significant Others	136	100	0	1.66	.94	1.188	0.77
Media Pressures	136	100	0	3.35	1.21	-.561	-.670
Sport Pressures	136	100	0	2.58	.97	.761	.160
Body Dissatisfaction	136	100	0	26.02	6.96	.117	-.164
Body Appreciation	136	100	0	3.65	.818	-.568	.065
Internalization	136	100	0	3.51	.68	-.450	.370
Social Comparison	136	100	0	25.91	11.5	.012	-.859
Competition Level	136	100	0	1.29	.45	.95	1.11

Generally, skewness values between +/- 1 and kurtosis values between +/- 3 are considered acceptable (Tabachnick & Fidell, 2013). While the distributions of several variables appeared mildly skewed, no skewness or kurtosis values exceeded the acceptable ranges; thus, the assumption of normality was met. However, upon graphical examination of the distributions for the above variables, seventeen potential extreme values were identified by SPSS across one demographic, seven predictor, and two criterion variables. Hubert and Vandervieren (2008) argued that such observations are not necessarily outliers as the probability of a value exceeding the upper fence of a boxplot is greater in a non-normal distribution. They recommended modifying the boxplots for non-normally distributed data sets to account for skewness in the distribution. As such, modified boxplots were generated utilizing interquartile range multipliers of 3. No values fell outside of this range; thus, the identified extreme values remained in the dataset. Tests of normality were also run with a separate dataset with all extreme values removed to determine whether the removal of outliers would impact the normality of the

distributions. Neither skewness, kurtosis values, nor the results of Shapiro Wilk's Tests of Normality changed significantly with the removal of extreme values, lending further support to the decision to include all remaining cases in the data set. Further, Normal P-P Plots indicated that the assumption of multivariate normality was met for the proposed regression models with body dissatisfaction and body appreciation as the respective criterion variables. Typically, if residuals appear normally distributed, there is no need to evaluate univariate normality in multiple regression (Tabachnick & Fidell, 2013); thus, this approach was quite conservative. Further, sample sizes greater than or equal to 50 participants have also been established as robust to violations of normality in regression (e.g., Lumley, Diehr, Emerson, & Chen, 2002). Overall, the assumptions of multivariate and univariate normality (i.e., normally distributed residual values) were met.

Homoscedasticity. The assumption of homoscedasticity holds that the variances of the residuals about predicted dependent variable scores should be the same for all predicted scores (Tabachnick & Fidell, 2013). Scatterplots were utilized to test the assumption of homoscedasticity by plotting the standardized residual terms for each dependent variable against the standardized predicted term for each dependent variable. According to the scatterplots of standardized residuals and standardized predicted values for Models 1 and 2 (see Figure 2 below), no obvious patterns existed in the data; thus, the assumption of homoscedasticity was met.

Figure 2
Evidence of Homoscedasticity for Models 1 and 2



Multicollinearity. Prior to preliminary analyses, composite scores from the two media scales (i.e., traditional media pressures and social media pressures) were combined to form a composite media pressures score (i.e., CSMedia) due to a significant bivariate Pearson correlation above .90 at $p < .01$ between the original scales. After calculation of the composite media pressures variable, bivariate correlations were calculated to examine relationships between all predictor and dependent variables. No relationships among predictor variables exceeded .70 at $p < .01$ (see Table 5 for bivariate associations among key variables). Variance Inflation Factor (VIF) values were calculated to test for a violation of multicollinearity in the predictor variables for each model. No VIF values exceeded standard VIF cutoff values of 3 and 10 (Thompson, Kim, Aloe, & Becker, 2017); thus, multicollinearity was not identified as a concern.

Hierarchical Multiple Regression Analysis

The following predictor variables were included in this study: family pressures (FamPress), peer pressures (PeerPress), pressures from significant others (SigOthPress), composite media pressures (CSMedia), and total sport pressures (SportPress). The following variables were included as mediators: composite internalization (CSIntern) and

eating disorder-related social comparison (SocComp). Body dissatisfaction (BIC) and body appreciation (BAS) were included as criterion (i.e., dependent) variables. All variables were modeled as continuous variables. Sport type (i.e., competition in leanness versus non-leanness focused sport) and competition level (i.e., elite versus non-elite athletes, where elite athletes were defined as those who have competed at the Paralympic, international, or professional levels) have been found to significantly affect disordered eating behaviors and internalization of body ideals in women and women athletes (e.g., Kong & Harris, 2015; Kentz & Warschburger, 2013; Thompson & Sherman, 2010). Consequently, relationships between these demographic variables and predictor and criterion variables in the HMR models were examined via bivariate correlations to determine whether including covariates would help control important potential sources of variability in the HMR models (Allen, 2018). A significant negative Pearson's r correlation was found between competition level and total sport pressures ($r = -.17, p < .05$); however, sport type was not significantly correlated with any predictor or criterion variables. Thus, competition level was included as a covariate in the HMR models with the goal of improving their predictive power.

The first stage of data analysis consisted of calculating bivariate Pearson's r correlation coefficients among all variables included in the study. Effect sizes were interpreted based on recommendations put forth by Cohen (1988). With regard to the regression models, all predictor and mediator variables were significantly correlated with criterion variables at $p < .01$, with the exception of internalization and body dissatisfaction: a significant positive correlation existed between internalization and body dissatisfaction ($r = .21$) at $p < .05$. Notably, variables capturing pressures from peers,

family and the media (i.e., the original social pressures constructs from the tripartite influence model; Thompson et al., 1999) had significant positive medium effects on body dissatisfaction (family, $r = .38, p < .01$; peers, $r = .36, p < .01$; media, $r = .34, p < .01$) and significant negative medium effects on body appreciation (family pressures, $r = -.37, p < .01$; peer pressure, $r = -.40, p < .01$; media pressures, $r = -.50, p < .01$). While pressures from significant others had significant direct effects on both criterion variables, the effect sizes were small (body dissatisfaction, $r = .22, p < .01$; body appreciation, $r = -.23, p < .01$). Additionally, significant medium effect sizes were found for total sport pressures on both criterion variables, in the expected directions (body dissatisfaction, $r = .40, p < .01$; body appreciation, $r = -.45, p < .01$). Significant effects of the predictor variables on the mediating variables, and mediating variables on the criterion variables were also found, varying in size from small to medium effect sizes, at $p < .01$, with the exception of the relationship between Internalization and Family Pressures, which was not statistically significant. The lack of a significant relationship between internalization and family pressures in the current sample is surprising given the plethora of evidence that has identified family pressures as a significant predictor of internalization of body ideals (e.g., Cafri et al., 2005). Table 5 includes Pearson's r correlation coefficients for all variables included in HMR analyses.

Table 5
Bivariate Associations Among Key Variables

Variable	1	2	3	4	5	6	7	8	9	10
1. Family Pressures	1									
2. Peer Pressures	.45**	1								
3. Media Pressures	.23**	.41**	1							
4. Significant Other Pressures	.44**	.45**	.24**	1						
5. Sport Pressures	.41**	.50**	.46**	.40**	1					
6. Body Dissatisfaction	.38**	.36**	.34**	.22**	.40**	1				
7. Body Appreciation	-.37**	-.40**	-.50**	-.23**	-.45**	-.70**	1			
8. Internalization	.17	.22**	.53**	.20*	.48**	.21*	-.33**	1		
9. Social Comparison	.26**	.37**	.7**	.27**	.56**	.47**	-.60**	.63**	1	
10. Level of Competition	.11	.01	-.16	.06	-.17*	-.06	-.04	.17	-.10	1

* Correlation significant at the .05 level.
 ** Correlation significant at the .01 level.

(The above variables are represented by the following measures: Family, Peer, Media, and Significant Other Pressures – Sociocultural Attitudes Toward Appearance Questionnaire -4, Revised: Female; Total Sport Pressures – Weight Pressures in Sport Scale; Body Appreciation – Body Appreciation Scale-2; Body Dissatisfaction – Body Image Concern Subscale, Body Image and Body Change Questionnaire; Internalization - Sociocultural Attitudes Toward Appearance Questionnaire -4, Revised: Female; Social Comparison - Body, Eating, and Exercise Comparison Orientation Measure; Level of Competition – Demographic Questionnaire)

HMR analyses were conducted to examine hypotheses one through six.

Specifically, HMR was utilized to examine the contributions of social pressures about appearance (i.e., social pressures) and pressures about weight and appearance in sport (i.e., sport pressures) on body dissatisfaction and body appreciation respectively (i.e., Models 1 and 2). HMR analyses were also utilized to investigate the unique effect of sport pressures on body image beyond the effects of general social pressures in each

model. All parametric assumptions for multiple regression were met and multicollinearity was not a limiting factor in the HMR models (i.e., all VIF factors were less than 10, suggesting noncollinearity; Hair et al., 1995).

Literature has emphasized the importance of centering or standardizing continuous predictor or moderator variables in regression models including an interaction term to minimize multicollinearity between the interaction terms and predictor variables from which they were derived (e.g., Frazier, Tix, & Barron, 2004). These arguments have been made on the grounds that centering reduces high correlations among variables in a regression equation (i.e., multicollinearity) and reduces consequences of misinterpretations of regression coefficients (Frazier et al., 2004). However, evidence is mixed regarding the utility of linear transformations like mean-centering in dealing with multicollinearity in regression models (e.g., Dalal & Zikar, 2012). Some have argued that centering has little to do with multicollinearity, and has been described as “a myth that doggedly persists in spite having been repeatedly debunked” (Hayes, Glynn, & Huges, 2012; pp. 10). Hayes and colleagues (2012) noted that while centering affects regression coefficients, t statistics, p-values, and effect sizes, it does not affect multicollinearity when interaction terms are introduced in a regression model. With this in mind, and given that no evidence of multicollinearity existed in the current study following the creation of a composite media pressures variable, mean-centering was not employed.

For Model 1, level of competition was entered in Block 1 as a covariate; four social pressures variables capturing pressures from peers, family, significant others, and composite media (i.e., traditional and social media) were entered in Block 2; one variable capturing total perceived pressures related to weight and appearance in sport (i.e., total

sport pressures) was entered in Block 3; after generating a composite social pressures score as an average of total scores from the four independent social pressures scales, an interaction term was created as a product term of composite social pressures and total sport pressures, and entered in Block 4; body image concern (i.e., body dissatisfaction) was entered as the dependent variable. Model 2 followed the same progression except body appreciation was included as the dependent variable. This structure allowed the researcher to control for the potential effects of competition level on predictor variables; evaluate the ability of social pressures to predict variance in body dissatisfaction, as contended by the original tripartite influence model (Thompson et al., 1999); explore whether social and sport pressures significantly contributed to variance in positive body image (e.g., body appreciation); and examine the potential unique contribution of sport pressures both positive and negative body image in the sample.

Hypothesis 1: Sociocultural pressures will explain additional variance in body dissatisfaction after accounting for significant demographic variables. HMR was used to assess the ability of perceived social pressures to predict body dissatisfaction after controlling for the influence of competition level. Preliminary analyses were conducted to ensure no violation of the regression assumptions of normality, linearity, multicollinearity, and homoscedasticity. Competition level was entered into Block 1 as a covariate. Social pressures from family, peers, significant others, and the media were entered in Block 2. Results indicated that the model fit for Block 1 was not statistically significant, $F(1, 134) = .43, p = .51$, and these variables explained less than 1% (Adjusted $R^2 = -.004$) of the variance in body dissatisfaction (competition level, $\beta = .06, p = .51$). When social pressures were added to the model, the overall model explained

20.3% of the variance in body dissatisfaction (Adjusted $R^2 = .203$), and model fit was statistically significant, $F(5, 130) = 7.89, p < .001$. The four social pressures variables explained an additional 20.3% of the variance in body dissatisfaction, after controlling for competition level, $\Delta R^2 = .23, \Delta F(4, 130) = 9.72, p < .001$. Therefore, Hypothesis 1 was supported as sociocultural pressures explained a significant amount of the variance in body dissatisfaction beyond that accounted for by the demographic variable entered in Block 1. Pressures from family ($\beta = .28, p = .01$) and pressures from media ($\beta = .23, p = .01$) made significant unique contributions to the model, indicating that perceived pressures from family members and the media had the greatest effect on body dissatisfaction among included social pressures variables.

Hypothesis 2: Sport pressures will explain additional variance in body dissatisfaction beyond that accounted for by significant demographic variables and social pressures. Hypothesis 2 was tested by adding a third block to HMR analyses conducted for Hypothesis 1; the sport pressures variable was added in Block 3 to assess the unique effect of perceived pressures related to body and weight in sport on variance in body dissatisfaction, beyond that accounted for by social pressures and competition level. Results indicated that the overall model fit after the inclusion of total sport pressures was statistically significant, $F(6, 129) = 7.64, p < .001$. The overall model accounted for 22.8% of the variance in body dissatisfaction (Adjusted $R^2 = .228$), with total sport pressures accounting for an additional 2.5% ($\Delta R^2 = .03, \Delta F(1, 129) = 5.12, p = .03$) beyond that accounted for by social pressures and competition level. Given these results, Hypothesis 2 was supported. An analysis of coefficients again indicated that total sport pressures ($\beta = .22, p = .03$), pressures from family ($\beta = .21, p = .02$), and media

pressures ($\beta = .18, p = .048$) made significant and unique contributions to variance in body dissatisfaction with sport pressures included in the model at $p < .05$.

Hypothesis 3: There will be a statistically significant conditional effect between sociocultural pressures and sport pressures in that the effects of social pressures on body dissatisfaction will be stronger when sport pressures are higher. Hypothesis 3 was evaluated by adding an interaction term as a predictor in Block 4. To clarify, all predictor variables were included in the model prior to testing the significance of the hypothesized conditional effect per recommendations for testing moderator effects in counseling psychology research (Frazier et al., 2004). The conditional effect was tested via multiple degree of freedom omnibus F test capturing change for the step in which the product term was entered. Results indicated that the overall model fit was statistically significant, $F(7, 128) = 6.53, p < .001$; however, the interaction term did not account for a statistically significant percentage of the variance in body dissatisfaction beyond the variables included in the previous three blocks ($\Delta R^2 = .001, \Delta F(1, 128) = .16, p = .69$). In fact, the Adjusted R^2 value decreased with the inclusion of the interaction term in the model (Adjusted $R^2 = .22$) suggesting that testing the proposed conditional effect was not beneficial to overall model fit. As such, Hypothesis 3 was not supported. See Table 6 for results from HMR analyses for Model 1.

Table 6
Results from HMR Model 1: Body Dissatisfaction

Step	Variables	B	SE B	β	<i>t</i>	<i>p</i>
1	$F(1, 134) = 0.43, p = .51, \text{Adj. } R^2 = -.004, \Delta R^2 = < .01 (\Delta F p = .43)$					
	Competition Level	.87	1.32	.06	.66	.51
2	$F(5, 130) = 7.89, p < .001, \text{Adj. } R^2 = .203, \Delta R^2 = .23 (\Delta F p < .001)$					
	Competition Level	1.03	1.21	.07	.86	.39
	Family Pressures	1.60	.57	.25	2.80	.01
	Peer Pressures	1.15	.69	.16	1.7	.1
	Media Pressures	1.34	.49	.23	2.73	.01
	Sig. Other Pressures	-.15	.67	-.02	-.22	.83
3	$F(6, 129) = 7.64, p < .001, \text{Adj. } R^2 = .228, \Delta R^2 = .03 (\Delta F p = .03)$					
	Competition Level	1.58	1.21	.10	1.3	.2
	Family Pressures	1.34	.56	.21	2.34	.02
	Peer Pressures	.77	.7	.11	1.1	.27
	Media Pressures	1	.51	.18	2	.048
	Sig. Other Pressures	-.40	.67	-.05	-.6	.55
	Total Sport Pressures	1.59	.70	.22	2.26	.03
4	$F(7, 128) = 6.53, p < .001, \text{Adj. } R^2 = .22, \Delta R^2 = .001 (\Delta F p = .16)$					
	Competition Level	1.51	1.23	.1	1.23	.22
	Family Pressures	1.51	.71	.24	2.12	.04
	Peer Pressures	1.01	.93	.14	.1	.28
	Media Pressures	1.14	.61	.2	1.88	.06
	Sig. Other Pressures	-.23	.80	-.03	-.29	.77
	Total Sport Pressures	2.24	1.78	.31	1.26	.21
	Social*Sport	-.26	.66	-.16	-.4	.69

Adj. R^2 = variance in DV accounted for by included predictors

ΔR^2 = additional variance explained with inclusion of new predictors

$\Delta F p$ = Significant F change value = whether additional variance accounted for is statistically significant

B = unstandardized regression coefficient

SE = standard errors of unstandardized regression coefficient

β = standardized regression coefficient

t = unique contribution of each IV

p = significant of individual contribution with other predictors included

Hypothesis 4: Sociocultural pressures will explain additional variance in body appreciation after accounting for significant demographic variables. HMR was used to assess the ability of perceived social pressures related to appearance to predict body appreciation after controlling for the influence of competition level. Preliminary analyses were conducted to ensure no violation of the regression assumptions of normality,

linearity, multicollinearity, and homoscedasticity. Competition level was entered into Block 1 of the HMR model. Social pressures from family, peers, significant others, and the media were entered in Block 2. Results indicated that the model fit for Block 1 was not statistically significant, $F(1, 134) = .26, p = .61$. Competition level explained $< 1\%$ of the variance in body appreciation (Adjusted $R^2 < .001$). When social pressures were added to the model, the overall model explained 31.5% of the variance in body appreciation, and model fit was statistically significant, $F(5, 130) = 13.44, p < .001$. The four social pressures variables explained an additional 31.5% of the variance in body appreciation, after controlling for competition level, $\Delta R^2 = .34, \Delta F(4, 130) = 16.70, p < .001$. Therefore, Hypothesis 4 was supported. Pressures from media ($\beta = -.42, p < .001$) and pressures from family ($\beta = -.22, p = .02$) made significant unique contributions to the model, indicating that perceived pressures from family members and the media had the greatest effect on variance in body appreciation.

Hypothesis 5: Sport pressures will explain additional variance in body appreciation after accounting for significant demographic variables and social pressures. Hypothesis 5 was tested by adding Block 3 to the HRM analyses conducted for Hypothesis 4. The variable capturing total sport pressures was added in Block 3 to assess the unique effect of perceived pressures related to body and weight in sport on body appreciation, beyond that accounted for by competition level. Results again indicated that the overall model fit after the inclusion of total sport pressures was statistically significant, $F(6, 129) = 12.4, p < .001$. The overall model accounted for 33.6% of the variance in body appreciation, with total sport pressures accounting for an additional 2.1% ($\Delta R^2 = .03, \Delta F(1, 129) = 5.1, p = .03$) beyond that accounted for by

sociocultural pressures and the covariate. Given these results, Hypothesis 5 was supported. An analysis of coefficients indicated that media pressures ($\beta = -.37, p < .001$), total sport pressures ($\beta = -.19, p = .04$), and family pressures ($\beta = -.18, p = .04$) all made significant and unique contributions to variance in body appreciation at $p < .05$ with total sport pressures included in the model.

Hypothesis 6: There will be a statistically significant conditional effect between social pressures and sport pressures such that the effects of social pressures on body appreciation will be weaker when sport pressures are lower. Hypothesis 6 was evaluated by adding an interaction term as a predictor in Block 4 of Model 2. To clarify, all predictor variables were included in the model prior to testing the significance of the proposed conditional effect per recommendations for testing moderator effects in counseling psychology research (Frazier et al., 2004). The proposed conditional effect was tested via multiple degree of freedom omnibus F test capturing change for the step in which the product term was entered. Results indicated that the overall model fit was statistically significant, $F(7, 128) = 11.21, p < .001$; however, the interaction term did not account for a statistically significant percentage of the variance in body appreciation beyond the variables already included in the model ($\Delta R^2 = .01, \Delta F(1, 128) = 2.96, p = .09$). Including the interaction term, the model accounted for 34.6% of variance in body appreciation; however, the change was not statistically significant. Thus, Hypothesis 6 was not supported. See Table 7 for results from HMR analyses for Model 2.

Table 7*Results from HMR analysis for Model 2: Body Appreciation*

Step	Variables	B	SE B	β	<i>t</i>	<i>p</i>
1	<i>F</i> (1, 134) = .26, <i>p</i> = .61, Adj. <i>R</i> ² = -.005, $\Delta R^2 = .002$ ($\Delta F p = .61$)					
	Competition Level	-.08	.16	-.04	-.51	.61
2	<i>F</i> (5, 130) = 13.44, <i>p</i> < .001, Adj. <i>R</i> ² = .32, $\Delta R^2 = .34$ ($\Delta F p < .001$)					
	Competition Level	-.16	.13	-.09	-1.21	.23
	Family Pressures	-.16	.06	-.22	-2.58	.01
	Peer Pressures	-.123	.08	-.15	-1.65	.10
	Media Pressures	-.28	.05	-.42	-5.21	.00
	Sig. Other Pressures	.03	.07	.04	.43	.67
3	<i>F</i> (6, 129) = 12.4, <i>p</i> < .001, Adj. <i>R</i> ² = .34, $\Delta R^2 = .03$ ($\Delta F p = .03$)					
	Competition Level	-.22	.13	-.12	-1.66	.1
	Family Pressures	-.13	.06	-.18	-2.11	.04
	Peer Pressures	-.08	.08	-.1	-1.07	.29
	Media Pressures	-.24	.06	-.36	-4.41	.00
	Sig. Other Pressures	.06	.07	.07	.81	.42
	Total Sport Pressures	-.17	.08	-.21	-2.25	.03
4	<i>F</i> (7, 128) = 11.21, <i>p</i> < .001, Adj. <i>R</i> ² = .35, $\Delta R^2 = .01$ ($\Delta F p = .09$)					
	Competition level	-.19	.13	-.10	-1.42	.16
	Family Pressures	-.21	.08	-.28	-2.7	.01
	Peer Pressures	-.2	.10	-.23	-1.95	.05
	Media Pressures	-.31	.07	-.45	-4.66	.00
	Sig. Other Pressures	-.02	.09	-.03	-.25	.80
	Total Sport Pressures	-.48	.19	-.56	-2.48	.01
	Social*Sport	.12	.07	.61	1.72	.09

Adj. *R*² = variance in DV accounted for by included predictors ΔR^2 = additional variance explained with inclusion of new predictors $\Delta F p$ = Significant F change value = whether additional variance accounted for is statistically significant

B = unstandardized regression coefficient

SE = standard errors of unstandardized regression coefficient

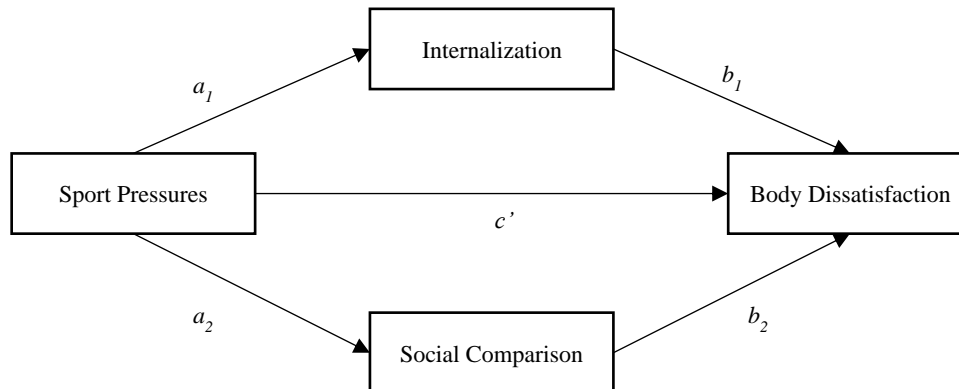
 β = standardized regression coefficient*t* = unique contribution of each IV*p* = significant of individual contribution with other predictors included**Mediation Models**

Two hypothesized mediation models and two hypotheses were tested via bootstrapping with Hayes' PROCESS macro for SPSS (Hayes, 2013). As a non-parametric sampling procedure, bootstrapping shares all statistical assumptions with regression with the exception of normality (Hayes, 2009). No violations of regression

assumptions were identified during pre-analyses for the proposed mediation models. Bootstrapping was selected as all variables included in the proposed models were observed, modeled as continuous, and the proposed effects were linear (Hayes & Scharkow, 2013). Further, bootstrapping allows for the estimation of direct effects of predictor on criterion variables and specific indirect effects in models with multiple mediating variables (Hayes, 2018), and was deemed most appropriate for the proposed parallel multiple mediation models with two mediating variables. Hayes and Scharkow (2013) described bias-corrected bootstrapping confidence intervals as a trustworthy and powerful method of estimating indirect effects when the focus is on detecting non-zero effects. For each model, 5,000 bootstrap samples were generated, yielding 5,000 estimates of tested direct and indirect effects. Bias corrected confidence intervals for each effect were generated utilizing this distribution per the recommendations of Hayes (2018). Bias-corrected confidence intervals that did not straddle zero were considered evidence of statistical significance of the effect in question (Hayes, 2018).

Hypothesis 7: Internalization and social comparison will significantly partially mediate the direct effect of sport pressures on body dissatisfaction. The hypothesized direct and indirect effects were tested via bootstrapping with Hayes' PROCESS macro for SPSS (Hayes, 2013). Figure 3 depicts the mediation model for body dissatisfaction (i.e., Model 3).

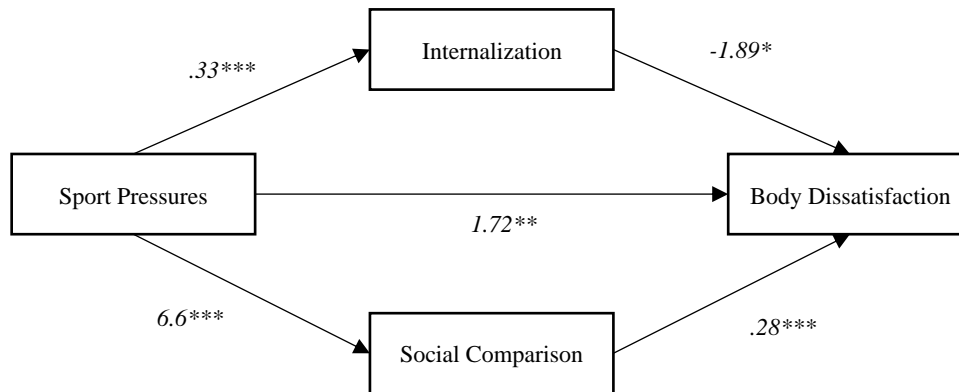
Figure 3
Mediation Model for Body Dissatisfaction (Model 3)



Model 3 evaluated the mediating effects of internalization and social comparison on the relationship between sport pressures and body dissatisfaction, utilizing 5,000 bootstrapped samples. The indirect effect of sport pressures on body dissatisfaction via internalization, with social comparison included in the model, was negative and statistically significant as the bootstrap estimation revealed a 95% confidence interval that did not include zero [CI= (-1.37, -.004)]. Thus, the indirect effect of sport pressures on body dissatisfaction via internalization was significant. The indirect effect of sport pressures on body dissatisfaction via social comparison, with internalization included in the model, was positive and statistically significant as the bootstrap estimation revealed a 95% confidence interval that did not include zero [CI= (1.03, 2.81)]. With both mediators included in the model, the positive direct effect of sport pressures on body dissatisfaction remained statistically significant ($b = 1.72$, $SE = .65$, $p < .001$). Consequently, Hypothesis 7 was supported, as social comparison and internalization significantly partially mediated the relationship between sport pressures and body dissatisfaction. A post-hoc contrast was conducted to examine whether the above indirect effects were significantly different from each other. The contrast effect was calculated by subtracting

the specific indirect effect through social comparison from the specific indirect effect through internalization (Hayes, 2018), resulting in a 95% confidence interval that did not straddle zero [CI = (-3.94, -1.21)]. As such, these indirect effects significantly differed from each other, likely a product of the opposite directions of their effects on body dissatisfaction. Inferences regarding the differences in the strength of the significant indirect effects could not be made as a result of this comparison (Hayes, 2018). Results for pathways included in Model 3 are represented in Figure 4 below.

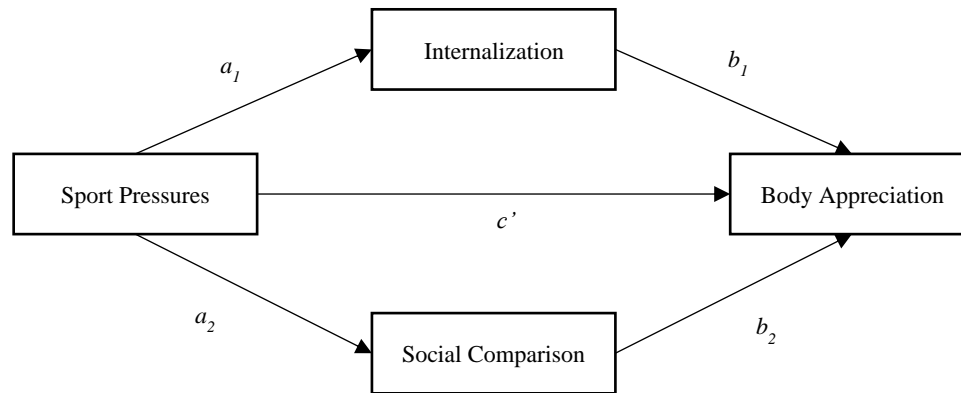
Figure 4
Mediation Model for Sport Pressures on Body Dissatisfaction with Regression Coefficients (Model 3)



* significant at $p < .05$
 ** significant at $p < .01$
 *** significant at $p < .001$

Hypothesis 8: Internalization and social comparison will significantly partially mediate the direct effect of sport pressures on body appreciation. The hypothesized direct and indirect effects were tested via bootstrapping with Hayes’ PROCESS macro for SPSS (Hayes, 2013). The proposed mediation model is portrayed in Figure 5 below.

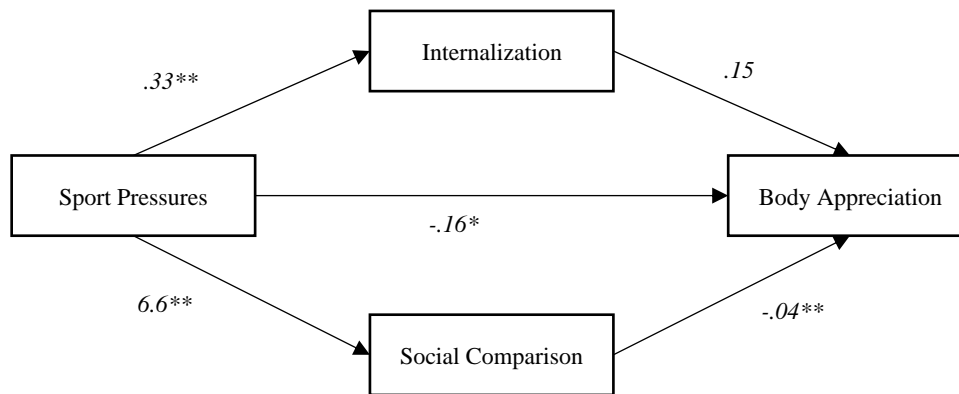
Figure 5
Mediation Model for Body Appreciation (Model 4)



Model 4 evaluated the mediating effects of internalization and social comparison on the relationship between sport pressures and body appreciation, utilizing 5,000 bootstrapped samples. The indirect effect of sport pressures on body appreciation via internalization, with social comparison included in the model, was positive and not statistically significant as the bootstrap estimation revealed a 95% confidence interval that included zero [CI= (-.02, .12)]. Thus, the indirect effect of sport pressures on body appreciation via internalization was not significant. However, the indirect effect of sport pressures on body appreciation via social comparison, with internalization included in the model, was negative and statistically significant as the bootstrap estimation revealed a 95% confidence interval that did not include zero [CI= (-.39, -.16)]. With both mediators included in the model, the negative direct effect of sport pressures on body appreciation remained statistically significant ($b = -.16$, $SE = .07$, $p = .03$). Consequently, Hypothesis 8 was partially supported, as social comparison significantly partially mediated the relationship between sport pressures and body appreciation due to the presence of a significant negative direct effect of sport pressures on body appreciation with both social

comparison and internalization included in the model. However, internalization was not established as a significant partial mediator in the relationship between sport pressures and body appreciation in this sample. A post-hoc contrast was conducted to examine whether the above indirect effects were significantly different from each other. A contrast effect was calculated by subtracting the specific indirect effect through social comparison from the specific indirect effect through internalization (Hayes, 2018), resulting in a 95% confidence interval that does not straddle zero [CI = (.18, .47)]. As such, these indirect effects significantly differed from each other. Inferences regarding the differences in the strength of the significant indirect effects could not be made as a result of this comparison (Hayes, 2018). Results for pathways included in Model 4 are represented in *Figure 6* below.

Figure 6
Mediation Model for Sport Pressures on Body Appreciation with Regression Coefficients (Model 5)



* = significant at $p < .05$
 ** = significant at $p < .001$

Table 8 includes a summary of hypothesis testing conducted and corresponding results for the current study.

Table 8
Results of Hypothesis Testing

Hypothesis	Results of Hypothesis Test
H1: Social pressures will explain additional variance in body dissatisfaction after accounting for significant demographic variables.	Supported
H2: Sport pressures will explain additional variance in body dissatisfaction beyond that accounted for by significant demographic variables and social pressures.	Supported
H3: There will be a statistically significant conditional effect (i.e., interaction effect) between composite social pressures and sport pressures in that the effects of social pressures on body dissatisfaction will be stronger when sport pressures are higher.	Not supported
H4: Sociocultural pressures will explain additional variance in body appreciation after accounting for significant demographic variables.	Supported
H5: Sport pressures will explain additional variance in body appreciation beyond that accounted for by significant demographic variables and social pressures.	Supported
H6: There will be a statistically significant conditional effect between social pressures and sport pressures such that the effects of social pressures on body appreciation will be weaker when sport pressures are lower.	Not supported
H7: Internalization and social comparison will significantly partially mediate the direct effect of sport pressures on body dissatisfaction.	Supported
H8: Internalization and social comparison will significantly partially mediate the direct effect of sport pressures on body appreciation.	Partially supported

Mean Comparisons

Mean scores for the body dissatisfaction and body appreciation variables were examined to further delineate characteristics of the current sample. Body dissatisfaction scores in this sample of adult women athletes with physical disabilities were slightly

higher than those reported in samples of adult women without disabilities ($M=24.72$, $SD=4.15$, from Holmes et al., 2014; $M=21.28$, $SD=1.94$, from Heywood & McCabe, 2006; $M=24.63$, $SD=4.15$, from Mills et al., 2014). Studies reporting body dissatisfaction scores in samples of women athletes, women with eating disorders, and women with disabilities derived from the same version of the Body Dissatisfaction subscale from the Body Change Inventory (Ricciardelli & McCabe, 2002) utilized in the current study were not found; thus, the current body dissatisfaction mean score could not be compared with scores from these samples.

The current mean score for body appreciation on the BAS-2 (Tylka & Wood-Barcalow, 2015a) in the current sample of adult women athletes with physical disabilities ($M=3.65$, $SD=.82$) was comparable to those reported in some samples of college women (e.g., $M=3.61$, $SD=.82$, from Souillard et al., 2019; $M=3.61$, $SD=.82$, from Tylka & Wood-Barcalow, 2015a) and some samples of women NCAA collegiate athletes (e.g., $M=3.63/3.87$, $SD=.79/.81$, from Voelker et al., 2019). The current body appreciation mean score was higher than those reported in samples of adult women without disabilities (e.g., $M=3.17$, $SD=1.11$, from Perey & Koenigstorfer, 2020; $M=3.23$, $SD=.78$, from Ramseyer Winter et al., 2019); adult women with rheumatoid arthritis ($M=3.40$, $SD=0.91$, from Alleva et al., 2018); college women with sub-clinical disordered eating (e.g., $M=3.18$, $SD=0.91$, from Burnette & Mazzeo, 2020); and the baseline mean score from a sample of adults with and without physical disabilities who participated in a positive body image intervention ($M=3.40$, $SD=4.15$, from Bailey & Gammage, 2020). The current body appreciation mean score was lower than those reported in other samples of women collegiate athletes without disabilities (i.e., able-bodied collegiate athletes;

e.g., $M=3.92$, $SD=3.99$, from Souillard et al., 2019; $M=3.87$, $SD=.81$, from Voelker et al., 2019). These differences suggest that adult women athletes with physical disabilities in the current sample endorsed greater body appreciation than samples of able-bodied women, women with chronic illness, and non-athlete adults with disabilities; however, they endorsed lower body appreciation than a sample of able-bodied collegiate athletes. These differences are consistent with prior evidence suggesting that athletes tend to score more positively on measures of body image compared to non-athletes (e.g., Varnes et al., 2013; Hausenblas & Downs, 2001). Tables 9 and 10 include mean comparison data for body dissatisfaction and body appreciation respectively.

Table 9
Mean comparison for body dissatisfaction

Study	Sample Demographics	Age <i>M/SD</i> (Range Yrs)	BMI (kg/m ²) <i>M/SD</i>	Measure	<i>M/SD</i>
Current study	Adult women athletes with physical disabilities	32.87/12.15 (18-70)	24.91/7.36	BIC subscale (10-item)	26.02/6.96 (Total) 6.02/2.2 (Weight/Shape) 2.77/1.03 (Muscle Size) 19.84/5.16 (Body Parts)
Holmes et al (2014)	Adult Women	24.72/4.15 (18-40)	23.96/4.19	BIC subscale (10-item)	21.96/9.17 (Total)
Heywood & McCabe (2006)	Adult Women	21.28/1.94 (18-25)	22.46/3.22	BIC subscale (10-item)	5.42/1.85(Weight/Shape) 2.90/.94 (Muscle Size) 14.71/3.91 (Body Parts)
Mills, Fuller-Tyszkiewicz, & Holmes (2014)	Adult Women	24.63/4.15 (18-40)	23.86/4.27	BIC subscale (10-item)	18.04/9.17
Ramme et al (2016)	Women	22.35/5.76 (17-40)	23.01/NR*	BIC subscale (12-item)	36.54/9.72 (Total)
Uhlmann (2018)	Women	20.57/3.25 (18-30)	22.79/4.17	BIC subscale (12-item)	36.77/9.26 (Total)
Bell, Donovan, & Ramme (2018)	Women	21.46/4/51 (17-35)	23/4.59	BIC subscale (12-item)	36.72/9.46 (Total)
Fuller-Tyszkiewicz et al (2019)	Women	24.30/4.56 (18-40)	23.15/3.85	BIC subscale (9-item)	26.61/6.48 (Total)
Prnjak, Jukic, & Tufano (2019)	Women athletes	21.03/2.18 (18-29)	NR*	BIC (14-item)	50.43/8/17

*NR = not reported

Table 10
Mean comparison of body appreciation

Study	Sample Demographics	Age <i>M/SD</i> (Range Yrs)	BMI (kg/m ²) <i>M/SD</i>	Body Appreciation Measure	<i>M/SD</i>
Current study	Adult Women Athletes with Physical Disabilities	32.87/12.15 (18-70)	24.91/7.36	BAS-2 (9-item)	3.65/.82
Bailey & Gammage (2020)	Adults with and without Physical Disabilities	67.88/8.77 (36-80)	N/A	BAS-2 (10-item)	3.40/0.91
Alleva et al (2018)	Adult Women w/ Rheumatoid Arthritis	44.82/12.50 (22-70)	27.02/6.88	BAS-2 (10-item)	2.60/.79 (Group 1 Baseline) 2.58/.96 (Group 2 Baseline)
Perey & Koenigstorfer (2020)	Adult Women	42.66/12.24 (23-73)	26.99/6.62	BAS-2 (10-item)	3.17/1.11
Ramseyer Winter, et al (2019)	Adult Women	26.24/6.15 (18-56)	26.33/7.33	BAS-2 (10-item)	3.23/0.78
Quittkat et al (2019)	Adult Women	31.40/13.33 (16-83)	23.65/4.93	BAS-2 (10-item)	2.46/0.79
Tylka & Wood-Barcalow (2015a)	College Women	20.43/6.04 (18-58)	24.21/5.56	BAS-2 (10-item)	3.61/.82
Souillard et al (2019)	College Women	19.38/1.81 (18-38)	24.17/5.38	BAS-2 (10-item)	3.54/0.73
Souillard et al (2019)	NCAA Women Collegiate Athletes	19.80/1.13 (18-38)	23.63/3.99	BAS-2 (10-item)	3.92/3.99
Voelker et al (2019)	NCAA Women Collegiate Athletes	19.53/1.27	23.68/3.59 (Group 1 Baseline) 22.67/3.03 (Group 2 Baseline)	BAS-2 (10-item)	3.63/.79 (Group 1, Baseline) 3.87/0.81 (Group 2 Baseline) 3.18 /0.91 (Group 1 Baseline)
Burnette & Mazzeo (2020)	College women with disordered eating (e.g., sub-clinical)	20.11/1.99 (18-25)	NR*	BAS-2 (10-item)	2.92/0.86 (Group 2 Baseline)

*NR = not reported

Chapter IV: Discussion

The powerful influence of social processes on body image and disordered eating in women and women athletes is well-documented (e.g., Schaefer, et al., 2015; Fitzsimmons-Craft et al., 2014), as is the centrality of the body in the lived experience of athletes and PWD alike (Behel & Rybarczyk, 2012; Galli et al., 2016). Yet, limited research has explored sociocultural factors that affect body image in AWD (e.g., Galli et al., 2016; Sousa et al., 2009). To begin to address this gap in research, this project examined the effects of social pressures about weight, body, and appearance, in and outside of sport, on body image in women AWD. The mediating roles of internalization of body ideals and social comparison behaviors were also examined to increase understanding of the mechanisms by which pressures experienced regarding weight and appearance in sport (i.e., sport pressures) affect body image in this context.

This study was the first, to our knowledge, to explore the utility of the tripartite influence model (Thompson et al., 1999) in explaining body dissatisfaction in AWD, despite a plethora of evidence highlighting connections between internal and external social factors and body image in women, athletes, and PWD. This study built on previous research establishing the validity of the tripartite influence model in several important ways. First, prior research called for the exploration of context-specific factors when testing the tripartite influence model (e.g., Ramme et al., 2016); this study examined both the effects of general social pressures (i.e., pressures from family, peer, media, and

significant others) and pressures related to weight and appearance in sport on body image. Second, no published research, to our knowledge, has included social media pressures in explorations of sociocultural models of body image in disability sport. Social media serves as a primary method of media coverage for disability sporting events, and has been described as a key avenue through which AWD share their stories (Pate, Hardin, & Ruihley, 2013). Compared to traditional media platforms, social media use increases the ease and speed at which users access and consume media content, and is positively associated with thin-ideal internalization, self-objectification, and appearance comparison (French & Le Clair, 2018; Holland & Tiggemann, 2016). In light of the important role of social media in disability sport, the present study included a composite media pressures scale to capture both traditional and social media influences on body image in women AWD. Third, in response to calls to examine social factors that contribute to positive body image outcomes (e.g., Tylka & Wood-Barcalow, 2015), and in line with counseling and sport psychology's emphases on the cultivation of assets and adaptive functioning to support well-being (Goodyear et al., 2016; Williams & Krane, 2013), this study examined relationships between social pressures in and outside of sport and body appreciation (i.e., a key element of positive body image) in AWD. The following sections include a discussion of findings from the current study by construct.

Body Dissatisfaction

Social Pressures. The hypothesis predicting that social pressures (i.e., pressures from family, peers, media, and significant others) would explain a significant percentage of the variance in AWD's body dissatisfaction was supported. Current findings suggested that women AWD experience pressure to maintain a certain weight or appearance, or

adhere to a socially normative body ideal. The degree of pressures experienced by AWD had a direct positive effect on levels of body dissatisfaction. Further, pressures from family and the media had the greatest effect on body dissatisfaction among the included social pressures. These results were consistent with prior research and theory regarding the effects of social pressures about weight and appearance on body dissatisfaction in women (e.g., Cafri et al., 2005; Thompson et al., 1999) and women athletes (Reel et al., 2013). In short, the current results provided initial support for the utility of the tripartite influence model in explaining body dissatisfaction in women AWD.

Findings indicating that family and media pressures had significant and unique effects on body dissatisfaction were noteworthy as they highlighted the influence of both micro and macro social processes on body image in AWD. The positive direct effect of family pressures on body dissatisfaction remained significant with other social pressures included in the model, suggesting that family pressures (i.e., micro pressures) play an important role in AWD's experience of body dissatisfaction. This finding was consistent with prior research indicating that parental pressures predict body dissatisfaction in elite aesthetic (i.e., leanness-focused) sport athletes (Francisco et al., 2012). Additionally, the current findings paralleled research suggesting that micro social agents (e.g., parents or siblings) play an important role in the transmission of messages regarding weight and appearance in women (e.g., Vincent & McCabe, 2000).

The contribution of family pressures to body dissatisfaction in women AWD was unique in that no prior research has explored the specific contribution of family or parental pressures to body dissatisfaction in this context. Prior research suggests that the unique contribution of family pressures to body dissatisfaction in AWD could be

explained by parents' involvement in the environment of disability sport. Francisco et al (2012) conducted one of the few available studies exploring the effects of parental pressures on body image in able-bodied athletes. Their results indicated that parental pressures reinforced pressures regarding weight and appearance experienced in the elite sport environment, suggesting that parents' comments or attitudes regarding weight and appearance served as a conduit through which athletes experienced appearance pressures inherent in elite sport. While the effects of family or parental pressures on body image have not previously been explored in PWD or AWD, these findings point to the need to better understand these relationships.

The unique contribution of media pressures in predicting body dissatisfaction in AWD lends support to prior research establishing mass media as a considerable transmitter of social pressures, particularly the thin-ideal (e.g., Grabe, Ward, & Hyde, 2008). Research has also highlighted the unique negative impact of media influences on body image in athletes and PWD alike, and these findings were consistent with the predictive role of media pressures in the current model. Perceived discrepancies between one's disabled body and able-bodied social ideals portrayed by the media, as well as internalization of negative social stigma pertaining to disability have been found to influence body perceptions in PWD (Sousa et al., 2009). Further, media outlets have historically misrepresented experiences of PWD, depicting PWD as dependent, abnormal, or pitiable, sharing their stories with a decidedly negative valence (French & Le Clair, 2018). The achievements of AWD have often been couched within "triumph over tragedy" or "supercrip" narratives that define success as the athletes' ability to overcome their disability, discounting athletes' sporting achievements (French & Le Clair, 2018).

Negative social narratives pertaining to differences in ability affect AWD's self- and body perceptions, and Paralympic athletes have expressed discomfort and dislike of stereotypical media portrayals of their lived experience (French & Le Clair, 2018). Current results further delineated the role of media pressures (i.e., macro social pressures) in shaping body image in women AWD by highlighting the aggregate effects of traditional and social media appearance pressures on body dissatisfaction.

Sport Pressures. Sport pressures explained a significant portion of the variance in body dissatisfaction beyond that accounted for by general social pressures; thus, hypothesis two was supported. This finding was consistent with prior research hypothesizing that sport pressures will have a distinct impact on internalization and body dissatisfaction in athletes beyond that of general social pressures (e.g., Petrie & Greenleaf, 2012). Social pressures from sport coaches, teammates, and judges related to weight and appearance have been found to contribute to development of both athletic and social body images for able-bodied athletes (Reel et al., 2013; Reel, 2012), and current results identified a similar effect of sport pressures on body dissatisfaction in AWD.

Paralympic athletes have been described as at risk of discrimination and harrasment related to their bodies (e.g., Kirby, 2008), and stereotypical comments or false beliefs about disability have contributed to body image distress in AWD (e.g., Sousa et al., 2009; Brittain, 2004). Current results suggesting that higher levels of sport pressures related to appearance and weight predict higher body dissatisfaction in women AWD, when considered in the setting of the potential negative effects of stigmatizing interactions in sport, were noteworthy as they highlighted the importance of social relationships in shaping body image in the context of sport. While we were unable to

determine which of the included sport pressures (i.e., pressures from coaches, teammates, judges, or the sporting environment) had the greatest impact on body dissatisfaction in the current study, prior research has suggested that inappropriate interactions with coaches regarding weight or appearance negatively affect Paralympic athletes' body image and well-being (Alexander, Bloom, & Taylor, 2019). Limited research has examined coach-athlete relationships in disability sport, or the specific effects of interactions or communication with coaches regarding weight or appearance on body image in women AWD.

Body Appreciation

Social Pressures. Social pressures had a significant negative effect on body appreciation in women AWD, suggesting that athletes who experience less pressure to adhere to social body ideals report higher levels of body appreciation. This was the first study, to our knowledge, to identify a significant relationship between social pressures and positive body image (i.e., body appreciation) in AWD, as few investigations exist to date of positive body image among individuals with physical disabilities, visible differences, or AWD (e.g., Halliwell, 2015). As such, hypothesis four was supported. Research has indicated that PWD experience positive body image to varying degrees (e.g., Moss & Roser, 2012) and highlighted the importance of social influences in shaping body image in this population (e.g., Sousa et al., 2009). Yet, research has not previously examined the effects of social pressures on positive body image in PWD. The current negative direct effect of social pressures on body appreciation added to existing understanding of positive body image in women AWD by underscoring a potential

benefit of minimizing harmful social messaging pertaining to weight, appearance, and disability in sport: increased body appreciation.

The current negative direct effect of social pressures on body appreciation may be partially explained by established positive associations between perceived body acceptance and positive body image in athletes (e.g., Hahn Oh et al., 2012). Perceived body acceptance has been identified as a strong predictor of body appreciation in athletes (e.g., Hahn Oh et al., 2012). As women AWD in this sample reported higher mean body appreciation ($M=3.65$, $SD=.82$) compared to samples of adult women non-athletes (e.g., $M=3.17$, $SD=1.11$, from Perey & Koenigstorfer, 2020; see Table 10 for further information), it is possible that they experienced less social pressures regarding weight and appearance, and higher degrees of perceived social support or acceptance regarding weight and appearance compared to other social groups. Further research has indicated that perceived social support, acceptance, and positive sporting environments facilitate psychosocial adjustment to disability and well-being in AWD and PWD (e.g., Galli et al., 2016; Elliott, Herrick, Witty, Goshall, & Spruell, 1992; Bailey, Gammage, van Ingen, & Ditor, 2015). While current findings indicate that a lack of perceived social pressure predicted greater body appreciation, the lack of perceived social pressures does not necessarily mean that women AWD experienced acceptance or support regarding weight or appearance. Given prior research indicating that positive social influences (i.e., body acceptance or social support) can protect against body image distress and enhance body appreciation in women, future research examining positive social influences regarding appearance and weight in women AWD is warranted.

Additionally, results indicated that lower levels of perceived family pressures uniquely predicted higher levels of body appreciation. The unique contribution of family pressures in the negative association between social pressures and body appreciation may also be related to perceived social support and acceptance in the current sample. Previous research has delineated the importance of social support in the development of positive body image in adults with spinal cord injuries (SCI), noting that adults with SCI reported feeling most comfortable with their bodies when around other PWD or family members/spouses of other PWD. Spending time with a homogenous group of PWD or supportive others contributed to increased feelings of acceptance, appreciation, and gratitude that predicted positive body image for adults with SCI (Bailey et al., 2015). Approximately 67% of the current sample self-identified as team, dyadic, or pseudo-individual sport athletes; thus, it is possible that many AWD included in the current sample spent a substantial amount of time around other AWD and their families, which could have contributed to perceived acceptance, and theoretically, positive body image. AWD who perceived fewer social pressures may have experienced what Bailey et al (2015) described as “unconditional acceptance from important others” with shared life experience, potentially explaining, in part, the unique effect of family pressures on body appreciation in the current sample.

Composite media pressures were also found to have a unique negative direct effect on body appreciation beyond the effects of other social pressures included in the model. The unique effect of perceived media pressures, or lack of perceived media pressures, on body appreciation was consistent with prior research indicating that those with higher body acceptance or appreciation tend to reject (or not buy into) media

portrayals of beauty (e.g., Bailey et al., 2015). Rejection of media influences pertaining to weight or appearance has been established as an important catalyst of positive body image (Tylka, 2011), and could contribute to lower perceived media pressures regarding weight and appearance. Wood-Barcalow et al.'s (2010) holistic body image model explained rejection of media influences through the process of "filtering," during which individuals decided whether to accept or reject incoming information based on current affect, beliefs, and perceptions of body image. Individuals with a "protective filter" endorsed positive emotions, rational beliefs, and realistic perceptions of their bodies, which helped to promote positive body image and protect against potentially harmful influences of media portrayals of unrealistic or unhealthy beauty ideals (Wood-Barcalow et al., 2010). Given the established influence of filtering on the development of positive body image, the unique effect of media on body appreciation in the current study may be explained by AWD's rejection of unrealistic or unhealthy body ideals portrayed by the media.

Sport Pressures. As hypothesized, sport pressures were found to have a significant negative effect on body appreciation beyond the effects of social pressures. In other words, lower perceived pressures from coaches, teammates, and the performance environment to change body weight or appearance predicted higher levels of body appreciation. While both sport and social pressures were found to negatively affect body appreciation in AWD, the unique effect of sport pressures on body appreciation suggests that the disability sport environment plays a unique role in the development of body image in women AWD.. The disability sport environment has been described as having a greater focus on ability and body functionality compared to the culture of many able-

bodied sports, which has been found to contribute to positive body image in other samples of AWD (e.g., Huang & Brittain, 2006). AWD have also described participation in sport as a protective factor against negative body image, and identified sport as a source of social support, acceptance, and body appreciation (e.g., Galli et al., 2016). Therefore, the negative effect of sport pressures on body appreciation in AWD may be related to characteristics of disability sport culture that enhance positive body image and protect against sources of social pressure that contribute to negative body image.

The inverse relationships between both social and sport pressures and body appreciation in the present study highlighted the utility of the developmental theory of embodiment in explaining positive body image in athletes (Piran, 2001; 2002). This theory posits that engagement in embodying activities - activities that “support awareness and attentiveness to the appreciation of one’s physical appearance, functionality, and competence” (Souillard et al., 2019, pp. 94) – enhances positive body perceptions. AWD may even experience a higher degree of embodiment through sport participation compared to able-bodied counterparts as AWD describe sport as a source of body competence and pride, and as a means of cultivating a positive self-concept free from social stigma related to disability that may impact self-concept in other social settings (Galli et al., 2016). Further evidence has suggested that participation in non-appearance focused sports protects against body dissatisfaction by cultivating body appreciation, functionality appreciation, and an increased sense of physical competence or empowerment (e.g., Menzel & Levine, 2011; Tiggeman, 2015). As approximately 67% of the current sample self-identified as athletes who participate in non-appearance focused sports, it is possible that participants experienced embodiment, competence, and

positive body perceptions through sport, which may have mitigated perceived pressures to adhere to ideal body types, weight, or appearance.

Interaction Between Social and Sport Pressures. The proposed interaction effects of social and sport pressures on body dissatisfaction and body appreciation were not statistically significant. Consequently, the hypotheses that the effects of social pressures on body dissatisfaction and body appreciation would change relative to the degree of sport pressures experienced were not supported, despite significant correlations between sport pressures and all four social pressures variables (i.e., family, peer, media, and significant other), with effect sizes between .4 and .5, at $p < .01$. These findings were somewhat surprising as both social and sport pressures have been found to significantly predict body dissatisfaction and body appreciation in women AWD. However, it is not uncommon for women's body image to differ with regard to social roles or physical attributes relative to the social context, particularly body image in women athletes (Alleva & Tylka, 2021; Varnes et al., 2013; Petrie & Greenleaf, 2012). Specifically, women athletes have endorsed the development of multiple (and often conflicting) body images in response to different demands, norms, and expectations of intersecting social roles (i.e., a sporting body image and social body image; Varnes et al., 2013). As such, it is entirely possible that women AWD in the present sample experienced pressures in and outside of sport as distinct from one another based on the perceived importance of their roles in social and sport settings respectively. As such, these pressures may manifest in such a way that they occur simultaneously, but have distinct effects on negative and positive body image outcomes, resulting in the non-significant interaction effects in the present study. Notably, as the effects of perceived importance of social roles (i.e., role

salience) on body image in the current sample were not evaluated, this possible explanation warrants further exploration.

Mediation Effects: Body Dissatisfaction

Internalization was identified as a significant partial mediator in the relationship between sport pressures and body dissatisfaction with social comparison included in the HMR model. Internalization has not previously been evaluated as a mediator in the relationship between sport pressures and body dissatisfaction; thus, this finding extended existing knowledge pertaining to the importance of cognitive processes (i.e., internalization) in facilitating the effects of sport pressures on body dissatisfaction. The role of internalization as a partial mediator of the effect between sport pressures and body dissatisfaction was consistent with prior research predicting that internalization of body ideals will determine the degree to which sport pressures affect body dissatisfaction in athletes (Petrie & Greenleaf, 2012). These findings were also consistent with the established mediating role of internalization in the relationship between social pressures and body dissatisfaction in prior examinations of the tripartite influence model (e.g., Thompson et al., 1999). Both cross-sectional and longitudinal research have produced evidence in support of this model, indicating that the degree to which social pressures predict body dissatisfaction is determined, at least in part, by the degree to which thin body ideals are internalized (i.e., the level of thin-ideal internalization; Homan, 2010; Homan & Boyatzis, 2010; Shroff & Thompson, 2006). Present findings indicated that internalization plays a similar role in the relation between sport pressures and body dissatisfaction in AWD, and highlighted the potential benefits of interventions intended

to limit internalization of harmful and unrealistic body ideals to prevent body dissatisfaction in this sample.

Results also identified social comparison as a significant partial-mediator in the relationship between social pressures and body dissatisfaction. This finding indicated that greater social comparison behaviors predicted increased body dissatisfaction and partially facilitated the positive effect of sport pressures on body dissatisfaction in AWD. The significant role of social comparison in this context can be explained in part by Social Comparison Theory's (Festinger, 1954) assertion that comparison is a natural and common element of human experience. This theory also posits individuals base self-evaluations on comparisons to those viewed as similar or ideal in a valued social role or domain (e.g., sport). Social comparison allows individuals to assess how their body or appearance measures up, or does not measure up, to perceived social ideals regarding weight or appearance (e.g., thin or athletic body ideals) or to the body or appearance of social others perceived as similar in some way (e.g., Fitzsimmons-Craft et al., 2014; Myers & Crowther, 2009). While this study did not examine the target or type of social comparison engaged in by participants, results indicated that women AWD engaged in social comparison behaviors regarding eating, exercise, and weight, and these behaviors facilitated the effect of sport pressures on body dissatisfaction. This finding was consistent with prior research indicating that women athletes often engage in social comparison (e.g., Petrie & Greenleaf, 2012), and that social comparison significantly affects athletes' body image (e.g., de Bruin et al., 2011).

As stated, further research is needed to understand which social comparison behaviors (e.g., eating versus body related comparison) have the greatest effect on body

dissatisfaction in women AWD. For example, it remains unclear whether women AWD in this sample were more likely to compare themselves to other AWD or to women athletes without disabilities who represent internalized social body ideals. Previous research has suggested that women athletes engage in downward social comparisons in settings outside of sport, and upward social comparisons in sport, eliciting dissonance between the body athletes want and need to succeed in sport, and bodies that are considered desirable in social settings (de Bruin et al., 2011; Krane et al., 2004). Evidence also suggests that elite athletes appear more likely to compare themselves to other elite athletes than athletes who are earlier on in their athletic careers (i.e., collegiate athletes; Franzoi & Klaiber, 2007). Results shared by Franzoi and Klaiber (2007) indicated that athletes who engaged in comparison with those who represent ideal or desired bodies outside of sport (e.g., professional models who embody the thin-ideal) were more likely to express body image concerns compared to athletes who compare their bodies to those of other athletes. Thus, the target and nature of social comparison behaviors (e.g., upward versus downward comparison) may influence the effects of social pressures on body dissatisfaction in the present sample.

Mediation Effects: Body Appreciation.

Internalization was not identified as a significant mediator in the relationship between sport pressures and body appreciation with social comparison included in the model. A significant positive direct effect was found for sport pressures on internalization; however, the negative relationship between internalization and body appreciation was not statistically significant. This finding differed from prior research identifying significant associations between thin-ideal internalization and body

appreciation in samples of undergraduate women aged 18-30 years ($M=20.4$, $SD=3.07$; $r = -.51$, $p < .001$; Andrew, Tiggeman, & Clark, 2016), and adolescent girls aged 16 to 18 ($M\ age=16.9$, $SD=0.82$; $r=0.33$, $p < .01$; Lunde, 2013). Further, the mediating role of thin-ideal internalization in predicting body appreciation has been previously identified in women (e.g., Andrew, Tiggeman, & Clark, 2016), suggesting that conscious rejection of the thin-ideal, or less engagement in “appearance processing” (i.e., cognitive processes that predict body dissatisfaction or body appreciation;) predicted higher body appreciation in women (Andrew, Tiggeman, & Clark, 2016). The relationship between thin- or athletic-ideal internalization and body appreciation has not previously been studied in women athletes with or without disabilities, nor in a sample of women with disabilities more broadly. In fact, limited research has explored positive body image in women with disabilities (e.g., Bailey et al., 2015). Prior research on body image in people with physical disabilities has delineated a process by which individuals adjust and adapt to their disability over time, eventually integrate different abilities into self-concept or body perceptions, and experience positive body image (e.g., Taleporos & McCabe, 2002; Bassett, Martin Ginis, & Buchholz, 2009); however, internalization of the thin- or athletic- body ideal has not been described as a key component of this process. Research has also suggested that individuals with physical disabilities who endorse positive body image tend to reject or ignore pressures to adhere to socially normative body ideals, describing media depictions of unrealistic able-bodied beauty ideals as irrelevant as they do not have an “able-body” (Bailey et al., 2015, p. 30). Individuals with disabilities have also described strong media literacy and broad conceptualizations of beauty as important components of positive body image, emphasizing perceptions that bodies come in all

shapes and sizes, and “all human bodies are beautiful” (Bailey et al., 2015, p. 30). In light of these findings, it is possible that internalization of body ideals did not significantly facilitate the relationship between sport pressures and body appreciation for women AWD in the current sample as participants may engage in different cognitive appearance processes compared to women without disabilities, resulting in internalization of body ideals other than those described as predominant in able-bodied samples. Of note, further research has indicated that other cognitive factors, such as body image flexibility or a self-protective cognitive style may account for greater variance in body appreciation than internalization (e.g., Halliwell, 2015), lending support to the above argument that internalization of body ideals may not play an important role in the prediction of body appreciation in the evaluated model.

In contrast, social comparison significantly partially mediated the direct effect of sport pressures on body dissatisfaction in the current sample; thus, hypothesis eight was partially supported. As internalization did not significantly mediate the effect of sport pressures on body appreciation with social comparison included in the model, it appears that social comparison plays a greater role in this relationship than internalization. This finding was consistent with prior research demonstrating the effects of social comparison on body appreciation. For example, Homan and Tylka (2018)’s gratitude model of body appreciation theorized that gratitude lowers investment in external appearance or approval, predicting lower body- and eating-related social comparison tendencies. Lower body- and eating-related social comparison, then, enhanced body appreciation (Homan & Tylka, 2018). The mediating role of social comparison in the present study was consistent with Homan and Tylka’s (2018) model in that the negative direct effect of sport pressures

on body appreciation was facilitated in part by lower social comparison. This finding also extends understanding of the relationship between social comparison and body image by providing additional support for the negative direct association between social comparison and body appreciation (e.g., Siegel, Huellemann, Hillier, & Campbell, 2020). This finding suggests that interventions intended to limit social comparison behaviors may protect against the influence of sport pressures on body image and contribute to higher body appreciation in women AWD.

Level of Competition, Sport Type, and Body Image in AWD

Athletes who compete at higher levels of competition (i.e., elite, Paralympic, or professional sport), as well as athletes who compete in leanness-focused sports (i.e., “those for which a thin or lean body or a low weight is believed to provide an advantage in sport performance or in the judgment of sport performance;” Thompson & Sherman, 2010, pp. 32-33) are typically considered at higher risk for body image concerns and disordered eating compared to recreational sport athletes and athletes who compete in non-leanness focused sports (e.g., ball, bat, or stick sports; e.g., Thompson & Sherman, 2010; Kong & Harris, 2015). In fact, the importance of leanness, weight, and appearance for certain sports has been identified as a causal factor in the high prevalence of body image concerns and disordered eating among athletes in these settings (Kentz & Warschburger, 2013). As such, competition level (i.e., elite versus non-elite) and sport type (i.e., leanness versus non-leanness focused sport) were examined as potential covariates in the included HMR models to account for theoretical contributions of these factors to variance in body dissatisfaction and body appreciation. Interestingly, results were not consistent with established relationships between level of competition, sport

type, and body image in the current sample. While competition level was found to have a significant inverse correlation with sport pressures ($r = -.17, p < .05$) and was included as a covariate in the HMR models, competition level was not significantly associated with social pressures, internalization, social comparison behaviors, body dissatisfaction, or body appreciation. Significant associations were also not found between sport type and the other constructs included in the HMR models.

These findings differed from previous research as both sport type and competition level have significantly predicted body dissatisfaction in athletes (e.g., Kantanista, Glapa, Banio et al., 2018); a significant linear relationship has been established between body image concerns and level of sport competition (Varnes et al., 2013); and previous research indicating that leanness-focused sport athletes were at higher risk for disordered eating behaviors, experience significantly more pressure in sport related to their appearance, weight, and shape, and tend to have higher body dissatisfaction compared to athletes from non-leanness-focused sports (Kong & Harris, 2015; Reel et al., 2013). As approximately 70 percent of the included sample identified as elite athletes from non-leanness focused sports (71.3% elite athletes, 68.4% non-leanness focused sports), it is likely that other levels of competition (e.g., recreational athletes) and athletes from leanness-focused sports were not represented with significant power to test these relationships in the current sample. Furthermore, most of the available research linking sport type and competition level to body image in athletes has focused on the experiences of able-bodied athletes; few studies have quantitatively examined these relationships in AWD. Much remains to be understood about the development of body image in the context of disability sport, and unique sociocultural factors including disability status,

classification status, and greater variability in level of competition both within and across disability sports may contribute to AWD's body perceptions. Future research on body image in AWD should incorporate the effects of cognitive and interpersonal factors specifically related to disability status and disability sport to better understand body image in AWD.

Clinical Implications

Current findings point to several important clinical implications as no studies have evaluated the efficacy of body image interventions in women AWD. First, based on current results, interventions targeting predictors of body dissatisfaction in AWD, including social pressures, thin-ideal internalization, and social comparison behaviors, may have important psychosocial benefits for women AWD. Body dissatisfaction has a significant positive effect on disordered eating behaviors in women (e.g., Thompson et al., 1999), and may also be related to higher levels of anxiety and depression among other mental health concerns (e.g., Grossbard, Lee, Neighbors, & Larimer, 2009). Extensive literature has also identified female athletes as a particularly high risk group for body dissatisfaction (e.g., Varnes et al., 2013). Consequently, interventions targeting predictors of body dissatisfaction established in the current study may help mitigate the experience of body dissatisfaction for women AWD. Importantly, from a theoretical perspective, social and cognitive factors, such as perceived social pressures regarding appearance and thin-ideal internalization, are expected to contribute to the development of negative attitudes toward the body (i.e., body dissatisfaction) in athletes (e.g., Petrie & Greenleaf, 2012). Subsequently, the experience of body dissatisfaction theoretically increases athletes' risk of developing disordered eating behaviors and perhaps clinical eating

disorders (Petrie & Greenleaf, 2012). Support for the predictive role of risk factors such as sport pressures and body dissatisfaction for the development of subsequent disordered eating in athletes has been established (e.g., Voelker, Petrie, Neumann, & Anderson, 2016; Krentz & Warschburger, 2013 ; thus, the development of interventions targeting theoretical risk factors in efforts to reduce body dissatisfaction may also contribute to the prevention of disordered eating in women AWD.

Previous research has demonstrated the efficacy of a variety of eating disorder prevention programs targeting social and cognitive predictors of body dissatisfaction, including media pressures, thin-ideal internalization, and social comparison. A meta-analysis conducted by McLean, Paxton, and Wertheim (2016) revealed that enhancing aspects of media literacy (i.e., “defined as the ability to access, critically evaluate, and create media [Aufderheide & Firestone, 1993]” (McLean, Paxton, & Wertheim, 2016, pp. 19) may protect against body image concerns by interrupting or reducing unfavorable self-comparisons with media images (McLean, Paxton, & Wertheim, 2016). Critical thinking pertaining to media consumption has also been found to enhance development of more realistic appearance ideals relevant to body ideals portrayed by the media (Halliwell, Easun, & Harcourt, 2011), which in turn, has predicted lower body image concerns (McLean et al., 2016).

Second, programs utilizing cognitive dissonance (e.g., having participants speak and act in ways that are not consistent with an internalized body ideal) to target thin-ideal internalization have demonstrated efficacy in reducing body image concerns in women (Becker, Smith, & Ciao, 2006). Cognitive dissonance prevention programs have been extensively studied and empirically validated in female non-athletes (e.g., Becker &

Stice, 2017). These programs teach women to question societal messages about beauty and weight, and to actively engage in behaviors that challenge or contest body ideals. Cognitive dissonance programs have contributed to decreased thin-ideal internalization and body dissatisfaction in women, both immediately following intervention and over time (e.g., Stice, Butryn, Rohde, Shaw & Marti, 2013). However, few studies have evaluated such interventions with women athletes (Voelker, Petrie, Huang, & Chandran, 2019). Becker and colleagues (2012) conducted one such evaluation of a cognitive dissonance intervention, and their results supported the utility of cognitive dissonance interventions that include information specific to athlete experiences in mitigating thin-ideal internalization, weight and shape concerns, and disordered eating symptomology in women athletes. A recent study conducted by Voelker, Huang, and Chandran (2019) examined the efficacy of the Bodies in Motion program, which comprised a combination of cognitive dissonance and mindful self-compassion-based training, in female collegiate athletes. Results indicated that athletes experienced significant decreases in thin-ideal internalization and increases in emotional well-being and positive body image compared to controls following participation in this program (Voelker et al., 2019). Thus, prior research lends support to the utility of cognitive dissonance interventions in mitigating body image concerns in women athletes and non-athletes. In light of current findings, similar interventions may also prove effective for women AWD.

Third, evidence exists in support of the efficacy of prevention programs in mitigating body, eating, and exercise comparison behaviors. Cash (2008) suggested that such programs should aid participants in understanding the consequences and functions of social comparison behavior by providing education on normative comparison

activities, internalization of body ideals, different social comparison behaviors (e.g., upward versus downward comparisons), and the link between social comparisons and disordered eating. Fitzsimmons-Craft et al (2014) further elucidated this recommendation by emphasizing the potential utility of cognitive and behavior therapies for eating disorders in mitigating social comparison behaviors, given their role in maintaining, and at times amplifying, negative body image. In light of this research, and given the direct and indirect effects of social pressures, thin-ideal internalization, and social comparison on body dissatisfaction in the current study, similar interventions may also be effective in AWD.

While limited research has evaluated the efficacy of eating disorder prevention programs for athletes (e.g., Becker et al., 2012), broader eating disorder prevention programs that utilize interactive approaches have garnered strong empirical support in populations of adult women (Stice, Shaw, & Marti, 2007). Interactive prevention programs typically include activities or exercises targeting risk factors for eating pathology, such as body dissatisfaction, and discussion of social pressures regarding weight, shape, and appearance (Bar, Cassin, & Dionne, 2016). Selective prevention programs, or programs designed for the specific needs of a target population (i.e., AWD), facilitated by an external professional (i.e., someone who does not regularly work with participants), that are multi-model and have multiple targets for systemic change have generated the largest effect sizes in terms of eating disorder prevention in women and athletes respectively (Stice, Shaw, & Marti, 2007; Bar, Cassin, & Dionne, 2016). Future research examining the effective implementation of eating disorder prevention efforts in

AWD will be vital in understanding the unique needs and challenges of preventative programming in disability sport.

Present findings highlighted the need for interventions targeting sport pressures, as pressures from coaches teammates, judges, and the performance environment regarding weight and appearance predict body dissatisfaction and body appreciation in AWD. Many coaches and performance support staff are ideally positioned to identify the early signs of eating disorders due to intensive and regular interactions with athletes (Nowicka, Eli, Apitzsch, & Sundgot-Borgen, 2013); however, some coaches have expressed hesitance to intervene unless eating habits negatively affect performance (Plateau, McDermott, Arcelus, & Meyer, 2014). Many coaches have also failed to recognize or tend to minimize signs of disordered eating in athletes (Nowicka et al., 2013). Minimization of disordered eating in sport may be related to coaches' lack of knowledge about eating disorders (e.g., assuming eating disorders are only related to nutrition) or uncertainty about how to intervene. Lack of systemic resources to support early detection and appropriate referrals to specialized support services may further prevent coaches from early intervention (Nowicka et al., 2013). These patterns are problematic as early detection of body image and disordered eating concerns, as well as referrals to specialized support services, are associated with greater successful eating disorder treatment outcomes (Nattiv, Loucks, Manore, Sanborn, Sundgot-Borgen, & Warren, 2007). As such, coaches could play a crucial role in the prevention of eating disorders in athletes and would greatly benefit from training in both knowledge of eating disorders and skill-building to support early intervention and referrals to specialty care. As both negative and positive body image have well-established associations with eating

behaviors, interventions that enhance knowledge of social factors (e.g., coach relationships) that affect body image in sport may also prove fruitful in the prevention of disordered eating in women AWD.

Current findings provide empirical justification for interventions designed to mitigate psychosocial factors, like social pressures and thin-ideal internalization, that predict body dissatisfaction in athletes. Results also suggest that limiting or eliminating psychosocial risk factors can contribute to increased body appreciation in women AWD. These findings lend support to another important clinical implication of our study: the need for positive body image interventions in disability sport. Promoting body appreciation has been found to protect against external appearance pressures (Halliwell, 2013), and to positively influence psychological adjustment to disability and well-being for people with visible differences (e.g., Halliwell, 2015). Positive body image has also been found to protect against body dissatisfaction and disordered eating (Halliwell, 2013; Stice, Shaw, & Marti, 2007). Yet, no investigation to date has tested the efficacy of positive body image interventions in AWD. Interventions designed to enhance positive body image may help athletes experience less pressure related to weight and appearance as positive body image (and body appreciation specifically) involves the rejection of unhealthy messages regarding body ideals (e.g., Tylka & Wood-Barcalow, 2015b). Such interventions may also contribute to increased experience of flow and subjective performance evaluations in athletes, not to mention improved markers of psychosocial well-being (e.g., Souillard et al., 2019). Future research examining positive body image in the context of sport, and the efficacy of positive body image interventions in protecting

against body image distress will be an important next step in further developing body positivity in disability sport culture.

Limitations

The current study had several limitations, including limitations related to research design and internal validity, data collection, external validity, and construct validity. This study utilized an exploratory, non-experimental design due to the cross-sectional nature of data collection. As with all cross-sectional research, the results of this study cannot imply causality between any predictor and outcome variables. Plausible causal relationships were evaluated but could not be confirmed due to the non-experimental design and lack of manipulation of an independent variable (Kline, 2016). Additionally, while several predictive pathways derived from the tripartite influence model were evaluated in the current study, results cannot be interpreted as validation of the model in a sample of women AWD, as the included sample size was not sufficiently large to warrant the required structural equation modeling (Kline, 2016). HMR analyses are appropriate for evaluating relationships between constructs, and in predicting variance in a dependent variable based on a combination of predictor variables (Tabachnick & Fidell, 2011). However, HMR analyses provided only “mini tests” of components included in the tripartite model, limiting the utility of results (Tomarken & Waller, 2005). Consequently, present findings were useful in establishing initial support for sociocultural theories of body image in AWD and identified important areas for future research. Broader recruitment efforts involving both national and international AWD, as well as AWD who identify with different genders, will greatly enhance the eligible participant pool for future research in this area.

The online nature of data collection posed threats to the statistical conclusion validity, internal validity, and construct validity of present findings. First, as survey administration occurred entirely online, the principle investigator had little control over the setting in which participants completed the survey, nor who was present during survey completion. Conservative preliminary analyses were utilized to minimize the impact of extraneous variance from participants' setting on present findings. This limitation can be resolved in future studies by collecting data in person at disability sporting events, or including both quantitative and qualitative data to enhance trustworthiness and richness of findings. Second, participant attrition played a significant role in decisions regarding data analysis and posed a threat to internal validity. While 251 potential participants accessed the online survey, only 188 participants consented to participate, and 136 met inclusion criteria following missing data and preliminary analyses. This suggests that over 50% of potential participants who accessed the study chose not to participate or did not complete the survey. High attrition rates necessitated changes in the study design and analyses, limiting the ability of present findings to validate the tripartite influence model in AWD. This limitation can be resolved in future studies by limiting the amount of demographic information collected prior to administration of key survey items. Third, only nine out of the original ten items included on the empirically validated BAS-2 (Avalos & Tylka, 2005) were included in this study due to an error in online survey construction. While the nine included BAS-2 items demonstrated strong internal consistency in the present sample (Cronbach's alpha of .87), results of the BAS-2 should be interpreted with caution due to the lack of widespread psychometric support for a 9-item measure. This limitation can be avoided in future

research through careful survey construction involving multiple research team members to double check the accuracy of included items.

The sample included 136 women AWD who participated in 36 different disability sports at various levels of competition. Few prior studies have included such a wide range of disability sport athletes, supporting the generalizability of findings to the larger population of women AWD. However, the demographic make-up of the included sample also posed some limitations to external validity. Approximately 80% of the sample identified as White or European American. As such, results cannot be considered representative of the experiences of AWD of color. Additionally, over 70% of participants were between the ages of 20-39, 76% identified as heterosexual, 71% competed at the professional or elite levels in disability sport, and 64% were active in their sport, suggesting that current findings were most applicable to the experiences of White, heterosexual, elite AWD who are currently competing. Future research is needed to better understand the experiences of AWD with intersecting marginalized social identities, as well as those who have retired from competition. This limitation can be resolved by conducting future research examining sociocultural theories of body image in AWD that utilize broader inclusion criteria to incorporate AWD from more diverse social groups.

Composite scores were calculated to represent the constructs of media pressures and internalization in the current study, posing a potential threat to construct validity. For the media pressures construct, the composite scores included an average of scores on the traditional media pressures and social media pressures subscale due to concerns with multicollinearity. Consequently, the unique effects of social media pressures on body

image outcomes could not be evaluated. Internalization was also calculated as an average of scores on measures of thin-ideal internalization, athletic-ideal internalization, and general body-ideal internalization due to the lack of prior research on the role of internalization in the relationship between sport pressures and body image in AWD. As such, conclusions cannot be drawn pertaining to the unique role of thin-ideal versus athletic-ideal internalization in predicting body dissatisfaction or body appreciation in the present study. Interestingly, examination of bivariate correlations prior to HMR analyses did not reveal significant associations between athletic-ideal internalization and variables capturing social pressures, sport pressures, body appreciation and body dissatisfaction. The measures of social and sport pressures included in the present study were developed based on thin-ideal internalization, and thus may not be as applicable to athletic-ideal internalization (e.g., Ramme et al., 2016). Future research is needed to better understand the relationships between social pressures in and outside of sport, athletic-ideal internalization, and body image in AWD.

Finally, current results indicated that cognitive processes partially facilitated the effects of sport pressures on both body dissatisfaction and body appreciation. Cognitive processing has been found to influence implicit and explicit attitudes related to appearance and social expectations regarding weight and appearance (e.g., thin-ideal; Ahem, 2008). Research has identified appearance salience (i.e., “the extent to which appearance and physical self is brought into conscious awareness,” Moss, Lawson, & White, 2013, p.), or focus on appearance, as a predictor of negative attitudes toward the body, while functionality salience (i.e., focus on body functionality) has been associated with increased body appreciation and positive attitudes toward the body (e.g., Avalos &

Tylka, 2006; Franzoi, 1995). Appearance and functionality salience represent two important cognitive processes that predict the development of body image in women; yet, neither were examined as potential contributing factors in the current study. Cognitive bias, including attention, memory, and judgment bias, have also been found to play an important role in the development of body image disturbances and eating disorders, and may also warrant inclusion in sociocultural models of body image (e.g., Williamson, Muller, Reas, & Thaw, 1999). As this study utilized competition level as a proxy for perceived importance of appearance in sport, we were unable to examine the role of implicit cognitive processes such as appearance salience and cognitive bias in predicting body image in women AWD from a sociocultural perspective. It is recommended that future explorations of sociocultural models of body image in women AWD include measures of appearance or functionality salience to further elucidate cognitive processes that predict body image outcomes.

Future Directions

While results from the current study established important relationships between social and cognitive processes that affect body image in AWD, the results also contributed to several additional empirical questions that will be important in cultivating deeper understanding of body image in AWD. First, future research is needed to better understand the role of perceived disability identity or status in shaping body image in AWD. Body image has been described as a major component of self-concept, and certain types of disabilities, such as limb amputations or spinal cord injuries, can pose threats to both body image and self-concept (e.g., Gallagher, Desmond, & McLachlan, 2008). Changes in body image can influence an individual's psychosocial adjustment, quality of

life, and activity levels following acquisition of a disability (e.g., Rybarczyk & Behel, 2008). Factors such as type of disability, location of disability (e.g., upper body extremity amputation versus lower body extremity amputation), and age at injury or loss of limb have been found to have varying influences on body image and subsequent markers of psychosocial well-being in adults with disabilities. Furthermore, research has indicated that an individual's relationship with their prosthetic device can also have a direct effect on body image in amputees. For example, Wetterhan et al. (2002) explored amputees' experiences adjusting to new perceptions of their bodies post-amputation. They described a process involving the integration of three different body images in the development of a new sense of self following loss of a limb: the intact or pre-amputation body image, the body with a lost limb, and the body with a prosthesis. The integration of all three body images affected the well-being of people with amputations, and the acceptance of changes in body functionality and integration of the prosthesis into body image appear particularly important in psychosocial adjustment to amputation (Sousa et al., 2009). As such, future research is needed to better understand the role of disability status in shaping body image in AWD.

Future research should also examine the role of perceived weight stigma or stigma associated with disability on body image in AWD. Weight stigma and Internalized Weight Bias (IWB) have been significantly associated with a plethora of psychosocial outcomes in adults. For example, weight stigma and IWB have been negatively associated with body dissatisfaction (e.g., Farrow & Tarrant, 2009), and positively associated with binge eating, drive for thinness, and exercise avoidance (e.g., Carels, Wott, Young, Gumble, Koball, & Oehlhof, 2010). Perceived or internalized stigma

related to disability also negatively affect body image in PWD (e.g., Behel & Rybarczyk, 2012). Examining the role of weight and social stigma in shaping body image in AWD will help researchers and practitioners better understand the mechanisms underlying the established effects of social and sport pressures on body image.

Despite parallels between current findings and prior research illuminating the role of internalization in facilitating the effects of social pressures on body dissatisfaction, questions remain pertaining to how and why certain body ideals are, or are not, internalized by women athletes. While the thin-ideal has been the dominant social norm of female attractiveness in Western culture for some time (e.g., Stice, 2002), emphasis has shifted to an athletic or fit ideal body in recent years, altering social narratives related to attractiveness and appearance (Ramme et al., 2016). Evidence exists both for and against the mediating role of athletic-ideal internalization in the association between social pressures and body dissatisfaction, describing the effects of athletic-ideal internalization as both similar to and less detrimental than thin-ideal internalization to body image in women (e.g., Benton & Karazsia, 2015; Ramme et al., 2016; Homan et al., 2010). Future research should examine the unique role of athletic-ideal internalization in the tripartite influence model, in light of the potential differences in internalization of body ideals on body dissatisfaction in women, and women athletes.

Further, Ramme et al (2016) argued that internalization of an athletic ideal may be a more direct reflection of one's role as an athlete or identity as a member of an athletic sub-culture or team. If an athlete is not a member of an athletic sub-culture or team, they may then experience less sport-specific social pressures related to body, appearance, and weight. The degree to which an individual identifies as an athlete, or the salience of their

athletic identity, may then affect the degree to which they internalize different body ideals. Individuals with a stronger athletic identity may be more likely to internalize the athletic-body ideal; yet, the effect of athletic-ideal internalization on body dissatisfaction remains unclear (Ramme et al., 2016). An individual's motivation for participation in sport or exercise may also influence the degree to which certain body ideals are internalized, and subsequently, individuals' experience of positive or negative body image. For example, Alleva and Tylka (2021) reported that individuals' motives for participation in sport and physical activity affect their experience of body image, noting that those who engage in sport or exercise for the purpose of losing weight or improving their appearance reported greater negative body image and lower body appreciation compared to individuals who participate for functional reasons, such as stress relief (De Bruin, Woertman, Bakker, & Oudejans, 2009; Tylka & Homan, 2015). Differences have also been established between Olympic and Paralympic athletes' motivation for sport participation, which has been associated with athletic identity (e.g., MacDougall et al., 2015). In light of these findings and limited research pertaining to body ideal internalization in AWD, future research should examine the potential moderating effects of athletic identity on the relationship between social pressures and internalization in AWD.

Additionally, no research to our knowledge has explored the role of gender identity and corresponding social experiences in shaping body image in AWD. Prior research has identified transgender women, in particular, as a group at high risk for body image concerns and disordered eating (e.g., Jones, Haycraft, Murjan, & Arcelus, 2016). Similar to cisgender women, transgender women experience sexual objectification of

their bodies and pressure to internalize unrealistic ideals related to appearance and attractiveness (Brewster, Velez, Breslow, & Geiger, 2019). However, transgender women often face additional structural and interpersonal barriers to achieving socially normative body ideals (e.g., facial hair) and corresponding antitransgender discrimination and minority stress (Brewster et al., 2019). Recent scholarship has shed light on systemic inequities, barriers, and lack of accessibility and inclusivity in sport for trans people (e.g., Lucas-Carr & Crane, 2011); yet, little is known about the effects of the sport environment on psychosocial outcomes in trans athletes, and no research has examined psychosocial functioning in trans AWD. As trans people and AWD are at high risk for body image concerns, it is vital that future research explore social factors in sport that affect body image in trans athletes and trans AWD to ensure the provision of culturally responsive and empirically supported practice. More broadly, future studies should also examine gender identity and body image in AWD using an intersectional framework that accounts for oppression and marginalization.

Finally, more research is needed to examine the relationship between body image and sport performance. Relationships between sport pressures about appearance and weight, internalization of body ideals, and sport performance are well-documented (e.g., Reel et al., 2013). However, few studies have examined the role of positive body image in facilitating sport performance. As previously stated, the developmental theory of embodiment (Piran, 2001; 2002; 2016; 2017) describes athletics as an embodying activity that involves integration of mind, body, and complete focus or engagement on the task at hand. These are all key characteristics of flow state – a state of mind and body where athletes are fully immersed in an activity in the present moment (Csikszentmihalyi,

1975). Flow is associated with optimal performance in sport, and Csikszentmihalyi's (1975) original nine-dimension framework has garnered a great deal of empirical attention and support (e.g., Swann, Crust, & Vella, 2017). However, limited research has examined associations between positive body image and flow, despite established connections between participation in embodying activities (e.g., sport) and positive body image. Souillard et al (2019) recently identified positive associations between body appreciation and functionality appreciation (two markers of positive body image) and sport confidence, flow, and subjective performance evaluation in college athletes. Future research is needed to explore the role of positive body image as a potential predictor of flow state (and thereby performance) in athletes.

Conclusion

The current study examined the effects of social factors in and outside of sport on body dissatisfaction and body appreciation in women AWD. This study also evaluated the mediating roles of social comparison and internalization in the relationship between sport pressures regarding weight and appearance and body image outcomes in AWD. This study was the first to date to quantitatively examine the effects of social factors on positive and negative body image in a large sample of women athletes with physical disabilities. Results demonstrated that both social and sport pressures have significant direct effects on body image outcomes. Pressures from family and media had the greatest effect among evaluated social pressures on both positive and negative body image outcomes, delineating the importance of attending to both macro and micro social processes in the development of eating disorder prevention programs for AWD. No prior study has captured the distinct impact of sport pressures on body image, beyond that of

broader social pressures. Present findings emphasized the unique impact that coaches, teammates, judges, and the disability sport environment have on body image in AWD. The direct effect of sport pressures on body dissatisfaction was partially mediated by internalization and social comparison, while the direct effect of sport pressures on body appreciation was partially mediated by social comparison with internalization included in the model. These findings provided initial support for the utility of the tripartite influence model in explaining body dissatisfaction in AWD, laying the groundwork for examination of relationships between social factors, body image, and disordered eating in this population. They also extended existing knowledge pertaining to the importance of cognitive processes in facilitating effects of sport pressures on body dissatisfaction. Further, this study was among the first to examine relationships between social and cognitive predictors and body appreciation in sport, highlighting the potential benefits of interventions designed to minimize effects of harmful social pressures pertaining to weight and appearance. Overall, the present study offered insight into social factors in and outside of disability sport that affect both positive and negative body image, highlighting both the applicability of sociocultural theories of body image in understanding lived experiences of AWD, and the need for further research on body image in this population.

References

- Alexander, D., Bloom, G. A., & Taylor, S. L. (2020). Female Paralympic athlete views of effective and ineffective coaching practices. *Journal of Applied Sport Psychology*, 32(1), 48-63. <https://doi.org/10.1080/10413200.2018.1543735>
- Alleva, J. M., Diedrichs, P. C., Halliwell, E., Peters, M. L., Dures, E., Stuijzand, B. G., & Rumsey, N. (2018). More than my RA: A randomized trial investigating body image improvement among women with rheumatoid arthritis using a functionality-focused intervention program. *Journal of Consulting and Clinical Psychology*, 86(8), 666–676. <https://doi.org.du.idm.oclc.org/10.1037/ccp0000317.supp>
- Alleva, J. M., & Tylka, T. L. (2021). Body functionality: A review of the literature. *Body Image*, 36, 141-179. <https://doi.org/10.1016/j.bodyim.2020.11.006>
- Alleva, J. M., Veldhuis, J., & Martijn, C. (2016). A pilot study investigating whether focusing on body functionality can protect women from the potential negative effects of viewing thin-ideal media images. *Body Image*, 17, 10–13. <http://dx.doi.org/10.1016/j.bodyim.2016.01.007>
- Aoyagi, M. W., Poczwardowski, A. (2012). *Expert Approaches to Sport Psychology*. Morgantown, WV: Fitness Information Technology.
- Aufderheide, P., & Firestone, C. M. (1993). *Media literacy: A report of the National Leadership Conference on Media Literacy*. Queenstown, MD: The Aspen Institute.
- Avalos, L. C., & Tylka, T. L. (2006). Exploring a model of intuitive eating with college

women. *Journal of Counseling Psychology*, 53, 486–497.

<https://dx.doi.org/10.1037/0022-0167.53.4.486>

Avalos, L., Tylka, T. L., & Wood-Barcalow, N. (2005). The Body Appreciation Scale: Development and psychometric evaluation. *Body Image*, 2(3), 285-297.

<https://dx.doi.10.1016/j.bodyim.2005.06.002>

Azen, R. & Budescu, D. (2012). Applications of multiple regression in psychological research. In R. E. Millsap & A. Maydeu-Olivares, *The SAGE handbook of quantitative methods in psychology*. London, UK: SAGE Publications Ltd.

<https://dx.doi.org/10.4135/9780857020994>

Bailey, K. A., & Gammage, K. L. (2020). Applying action research in a mixedmethods positive body image program assessment with older adults and people with physical disability and chronic illness. *Journal of Mixed Methods Research*, 14(2), 248-267. <https://dx.doi.org/10.1177/1558689819871814>

Bailey, K. A., Gammage, K. L., van Ingen, C., & Ditor, D. S. (2015). “It’s all about acceptance”: A qualitative study exploring a model of positive body image for people with spinal cord injury. *Body Image*, 15(), 24-34.

<http://dx.doi.org/10/1016/j/bodyim.2015.04.010>

Bar, R. J., Cassin, S. E., & Dionne, M. M. (2016). Eating disorder prevention initiatives for athletes: A review. *European Journal of Sport Science*, 16, 325–335.

<http://dx.doi.org/10.1080/17461391.2015.1013995>

Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical

considerations. *Journal of Personality and Social Psychology*, 51(6), 1173-1182.
<https://dx.doi.org/10.1037/0022-3514.51.6.1173>

- Becker, C. B., & Stice, E. (2017). From efficacy to effectiveness to broad implementation: Evolution of the body project. *Journal of Consulting and Clinical Psychology*, 85, 767–782. <http://dx.doi.org/10.1037/ccp0000204>
- Becker, C. B., McDaniel, L., Bull, S., Powell, M., & McIntyre, K. (2012). Can we reduce eating disorder risk factors in female college athletes? A randomized exploratory investigation of two peer-led interventions. *Body Image*, 9, 31-42.
<http://dx.doi.org/10.1016/j.bodyim.2011.09.005>
- Becker, C. B., Smith, L. M., & Ciao, A. C. (2006). Peer-facilitated eating disorder prevention: A randomized effectiveness trial of cognitive dissonance and media advocacy. *Journal of Counseling Psychology*, 53, 550–555.
<http://dx.doi.org/10.1037/0022-0167.53.4.550>
- Behel, J. M., & Rybarczyk, B. D. (2012). Physical disability and body image in adults. In T. F. Cash (Ed), *Encyclopedia of body image and human appearance* (644-649).
<https://doi.org/10.1016/B978-0-12-384925-0.00101-2>
- Bell, H. S., Donovan, C. L., & Ramme, R. (2016). Is athletic really ideal? An examination of the mediating role of body dissatisfaction in predicting disordered eating and compulsive exercise. *Eating Behaviours*, 21, 24–29.
<http://dx.doi.org/10.1016/j.eatbeh.2015.12.012>
- Benton, C. & Karazsia, B. T. (2015). The effect of thin and muscular images on women's body satisfaction. *Body Image*, 13, 22–27.
<http://dx.doi.org/10.1016/j.bodyim.2014.11.001>

- Berry, T. R., & Howe, B. L. (2000). Risk factors for disordered eating in female university athletes. *Journal of Sport Behavior*, 23(3), 207-219. Retrieved from <https://search.ebscohost.com.du.idm.oclc.org/login.aspx?direct=true&db=psyh&AN=2000-05889-001&site=ehost-live&scope=site>
- Biesecker, A. C., & Martz, D. M. (1999). Impact of coaching style on vulnerability for eating disorders: An analog study. *Journal of Eating Disorder Treatment and Prevention*, 7(3), 235–244. <https://dx.doi.org/10.1080/10640269908249289>
- Bissell, K.L., & Zhou, P.(2004). Must see TV or ESPN: Entertainment and sports media exposure and body image distortion in college women. *Journal of Communication*, 54(1), 5-21. <https://dx.doi.org/10.1111/j.1460-2466.2004.tb02610.x>
- Blashill, A. J., & Wilhelm, S. (2014). Body image distortions, weight, and depression in adolescent boys: Longitudinal trajectories into adulthood. *Psychology of Men & Masculinity*, 15(4), 445–451. <https://dx.doi.org/10.1037/a0034618>
- Blauwet, C., & Willick, S. E. (2012). The Paralympic Movement: Using sports to promote health, disability rights, and social integration for athletes with disabilities. *Physical Medicine and Rehabilitation*, 4(11), 851–856. doi: <https://dx.doi.org/10.1016/j.pmrj.2012.08.015>
- Blinde, E. M., & Taub, D. E. (1999). Personal empowerment through sport and physical fitness activity: Perspectives from male college students with physical and sensory disabilities. *Journal of Sport Behavior*, 22(2), 181–202. Retrieved from <https://search.ebscohost.com.du.idm.oclc.org/login.aspx?direct=true&db=psyh&AN=1999-05428-003&site=ehost-live&scope=site>

- Blinde, E. M., Taub, D. E., & Greer, K. R. (1999). Stigma management through participation in sport and physical activity: Experiences of male college students with physical disabilities. *Human Relations*, 52(11), 1469-1484.
<https://dx.doi.org/10.1023/A:1016928901982>
- Blinde, E. M., Taub, D. E., & Han, L. (2001). Sport participation and women's personal empowerment: Experiences of the college athlete. In A. Yiannakis & M. J. Melnick (Eds.), *Contemporary issues in sociology of sport*. (p. 159–168). Champaign, IL: Human Kinetics. Retrieved from <https://search-ebshost-com.du.idm.oclc.org/login.aspx?direct=true&db=psyh&AN=2002-02463-008&site=ehost-live&scope=site>
- Blodgett, A. T., Ge., Y., Schinke, R. J., & McGannon, K. R. (2017). Intersecting identities of elite female boxers: Stories of cultural difference and marginalization in sport. *Psychology of Sport and Exercise*, 32(), 83-92.
<https://dx.doi.org/10.1016/j.psychsport.2017.06.006>
- Blodgett, A. T., Schinke, R. J., McGannon, K. R., & Fisher, L. A. (2015). Cultural sport psychology research: Conceptions, evolutions, and forecasts. *International Review of Sport and Exercise Psychology*, 8, 24e43. <https://dx.doi.org/10.1080/1750984X.2014.942345>
- Blodgett, A. T., Schinke, R. J., Smith, B., Peltier, D., & Pheasant, C. (2011). In Indigenous words: Exploring vignettes as a narrative strategy for presenting the research voices of Aboriginal community members. *Qualitative Inquiry*, 17, 522-533. <http://dx.doi.org/10.1177/1077800411409885>.
- Bonilla-Silva, E. (1997). Rethinking racism: Toward a structural interpretation. *American*

- Sociological Review, 62, 465–480. <https://doi.org/10.2307/2657316>
- Boorstin, J. (2016). Digital streaming is a game changer for sports. *The Pulse Market 1, CNBC*. Retrieved from: <https://www.cnbc.com/2016/02/24/digital-streaming-is-a-game-changer-for-sports.html>
- Bragaru, M., Dekker, R., Geertzen, J. H. B., & Dijkstra, P. U. (2011). Amputees and sports: A systematic review. *Sports Medicine, 41*(9), 721-740. <https://dx.doi.org/10.2165/11590420-000000000-00000>
- Bratland-Sanda, S., & Sundgot-Borgen, J. (2012). Symptoms of eating disorders, drive for muscularity and physical activity among Norwegian adolescents. *European Eating Disorders Review, 20*(4), 287–293. <https://dx.doi.org/10.1002/erv.1156>
- Brewster, M. E., Velez, B. L., Breslow, A. S., & Geiger, E. F. (2019). Unpacking body image concerns and disordered eating for transgender women: The roles of sexual objectification and minority stress. *Journal of Counseling Psychology, 66*(2), 131–142. <https://doi-org.du.idm.oclc.org/10.1037/cou0000333>
- Brittain, I. (2004). Perceptions of disability and their impact upon involvement in sport for people with disabilities at all levels. *Journal of Sport and Social Issues, 28*(4), 429–452. <https://dx.doi.org/10.1177/0193723504268729>
- Brittain, I. & Beacom, A. (2018). *The Palgrave handbook of Paralympic studies*. London, UK: Palgrave Macmillan UK.
- Browne, M.W., & Cudeck, R. (1993). Alternative ways of assessing model fit. In K. A. Bollen, & J. S. Long (Eds.), *Testing structural equation models* (pp. 136-162). Newbury Park, CA: Sage.
- Bryant, F. B., & Sartorra, A. (2012). Principles and practice of scaled difference chi

square testing. *Structural Equation Modeling: A Multidisciplinary Journal*, 19, 372-398. <https://dx.doi.org/10.1080/10705511.2012.687671>

Burnette, C. B., & Mazzeo, S. E. (2020). An uncontrolled pilot feasibility trial of an intuitive eating intervention for college women with disordered eating delivered through group and guided self-help modalities. *International Journal of Eating Disorders*, 53(9), 1405-1417. <https://doi-org.du.idm.oclc.org/10.1002/eat.23319>

Byrne, S., & McLean, N. (2002). Elite athletes: Effects of the pressure to be thin. *Journal of Science and Medicine in Sport*, 5(2), 80–94. Retrieved from: [https://www-sciencedirect-com.du.idm.oclc.org/search/advanced?docId=10.1016/S1440-2440\(02\)80029-9](https://www-sciencedirect-com.du.idm.oclc.org/search/advanced?docId=10.1016/S1440-2440(02)80029-9)

Cafri, G., Yamamiya, Y., Brannick, M., & Thompson, J. K. (2005). The influence of sociocultural factors on body image: A meta-analysis. *Clinical Psychology: Science and Practice*, 12(4), 421-433. <https://dx.doi.org/10.1093/clipsy/bpi053>

Calogero, R. M., Davis, W. N., & Thompson, J. K. (2004). The Sociocultural Attitudes Toward Appearance Questionnaire(SATAQ-3): Reliability and normative comparisons of eating disordered patients. *Body Image*, 1(2), 193–198. <https://dx.doi.org/10.1016/j.bodyim.2004.01.004>

Carels, R. A., Wott, C. B., Young, K. M., Gumble, A., Koball, A., & Oehlhof, M. W. (2010). Implicit, explicit, and internalized weight bias and psychosocial maladjustment among treatment-seeking adults. *Eating Behaviors*, 11(3), 180-185. <https://dx.doi.org/10.1016/j.eatbeh.2010.03.002>

Carah, N., & Louw, E. (2015). *Media and society: Production, content, and participation*. London, UK: Sage.

- Cash, T. F. (2008). *The body image workbook, 2nd Ed.* Oakland, CA: New Harbinger Publications.
- Cash, T. F., & Pruzinsky, T. (2002). *Body image: A handbook of theory, research, and clinical practice.* New York, NY: Guilford.
- Cash, T. F., & Smolak, L. (2011). Understanding body images: Historical and contemporary perspectives. In T. F. Cash & L. Smolak (Eds.), *Body image: A handbook of science, practice, and prevention., 2nd ed.* (pp. 3–11). New York, NY: Guilford Press. Retrieved from:
<http://du.idm.oclc.org/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=psyh&AN=2011-20792-001&site=ehost-live&scope=site>
- Charmaz, K., & Rosenfeld, D. (2012). Reflections of the body, images of self: Visibility and invisibility in chronic illness and disability. In D. Waskul & P. Vannini (Eds), *Body/embodyment: Symbolic interaction and the sociology of the body* (35-50). Aldershot, England; Burlington, VT: Ashgate.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Erlbaum.
- Cohen, R., & Blaszczynski, A. (2015). Comparative effects of Facebook and conventional media on body dissatisfaction. *Journal of Eating Disorders, 3*(23), 1-11. <https://dx.doi.org/10.1186/s40337-015-0061-3>
- Coker-Cranney, A., & Reel, J. (2015), Coach pressure and disordered eating in female collegiate athletes: Is the coach-athlete relationship a mediating factor? *Journal of Clinical Sport Psychology, 9*(3), 213-231. <https://dx.doi.org/10.1123/jcsp.2014-0052>

- Cole, E. R., (2009). Intersectionality and research in psychology. *American Psychologist*, 64(3), 170-180. <https://dx.doi.org/10.1037/a0014564>
- Crawford, J. R., & Henry, J. D. (2004). The positive and negative affect schedule (PANAS): Construct validity, measurement properties and normative data in a large clinical sample. *British Journal of Clinical Psychology*, 43(3), 243-265. <https://dx.doi.org/10.1348/0144665031752934>
- Csikszentmihalyi, M. (1975). *Beyond boredom and anxiety: Experiencing flow in work and play*. San Francisco, CA: Jossey-Bass.
- Curioni, C., & Lourenco, P. (2005). Long-term weight loss after diet and exercise: A systematic review. *International Journal of Obesity*, 29(10), 1168-1174. <https://dx.doi.org/10.1038/sj.ijo.0803015>
- Dalal, D. K., & Zickar, M. J. (2012). Some common myths about centering predictor variables in moderated multiple regression and polynomial regression. *Organizational Research methods*, 15(3), 339-362. <https://dx.doi.org/10.1177/1094428111430540>
- Daniels, E. A. (2006). Media representations of active women: What are girls seeing and does it affect their self-concept? *Dissertation Abstracts International*, 67(5-B), 2858. <https://du.idm.oclc.org/login?url=https://www-proquest-com.du.idm.oclc.org/dissertations-theses/media-representations-active-women-what-are-girls/docview/305349668/se-2?accountid=14608>
- Davison, T. E. (2012). Body image in social contexts. In T. F. Cash (Ed.), *Encyclopedia of body image and human experience* (pp. 243-249). Oxford, UK: Elsevier Science.

- Day, M. C. (2013). The role of initial physical activity experiences in promoting posttraumatic growth in Paralympic athletes with an acquired disability. *Disability and Rehabilitation, 35*(24), 2064-207.
<https://dx.doi.org/10.3109/09638288.2013.805822>
- De Bruin, A. P. K., Oudejans, R. R. D., Bakker, F. C., & Woertman, L. (2011). Contextual body image and athletes' disordered eating: The contribution of athletic body image to disordered eating in high performance women athletes. *European Eating Disorders Review, 19*(3), 201-215.
<https://dx.doi.org/10.1002/erv.1112>
- De Bruin, A. P., Woertman, L., Bakker, F. C., & Oudejans, R. R. D. (2009). Weight-related sport motives and girls' body image, weight control behaviors, and self-esteem. *Sex Roles, 60*(9-10), 628-641. <http://dx.doi.org/10.1007/s11199-008-9562-8>
- Dieffenbach, K. D., & Statler, T. A. (2012). More similar than different: The psychosocial environment of Paralympic sport. *Journal of Sport Psychology in Action, 3*(2), 109-118. <https://dx.doi.org/10.1080/21520704.2012.683322>.
- Division for the Advancement of Women (2007). *Women 2000 and beyond: Women, gender equality, and sport*. New York, NY: Division for the Advancement of Women, Department of Economic and Social Affairs, United Nations Secretariat.
- Douglas, K. (2014). Challenging interpretive privilege in elite and professional sport: One [athlete's] story, revised, reshaped and reclaimed. *Qualitative Research in Sport, Exercise and Health, 6*, 220-243.
<http://dx.doi.org/10.1080/2159676X.2013.858369>.

- Elliott, T. R., Herrick, S. M., Witty, T. E., Godshall, F., & Spruell, M. (1992). Social support and depression following spinal cord injury. *Rehabilitation Psychology, 37*, 37–48. <http://dx.doi.org/10.1037//0090-5550.37.1.37>
- Ellis, K., & Goggin, G. (2015). *Disability and the media*. Basingstoke, UK: Palgrave Macmillan.
- Fallon, E. A., & Hausenbals, H. A. (2005). Media images of the “ideal” female body: Can acute exercise moderate their psychological impact? *Body Image, 2*(1), 62-73. <https://dx.doi.org/10.1016/j.bodyim.2004.12.001>
- Fardouly, J., Diedrichs, P. C., Vartanian, L. R., & Halliwell, E. (2015). Social comparisons on social media: The impact of Facebook on young women’s body image concerns and mood. *Body Image, 13*, 38–45. <https://dx.doi.org/10.1016/j.bodyim.2014.12.002>
- Fardouly, J., & Vartanian, L. R. (2016). Social media and body image concerns: Current research and future directions. *Current Opinion in Psychology, 9*, 1-5. <https://dx.doi.org/10.1016/j.copsyc.2015.09.005>
- Farrow, C. V., & Tarrant, M. (2009). Weight-based discrimination, body dissatisfaction and emotional eating: The role of perceived social consensus. *Psychology & Health, 9*(9), 1021-1034. <https://doi.org/10.1080/08870440802311348>
- Ferrand, C., Magnan, C., Rouveix, M., & Filaire, E. (2007). Disordered eating, perfectionism and body esteem of elite synchronized swimmers. *European Journal of Sport Science, 7*(4), 223-230. <https://dx.doi.org/10.1016/j.bodyim.2014.12.002>
- Festinger, L. (1954). A theory of social comparison processes. *Human Relations, 7*, 117-

140. <https://dx.doi.org/10.1177/001872675400700202>

Fitzsimmons-Craft, E. E. & Bardone-Cone, A. M. (2014). One-year temporal stability and predictive and incremental validity of the Body, Eating, and Exercise Comparison Orientation Measure (BEECOM) among college women. *Body Image, 11*(1), 27–35. <https://dx.doi.org/10.1016/j.bodyim.2013.09.003>

Fitzsimmons-Craft, E. E., Bardone-Cone, A. M., Bulik, C. M., Wonderlich, S. A., Crosby, R. D., & Engel, S. G. (2014). Examining an elaborated sociocultural model of disordered eating among college women: The roles of social comparison and body surveillance. *Body Image, 11*(4), 488–500. <https://dx.doi.org/10.1016/j.bodyim.2014.07.012>

Fitzsimmons-Craft, E. E., Bardone-Cone, A. M., & Harney, M. B. (2012). Development and validation of the Body, Eating, and Exercise Comparison Orientation Measure (BEECOM) among college women. *Body Image, 9*(4), 476–487. <https://doi-org.du.idm.oclc.org/10.1016/j.bodyim.2012.07.007>

Fitzsimmons-Craft, E. E., Harney, M. B., Koehler, L. G., Danzi, L. E., Riddell, M. K., & Bardone-Cone, A. M. (2012). Explaining the relation between thin ideal internalization and body dissatisfaction among college women: The roles of social comparison and body surveillance. *Body Image, 9*(1), 43-49. <https://doi.org/10.1016/j.bodyim.2011.09.002>

Francisco, R., Alarcao, M., & Narciso, I. (2012). Parental influences on elite aesthetic athletes' body image dissatisfaction and disordered eating. *Journal of Child & Family Studies, 22*(8), 1082-1091. <https://dx.doi.org/10.1007/s10826-012-9670-5>

Franzoi, S. L. (1995). The body-as-object versus the body-as-process: Gender differences

and gender considerations. *Sex Roles*, 33, 417–437.

<https://dx.doi.org/10.1007/BF01954577>

Franzoi, S. L., & Klaiber, J. R. (2007). Body use and reference group impact: With whom do we compare our bodies? *Sex Roles*, 56, 205-214.

<https://dx.doi.org/10.1007/s11199-006-9162-4>

Frazier, P. A., Tix, A. P., & Barron, K. E. (2004). Testing moderator and mediator effects in counseling psychology research. *Journal of Counseling Psychology*, 51(1), 115-134. <https://dx.doi.org/10.1037/0022-0167.51.1.115>

Fredrickson, B., & Roberts, T. (1997). Objectification theory: Toward understanding women's lived experiences and mental health risks. *Psychology of Women Quarterly*, 21(2), 173-206. <https://dx.doi.org/10.1111/j.1471-6402.1997.tb00108.x>

French, L., & Le Clair, J. M. (2018). Game changer? Social media, representations of disability, and the Paralympic Games. In I. Brittain & A Beacom (Eds.), *The Palgrave Handbook of Paralympic Studies* (99-121). London, UK: Palgrave Macmillan UK

Fuller-Tyszkiewicz, M., Chhouk J., McCann, L. A., Urbina, G., Vuo, H., Krug, I., Ricciardelli, L., Linardon, J., Broadbent, J., Heron, K., & Richardson, B.(2019). Appearance comparison and other appearance-related influences on body dissatisfaction in everyday life. *Body Image.*, 28, 101–109.

<https://doi.org/10.1016/j.bodyim.2019.01.002>

Gallagher, P., Desmond, D., & MacLahlan, M. (2008). *Psychoprosthetics*. Springer-

Verlag London Limited. <https://doi-org.du.idm.oclc.org/10.1007/978-1-84628-980-4>.

Galli, N., Reel, J. J., Henderson, H., & Detling, N. (2016). An investigation of body image in athletes with physical disabilities. *Journal of Clinical Sport Psychology, 10*(1), 1-18. <https://dx.doi.org/10.1123/JCSP.2015-0018>

Goffman, E. (1959). *The presentation of self in everyday life*. NY: Anchor Books

Goldschmidt, A. B., Wall, M., Loth, K. A., Le Grange, D., & Neumark-Sztainer, D.

(2012). Which dieters are at risk for the onset of binge eating? A prospective study of adolescents and young adults. *Journal of Adolescent Health, 51*(1), 86–92. <https://dx.doi.org/10.1016/j.jadohealth.2011.11.001>

Goodwin, D., Thurmeier, R., & Gustafson, P. (2004). Reactions to the metaphors of disability: The mediating effects of physical activity. *Adapted Physical Activity Quarterly, 21*(4), 379-398. Retrieved from <https://search-ebscohost.com.du.idm.oclc.org/login.aspx?direct=true&db=psych&AN=2004-19950-004&site=ehost-live&scope=site>

Goodyear, R., Lichtenberg, J., Hutman, H., Overland, E., Bedi, R., ..., & Young, C.

(2016). A global portrait of counseling psychologists' characteristics, perspectives, and professional behaviors. *Counseling Psychology Quarterly, 29*(2), 115-138. <https://dx.doi.org/10.1080/09515070.2015.1128396>

Grabe, S., Ward, L.M., & Hyde, J. S. (2008). The role of the media in body image concerns among women: A meta-analysis of experimental and correlational studies. *Psychological Bulletin, 134*, 460–476. <http://dx.doi.org/10.1037/0033-2909.134.3.460>

- Green, S. B. (1991). How many subjects does it take to do a regression analysis? *Multivariate Behavioral Research*, 26, 449–510.
https://dx.doi.org/10.1207/s15327906mbr2603_7
- Greenleaf, C. (2002). Athletic body image: Exploratory interviews with former female competitive athletes. *Women in Sport and Physical Activity Journal*, 11, 63-88.
<https://dx.doi.org/10.1123/wspaj.11.1.63>
- Greenleaf, C. (2004). Weight pressures and social physique anxiety among collegiate synchronized skaters. *Journal of Sport Behavior*, 27, 260-276. Retrieved from <https://search-ebshost.com.du.idm.oclc.org/login.aspx?direct=true&db=psych&AN=2005-10407-004&site=ehost-live&scope=site>
- Greenwood, M. C., Dziewaltowski, D. A., & French, R. (1999). Self-efficacy and psychological well-being of wheelchair tennis participants and wheelchair non-tennis participants. *Adapted Physical Activity Quarterly*, 7(1), 12-21.
<https://doi.org/10.1123/apaq.7.1.12>
- Groesz, L. M., Levine, M. P., & Murnen, S. K. (2002). The effect of experimental presentation of thin media images on body satisfaction: A meta-analytic review. *International Journal of Eating Disorders*, 31(1), 1–16.
<https://dx.doi.org/10.1002/eat.10005>
- Grogan, S. (2008). *Body image: Understanding body satisfaction in men, women, and children*. New York, NY: Routledge.
- Groff, D.G., Lundberg, N.R., & Zabriskie, R.B. (2009). Influence of adapted sport on quality of life: Perceptions of athletes with cerebral palsy. *Disability and Rehabilitation*, 31, 318–326.

<https://doi.org.du.idm.oclc.org/10.1080/09638280801976233>

Grossbard, J.R., Lee, C.M., Neighbors, C., & Larimer, M.E.(2009). Body image concerns and contingent self-esteem in male and female college students. *Sex*

Roles, 60, 198–207. PubMed <https://dx.doi.org/10.1007/s11199-008-9535-y>

Hahn Oh, K., Wiseman, M. C., Hendrickson, J., Phillips, J. C., & Hayden, E. W. (2012).

Testing the acceptance model of intuitive eating with college women athletes.

Psychology of Women Quarterly, 36(1), 88-98.

<https://dx.doi.org/10.1177/0361684311433282>

Hair, J. F., Anderson, R. E., Tatham, R. L., & Black, W. C. (1995). *Multivariate data analysis*, 3rd ed. Macmillan.

Halliwel, E. (2013). The impact of thin idealized media images on body satisfaction:

Does body appreciation protect women from negative effects? *Body Image*, 10(4),

509–514. <http://dx.doi.org/10.1016/j.bodyim.2013.07.004>

Halliwel, E. (2015). Future directions for positive body image research. *Body Image*, 14,

177-189. <http://dx.doi.org/10.1016/j.bodyim.2015.03.003>

Halliwel, E., Easun, A., & Harcourt, D. (2011). Body dissatisfaction: Can a short media

literacy message reduce negative media exposure effects amongst adolescent

girls? *British Journal of Health Psychology*, 16(2), 396–403.

<http://dx.doi.org/10.1348/135910710X515714>

Hargreaves, D., & Tiggemann, M. (2003). The effect of thin ideal television commercials

on body dissatisfaction and schema activation during early adolescence. *Journal*

of Youth and Adolescence, 32(5), 367–373.

<https://dx.doi.org/10.1023/a:1024974015581>

- Harrison, K. (2000). The body electric: Thin-ideal media and eating disorders in adolescents. *Journal of Communication, 50*(3), 119–143.
<https://dx.doi.org/10.1111/j.1460-2466.2000.tb02856.x>
- Harrison, K., & Cantor, J. (1997). The relationship between media consumption and eating disorders. *Journal of Communication, 47*(1), 40–67.
<https://dx.doi.org/10.1111/j.1460-2466.1997.tb02692.x>
- Hausenblas, H. A., & Downs, D. S. (2001). Comparison of body image in athletes and nonathletes: A meta-analytic review. *Journal of Applied Sport Psychology, 13*(3), 323-339. <https://dx.doi.org/10.1080/104132001753144437>
- Hayes, A. F. (2018). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach, 2nd ed.* New York, NY: Guilford Press.
- Hayes, A. F. (2013). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach.* New York, NY: Guilford Press.
- Hayes, A. F. (2009). Beyond Baron and Kenny: Statistical mediation analysis in the new millennium. *Communication Monographs, 76*, 408-420.
<https://doi.org/10.1080/03637750903310360>
- Hayes, A. F., Glynn, C. J., & Huge, M. E. (2012). Cautions regarding the interpretation of regression coefficients and hypothesis tests in linear models with interactions. *Communication methods and measures; 6*(1), 1-11.
<https://doi.org/10.1080/19312458.2012.651415>
- Hayes, A. F. & Scharkow, M. (2013). The relative trustworthiness of inferential tests of

the indirect effect in statistical mediation analysis: Does method really matter?
Psychological Science, 24(10), 1918-1927.

<https://dx.doi.org/10.1177/0956797613480187>

Heinberg, L. J., Thompson, J. K., & Stormer, S. (1995). Sociocultural Attitudes Toward Appearance Scale (SATAQ). *International Journal of Eating Disorders*, 17(1), 81–89. [https://dx.doi.org/10.1002/1098-108X\(199501\)17:1<81::AID-EAT2260170111>3.0.CO;2-Y](https://dx.doi.org/10.1002/1098-108X(199501)17:1<81::AID-EAT2260170111>3.0.CO;2-Y)

Heywood, S., & McCabe, M. P. (2006). Negative affect as a mediator between body dissatisfaction and extreme weight loss and muscle gain behaviors. *Journal of Health Psychology*, 11(6), 833–844. <https://doi.org/10.1177/1359105306069077>

Holland, G., & Tiggemann, M. (2016). A systematic review of the impact of the use of social networking sites on body image and disordered eating outcomes. *Body Image*, 17, 100-110. <https://dx.doi.org/10.1016/j.bodyim.2016.02.008>

Holliday, R., & Hassard, J. (2001). Contested bodies: An introduction. In R. Holliday & J. Hassard (Eds.), *Contested bodies* (pp. 1–17). New York: Routledge.

Holmes, M., Fuller-Tyszkiewicz, M., Skouteris, H., & Broadbent, J. (2014). Tests of an extension of the dual pathway model of bulimic symptoms to the state-based level. *Eating Behaviors*, 15(2), 280–285.

<https://doi.org/10.1016/j.eatbeh.2014.03.011>

Homan, K. (2010). Athletic-ideal and thin-ideal internalization as prospective predictors of body dissatisfaction, dieting, and compulsive exercise. *Body Image*, 7, 240–245. <https://dx.doi.org/10.1016/j.bodyim.2010.02.004>

Homan, K. J., & Boyatzis, C. J. (2010). The protective role of attachment to God

against eating disorder risk factors: Concurrent and prospective evidence. *Eating Disorders: The Journal of Treatment and Prevention*, 18, 1–20.

<https://dx.doi.org/10.1080/10640261003719534>

Homan, K., McHugh, E., Wells, D., Watson, C., & King, C. (2012). The effect of viewing ultra-fit images on college women's body dissatisfaction. *Body Image*, 9, 50-56. <https://dx.doi.org/10.1016/j.bodyim.2011.07.006>

Homan, K. J., & Tylka, T. L. (2018). Development and exploration of the gratitude model of body appreciation in women. *Body Image*, 25, 14-22.

<https://doi.org/10.1016/j.bodyim.2018.01.008>

Huang, C-J., & Brittain, I. (2006). Negotiating identities through disability sport. *Sociology of Sport Journal*, 23(4), 352-375. Retrieved from <https://search-ebscohost-com.du.idm.oclc.org/login.aspx?direct=true&db=psych&AN=2006-22605-002&site=ehost-live&scope=site>

Hubert, M., & Vandervieren, E. (2008). An adjusted boxplot for skewed distributions. *Computational statistics and data analysis*, 52 (12), 5186-5201.

<https://dx.doi.org/10.1016/j.csda.2007.11.008>

International Paralympic Committee (IPC; 2006). International Paralympic Committee handbook. Retrieved from: <https://www.paralympic.org/the-ipc/handbook>

Paralympic Committee (IPC; 2010). IPC women in sport leadership toolkit: Increasing opportunities for women in Paralympic Sport. *International Paralympic Committee*. Retrieved from:

https://www.paralympic.org/sites/default/files/document/130130154714620_2010_10_01++IPC+Women+in+Sport+Leadership+Toolkit.pdf

- International Paralympic Committee (IPC; 2013). IPC policy on eligible impairments in the Paralympic movement. Retrieved from:
https://www.paralympic.org/sites/default/files/document/141113170238135_2014_10_13+Sec+ii+chapter+3_13+IPC+Policy+on+Eligible+Impairments+in+the+Paralympic+Movement.pdf
- International Paralympic Committee (IPC; 2015). Explanatory guide to Paralympic classification: Paralympic summer sports. Retrieved from:
https://m.paralympic.org/sites/default/files/document/150915170806821_2015_09_15+Explanatory+guide+Classification_summer+FINAL+.pdf
- International Paralympic Committee (IPC; 2016). Rio 2016 in numbers. Retrieved from:
<https://www.paralympic.org/news/rio-2016-numbers>
- International Paralympic Committee (IPC; 2018). PyeongChang Paralympics to be the biggest yet. Retrieved from: <https://www.paralympic.org/news/pyeongchang-2018-paralympics-be-biggest-yet>
- Jacobi, C., Hayward, C., de Zwaan, M., Kraemer, H.C., & Agras, W. S. (2004). Coming to terms with risk factors for eating disorders: Application of risk terminology and suggestions for a general taxonomy. *Psychological Bulletin*, 130(1), 19-65.
<https://dx.doi.org/10.1037/0033-2909.130.1.19>
- Jeffries, P., Gallagher, P., Dunne, S. (2012). The Paralympic athlete: A systemic review of the psychosocial literature. *Prosthetics and Orthotics International*, 36(3), 278-289. <https://dx.doi.org/10.1177/0309364612450184>
- Jones, B. A., Haycraft, E., Murjan, S., & Arcelus, J. (2016). Body dissatisfaction and

disordered eating in trans people: A systematic review of the literature.

International Review of Psychiatry, 28, 81–94.

<http://dx.doi.org/10.3109/09540261.2015.1089217>

Kamal, A. F., Blais, C., Kelly, P., & Ekstrand, K. (1995). Self-esteem attributional components of athletes versus non-athletes. *International Journal of Sport Psychology*, 26, 189-195.

Kantanista, A., Glapa, A., Banio, A., Firek, W., Ingarden, A., ..., & Mackowiak, Z.

(2018). Body image of highly trained female athletes engaged in different types of sport. *BioMed research international*, 2018, 6835751-8.

<https://doi.org/10.1155/2018/6835751>

Kearney-Cooke & Tieger (2015). Body image disturbance and the development of eating disorders. In L. Smolak & M. P. Levine (Eds.), *The Wiley Handbook of Eating Disorders* (pp. 283-296). West Sussex, UK: Wiley. Self-esteem attributional components of athletes versus non-athletes

<https://dx.doi.org/10.1002/9781118574089.ch22>

Keery, H., van den Berg, P., & Thompson, J. K. (2004). An evaluation of the tripartite influence model of body dissatisfaction and eating disturbance with adolescent girls. *Body Image*, 1(3), 237-251.

<https://dx.doi.org/10.1016/j.bodyim.2004.03.001>

Kentz, E. M., & Warschburger, P. (2013). A longitudinal investigation of sports-related risk factors for disordered eating in aesthetic sports. *Scandinavian Journal of Medicine, Science, and Sports*, 23, 303-310. <https://dx.doi.org/10.1111/j.1600-0838.2011.01380.x>

- Kerr, G., Berman, E., & De Souza, M. J. (2006). Disordered eating in women's gymnastics: Perspectives of athletes, coaches, parents, and judges. *Journal of Applied Sport Psychology, 18*(1), 28-43.
<https://dx.doi.org/10.1080/10413200500471301>
- Kirby, S. L., Demers, G., & Parent, S. (2008). Vulnerability/prevention: Considering the needs of disabled and gay athletes in the context of sexual harassment and abuse. *International Journal of Sport and Exercise Psychology, 6*, 407-426.
<https://dx.doi.org/10.1080/1612197X.2008.9671882>
- Kline, R. B. (2016). *Principles and practice of structural equation modeling (4th Ed.)*. New York, NY: Guilford Press.
- Kong, P., & Harris, L. M. (2015). The sporting body: body image and eating disorder symptomology among female athletes from leanness focused and nonleanness focused sports. *The Journal of Psychology, 149*(2), 141-160.
<https://dx.doi.org/10.1080/00223980.2013.846291>
- Krane, V., Choi, P. Y. L., Baird, S. M., Aimar, C. M., & Kauer, K. J. (2004). Living the paradox: Female athletes negotiate femininity and muscularity. *Sex Roles, 50*(5/6), 315-329. <https://dx.doi.org/10.1023/B:SERS.0000018888.48437.4f>
- Krentz, E. M., & Warschburger, P. (2013). A longitudinal investigation of sports-related risk factors for disordered eating in aesthetic sports. *Scandinavian Journal of Medicine & Science in Sports, 23*, 303-310. <https://dx.doi.org/10.1111/j.1600-0838.2011.01380.x>Luce
- Kroon Van Diest, A. M., & Tylka, T. L. (2010). The Caregiver Eating Messages Scale: Development and psychometric investigation. *Body Image, 7*(4), 317-326. doi:

<https://dx.doi.org/10.1016/j.bodyim.2010.06.002>

Little, R. J. A., & Rubin, D. (2020). *Statistical analysis with missing data (3rd ed.)*.

Hoboken, NJ: Wiley

Llorente, E., Gleaves, D. H., Warren, C. S., Perez de Eulate, L., & Rakhovskaya, L.

(2014). Translation and validation of a Spanish version of the Sociocultural

Attitudes Toward Appearance Questionnaire-4 (SATAQ-4). *International Journal*

of Eating Disorders, 48(2), 170-175. <https://dx.doi.org/10.1002/eat.22263>

Lobera, I. J., & Rios, P. B. (2011). Spanish version of the Body Appreciation Scale for adolescents. *Spanish Journal of Psychology*, 14(1), 411-420.

https://dx.doi.org/10.5209/rev_SJOP.2011.v14.n1.37

Lucas-Carr, Cathryn B, & Krane, Vikki. (2011). What Is the T in LGBT? Supporting

Transgender Athletes through Sport Psychology. *The Sport Psychologist*, 25(4),

532-548. <https://doi-org.du.idm.oclc.org/10.1123/tsp.25.4.532>

Lumley, T., Diehr, P., Emerson, S., & Chen, L. (2002). The importance of the normality assumption in large public health data sets. *Annu Rev Public Health*, 23, 151–169.

<https://dx.doi.org/10.1146/annurev.publhealth.23.100901.140546>

Lunde, C. (2013). Acceptance of cosmetic surgery, body appreciation, body ideal internalization, and fashion blog reading among late adolescents in Sweden. *Body Image*, 10(4), 632–635.

<https://doi.org.du.idm.oclc.org/10.1016/j.bodyim.2013.06.007>

Macdougall, H., O-Halloran, P., Shields, N., & Sherry, E. (2015). Comparing the well-

being of Para and Olympic sport athletes: A systematic review. *Adapted Physical*

Activity Quarterly, 32(3), 256-276.

<https://doi.org.du.idm.oclc.org/10.1123/APAQ.2014-0168>

Manago, A. M., Ward, L., Lemm, K. M., Reed, L., & Seabrook, R. (2015). Facebook involvement, objectified body consciousness, body shame, and sexual assertiveness in college women and men. *Sex Roles, 72*(1-2), 1–14.

<https://dx.doi.org/10.1007/s11199-014-0441-1>

Martin, J. J. (2013). Benefits and barriers to physical activity for individuals with disabilities: A social-relational model of disability perspective. *Disability and Rehabilitation, 35*(24), 2030-2037.

<https://dx.doi.org/10.3109/09638288.2013.802377>

McGannon, K. R., & Smith, B. (2015). Centralizing culture in cultural sport psychology research: The potential of narrative inquiry and discursive psychology. *Psychology of Sport and Exercise, 17*, 79-87.

<https://doi.org/10.1016/j.psychsport.2014.07.010>

McLean, S. A., Paxton, S. J., & Wertheim, E. H. (2016). The role of media literacy in body dissatisfaction and disordered eating: A systematic review. *Body Image, 19*, 9-23. <https://doi.org/10.1016/j.bodyim.2016.08.002>

Menzel, J. E., & Levine, M. P. (2011). Embodying experience and the promotion of positive body image: The example of competitive athletes. In R. M. Calogero, S. Tantleff-Dunn, & J. K. Thompson (Eds.), *Self-objectification in women: Causes, consequences, and counteractions*. (pp. 163–186). Washington, DC: American Psychological Association.

<https://dx.doi.org/10.1037/12304-008>

Menzel, J. E., Schaefer, L. M., Burke, N. L., Mayhew, L. L., Brannick, M. T., &

- Thompson, J. K. (2010). Appearance-related teasing, body dissatisfaction, and disordered eating: A meta-analysis. *Body Image*, 7(4), 261–270.
<https://dx.doi.org/10.1016/j.bodyim.2010.05.004>
- Mills, J., Fuller-Tyszkiewicz, M., & Holmes, M. (2014). State body dissatisfaction and social interactions: An experience sampling study. *Psychology of Women Quarterly*, 38(4), 551-562.
<https://doi.org.du.idm.oclc.org/10.1177/0361684314521139>
- Moradi, B., & Grzanka, P. (2017). Using Intersectionality Responsibly: Toward Critical Epistemology, Structural Analysis, and Social Justice Activism. *Journal of Counseling Psychology*, 64(5), 500-513. <https://dx.doi.org/10.1037/cou0000203>
- Moss T.P., Lawson V., White P. (2014). Salience and valence of appearance in a population with a visible difference of appearance: Direct and moderated relationships with self-consciousness, anxiety and depression. *PLOS ONE*, 9(2), e88435. <https://doi.org/10.1371/journal.pone.0088435>
- Moss, T. P., & Rosser, B. (2012). Adult psychosocial adjustment to visible differences: Physical and psychological predictors of variation. In N. Rumsey & D. Harcourt (Eds.), *The Oxford handbook of the psychology of appearance* (pp. 273-295). Oxford, England: Oxford University Press.
- Murray, S. H., Touyz, S. W., & Beumont, P. J. (1995). The influence of personal relationships on women's eating behavior and body dissatisfaction. *Eating Disorders*, 3(3), 243-252. <https://dx.doi.org/10.1080/10640269508249168>
- Muscat, A. C., & Long, B. C. (2008). Critical comments about shape and weight:

- Disordered eating of female athletes and sport participants. *Journal of Applied Sport Psychology*, 20(1), 1-24. <https://dx.doi.org/10.1080/10413200701784833>
- Myers, T.A., & Crowther, J.H. (2009). Social comparison as a predictor of body dissatisfaction: A meta-analytic review. *Journal of Abnormal Psychology*, 118, 683-698. <https://dx.doi.org/10.1037/a0016763>
- Nattiv, A., Loucks, A.B., Manore, M.M., Sanborn, C.F., Sundgot-Borgen, J. and Warren, M. P. (2007). The female athlete triad. *Medicine and Science in Sports and Exercise*, 39(10), 1867-1882. <https://dx.doi.org/10.1249/mss.0b013e318149f111>
- Nowicka, P., Eli, K., Ng, J., Aritzsch, E., & Sundgot-Borgen, J. (2013). Moving from knowledge to action: A qualitative study of elite coaches' capacity for early intervention in cases of eating disorders. *International Journal of Sports Science & Coaching*, 8(2), 343-355. <https://doi.org/10.1260/1747-9541.8.2.343>
- Pate, J., Hardin, R., & Ruihley, B. (2013). The social media games: An analysis of Paralympic athletes' tweets. Paper presented at the North American Society for Sport Management. Retrieved from: <http://news.sky.com/story/1475970/burden-of-disability-eased-but-at-what-price>
- Paterson, K., & Hughes, B. (1999). Disability studies and phenomenology: The carnal politics of everyday life. *Disability & Society*, 14(5), 567-610. <https://dx.doi.org/10.1080/09687599925966>
- Penas-Lledo, E, Vaz Leal, F. J., & Waller, G. (2002). Excessive exercise in anorexia nervosa and bulimia nervosa: Relation to eating characteristics and general psychopathology. *International Journal of Eating Disorders*, 31(4), 370–375. <https://dx.doi.org/10.1002/eat.10042>

- Perey, I., & Koenigstorfer, J. (2020). Appearance comparisons and eating pathology: A moderated serial mediation analysis exploring body image flexibility and body appreciation as mediators and self-compassion as moderator. *Body Image, 35*, 255–264. <https://doi.org/10.1016/j.bodyim.2020.09.008>
- Perrier, M.-J., Smith, B., Strachan, S. M., & Latimer-Cheung, A. E. (2014). Narratives of athletic identity after acquiring a permanent physical disability. *Adapted Physical Activity Quarterly, 31*(2), 106–124. <https://dx.doi.org/10.1123/apaq.2012-0076>
- Petrie, T. A., & Greenleaf, C. (2012). Eating disorders in sport. In S. M. Murphy, *The Oxford Handbook of Sport and Performance Psychology* (635-659). <https://dx.doi.org/10.1002/9781118270011.ch16>
- Piran, N. (2017). *Journeys of embodiment at the intersection of body and culture: The developmental theory of embodiment*. San Diego: CA, Elsevier.
- Piran, N. (2016). Embodied possibilities and disruptions: The emergence of the Experience of Embodiment construct from qualitative studies with girls and women. *Body Image, 18*, 43–60. <http://dx.doi.org/10.1016/j.bodyim.2016.04.007>
- Piran, N. (2015). New possibilities in the prevention of eating disorders: The introduction of positive body image measures. *Body Image, 14*, 146-157. <https://dx.doi.org/10.1016/j.bodyim.2015.03.008>
- Piran, N. (2002). Embodiment: A mosaic of inquiries in the area of body weight and shape preoccupation. In S. M. Abbery (Ed.), *Ways of knowing in and through the body: Diverse perspectives on embodiment* (pp. 211–214). Welland, Ontario: Soleil Publishing.
- Piran, N. (2001). Re-inhabiting the body from the inside out: Girls transform their school

environment. In D. L. Tolman & M. Brydon-Miller (Eds.), *From subjects to subjectivities: A handbook of interpretative and participatory methods* (pp.218–238). New York, NY: NYU Press.

Plateau, C. R., McDermott, H. J., Arcelus, J., & Meyer, C (2014). Identifying and preventing disordered eating among athletes: perceptions of track-and-field coaches. *Psychology of Sport Exercise, 15*(6), 721-728.
<https://doi.org/10.1016/j.psychsport.2013.11.004>

Porras-Garcia, B., Ferrer-Garcia, M., Serrano-Troncoso, E., Carulla-Roig, M., Soto-Usera, P., Miquel-Nabau, H., ... Gutiérrez-Maldonado, J. (2021). AN-VR-BE. A randomized controlled trial for reducing fear of gaining weight and other eating disorder symptoms in anorexia nervosa through virtual reality-based body exposure. *Journal of Clinical Medicine, 10*(4), 682-705.
<https://dx.doi.org/10.3390/jcm10040682>

Prnjak K, Jukic I, Tufano JJ (2019). Perfectionism, body satisfaction and dieting in athletes: The role of gender and sport type. *Sports (Basel), 7*(8), 181-191.
<https://dx.doi.org/10.3390/sports7080181>.

Quittkat, H. L., Hartmann, A. S., Düsing, R., Buhlmann, U., & Vocks, S. (2019). Body dissatisfaction, importance of appearance, and body appreciation in men and women over the lifespan. *Frontiers in Psychiatry, 10*, 864.
<https://doi.org/10.3389/fpsy.2019.00864>

Ramme, R. A., Donovan, C. L., & Bell, H. S. (2016). A test of athletic internalization as

a mediator in the relation between sociocultural influences and body dissatisfaction in women. *Body Image*, 16, 126-132.

<https://dx.di.org/10.1016/j.bodyim.2016.01.002>

Ramseyer Winter, V., Gillen, M. M., Cahill, L., Jones, A., & Ward, M. (2019). Body appreciation, anxiety, and depression among a racially diverse sample of women. *Journal of Health Psychology*, 24(11), 1517-1525.

<https://doi-org.du.idm.oclc.org/10.1177/1359105317728575>

Reel, J. J. (2012). Identification and prevention of weight pressures and body image concerns among athletes. *Latin American Journal of Sport Psychology*, 6(2), 203-216.

Reel, J.J., & Gill, D.L. (2001). Slim enough to swim? Weight pressures for competitive swimmers and coaching implications. *The Sport Journal*, 4. Retrieved from: <http://www.thesportjournal.org/article/slim-enough-swim-weight-pressures-competitiveswimmers-and-coaching-implications>.

Reel, J. J. & Gill, D. L. (1996). Psychosocial factors related to eating disorders among high school and college female cheerleaders. *The Sport Psychologist*, 10(2), 195–206. Retrieved from <https://search-ebshost-com.du.idm.oclc.org/login.aspx?direct=true&db=psych&AN=1996-94109-007&site=ehost-live&scope=site>

Reel, J. J., Petrie, T. A., SooHoo, S., & Anderson, C. M. (2013). Weight pressures in sport: Examining the factor structure and incremental validity of the weight pressures in sport – females. *Eating Behaviors*, 14(2), 137-144.

<https://dx.doi.org/10.1016/j.eatbeh.2013.01.003>

- Reel, J. J., SooHoo, S. Petrie, T., Greenleaf, C., & Carter, J. E. (2010). Slimming down for sport: Development of a weight pressures in sport measure for female athletes. *Journal of Clinical Psychology, 4*(2), 99-111. Retrieved from <http://du.idm.oclc.org/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=psyh&AN=2010-24196-001&site=ehost-live&scope=site>
- Ricciardelli, L. A., & McCabe, M. P. (2002). Psychometric evaluation of the Body Change Inventory: An assessment instrument for adolescent boys and girls. *Eating Behaviors, 3*(1), 45–59. [https://dx.doi.org/10.1016/S1471-0153\(01\)00044-7](https://dx.doi.org/10.1016/S1471-0153(01)00044-7)
- Risman, B. J. (2004). Gender as a social structure: Theory wrestling with activism. *Gender & Society, 18*, 429–450. <https://doi.org/10.1177/0891243204265349>
- Rodgers, R. F., McLean, S. A., & Paxton, S. J. (2015). Longitudinal relationships among internalization of the media ideal, peer social comparison, and body dissatisfaction: Implications for the tripartite influence model. *Developmental Psychology, 51*(5), 706–713. <https://doi.org/10.1037/dev0000013>
- Rodgers, R., Schaefer, L. M., Thompson, J. K., Girard, M., Bertrand, M., & Chabrol, H. (2016). Psychometric properties of the sociocultural attitudes towards appearance questionnaire-4 (SATAQ-4) in French women and men. *Body Image, 17*, 143–151. <https://dx.doi.org/10.1016/j.bodyim.2016.03.002>
- Ronkainen, N. J., Kavoura, A., & Ryba, T. V. (2016). Narrative and discursive perspectives on athletic identity: Past, present, and future. *Psychology of Sport and Exercise, 27*(C), 128-137. <https://dx.doi.org/10.1016/j.psychsport.2016.08.010>

- Rybarczyk, B., & Behel, J. (2008). Limb loss and body image. In P. Gallagher, D. Desmond, & M. MacLachlan (Eds.), *Psychoprosthetics* (pp. 23-32). Springer-Verlag London Limited. <https://doi-org.du.idm.oclc.org/10.1007/978-1-84628-980-4>
- Rybarczyk, B., Nyenhuis, D. L., Nicholas, J. J., Cash, S. M., & Kaiser, J. (1995). Body image, perceived social stigma, and the prediction of psychosocial adjustment to leg amputation. *Rehabilitation Psychology, 40*(2), 95-110. <https://dx.doi.org/10.1037/0090-5550.40.2.95>
- Sabiston, C. M., Pila, E., Vani, M., & Thogersen-Ntoumani, C. (2018). Body image, physical activity, and sport: A scoping review. *Psychology of Sport and Exercise, 1*-10. <https://dx.doi.org/10.1016/j.psychsport.2018.12.010>
- Sands, R. T., & Wettenhall, R. S. (2000). Female wheelchair athletes and changes to body image. *International Journal of Disability Development and Education, 47*(4), 413-426. <https://doi.org/10.1080/713671149>
- Schaefer, L. M., Burke, N. L., Thompson, J. K., Dedrick, R., Heinberg, L. J., ..., & Swami, V. (2015). Development and validation of the sociocultural attitudes towards appearance questionnaire-4 (SATAQ-4). *Psychological Assessment, 27*(1), 54-67. <https://dx.doi.org/10.1037/a0037917>
- Schaefer, L. M., Harriger, J. A., Heinberg, L. J., Soderberg, T., & Thompson, J. K. (2017). Development and validation of the sociocultural attitudes toward appearance questionnaire-4-revised (SATAQ-4R). *International Journal of Eating Disorders, 50*(2), 104-117. <https://dx.doi.org/10.1002/eat.22590>
- Schinke, R., & McGannon, K. (2015). Cultural sport psychology and intersecting

- identities: An introduction in the special section. *Psychology of Sport & Exercise*, 17(1), 45-47. <https://dx.doi.org/10.1016/j.psychsport.2014.10.010>
- Schinke, R. J., Stambulova, N. B., Lidor, R., Papioannou, A., & Ryba, T. V. (2016). ISSP position stand: Social missions through sport and exercise psychology. *International Journal of Sport & Exercise Psychology*, 14, 4-22. <http://dx.doi.org/10.1080/1612197X.2014.999698>.
- Shapiro, D.R., & Martin, J.J. (2010). Multidimensional physical self-concept of athletes with physical disabilities. *Adapted Physical Activity Quarterly*, 27(4), 294–307. <https://dx.doi.org/10.1123/apaq.27.4.294>
- Shin, R. Q., Welch, J. C., Kaya, A. E., Yeung, J. G., Obana, C., ..., & Yee, S. (2017). The Intersectionality Framework and identity intersections in the *Journal of Counseling Psychology* and *The Counseling Psychologist*: A content analysis. *Journal of Counseling Psychology*, 64(5), 458-474. <https://dx.doi.org/10.1037/cou0000204>
- Shroff, H., & Thompson, J. K. (2006). The tripartite influence model of body image and eating disturbance: A replication with adolescent girls. *Body Image*, 3(1), 17–23. <https://dx.doi.org/10.1016/j.bodyim.2005.10.004>
- Shroff, H., Reba, L., Thornton, L. M., Tozzi, F., Klump, K. L., Berrettini, W. H., ... & Bulik, C. M. (2006). Features associated with excessive exercise in women with eating disorders. *International Journal of Eating Disorders*, 39(6), 454–461. <https://dx.doi.org/10.1002/eat.20247>
- Siegel, J. A., Huellemann, K. L., Hillier, C. C., & Campbell, L. (2020). The protective

role of self-compassion for women's positive body image: An open replication and extension. *Body Image*, 32, 136–144.

<https://doi.org/du.idm.oclc.org/10.1016/j.bodyim.2019.12.003>

Smith, B. (2010). Narrative inquiry: Ongoing conversations and questions for sport and exercise psychology research. *International Review of Sport and Exercise Psychology*, 3(1), 87-107. <https://dx.doi.org/10.1080/17509840903390937>

Smith, B. & Perrier, M. J. (2014). Disability, sport, and impaired bodied: A critical approach. In R. J. Schinke, & K. R. McGannon (Eds.), *Routledge handbook of disability studies* (pp. 336-347). London: Routledge.

Smith, B., Perrier, M. J., & Martin, J. J. (2016). Disability sport: A partial overview and some thoughts about the future. In R. J. Schinke (Ed.), *Routledge International Handbook of Sport Psychology* (pp. 296-303). London: Routledge.

Smith, B., & Sparkes, A. (2008). Narrative and its potential contribution to disability studies. *Disability & Society*, 23(1), 17-28.

<https://dx.doi.org/10.1080/09687590701725542>.

Smith, M., & Wrynn, A. (2013). *Women in the 2012 Olympic and Paralympic games: An analysis of participation and leadership opportunities*. Ann Arbor, MI: SHARP Center for Women and Girls.

Smolak, L., & Cash, T. F. (2011). Future challenges for body image science, practice, and prevention. In T. F. Cash & L. Smolak (Eds.), *Body image: A handbook of science, practice, and prevention.*, 2nd ed. (pp. 471–478). New York, NY:

Guilford Press. Retrieved from <https://search-ebshost->

com.du.idm.oclc.org/login.aspx?direct=true&db=psyh&AN=2011-20792-053&site=ehost-live&scope=site

Smolak, L., & Murnan, S. K. (2008). Drive for leanness: Assessment and relationship to gender, gender role, and objectification. *Body Image*, 5(3), 251-260.

<https://dx.doi.org/10.1016/j.bodyim.2008.03.004>

Solenberger, S. (2001). Exercise and eating disorders: A 3-year inpatient hospital record analysis. *Eating Behavior*, 2(2), 151–168. [https://dx.doi.org/10.1016/S1471-](https://dx.doi.org/10.1016/S1471-0153(01)00026-5)

[0153\(01\)00026-5](https://dx.doi.org/10.1016/S1471-0153(01)00026-5)

Souillard, Z. A., Kauffman, A. A., Fitterman-Harris, H. F., Perry, J. E., & Ross, M. J.

(2019). Examining positive body image, sport confidence, flow state, and subjective performance among student-athletes and non-athletes. *Body Image*, 28,

93-100. <https://doi.org/10.1016/j.bodyim.2018.12.009>

Sousa, A., Corredeira, R., & Pereira, A. (2009). The body in persons with amputation.

Adapted Physical Activity Quarterly, 26(3), 236–258. Retrieved from

<http://du.idm.oclc.org/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=psyh&AN=2009-08830-003&site=ehost-live&scope=site>

Stephan, Y., & Bilard, J. (2003). Repercussions of transition out of elite sport on body image. *Perceptual and Motor Skills*, 96(1), 95-104.

<https://dx.doi.org/10.2466/PMS.96.1.95-104>

Stephan, Y., & Brewer, B. W. (2007). Perceived determinants of identification with

athlete role among elite competitors. *Journal of Applied Sport Psychology*, 19(1),

67-79. <https://dx.doi.org/10.1080/10413200600944090>

Stice, E. (2001). A prospective test of the dual-pathway model of bulimic pathology:

- Mediating effects of dieting and negative affect. *Journal of Abnormal Psychology*, 110(1), 124–135. <https://dx.doi.org/10.1037/0021-843X.110.1.124>
- Stice, E. (2002). Risk and maintenance factors for eating pathology: A meta-analytic review. *Psychological Bulletin*, 128(5), 825–848. <https://dx.doi.org/10.1037/0033-2909.128.5.825>
- Stice, E., & Agras, W. S. (1998). Predicting onset and cessation of bulimic behaviors during adolescence: A longitudinal grouping analysis. *Behavior Therapy*, 29, 257–276. [https://dx.doi.org/10.1016/S0005-7894\(98\)80006-3](https://dx.doi.org/10.1016/S0005-7894(98)80006-3)
- Stice, E., Butryn, M. L., Rohde, P., Shaw, H., & Marti, C. N. (2013). An effectiveness trial of a new enhanced dissonance eating disorder prevention program among female college students. *Behavior Research and Therapy*, 51(12), 862-871. <https://doi.org/10.1016/j.brat.2013.10.003>
- Stice, E., Ng, J., & Shaw, H. (2010). Risk factors and prodromal eating pathology. *Journal of Child Psychology and Psychiatry*, 51(4), 518–525. <https://dx.doi.org/10.1111/j.14697610.2010.02212.x>
- Stice, E., Marti, C. N., & Durant, S. (2011). Risk factors for onset of eating disorders: Evidence of multiple risk pathways from an 8-year prospective study. *Behavior Research and Therapy*, 49(10), 622–627. <https://dx.doi.org/10.1016/j.brat.2011.06.009>
- Stice, E., & Shaw, H. E. (2002). Role of body dissatisfaction in the onset and maintenance of eating pathology: A synthesis of research findings. *Journal of Psychosomatic Research*, 53(5), 985–993. [https://dx.doi.org/10.1016/S0022-3999\(02\)00488-9](https://dx.doi.org/10.1016/S0022-3999(02)00488-9)

- Stice, E., Shaw, H., & Marti, C.N. (2007). A meta-analytic review of eating disorder prevention programs: Encouraging findings. *Annual Review of Clinical Psychology, 3*, 233–257.
<https://dx.doi.org/10.1146/annurev.clinpsy.3.022806.091447>
- Sundgot-Borgen, J. (1993). Prevalence of eating disorders in elite female athletes. *International Journal of Sport Nutrition, 3*(1), 29–40.
<https://dx.doi.org/10.1123/ijns.3.1.29>
- Swami, V., & Jaafar, J. L. (2012). Factor structure of the Body Appreciation Scale among Indonesian women and men: Further evidence of a two-factor solution in a non-Western population. *Body Image, 9*, 539-542. 542.
<https://dx.doi.org/10.1016/j.bodyim.2012.06.002>
- Swami, V., Stieger, S., Haubner, T., & Voracek, M. (2008). German translation and psychometric evaluation of the Body Appreciation Scale. *Body Image, 5*(1), 122–127. <https://dx.doi.org/10.1016/j.bodyim.2007.10.002>
- Swann, C., Crust, L., Jackman, P., Vella, S. A., Allen, M. S., & Keegan R. (2017). Psychological states underlying excellent performance in sport: Toward an integrated model of flow and clutch states. *Journal of Applied Sport Psychology, 29*(4), 375-401. <https://dx.doi.org/10.1080/10413200.2016.1272650>
- Szymanski, D. M., Moffitt, L. B., & Carr, E. R. (2011). Sexual objectification of women: Advances to theory and research. *The Counseling Psychologist, 39*(1), 6–38.
<https://dx.doi.org/10.1177/0011000010378402>
- Tabachnick, B. G., & Fidell, L. S. *Using multivariate statistics, 6th ed.* Upper Saddle River, NJ: Pearson Education, Inc.

- Taleporos, G., Dip, G., & McCabe, M.P. (2001). The impact of physical disability on body esteem. *Sexuality and Disability*, 19(4), 293–308.
<https://dx.doi.org/10.1023/A:1017909526508>
- Taleporos, G., & McCabe, M. P. (2002). Body image and physical disability: Personal perspectives. *Social Science and Medicine*, 54(6), 971-980.
[https://dx.doi.org/10.1016/S0277-9536\(01\)00069-7](https://dx.doi.org/10.1016/S0277-9536(01)00069-7)
- Taleporos, G., & McCabe, M. P. (2005). The relationship between the severity and duration of physical disability and body esteem. *Psychology & Health*, 20(5), 6637-650. <https://dx.doi.org/10.1080/0887044042000334733>
- Tamari, T. (2017). Body image and prosthetic aesthetics: Disability, technology, and Paralympic culture. *Body & Society*, 23(2), 25-56.
<https://dx.doi.org/10.1177/1357034X17697364>
- Tatar, Y. (2010). Body image and its relationship with exercise and sports in Turkish lower-limb amputees who use prosthesis. *Science & Sports*, 25(6), 312–317.
<https://dx.doi.org/10.1016/j.scispo.2010.02.001>
- Taub, D. E., Blinde, E. M., & Greer, K. R. (1999). Stigma management through participation in sport and physical activity: Experiences of male college students with physical disabilities. *Human Relations*, 52(11), 1469–1484.
<https://dx.doi.org/10.1177/001872679905201106>
- Taylor, D. M. (2018). Americans with disabilities: 2014. *Household Economic Studies*, US. Department of Commerce Economics and Statistics Administration, U.S. Census Bureau. Retrieved from:

<https://www.census.gov/content/dam/Census/library/publications/2018/demo/p70-152.pdf>

Thomas, C. (2010) Medical sociology and disability theory. In: G. Scambler and S. Scambler (Eds.), *New Directions in the Sociology of Chronic and Disabling Conditions: Assaults on the Lifeworld* (37-56). Basingstoke, UK: Palgrave Macmillan.

Thomas, C. (2007). *Sociologies of disability and illness*. London: Palgrave.

Thomas, C. (2004). How is disability understood? An examination of sociological approaches. *Disability & Society*, 19(6), 569-583.
<https://dx.doi.org/10.1080/0968759042000252506>

Thompson, J. K., Heinberg, L. J., Altabe, M., & Tantleff-Dunn, S. (1999). *Exacting beauty: Theory, assessment, and treatment of body image disturbance*. Washington, DC: American Psychological Association.

Thompson, C., Kim, R., Aloe, A., & Becker, B. (2017). Extracting the variance inflation factor and other multicollinearity diagnostics from typical regression results. *Basic and Applied Social Psychology*, 39(2), 81-90.
<https://doi.org/10.1080/01973533.2016.1277529>

Thompson, J. K., & Stice, E.(2001). Thin-ideal internalization: Mounting evidence for a new risk factor for body-image disturbance and eating pathology. *Current Directions in Psychological Science*, 10(5), 181–183.
<https://dx.doi.org/10.1111/1467-8721.00144>

Thompson, J. K., van den Berg, P., Roehrig, M., Guarda, A. S., & Heinberg, L. J. (2004).

The sociocultural attitudes toward appearance scale-3 (SATAQ-3): Development and validation. *International Journal of Eating Disorders*, 35(3), 293–304.

<https://dx.doi.org/10.1002/eat.10257>

Thompson, R. A., & Sherman, R. T. (2010). *Eating disorders in sport*. New York, NY: Routledge.

Tiggemann, M. (2015). Considerations of positive body image across various social identities and special populations. *Body Image*, 14, 168-176.

<https://dx.doi.org/10.1016/j.bodyim.2015.03.002>

Tiggemann, M. (2011). Sociocultural perspectives on human appearance and body image.

In T. F. Cash & L. Smolak (Eds.), *Body image: A handbook of science, practice, and prevention., 2nd ed.* (12–19). New York, NY: Guilford Press. Retrieved from

<http://du.idm.oclc.org/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=psyh&AN=2011-20792-002&site=ehost-live&scope=site>

Tiggemann, M. (2006). The role of media exposure in adolescent girls' body

dissatisfaction and drive for thinness: Prospective results. *Journal of Social and Clinical Psychology*, 25(5), 523–541.

<https://dx.doi.org/10.1521/jscp.2006.25.5.523>

Tiggemann, M. (2004). Body image across the adult life span: Stability and change. *Body Image*, 1, 29–41. doi: 10.1016/S1740-1445(03)00002-0

Tiggemann, M., & Miller, J. (2010). The Internet and adolescent girls' weight satisfaction and drive for thinness. *Sex Roles: A Journal of Research*, 63(1–2), 79–90.

<https://dx.doi.org/10.1007/s11199-010-9789-z>

Tiggemann, M., & Slater, A. (2013). Netgirls: The Internet, Facebook, and body image

- concern in adolescent girls. *International Journal of Eating Disorders*, 46(6), 630–633. <https://dx.doi.org/10.1002/eat.22141>
- Tomarken, A. J., & Waller, N. G. (2005). Structural equation modeling: Strengths, limitations, and misconceptions. *Annual Review of Clinical Psychology*, 1(1), 31–65. <https://doi.org/10.1146/annurev.clinpsy.1.102803.144239>
- Torstveit, M. K., Rosenvinge, J. H., & Sundgot-Borgen, J. (2008). Prevalence of eating disorders and the predictive power of risk models in female elite athletes: a controlled study. *Scandinavian Journal of Medicine & Science in Sports*, 18(1), 108–118. <https://dx.doi.org/10.1111/j.1600-0838.2007.00657>
- Torstveit, M., & Sundgot-Borgen, J. (2005). The Female Athlete Triad exists in both elite athletes and controls. *Medicine and Science in Sports and Exercise*, 37(9), 1449–1459. <https://dx.doi.org/10.1249/01.mss.0000177678.73041.38>
- Tylka, T. L. (2018). Overview of the field of positive body image. In E. A. Daniels, M. M. Gillen, & C. H. Markey (Eds.), *Body Positive: Understanding and Improving Body Image in Science and Practice*. New York, NY: Cambridge.
- Tylka, T. L. (2013). Evidence for the Body Appreciation Scale’s measurement equivalence/invariance between US college women and men. *Body Image*, 10, 415–418. <https://dx.doi.org/10.1016/j.bodyim.2013.02.006>
- Tylka, T. L. (2011a). Positive psychology perspectives on body image. In T. F. Cash & L. Smolak (Eds.), *Body image: A handbook of science, practice, and prevention* (2nd Ed., pp. 56–64). New York: Guilford Press.
- Tylka, T. L. (2011b). Refinement of the tripartite influence model for men: Dual body

- image pathways to body change behaviors. *Body Image*, 8(3), 199-207.
<https://dx.doi.org/10.1016/j.bodyim.2011.04.008>
- Tylka, T. L. (2006). Development and psychometric evaluation of a measure of intuitive eating. *Journal of Counseling Psychology*, 53(2), 226–240.
<https://dx.doi.org/10.1037/0022-0167.53.2.226>
- Tylka, T. L., & Andorka, M. J. (2011). Support for an expanded tripartite influence model with gay men. *Body Image*, 9(1), 57-67.
<https://dx.doi.org/10.1016/j.bodyim.2011.09.006>
- Tylka, T. L., & Homan, K. J. (2015). Exercise motives and positive body image in physically active college women and men: Exploring an expanded acceptance model of intuitive eating. *Body Image*, 15, 90-97.
<https://doi.org/10.1016/j.bodyim.2015.07.003>
- Tylka, T. L., & Kroon Van Diest, A. M. (2013). The Intuitive Eating Scale-2: Item refinement and psychometric evaluation with college women and men. *Journal of Counseling Psychology*, 60(1), 137–153. <https://dx.doi.org/10.1037/a0030893>
- Tylka, T. L., & Wood-Barcalow, N. L. (2015). The Body Appreciation Scale-2: Item refinement and psychometric evaluation. *Body Image*, 12, 53-67.
<https://dx.doi.org/10.1016/j.bodyim.2014.09.006>
- Tylka, T. L., & Wood-Barcalow, N. L. (2015b). What is and what is not positive body image? Conceptual foundations and construct definition. *Body Image*, 14, 118–129. <http://dx.doi.org/10.1016/j.bodyim.2015.04.001>
- Uhlmann, L. R. (2018). The fit beauty ideal: A healthy alternative to thinness or a wolf in

sheep's clothing? *Body Image*, 25, 23–30.

<https://doi.org/10.1016/j.bodyim.2018.01.005>

U.S. Census Bureau (2014). U.S. Census 2010 website. Retrieved from:

<https://www.census.gov/topics/health/disability.html>

Valliant, P. M., Bezzubik, I., Daley, L., & Asu, M. E. (1985). Psychological impact of sport on disabled athletes. *Psychological Reports*, 56(3), 923–929.

<https://doi.org/10.2466/pr0.1985.56.3.923>

van den Berg, P., Paxton, S. J., Keery, H., Wall, M., Guo, J., & Neumark-Sztainer, D. (2007). Body dissatisfaction and body comparison with media images in males and females. *Body Image*, 4(3), 257–268.

<https://dx.doi.org/10.1016/j.bodyim.2007.04.003>

Vandenbosch, L., & Eggermont, S. (2012). Understanding sexual objectification: A comprehensive approach toward media exposure and girls' internalization of beauty ideals, self-objectification, and body surveillance. *Journal of Communication*, 62(5), 869–887. <https://dx.doi.org/10.1111/j.1460-2466.2012.01667>.

van Ginkel, J. R., Linting, M., Rippe, R. C., & van der Voort, A. (2019). Rebutting existing misconceptions about multiple imputation as a method for handling missing data. *Journal of Personality Assessment*, 102(3), 1–12.

<https://dx.doi.org/10.1080/00223891.2018.1530680>

Varnes, J. R., Stelfefon, M. L., Janelle, C. M., Dorman, S. M., Dodd, V., & Miller, M.

- D. (2013). A systematic review of studies comparing body image concerns among female college athletes and non-athletes, 1997-2012. *Body Image, 10*, 421-432.
<https://dx.doi.org/10.1016/j.bodyim.2013.06.001>
- Varnes, J. R., Stollefson, M. L., Miller, M. D., Janelle, C. M., Dodd, V., & Pigg, R. M. (2016). Body esteem and self-objectification among collegiate female athletes: Does social objectification make a difference. *Psychology of Women Quarterly, 39*(1), 95-108. <https://dx.doi.org/10.1177/0361684314531097>
- Vasquez, M. J. T. (2012). Psychology and social justice: Why we do what we do. *American Psychologist, 67*(5), 337-346. <https://dx.doi.org/10.1037/a0029232>
- Vincent, M. A., & McCabe, M. P. (2000). Gender differences among adolescents in family, and peer influences on body dissatisfaction, weight loss, and binge eating behaviors. *Journal of Youth and Adolescence, 29*, 205–221. <https://dx.doi.org/10.1023/A:1005156616173>
- Voelker, D. K., Petrie, T. A., Huang, Q., & Chandran, A. (2019). Bodies in Motion: An empirical evaluation of a program to support positive body image in female collegiate athletes. *Body Image, 28*, 149-158.
<https://doi.org/10.1016/j.bodyim.2019.01.008>
- Voelker, D. K., Petrie, T. A., Neumann, C. S., & Anderson, C. M. (2016). Psychosocial factors as longitudinal predictors of bulimic symptomatology among female collegiate athletes. *Psychology of Sport and Exercise, 26*, 123–129.
<http://dx.doi.org/10.1016/j.psychsport.2016.06.009>
- Wetterhahn, K.A., Hanson, C., & Levy, C.E. (2002). Effect of participation in physical

activity on body image of amputees. *American Journal of Physical Medicine & Rehabilitation*, 81(3), 194–201. <https://dx.doi.org/10.1097/00002060-200203000-00007>

Williams, O. (2012). Eating for excellence: Eating disorders in elite sport – inevitability and ‘immunity.’ *European Journal for Sport and Society*, 9(1), 33-55. <https://dx.doi.org/10.1080/16138171.2012.11687888>

Williams, J. M., & Krane, V. (2013). *Applied sport psychology: Personal growth to peak performance*. New York, NY: McGraw-Hill.

Williamson, D. A., Muller, S. L., Reas, D. L., & Thaw, J. M. (1999). Cognitive bias in eating disorders: Implications for theory and treatment. *Behavior Modification*, 23(4), 556–577. <https://doi.org/10.1177/0145445599234003>

Williamson, D. A., Netemeyer, R. G., Jackman, L. P., Anderson, D. A., Funsch, C. L., & Ralabais, J. Y. (1995). Structural equation modeling of risk factors for the development of eating disorder symptoms in female athletes. *International Journal of Eating Disorders*, 17, 387–393. [https://dx.doi.org/10.1002/1098-108x\(199505\)17:4<387::aid-eat2260170411>3.0.co;2-m](https://dx.doi.org/10.1002/1098-108x(199505)17:4<387::aid-eat2260170411>3.0.co;2-m).

Wiseman, C. V., Gray, J. J., Mosimann, J. E., & Ahrens, A. H. (1992). Cultural expectations of thinness in women: An update. *International Journal of Eating Disorders*, 11(1), 85–89. [https://dx.doi.org/10.1002/1098-108X\(199201\)11:1<85::AID-EAT2260110112>3.0.CO;2-T](https://dx.doi.org/10.1002/1098-108X(199201)11:1<85::AID-EAT2260110112>3.0.CO;2-T).

Women’s Sports Foundation (2018). Women in the 2018 Olympic and Paralympic

Games. Retrieved from:

<https://www.womenssportsfoundation.org/research/article-and-report/recent-research/women-2018-olympic-paralympic-winter-games/>

Women's Sports Foundation (2017). Women in the Olympic and Paralympic Games: An analysis of participation, leadership, and media coverage. Retrieved from:

https://www.womenssportsfoundation.org/wp-content/uploads/2017/11/wsf-2016-olympic_paralympic-report-final.pdf

Wood-Barcalow, N. L., Tylka, T. L., Augustus-Horvath, C. L. (2010). "But I like my body": Positive image characteristics and a holistic model for young adult women. *Body Image*, 7(2), 106-116.

<https://doi.org/10.1016/j.bodyim.2010.01.001>

Wright, B. A. (1983). *Physical disability: A psychosocial approach (2nd ed.)*. New York, NY: Harper & Row.

Yamamiya, Y., Shroff, H., & Thompson, J.K. (2008). The tripartite influence model of body image and eating disturbance: A replication with a Japanese sample. *International Journal of Eating Disorders*, 41, 88–91.

<https://dx.doi.org/10.1002/eat.20444>

Yuen, H. K., & Hanson, C. (2002). Body image and exercise in people with and without acquired mobility disability. *Disability and Rehabilitation*, 24(6), 289-296.

<https://dx.doi.org/10.1080/09638280110086477>

Appendices

Appendix A Qualtrics Forms

Participant Recruitment Materials Sample Recruitment Email to Coaching Staff

Dear Team USA Coaching Staff,

My name is Brooke Lamphere and I am a doctoral student in the Department of Counseling Psychology at the University of Denver. I am also a contracted Sport Psychology Consultant with the U.S. Paralympic Committee (USPC). I am writing to request your assistance in recruiting participants for my dissertation research. I am conducting a study that will explore social factors that affect body image in elite women athletes with disabilities. The results of this study will be utilized to inform and support mental health and performance enhancement services for elite athletes with disabilities. Dr. Sara Mitchell, Sport Psychologist for the USPC, is serving as a consultant on this project.

We would be very grateful for your assistance in sharing my study information with your athletes. **Please forward the email below to all athletes on your team who have competed in at least one international competition.**

If you have any questions or concerns about the study, you can contact myself or Dr. Mitchell at any time.

Thank you, in advance, for your time and effort in support of my dissertation research!

Sincerely,
Brooke Lamphere, M.A.

Sample Recruitment Email to Athletes

Dear Team USA athlete,

My name is Brooke Lamphere and I am a doctoral student in the Department of Counseling Psychology at the University of Denver. I am also a contracted Sport Psychology Consultant with the U.S. Paralympic Committee (USPC). I am supervised by Dr. Sara Mitchell, Sport Psychologist for the USPC.

I am writing to invite you to participate in my research study that will explore social factors that affect body image in elite women athletes with disabilities. The results of this study will be utilized to inform and support mental health and performance enhancement services for elite athletes with disabilities. You are eligible for this study because you participate as a woman and have competed in at least one international competition in your sport. You are receiving this information because I contacted your Head Coach (High Performance Director) and requested that this email be shared with the athletes on your team.

If you decide to participate in this study, you will be asked to respond to questions about experiences that you have had both in and outside of sport that affect the way you feel, think about, or perceive your body. You will also be asked to answer several demographic questions and questions about your history as a person and as an athlete. These questions are intended to cause minimal distress.

Upon completion of the questionnaire, you have the option to provide an email address so that you can be entered into a drawing for one of 5 Amazon e-gift cards valued at \$100 each. Your email address will not be stored in relation to any other personal information and will not be connected to your survey responses. Your email address will only be used to notify you that you have received a gift card.

Remember, your participation in this study is completely voluntary. You can choose to be in the study or decline to participate. Declining to participate will not affect your role as an athlete in any way. Please note that, if you agree to participate in the study, no staff member from your team, national governing body, or the USPC/USOC will be informed that you have participated, nor will they have access to your survey responses.

If you choose to participate, the study can be accessed through the URL provided below: [INSERT URL TO QUALTRICS SURVEY]

Feel free to reach out to the primary researcher, Brooke Lamphere (brookelamphere@gmail.com), with any questions that you have.

Thank you very much for supporting my dissertation research!

Sincerely,

Brooke Lamphere, M.A.

Amended Consent to Participate in Research
May 27, 2020

Study Title: Testing a Sociocultural Model of Body Image in Women Athletes with Physical Disabilities

IRBNet #: 1466465

Principal Investigator: Brooke Lamphere, M.A.

Faculty Sponsor: Trish Raque-Bogdan, Ph.D.

Study Site: Department of Counseling Psychology, University of Denver

You are being asked to participate in a research study. Your participation in this research study is voluntary and you do not have to participate. This document contains important information about this study and what to expect if you decide to participate. Please consider the information carefully. Feel free to ask questions before making your decision whether or not to participate.

The purpose of this form is to provide you information that may affect your decision as to whether or not you may want to participate in this research study. The person performing the research will describe the study to you and answer all of your questions. Please read the information below and ask any questions you might have before deciding whether or not to give your permission to take part. If you decide to be involved in this study, this form will be used to record your permission.

Purpose

The purpose of this study is to identify social factors that affect body image in women athletes with physical disabilities. The results of this study will be utilized to inform and support mental health and performance enhancement services for athletes with disabilities.

If you participate in this research study, you will be invited to complete an online survey with questions about experiences that you've had both in and outside of sport that contribute to the way you feel and think about your body (i.e., body image). The survey will take approximately 30-45 minutes to complete and will consist of multiple choice and short answer questions. All questions are written in English and include an embedded audio file that will read the text of the question out loud for participants, if needed.

Participation in this study is completely voluntary. You can decide to stop participating at any time. If you decide to withdraw from study, the information that you provided will be destroyed. Additionally, you may refuse to answer any question on the survey and can skip questions that do not pertain to you. Your responses and decision to participate or

decline to participate in this study will not affect your national team status or ability to participate in your sport in any way.

Risks or Discomforts

Potential risks, stress and/or discomforts of participation may include sharing potentially sensitive information about how you feel or think about your body. If you feel distressed or upset as a result of completing this survey, please contact the mental health resources outlined on the study debrief form (the last page of the survey). You can also contact the principal investigator, Brooke Lamphere, with any questions or concerns. She can be reached via email at brookelamphere@gmail.com. Information about mental health resources in your community will also be provided upon completion of the survey.

Benefits

The benefits which may reasonably be expected to result from this study include the following:

- Your responses will help us learn more about body image in athletes with disabilities, specifically how social relationships, interactions, or environments affect the way you feel or think about your body.
- Knowledge gained from this study can be utilized to enhance a culture of safety, inclusivity, and body positivity in disability sport.
- We can utilize findings from this study to design interventions to enhance body image and well-being for athletes with disabilities.
- Findings from this study can inform the work of professionals providing mental health and performance enhancement services to athletes with disabilities

We cannot and do not guarantee or promise that you will receive any benefits from this study. Your decision whether or not to participate in this study will not affect your athletic pursuits.

Confidentiality of Information

To keep your responses safe and secure, the research team will take the following steps:

- Please note that all participant responses will remain confidential. At no time will any coaches or staff associated with your sport organization, governing body, or the United States Olympic and Paralympic Committee have access to your responses.
- Your responses will be assigned a code number. Your name will not be collected or linked to your answers. When the study is completed and the data have been analyzed, the list of participant code numbers will be destroyed.
- All data will be stored on a password-protected external hard drive, in a password protected file. This hard drive will be stored in a locked filing cabinet in the primary researcher's office.
- The only people who have access to your data include members of the primary research team at the University of Denver. No staff affiliated with your sport organization, governing body, or the United States Olympic and Paralympic Committee will have access to your data.

- Information collected about you will not be used or shared for future research studies.
- If you decline to participate in this study via clicking on “No, I do not consent to participate in this study”, you will receive a ‘thank you’ note reassuring you of your rights to confidentiality and privacy, and that your decision to participate or not will be kept confidential (i.e., no one from your team or the USOPC will know about your decision) so that your decision to decline to participate will not impact your athletic pursuits in any way.
- If you choose to share your email address with the principal investigator to be entered into the gift card drawing, your email address will be stored in a separate, password protected file, and will not be linked to your survey responses in any way. Your email address will be deleted at the conclusion of data collection for the study.

Limits to confidentiality

All of the information you provide will be confidential. However, there may be circumstances where this information must be released or shared as required by law. For example, if we learn that you intend to harm yourself or others, including, but not limited to child or elder abuse/neglect, suicide ideation, or threats against others, we must report that to the authorities as required by law. Representatives from the University of Denver may also review the research records for monitoring purposes.

Before you begin, please note that the data you provide may be collected and used by Qualtrics as per its privacy agreement. This research is only for U.S. residents over the age of 18. Please be mindful to respond in private and through a secured Internet connection for your privacy. Your confidentiality will be maintained to the degree permitted by the technology used. Specifically, no guarantees can be made regarding the interception of data sent via the Internet by any third parties.

Use of your information for future research

Your information collected for this project will NOT be used or shared for future research, even if we remove the identifiable information like your name or date of birth.

Data Sharing

De-identified data from this study may be shared with the research community at large to advance science and health in the form of conference presentations or scientific publications. We will remove or code any personal information (e.g., your name, date of birth) that could identify you before files are shared with other researchers to ensure that, by current scientific standards and known methods, no one will be able to identify you from the information or samples we share. Despite these measures, we cannot guarantee anonymity of your personal data.

Incentives to participate

After you complete the survey, you will have the option to enter a drawing to receive one of fifty available Amazon gift cards, valued at \$50 each. To enter this drawing, you will

be asked to provide an email address so that the primary researcher can contact you if you are selected. All email addresses will be stored in a double password protected file in a separate location from your survey responses, and will be deleted after the drawing. This project is funded by a Collaborative Research Grant from the Association for Applied Sport Psychology (AASP).

Questions

For questions, concerns, or complaints about the study you may contact **Brooke Lamphere, M.A.**

For questions, concerns, or complaints about the study you may contact Brooke Lamphere, M.A. Brooke Lamphere is a doctoral candidate at the University of Denver and can be reached via email: brookelamphere@gmail.com. The faculty sponsor associated with this study is Dr. Trish Raque-Bogdan, Assistant Professor in the Department of Counseling Psychology at the University of Denver. She can be reached at trish.raque-bogdan@du.edu.

If you are not satisfied with how this study is being conducted, or if you have any concerns, complaints, or general questions about the research or your rights as a participant, please contact the University of Denver (DU) Institutional Review Board to speak to someone independent of the research team at (303)871-2121 or email at IRBAdmin@du.edu.

Consent

Please take all the time you need to read through this document and decide whether you would like to participate in this research study.

If you decide to participate, your completion of the research procedures indicates your consent. Please keep this form for your records.

By clicking the link below, I confirm that I have read this form and decided that I will participate in the project described above. Its general purposes, the particulars of involvement, and possible risks and inconveniences have been explained to my satisfaction. I understand that I can discontinue participation at any time. My consent also indicates that I am at least 18 years of age. [Please feel free to print a copy of this consent form.]

I agree to participate (link to survey) I decline to participate (link to debrief page)

Original Consent to Participate in Research
September 4, 2019

Study Title: Testing an Expanded Tripartite Influence Model in Women Athletes with Disabilities

IRBNet #: 1466465-4

Principal Investigator: Brooke Lamphere, M.A.

Faculty Sponsor: Trish Raque-Bogdan, Ph.D.

Study Site: Department of Counseling Psychology, University of Denver

Purpose

If you participate in this research study, you will be invited to complete a survey with questions about experiences that you've had both in and outside of sport that contribute to the way you feel about and perceive your body (i.e., body image). The researchers in this study are interested in learning about relationships between social factors (e.g., relationships) and body image, with the goal of identifying factors that are associated with negative body image for athletes with disabilities. We are also interested in learning about social factors that make you feel positively about your body, as a woman and as an elite athlete. You are being asked to participate in this study because you have been identified as a women athlete with disabilities who has participated in at least one international competition as a member of Team USA.

If you agree to be part of this research study, you will be asked to complete one online questionnaire following the completion of this consent form. This questionnaire will consist of questions about your experiences and perceptions of your body as a woman and as an athlete with disabilities. The survey will take approximately 30-45 minutes to complete and will consist of multiple-choice questions and short answer questions. All questions are written in English and include dictation features that will support athletes with visual impairment in completing the survey.

Participation in this study is completely voluntary. You can decide to stop participating at any time. If you decide to withdraw from study, the information that you provided will be destroyed. Your responses or decision to participate in this study will not affect your national team status or ability to participate in your sport in any way.

Risks or Discomforts

The risks involved in this study are minimal. Potential risks, stress, and/or discomforts of participation may include sharing potentially sensitive information about how you feel about or perceive your body. All athletes who participate in this study will receive a list of referrals for qualified mental health and sport psychology professionals who can support you if you feel distressed or upset as a result of completing this survey.

Benefits

The benefits which may reasonably be expected to result from this study include the following.

First, your responses will help us learn more about body image in elite athletes with disabilities, specifically how social relationships, interactions, or environments affect the way you perceive or feel about your body. Second, this knowledge can be utilized to enhance a culture of safety, inclusivity, and body positivity in elite para sport. Third, we can utilize findings from this study to design interventions to enhance body image and well-being for athletes with disabilities. Fourth, findings from this study can inform the work of professionals providing mental health and performance enhancement services to elite athletes with disabilities. We cannot and do not guarantee or promise that you will receive any benefits from this study. Again, your decision to participate in this study will not affect your athletic pursuits.

Sources of Funding

[To be completed after funding applications].

The study team is receiving financial support from _____ institution.

Confidentiality, Storage, and Future Use of Data

To keep your responses safe and secure, the research team will take the following steps:

- Your responses will be anonymous and confidential. Your responses will be assigned a code number. Your name will not be collected or linked to your answers.
- All data will be stored on a password-protected external hard drive, in a password protected file. This hard drive will be stored in a locked filing cabinet in the primary researcher's office.
- The only people who have access to your data include members of the primary research team at the University of Denver. No United States Olympic Committee or Paralympic Committee staff will have access to your data.

Please note that all participant responses will remain anonymous and confidential. All responses that you provide are the property of the primary research team at the University of Denver and will only be utilized for the purposes of this study. At no time will any coaches or staff associated with the United States Paralympic Committee have access to your responses. Participation in this study is completely voluntary and you have the right to choose not to participate at any time. Your responses or decision about participating in this study will not affect your national team status or ability to participate in your sport in any way.

Limits to Confidentiality

The information that you provide in the study will be handled confidentially. However, there may be circumstances where this information must be released or shared as required by law. Representatives from the University of Denver may also review the research

records for monitoring purposes. Additionally, if we learn that you intend to harm yourself or others, we must report that to the authorities as required by law.

Please note that the data you provide may be collected and used by Qualtrics as per its privacy agreement. This research is only for U.S. residents over the age of 18. Please be mindful to respond in private and through a secured internet connection to protect your privacy. Your confidentiality will be maintained to the degree permitted by the technology used. Specifically, no guarantees can be made regarding the interception of data sent via the internet by any third parties.

Use of Your Information for Future Research

Your responses will be analyzed utilizing statistical methods, and will be shared at a meeting with the primary research team or published in professional articles. All identifiable information (e.g., your name, date of birth) will be removed from the information collected in this project. After we remove all identifiers, the information may be used for future research or shared with other researchers without your additional informed consent.

Incentives to Participate

After you complete the survey, you will have the option to enter a drawing to receive one of five \$100 Amazon gift cards. To enter this drawing, you will be asked to provide an email address so that the primary researcher can contact you if you are selected. All email addresses will be stored in a double password protected file, and will be deleted after the drawing.

Study Cost

Participation in this study is free.

Questions

For questions, concerns, or complaints about the study you may contact Brooke Lamphere, M.A. Brooke Lamphere is a doctoral student at the University of Denver and a student Sport Psychology Consultant for the U.S. Paralympic Committee (USPC). You may contact Brooke Lamphere via email with any questions or concerns: brookelamphere@gmail.com. The faculty sponsor associated with this study is Dr. Trish Raque-Bogdan, Assistant Professor in the Department of Counseling Psychology at the University of Denver. She can be reached at trish.raque-bogdan@du.edu.

If you are not satisfied with how this study is being conducted, or if you have any concerns, complaints, or general questions about the research or your rights as a participant, please contact the University of Denver (DU) Institutional Review Board to speak to someone independent of the research team at (303-871-2121 or email at IRBAdmin@du.edu).

Please take all the time you need to read through this document and decide whether you would like to participate in this research study.

If you decide to participate, your completion of the research procedures indicates your consent. Please keep this form for your records

Sample Debriefing Statement

General Aim and Purpose

Thank you for participating in this study. Social factors such as interactions with others in our environment (e.g., family, peers, coaches, teammates) as well as aspects of our social environment (e.g., weight requirements in sport) are related to body image in women and athletes. The purpose of the study was to gather information about social factors that influence body image both in and outside of sport for elite women athletes with disabilities.

Survey Questions

The survey was designed based on existing research on body image in women, people with disabilities, and athletes. This was the first study to examine social factors that contribute to body image in women athletes with disabilities on a large scale. Body image has been shown to vary based on level of competition, type of sport, and type of disability. As such, we chose to focus on elite athletes who have participated in at least one international competition in their sport. Survey questions were designed to assess multiple factors influencing daily experience for elite women athletes with disabilities.

Main Hypotheses

We think that women perceive social pressures to adhere to a certain body type, appearance, or weight both in and outside of sport, and that perceived pressures will be related to negative body image in elite women athletes with disabilities. We also wanted to explore social factors will help women athletes with disabilities feel positively about their bodies.

Deception

It is important to note that no deception was used in this study.

Contact Information and Therapy Services

Thank you again for your participation in this study. If you feel upset or distressed as a result of completing this survey, please contact a mental health professional. The following mental health professionals have agreed to be listed as resources for participants in this project:

Crisis Support Resources:

National Crisis Text Line: Text HOME to 741741

National Suicide Prevention Lifeline: 1-800-273-8255

Colorado Crisis Services: 1-844-493-8255; Text TALK to 38255

Crisis Support Resources in Colorado Springs, CO:

Aspen Pointe Crisis Center, Colorado Springs: 719-572-6100 (24-Hour Walk-In Clinic)

UCHealth Memorial Hospital, Colorado Springs: 719-365-5000

You can locate a local mental health provider on the Psychology Today website:
<http://therapists.psychologytoday.com/rms/>

If you have any questions about this research, please feel free to contact Brooke Lamphere, M.A. at brookelamphere@gmail.com.

Appendix B
Amended Demographic Questionnaire
June 2020

INSTRUCTIONS: Please answer the following questions as they pertain to your experience. There may be some questions that do not pertain to you, and that's ok. If there is a question that you are not comfortable answering, or does not pertain to you, skip to the next item. If you have any questions about the survey, please contact Brooke Lamphere at brookelamphere@gmail.com. Please click "play" on the audio file below if you would like the content of this item read aloud to you.

1. What is your age? [string]
2. What is your current weight (in pound/lbs)? [string]
3. What is your height (in feet and inches; e.g., 5 feet 9 inches or 5' 9")? [string]
4. What is your race/ethnicity (e.g., White/European American)? [string]
5. What is your country of citizenship (e.g., USA)? [string]
6. What is your gender identity (e.g., woman, transgender, genderqueer)? [string]
7. What is your sexual orientation (e.g., lesbian, gay, heterosexual)? [string]
8. What biological sex were you assigned at birth (e.g., female)? [string]
9. What is your religious or spiritual status (e.g., Christian, Buddhist, non-religious)? [string]

Athletes with physical disabilities have a disability that limits their physical functioning, mobility, dexterity, or stamina. Acquired physical disabilities are those that have developed as a result of an accident or illness during one's lifetime. A congenital physical disability is present at birth. Please click "play" on the audio file below if you would like the content of this item read aloud to you.

10. What type of physical disability do you have?
 - a. Acquired
 - b. Congenital
 - c. Other (Please describe): [string]
11. Please describe your disability. For example, an athlete might describe their disability like this: I was born with a congenital condition called Fibular Hemimelia and had my right foot amputated at birth. [string]
12. How many years have you had a disability? [string]

Sport and Performance History

The following section includes questions about your history as an athlete. Please skip any questions that do not apply to you or that you are not comfortable answering. Please click "play" on the audio file below if you would like the content of this item read aloud to you.

13. What disability sport(s) do you compete in? Please select all that apply. [multiple choice]

- a. Archery
 - b. Athletics
 - c. Badminton
 - d. Boccia
 - e. Canoe
 - f. Cycling
 - g. Equestrian
 - h. Football, 5-a-side
 - i. Goalball
 - j. Judo
 - k. Powerlifting
 - l. Rowing
 - m. Shooting Para Sport
 - n. Sitting Volleyball
 - o. Swimming
 - p. Table Tennis
 - q. Taekwondo
 - r. Triathlon
 - s. Wheelchair Basketball
 - t. Wheelchair Rugby
 - u. Wheelchair Tennis
 - v. Alpine Skiing
 - w. Biathlon
 - x. Cross-Country Skiing
 - y. Para Ice Hockey
 - z. Para Snowboarding
 - aa. Wheelchair Curling
 - bb. Other (Please list): [string]
14. If you listed more than one sport above, which sport do you consider to be your primary sport? If you listed only one sport, skip this question.
15. What is your classification level in your primary sport? [string]
16. Under which gender do you compete in your primary sport?
- a. Men
 - b. Women
 - c. Other (Please describe) [string]
17. What is your current competition status in your primary sport?
- a. Active (i.e., currently competing)
 - b. Retired (i.e., no longer competing)
 - c. Other (Please describe) [string]
18. If answer to item 17 is B, Retired: For how many years have you been retired?
[string]
19. What is/was your highest level of competition in your primary sport?
- a. Paralympic
 - b. Professional
 - c. Collegiate

- d. Club
 - e. Recreational
 - f. Other (Please describe): [string]
20. Are you a member of your country's National Team for your primary sport?
- a. Yes
 - b. No
 - c. Other (Please describe)
21. What is your National team status in your primary sport?
- a. A
 - b. B
 - c. C
 - d. Other (Please describe)
22. How long have you been a member of the national team for your primary sport?
- a. Less than 1 year
 - b. 1 to 2 years
 - c. 3 to 4 years
 - d. 5 to 6 years
 - e. 7 to 8 years
 - f. 9 to 10 years
 - g. More than 10 years
 - i. Please list number of years [string]
23. Please select 2 as your answer to this question
- a. 1
 - b. 2
 - c. 3
 - d. 4

If participant indicated that they are an elite disability sport athlete, the following items were administered:

24. How long have you participated in your sport at the elite level? The elite level includes Paralympic, International, National Team, and Professional levels.
- a. Less than 1 year
 - b. 1 to 2 years
 - c. 3 to 4 years
 - d. 5 to 6 years
 - e. 7 to 8 years
 - f. 9 to 10 years
 - g. More than 10 years
 - i. Please list number of years [string]
25. In which year(s) did you compete in the Paralympic Games? Please select all that apply.
- a. 2018
 - b. 2016
 - c. 2014

- d. 2012
 - e. 2010
 - f. 2008
 - g. 2006
 - h. I have never competed in the Paralympic Games.
26. In which year(s) did you compete in the Parapan American Games? Please select all that apply.
- a. 2019
 - b. 2015
 - c. 2011
 - d. 2007
 - e. 2003
 - f. 1999
 - g. I have never competed in the Parapan American Games
27. In which year(s) did you compete in the Olympic Games? Please select all that apply. If this question does not apply to you, please skip it.
- a. 2018
 - b. 2016
 - c. 2014
 - d. 2012
 - e. 2010
 - f. 2008
 - g. 2006
 - h. 2004
 - i. 2002
 - j. 2000
 - k. Other (Please list the year)
 - l. I have never competed in the Olympic Games.
28. How many World Championships have you competed in?
- a. 0
 - b. 1 to 2
 - c. 3 to 4
 - d. 5 to 6
 - e. 7 to 8
 - f. 9 to 10
 - g. More than 10 years
 - i. Please list the number of years [string]
29. In what year was the last World Championships that you competed in (e.g., 2018)?
30. How many international competitions have you participated in? Please provide your best estimate.
31. Please describe or list other important international competitions that you have competed in that are not listed above. [string]
32. How many gold medals have you won at international competitions for your sport? [string]

33. How many silver medals have you won at international competitions for your sport? [string]
34. How many bronze medals have you won at international competitions for your sport? [string]
35. Please select 4 as your answer to this question?
- a. 1
 - b. 2
 - c. 3
 - d. 4
36. What kind of sport is your primary sport? Please select all that apply.
- a. Team
 - b. Individual
 - c. Dyadic (i.e., I compete with a partner or in a pair)
 - d. Pseudo-individual (i.e., I am a member of a team but compete individually)
 - e. Other, Please describe [string]
37. For how many years have you participated in disability sport as a whole? Please include all disability sport, regardless of the level of competition.
- a. Less than 1 year
 - b. 1 to 2 years
 - c. 3 to 4 years
 - d. 5 to 6 years
 - e. 7 to 8 years
 - f. 9 to 10 years
 - g. More than 10 years
 - i. Please list number of years [string]

Administered to all Participants:

38. Do you consider yourself successful in your sport? Why or why not? [short answer]
39. What is your greatest achievement in your sport and when did you achieve it? [short answer]
40. When did you last earn a medal in your sport?
- a. 2019
 - b. 2018
 - c. 2017
 - d. 2016
 - e. 2015
 - f. 2014
 - g. 2013
 - h. 2012
 - i. 2011
 - j. 2010
 - k. Other (Please write the year) [string]

- l. I have never medaled in my sport.

Social and Professional History

The following section includes questions about your social and professional lives. If a question does not apply to you or if you are not comfortable answering it, please skip to the next question. Please click "play" on the audio file below if you would like the content of this item read aloud to you.

41. Are you considered a resident athlete at this time (i.e., do you live on complex at an official Paralympic training site)?
 - a. Yes
 - b. No
 - c. Unsure (Please describe) [string]
42. With whom do you currently live?
 - a. Alone
 - b. Family
 - c. Partner
 - d. Roommate
 - e. Other (Please describe) [string]
43. Are you currently a student?
 - a. Yes
 - b. No
 - c. Other (Please describe) [string]
44. What is the highest level of education that you have completed?
 - a. High School Diploma or GED
 - b. Professional Certificate
 - c. Associates Degree
 - d. Bachelor's Degree (Undergraduate Degree)
 - e. Master's Degree (Graduate Degree)
 - f. Doctoral Degree (Graduate Degree)
 - g. Other (Please describe) [string]
45. Are you currently employed outside of your sport?
 - a. Yes
 - b. No
 - c. Other (Please describe) [string]
46. What type(s) of job(s) do you hold? Please select all that apply.
 - a. Full-time
 - b. Part0time
 - c. Independent contractor/1099 employee
 - d. Volunteer
 - e. Other (Please describe) [string]
47. What is your professional occupation? [string]

Medical History

The following section asks questions about your medical history other than your disability. Please skip any questions that do not apply to you or that you are not comfortable answering. Please click "play" on the audio file below if you would like the content of this item read aloud to you.

- 48. Do you have a chronic illness?
 - a. Yes
 - b. No
 - c. Other (Please describe) [string]
- 49. What chronic illness do you have? [string]
- 50. Have you ever suffered from a Traumatic Brain Injury (TBI)? A TBI is an injury to the brain that results from a violent jolt or blow to the head or body.
 - a. Yes
 - b. No
 - c. Other (Please describe) [string]
- 51. How many TBI's have you sustained? [string]
- 52. In what year was your most recent TBI (e.g., 2010)? [string]

Mental Health History

The following section includes questions about your mental health. It is important that we ask these questions so that we know more about your well-being. Please skip any questions that do not apply to you or that you are not comfortable answering. Please click "play" on the audio file below if you would like the content of this item read aloud to you.

- 53. Have you ever been diagnosed with any of the following mental health concerns? Please check all that apply.
 - a. Depression
 - b. Anxiety
 - c. Bipolar Disorder
 - d. Attention Deficit and Hyperactivity Disorder (ADHD)
 - e. Substance Use Disorder
 - f. Cannabis Use Disorder
 - g. Addiction
 - h. Post-traumatic Stress Disorder (PTSD)
 - i. Eating Disorder (e.g., Anorexia Nervosa, Bulimia Nervosa, Binge Eating Disorder)
 - j. Specific Learning Disorder (e.g., Dyslexia)
 - k. Other (Please describe) [string]
- 54. Have you ever attended counseling, therapy, or other mental health treatment?
 - a. Yes
 - b. No
 - c. Prefer not to disclose
- 55. Do you currently see a counselor, therapist, or other mental health provider?

- a. Yes
 - b. No
 - c. Prefer not to disclose
56. How long have you worked with this mental health provider?
- a. Less than 1 year
 - b. 1 to 2 years
 - c. 3 to 4 years
 - d. 5 to 6 years
 - e. 7 to 8 years
 - f. 9 to 10 years
 - g. More than 10 years
 - i. Please list number of years [string]
57. Have you ever worked with a sport psychologist or sport psychology consultant as an individual?
- a. Yes
 - b. No
 - c. Prefer not to disclose
58. Have you ever worked with a sport psychologist or sport psychology consultant as a member of a team?
- a. Yes
 - b. No
 - c. Prefer not to disclose
59. Do you currently work with a sport psychologist or sport psychology consultant in any capacity?
- a. Yes
 - b. No
 - c. Prefer not to disclose
60. How long have you worked with your current sport psychology provider?
- a. Less than 1 year
 - b. 1 to 2 years
 - c. 3 to 4 years
 - d. 5 to 6 years
 - e. 7 to 8 years
 - f. 9 to 10 years
 - g. More than 10 years
 - i. Please list number of years [string]
 - h. I do not work with a sport psychology provider at this time.
61. Have you ever received counseling or mental health treatment for body image concerns or disordered eating?
- a. Yes
 - b. No
 - c. Prefer not to disclose
62. If yes, when did you complete treatment?
- a. 0 to 6 months ago
 - b. 6 months to 1 year ago

- c. 1 to 2 years ago
 - d. 3 to 4 years ago
 - e. 5 years ago
 - f. More than 5 years ago
 - g. This question does not apply to me
63. How long were you in treatment?
- a. Less than 1 month
 - b. 1 to 2 months
 - c. 3 to 4 months
 - d. 5 to 6 months
 - e. 7 to 8 months
 - f. 9 to 10 months
 - g. 11 to 12 months
 - h. 1 year or more
 - i. This question does not apply to me
64. In which levels of care did you receive treatment. Please check all that apply.
- a. Outpatient
 - b. Intensive Outpatient
 - c. Partial Hospitalization
 - d. Residential
 - e. Inpatient
 - f. Other (Please describe) [string]
65. Are you currently in treatment for concerns related to body image and/or disordered eating?
- a. Yes
 - b. No
 - c. Prefer not to disclose

Appendix C Social Media Use Questionnaire

The relationship between perceived pressures related to appearance on social media and body image appears to be moderated by type of social network site use (e.g., Tiggemann & Miller, 2010). Thus, it is important to gather information about the type of social media utilized by participants to ascertain whether this has a role in body perceptions for Paralympic athletes.

Please indicate which of the following social media platforms you use:

Facebook:	Yes	No
Instagram:	Yes	No
Twitter:	Yes	No
Other:	Yes	No
(Please describe)		

If you use any of the following social media platforms, please indicate how long you have been a member:

Facebook:	[Years]
Instagram:	[Years]
Twitter:	[Years]
Other:	[Years]
(Please describe)	

How long do you spend on each of these sites per day, on average?

Please circle the number that corresponds with your average daily use for each site.

0 = I do not use this site daily, 1 = 30 minutes or less, 2 = about 1 hour, 3 = between 2-4 hours, 4 = between 5-7 hours, 5 = 8 or more hours

Facebook:	0	1	2	3	4	5
Instagram:	0	1	2	3	4	5
Twitter:	0	1	2	3	4	5
Other:	0	1	2	3	4	5
(Please describe)						

Appendix D Instruments

SURVEY INSTRUCTIONS: Answer the following questions based on your experiences. Please expect that not all questions will apply to you and not all questions will capture what you experience on a daily basis. If a question does not apply to you, or you are not comfortable answering it, please feel free to skip to the next item. If you have questions about the survey, you can contact the Principal Investigator for this study. The Principal Investigator is Brooke Lamphere, and she can be reached at brookelamphere@gmail.com.

Sociocultural Attitudes Toward Appearance Questionnaire – 4 – Revised - Female (Schaefer et al., 2017; Schaefer et al., 2015)

Directions: Please read each of the following items carefully and indicate the number that best reflects your agreement with the statement.

For the first set of items, think about your appearance and how you feel about your looks. The questions ask about many different aspects of your appearance, including eight, shape, muscles, body fat, and overall appearance. Some of the questions might not apply to you. If you find that a question does not apply to you, or you are not comfortable providing a response, please skip to the next item.

1 = Definitely Disagree; 2 = Mostly Disagree; 3 = Neither Agree nor Disagree; 4 = Mostly Agree; 5 = Definitely Agree

Items	Definitely Disagree	Mostly Disagree	Neither Agree Nor Disagree	Mostly Agree	Definitely Agree
1. It is important for me to look muscular.	1	2	3	4	5
2. It is important for me to look good in the clothes I wear.	1	2	3	4	5
3. I want my body to look very thin.	1	2	3	4	5
4. I think a lot about looking muscular.	1	2	3	4	5
5. I think a lot about my appearance.	1	2	3	4	5
6. I think a lot about looking thin.	1	2	3	4	5

7. I want to be good looking.	1	2	3	4	5
8. I want my body to look muscular.	1	2	3	4	5
9. I don't really think much about my appearance. ^a	1	2	3	4	5
10. I don't want my body to look muscular. ^a	1	2	3	4	5
11. I want my body to look very lean.	1	2	3	4	5
12. It is important to me to be attractive.	1	2	3	4	5
13. I think a lot about having very little body fat.	1	2	3	4	5
14. I don't think much about how I look. ^a	1	2	3	4	5
15. I would like to have a body that looks very muscular.	1	2	3	4	5

^aReverse coded item

Answer the following questions with relevance to your Family (include: parents, brothers, sisters, siblings, relatives):

Items	Definitely Disagree	Mostly Disagree	Neither Agree Nor Disagree	Mostly Agree	Definitely Agree
16. I feel pressure from family members to look thinner.	1	2	3	4	5
17. I feel pressure from family members to improve my appearance.	1	2	3	4	5
18. Family members encourage me to decrease my level of body fat.	1	2	3	4	5

19. Family members encourage me to get in better shape.	1	2	3	4	5
---	---	---	---	---	---

Answer the following questions with relevance to your Peers (include: close friends, classmates, other social contacts outside of sport; do not include: teammates or social contacts in sport):

Items	Definitely Disagree	Mostly Disagree	Neither Agree Nor Disagree	Mostly Agree	Definitely Agree
20. My peers encourage me to get thinner.	1	2	3	4	5
21. I feel pressure from my peers to improve my appearance.	1	2	3	4	5
22. I feel pressure from my peers to look in better shape.	1	2	3	4	5
23. I get pressure from my peers to decrease my level of body fat.	1	2	3	4	5

Answer the following questions with relevance to Significant Others in your life (i.e., romantic partners, teachers, coaches):

Items	Definitely Disagree	Mostly Disagree	Neither Agree Nor Disagree	Mostly Agree	Definitely Agree
24. Significant others encourage me to get thinner.	1	2	3	4	5
25. I feel pressure from significant others to improve my appearance.	1	2	3	4	5
26. I feel pressure from significant others to look in better shape.	1	2	3	4	5
27. I get pressure from significant others to	1	2	3	4	5

decrease my level of
body fat.

Answer the following questions with relevance to Traditional Media and Social Media (include: television, magazines, movies, billboards, and advertisements):

Items	Definitely Disagree	Mostly Disagree	Neither Agree Nor Disagree	Mostly Agree	Definitely Agree
28. I feel pressure from the media to look in better shape.	1	2	3	4	5
29. I feel pressure from the media to look thinner.	1	2	3	4	5
30. I feel pressure from the media to improve my appearance.	1	2	3	4	5
31. I feel pressure from the media to decrease my level of body fat.	1	2	3	4	5
32. I feel pressure on social media to look in better shape.	1	2	3	4	5
33. I feel pressure on social media to look thinner.	1	2	3	4	5
34. I feel pressure from social media to improve my appearance.	1	2	3	4	5
35. I feel pressure from social media to decrease my level of body fat.	1	2	3	4	5

SATAQ-4 Scoring:

Internalization - Thin/Low Body Fat: items 3, 6, 11, 13

Internalization – Muscular/Athletic: items 1, 4, 8, 10, 15

Internalization – General Appearance: items 2, 5, 7, 9^a, 12, 14^a

Pressures – Family: items 16, 17, 18, 19

Pressures – Peers: items 20, 21, 22, 23

Pressures – Significant Others: items 24, 25, 26, 27

Pressures – Media: items 28, 29, 30, 31

Pressures – Social Media: items 32, 33, 34, 35

Total scores are calculated for each scale. Will need to conduct CFA to determine whether items load onto a higher order “Sociocultural Pressures” factor if we want a total score. However, we can also just parcel scale scores into one “sociocultural pressures factor” in the model. (Schaefer, Personal Communication, 2019).

Permission was received from Dr. Thompson and Ms. Schaefer to utilize the SATAQ-4-R-F and to add a Pressures: Social Media scale.

**Weight Pressures in Sport Scale – Female
(WPS-F: Reel et al., 2013; Reel et al., 2010)**

Please answer the following questions based on your experience in your sport. Choose the number that best reflects your agreement with each statement.

1= Never; 2 = Rarely; 3 = Sometimes; 4 = Often; 5 = Usually; 6 = Always

Items	Never	Rarely	Some- times	Often	Usually	Always
1. My performance would improve if I lost 5 pounds (lbs)	1	2	3	4	5	6
2. My teammates notice if I put on weight	1	2	3	4	5	6
3. My coach encourages me and/or my teammates to maintain a below average weight	1	2	3	4	5	6
4. My workout/competition attire makes me conscious of my bodily appearance	1	2	3	4	5	6
5. Spectators make me concerned about my weight and appearance	1	2	3	4	5	6
6. Body weight and appearance are important to my coach	1	2	3	4	5	6
7. Any of my body flaws are readily apparent in my workout/competition attire	1	2	3	4	5	6
8. My coach notices if I gain weight	1	2	3	4	5	6
9. My coach encourages athletes on my team to drop pounds.	1	2	3	4	5	6
10. There are pressures associated with my sport to lose weight	1	2	3	4	5	6
11. There are pressures associated with my sport to maintain a below average weight	1	2	3	4	5	6

Factor 1: Pressures from Coaches and Sport about Weight, items = 3, 6, 8, 9, 10, 11
Factor 2: Pressures Regarding Appearance and Performance, items = 1, 2, 4, 5, 7
Total Score: All items

This writer received written permission via email from Dr. Justine Reel to utilize the Weight Pressures in Sport Scale for Females in the proposed study in October 2018.

**Body, Eating, and Exercise Comparison Orientation Measure
(BEECOM; Fitzsimmons-Craft, Bardone-Cone, & Harney; 2012)**

Instructions: Please rate each of the following items regarding how often you compare yourself to your **peers (other women your age)** in terms of appearance, exercise, and eating. Remember, there are no right or wrong answers, so please be as honest as possible.

Regarding the items that refer to comparisons you might make when you are **exercising** (e.g., running outside, playing an organized sport, using a cardio machine at a gym): **If you are not currently exercising, think back to times when you have exercised (e.g., participated in gym class, played an organized sport, walked or ran outside) and answer accordingly.**

1. I look at the amount of food my peers leave on their plate in comparison to me when they are finished eating

1	2	3	4	5	6	7
Never	Almost Never	Seldom	Sometimes	Often	Almost Always	Always

2. I pay attention to whether or not I am as thin as, or thinner than, my peers.

1	2	3	4	5	6	7
Never	Almost Never	Seldom	Sometimes	Often	Almost Always	Always

3. During meals, I compare what I am eating to what others are eating.

1	2	3	4	5	6	7
Never	Almost Never	Seldom	Sometimes	Often	Almost Always	Always

4. In social situations, I think about how my figure “matches up” to the figures of those around me.

1	2	3	4	5	6	7
Never	Almost Never	Seldom	Sometimes	Often	Almost Always	Always

5. When I am exercising (e.g., at the gym, playing a sport), I pay attention to the length of time that those around me work out.

1	2	3	4	5	6	7
Never	Almost Never	Seldom	Sometimes	Often	Almost Always	Always

6. I pay close attention when I hear peers talking about exercise (in order to determine if I am exercising as much as they are).

1	2	3	4	5	6	7
Never	Almost Never	Seldom	Sometimes	Often	Almost Always	Always

7. I find myself thinking about how my food choices compare with the food choices of my peers.

1	2	3	4	5	6	7
Never	Almost Never	Seldom	Sometimes	Often	Almost Always	Always

8. I am quick to notice how healthy (or unhealthy) my peers’ food choices are compared to my own food choices.

1	2	3	4	5	6	7
Never	Almost Never	Seldom	Sometimes	Often	Almost Always	Always

9. I notice how I compare with my peers in terms of specific parts of the body (e.g., stomach, hips, breasts, etc.).

1	2	3	4	5	6	7
Never	Almost Never	Seldom	Sometimes	Often	Almost Always	Always
10. When working out around other people, I think about how many calories I am burning in comparison to my peers.						
1	2	3	4	5	6	7
Never	Almost Never	Seldom	Sometimes	Often	Almost Always	Always
11. When I go to the dining hall or out to eat, I pay attention to how much I am eating compared to other people.						
1	2	3	4	5	6	7
Never	Almost Never	Seldom	Sometimes	Often	Almost Always	Always
12. I compare my body shape to that of my peers.						
1	2	3	4	5	6	7
Never	Almost Never	Seldom	Sometimes	Often	Almost Always	Always
13. When I see a peer who is wearing revealing clothing, I have thoughts of how my own body compares.						
1	2	3	4	5	6	7
Never	Almost Never	Seldom	Sometimes	Often	Almost Always	Always
14. I like to know how often my friends are working out so I can figure out if the number of times I work out "matches up."						
1	2	3	4	5	6	7
Never	Almost Never	Seldom	Sometimes	Often	Almost Always	Always
15. When I exercise (e.g., at the gym, running outdoors), I pay attention to the intensity level of the workouts of those around me.						
1	2	3	4	5	6	7
Never	Almost Never	Seldom	Sometimes	Often	Almost Always	Always
16. I pay attention to how much junk food my peers eat compared to me.						
1	2	3	4	5	6	7
Never	Almost Never	Seldom	Sometimes	Often	Almost Always	Always
17. I pay attention to whether or not I am as toned as my peers.						
1	2	3	4	5	6	7
Never	Almost Never	Seldom	Sometimes	Often	Almost Always	Always
18. When I work out, I evaluate how hard my workout was compared to how hard my friends say they worked out.						
1	2	3	4	5	6	7
Never	Almost Never	Seldom	Sometimes	Often	Almost Always	Always

Scoring:

BEECOM Body Comparison Orientation: sum items 2, 4, 9, 12, 13, and 17

BEECOM Eating Comparison Orientation: sum items 1, 3, 7, 8, 11, and 16

BEECOM Exercise Comparison Orientation: sum items 5, 6, 10, 14, 15, and 18

BEECOM total (Eating Disorder-Related Social Comparison Orientation): sum the three subscale scores

Fitzsimmons-Craft, E. E., Bardone-Cone, A. M., & Harney, M. B. (2012). Development and validation of the Body, Eating, and Exercise Comparison Orientation Measure (BEECOM). *Body Image, 9*, 476-487.

This writer received written permission via email from Dr. Fitzsimmons-Craft to utilize the BEECOM in the proposed study on October 29, 2018.

**Body Image Concern subscale (BIC): Body Image and Body Change Questionnaire
(Ricciardelli & McCabe, 2002)**

This questionnaire is designed to obtain information on how you feel about your body, and things you may do to change your body.

Your answers are completely anonymous. No one will know what answers you provide.

There are no right or wrong answers. We just want to know how you feel and what you do. It is important not to take too long to answer each question. Simply circle the response that best applies to you.

Some of the questions might not apply to you. If you find that a question does not apply to you, or you are not comfortable providing a response, please skip to the next item.

Body Image (Concern)

1. How satisfied are you with your **weight**?

1	2	3	4	5
Extremely Satisfied	Fairly Satisfied	Neutral	Fairly Dissatisfied	Extremely Dissatisfied

2. How satisfied are you with your **body shape**?

1	2	3	4	5
Extremely Satisfied	Fairly Satisfied	Neutral	Fairly Dissatisfied	Extremely Dissatisfied

3. How satisfied are you with your **muscle size**?

1	2	3	4	5
Extremely Satisfied	Fairly Satisfied	Neutral	Fairly Dissatisfied	Extremely Dissatisfied

The remainder of the questions in this section are about how satisfied you feel with different parts of your body. If you find that a question does not apply to you, or you are not comfortable providing a response, please skip to the next item.

4. Your hip(s)

1	2	3	4	5
Extremely Satisfied	Fairly Satisfied	Neutral	Fairly Dissatisfied	Extremely Dissatisfied

5. Your thigh(s)

1	2	3	4	5
Extremely Satisfied	Fairly Satisfied	Neutral	Fairly Dissatisfied	Extremely Dissatisfied

6. Your chest

1	2	3	4	5
Extremely Satisfied	Fairly Satisfied	Neutral	Fairly Dissatisfied	Extremely Dissatisfied

7. Your abdominal region/stomach

1	2	3	4	5
Extremely Satisfied	Fairly Satisfied	Neutral	Fairly Dissatisfied	Extremely Dissatisfied

8. The size/width of your shoulder(s)

1	2	3	4	5
Extremely Satisfied	Fairly Satisfied	Neutral	Fairly Dissatisfied	Extremely Dissatisfied

9. Your leg(s)

1	2	3	4	5
Extremely Satisfied	Fairly Satisfied	Neutral	Fairly Dissatisfied	Extremely Dissatisfied

10. Your arm(s)

1	2	3	4	5
Extremely Satisfied	Fairly Satisfied	Neutral	Fairly Dissatisfied	Extremely Dissatisfied

Scoring:

Items are summed to produce a total score between 10 to 50, with higher scores indicating greater body dissatisfaction (McCabe & Ricciardelli, 2001).

This writer received written permission via email from Dr. Jessica Byers on behalf of Dr. McCabe to utilize the Body Image Concern scale of the Body Image and Body Change Questionnaire on October 31, 2018.

Body Appreciation Scale – 2
(BAS-2; Tylka & Wood-Barcalow, 2015)

Directions for participants: Please indicate whether the question is true about you never, seldom, sometimes, often, or always.

1 = Never, 2 = Seldom, 3 = Sometimes, 4 = Often, 5 = Always

1. I respect my body.	1	2	3	4	5
2. I feel good about my body.	1	2	3	4	5
3. I feel that my body has at least some good qualities.	1	2	3	4	5
4. I take a positive attitude towards my body.	1	2	3	4	5
5. I am attentive to my body's needs.	1	2	3	4	5
6. I feel love for my body.	1	2	3	4	5
7. I appreciate the different and unique characteristics of my body.	1	2	3	4	5
8. My behavior reveals my positive attitude toward my body; for example, I hold my head high and smile.	1	2	3	4	5
9. I am comfortable in my body.	1	2	3	4	5
10. I feel like I am beautiful even if I am different from media images of attractive people (e.g., models, actresses/actors)	1	2	3	4	5

Scoring:

Average participants' responses to items 1-10 for a total score.

Permission is not required from the authors to utilize the BAS-2. However, the authors do request that the corresponding author is notified via email if the BAS-2 is utilized in research. This writer notified the corresponding author of her intention to utilize the BAS-2, received permission to utilize the BAS-2, as well as information about the updated citation for BAS-2 from Dr. Tylka on 3/24/19.