POSITIVE BODY IMAGE, SPORT-CONFIDENCE, AND SPORT PERFORMANCE EVALUATIONS: AN EXTENSION OF THE SPORT-CONFIDENCE MODEL TO JAMAICAN AND BOTSWANA ATHLETES


By

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PUBLIC ABSTRACT

Sport participation is considered beneficial for the development of positive body image. In sport and exercise psychology, studies reveal that core components of positive body image, namely body appreciation and functionality appreciation, contribute to higher sport-confidence, a predictor of successful sport performance. The Sport-Confidence Model, while helpful for understanding these relationships, focuses solely on appearance-based aspects of positive body image, overlooking the importance of body functionality in athletes' body image perceptions. Furthermore, research on athlete body image is largely concentrated in North America, Europe, and Australia, with little research conducted in regions such as Africa and the Caribbean. This dissertation, centered on the Jamaican and Botswana sport contexts, consists of two studies focused on examining the relationships among body and functionality appreciation, sport-confidence, and sport performance evaluations, thus, building upon the Sport-Confidence Model.

Study 1 targeted 314 Jamaican athletes (male = 70.7%), ages 18 to 58 years, to examine the relationships among body and functionality appreciation, sport-confidence, and sport performance evaluations. The findings of this study revealed that (1) higher body and functionality appreciation were related to greater sport-confidence, (2) greater sport-confidence was related to more successful sport performance evaluations, and (3) higher body and functionality appreciation were indirectly related to more successful sport performance evaluations, by way of greater sport-confidence. These findings highlighted the potential to facilitate greater sport-confidence and more successful sport performance in Jamaican athletes by supporting their development of body and functionality appreciation.

Expanding on the findings of Study 1, Study 2 examined the relationships among perceived body acceptance by coaches and teammates, body and functionality appreciation, multidimensional sport-confidence (i.e., sport-confidence in physical skills and training, cognitive

efficiency, and resilience), and sport performance evaluations. Participants of Study 2 were 508 Botswana athletes (male = 65.3%), ages 18 to 62 years. The findings of this study revealed that (1) perceiving greater body acceptance from teammates was related to higher body and functionality appreciation while perceiving greater body acceptance from coaches was only related to higher body appreciation, (2) higher body and functionality appreciation were related to greater sport-confidence in physical skills and training and cognitive efficiency, with only body appreciation being related to greater sport-confidence in resilience, and (3) only sport-confidence in cognitive efficiency was related to more successful sport performance evaluations. These findings highlighted the importance of confidence in mental skills for successful performance in Botswana athletes, alongside promoting body acceptance from coaches and teammates to support positive body image and facilitate multidimensional sport-confidence.

In conclusion, this dissertation supports extending the Sport-Confidence Model to examine core components of positive body image in relation to sport-confidence. These findings highlight sport-confidence as important to successful performance in Jamaican (i.e., general sport-confidence) and Botswana athletes (i.e., sport-confidence in cognitive efficiency). Furthermore, this dissertation indicates that the Sport-Confidence Model is useful for guiding research, teaching, and practice of this nature within these contexts, offering valuable insights for broadening the cultural dimensions of sport and exercise psychology.

ABSTRACT

Sport participation is an embodying activity that supports the development of positive body image. Of relevance to sport and exercise psychology, is evidence linking core facets of positive body image, namely body and functionality appreciation, to sport-confidence, a consistent predictor of world-class sport performance. While the Sport-Confidence Model proves valuable for understanding these associations, this framework conceptualizes positive body image (i.e., physical self-presentation) as an appearance-based construct, neglecting the centrality of body functionality in athletes' body image perceptions. Furthermore, the existing research in this domain underrepresents the experiences of individuals from Africa and its diasporic regions (e.g., the Caribbean). With a focus on the Jamaican and Botswana sport contexts, this two-study dissertation sought to extend the literature by examining core facets of positive body image in relation to sport-confidence and performance, thus, expanding upon the Sport-Confidence Model.

Study 1 examined the associations among body and functionality appreciation, trait sport-confidence, and sport performance evaluations. A purposive sample of 314 Jamaican athletes (male = 70.7%; $M_{age} = 22.85$; $SD = 4.89$) participated in this cross-sectional study. Results from path analysis revealed evidence for (1) good model-data fit, (2) positive direct effects from body and functionality appreciation to sport-confidence, (3) positive direct effects from sport-confidence to sport performance evaluations, and (4) positive indirect effects from body and functionality appreciation to sport performance evaluations by way of sport-confidence. The findings of Study 1 highlighted the potential to facilitate sport-confidence and successful performance in Jamaican athletes by supporting their development of positive body image.

Study 2 expanded the model assessed in Study 1 to examine the associations among body acceptance by coaches and teammates, body and functionality appreciation, multidimensional sport-confidence (SC; SC-physical skills and training, SC-cognitive efficiency, and SC-resilience),

and sport performance evaluations. A purposive sample of 508 Botswana athletes (male = 65.3%, $M_{age}$ = 25.32, $SD$ = 7.10) participated in this cross-sectional study. Results from path analysis revealed evidence for (1) acceptable model-data fit, (2) positive direct effects from perceived body acceptance by teammates to body and functionality appreciation, with perceived body acceptance by coaches exerting a direct effect only on body appreciation, (3) positive direct effects from body and functionality appreciation to SC-physical skills and training and SC-cognitive efficiency, with only body appreciation exerting a direct effect on SC-resilience, and (4) a positive direct effect only from SC-cognitive efficiency to sport performance evaluations. The findings of Study 2 highlighted confidence in mental skills as important for successful performance in Botswana athletes, alongside promoting body acceptance from coaches and teammates to nurture positive body image and facilitate multidimensional sport-confidence.

In conclusion, this dissertation supports extending the Sport-Confidence Model to examine core facets of positive body image in relation to sport-confidence. These findings highlight sport-confidence as an important psychosocial factor contributing to successful performance in Jamaican (i.e., trait sport-confidence) and Botswana athletes (i.e., SC-cognitive efficiency). Furthermore, the findings of this dissertation support the applicability of Sport-Confidence Model predictions to these diverse cultural contexts, endorsing its utility in research, teaching, and practice, and offering valuable insights for advancing the cultural dimensions of sport and exercise psychology.

This dissertation is dedicated to my mom and dad.
Thank you for teaching me that there is nothing beyond my reach.

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PREFACE

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**Study 1 Citation**

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**Author Contributions**

Chelsi Ricketts was responsible for study conceptualization and design, data collection, analyses and interpretation, and manuscript writing. Leapetswe Malete contributed to the study conceptualization, manuscript reviews, and edits, and offered mentorship and oversight. Nicholas D. Myers provided guidance on statistical analyses, conducted power estimation, and contributed to manuscript reviews and edits. André G. Bateman contributed to the reviews and editing of the manuscript. Caryl James served as a local project mentor in Jamaica and contributed to manuscript reviews and edits.

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# LIST OF ABBREVIATIONS

| | |
|---|---|
| BAOS-2 | Body Acceptance by Others Scale-2 |
| BAS-2 | Body Appreciation Scale-2 |
| BIA | Bioelectrical Impedance Analysis |
| BMI | Body mass index |
| CFI | Comparative Fit Index |
| CI | Confidence Interval |
| FAS | Functionality Appreciation Scale |
| ML | Maximum likelihood |
| MLR | Maximum likelihood estimation with robust standard errors |
| RMSEA | Root Mean Square Error of Approximation |
| SC | Sport-confidence |
| SCI | Sport-Confidence Inventory |
| SEP | Sport and Exercise Psychology |
| SPQ | Subjective Performance Questionnaire |
| SRMR | Standardized Root Mean Square Residual |
| TLI | Tucker-Lewis Index |
| TSCI | Trait Sport-Confidence Inventory |
| US | United States |

CHAPTER I: GENERAL INTRODUCTION

The manner in which the body is perceived and experienced (i.e., *body image*; Cash & Smolak, 2011) is of key importance in embodying activities such as sports (Menzel & Levine, 2011), and is shown to have implications for athletes' well-being and sport experiences (Joy et al., 2016; Koulanova et al., 2021). Notwithstanding, two key issues pervade body image research in the sport domain. First, there is a disproportionate emphasis on research investigating a negative body image and the associated psychopathologies (Petrie & Greenleaf, 2011). This negative focus presents a one-sided pathological view of athlete body image and neglects the positive implications of sport participation for developing adaptive body image perceptions. Second, most research findings on athlete body image have a pervasive Eurocentric bias, as they are based on studies conducted predominantly with Caucasian populations in the Global North (i.e., North America, Europe, and Australia; Sabiston et al., 2019). Despite being known universally for their sporting accomplishments, athletes from the Global South, including Africa (Vancini et al., 2014) and regions of the Diaspora (e.g., the Caribbean; Thomas et al., 2019), remain underrepresented in the sport and exercise psychology (SEP) literature. This project seeks to advance SEP scholarship by responding to calls for additional research examining the adaptive aspects of body image (Sabiston et al., 2019) among athletes from diverse cultural contexts (Coakley, 2003; Duda & Allison, 1990).

**Positive Body Image in Sport**

Though outnumbered by a wealth of studies linking sport participation to negative body image (Bratland-Sanda & Sundgot-Borgen, 2013; Kong & Harris, 2015; Varnes et al., 2013), there exists considerable evidence that individuals who participate in sport and physical activity report less negative and more positive body image perceptions (Sabiston et al., 2019). A *positive body image* represents the love, respect, and acceptance that one has for their body (Tylka & Wood-

Barcalow, 2015b). Core facets of positive body image include *body appreciation* and *functionality appreciation* (Alleva et al., 2017; Tylka & Wood-Barcalow, 2015b). Body appreciation reflects gratitude, respect, and honor for the body's features, health, and beauty (Tylka & Wood-Barcalow, 2015b), while functionality appreciation reflects gratitude, respect, and honor for what the body can and is capable of doing (Alleva et al., 2017).

Only a few known studies have examined core facets of a positive body image among athletic populations (Baceviciene & Jankauskiene, 2020; Jankauskiene et al., 2020; Oh et al., 2012; Soulliard et al., 2019, 2021), with evidence provided for higher body and functionality appreciation in athletes compared to non-athletes (Baceviciene & Jankauskiene, 2020; Soulliard et al., 2019, 2021). Sport participation is an embodying experience that allows for greater body responsiveness, physical empowerment, and physical competence (Menzel & Levine, 2011). For this reason, athletes are considered uniquely positioned to develop an appreciation for the body's form and functionality (Menzel & Levine, 2011; Piran, 2017). The benefits of sport participation for athletes' body image are particularly noteworthy, as an appreciation for the body's form and functionality has been linked to a host of well-being indicators, including adaptive eating and high self-esteem (Alleva et al., 2017; Tylka & Wood-Barcalow, 2015a). Thus, there is a need for additional research on the factors contributing to athletes' experience of positive body image and its implications for their sport experiences and outcomes.

**Factors Contributing to Positive Body Image in Athletes**

Individual characteristics (e.g., age and sex) and sport-related contextual features (e.g., sport participation and competition level) play a role in athletes' experience of positive body image (Jankauskiene et al., 2020; Kantanista et al., 2018; Soulliard et al., 2019). While any involvement in sport (e.g., recreational/competitive, aesthetic/non-aesthetic) is considered beneficial for

valuing the body's form and functionality (Jankauskiene et al., 2020), body image perceptions tend to be more positive among older athletes (Kantanista et al., 2018), males (Jankauskiene et al., 2020; Soulliard et al., 2019), individuals participating at higher sport levels (Kantanista et al., 2018), and non-aesthetic sport participants (e.g., soccer; Abbott & Barber, 2011). Therefore, individual characteristics and sport-related contextual features are crucial to consider when examining contributors to athletes' experience of positive body image.

Studies have also examined body mass index (BMI) as a correlate of positive body image. Evidence from non-sport populations suggests an inverse relationship between body and functionality appreciation and BMI (Linardon et al., 2021; Tylka & Wood-Barcalow, 2015a). This association has been attributed to the greater ease of appreciating the body's form and functionality among individuals with lower BMI, especially in cultures that stigmatize higher body weights (Tylka & Wood-Barcalow, 2015b). Within the sport domain, investigations have failed to reveal significant associations between body and functionality appreciation and BMI (Soulliard et al., 2019, 2021). However, these findings may be limited by the reliance on self-reported height and weight for BMI estimation. While some individuals may lack awareness of their height and weight, others may overestimate (e.g., height) and underestimate (e.g., weight) these measures due to social desirability, resulting in weight status misclassification (Gay et al., 2009; Wilson et al., 2019). To address these methodological limitations, scholars recommend utilizing device-based measures of height and weight (Knechtle et al., 2012), which could offer a more nuanced understanding of the BMI and positive body image relationship.

Notably, given their relatively large body size, coupled with their relative leanness, BMI presents limitations when used with athletes (Malina, 2007). BMI is limited in its ability to distinguish lean and fat tissue, complicating efforts at deciphering whether athletes are heavy due

to larger fat-free mass or excess fat (Malina, 2007). Excess fat mass is generally considered detrimental to athletic achievement and is stigmatized in many sport contexts (Lozano-Sufrategui et al., 2016; Malina, 2007; Vani et al., 2021). Thus, accounting for variations in percent body fat could clarify the unique role of BMI in athletes' positive body image (Malina, 2007). Further investigations into the associations among BMI estimated using device-based measures, percent body fat, and body and functionality appreciation are warranted to improve understanding of these relationships.

The extent to which the sport environment is conducive to nurturing adaptive body image perceptions may also contribute to athletes' experience of positive body image. One key environmental characteristic that supports positive body image is *body acceptance by others* – the degree to which individuals perceive acceptance of their bodies by important others, regardless of their flaws (Avalos & Tylka, 2006). This phenomenon has been observed in sports, such that athletes perceiving greater acceptance of their bodies by coaches and teammates also report greater positive body image perceptions (Oh et al., 2012). However, in previous research, athletes' experience of body acceptance by coaches and teammates was operationalized as being specific to body shape and weight (Oh et al., 2012). This approach undermines the various ways in which athletes may receive body acceptance from important others, including for their physical capabilities (e.g., agility) and bodily creativity (e.g., intricate movement patterns; Abbott & Barber, 2011; Swami et al., 2021). Thus, there is a need for additional research on the extent to which the body, in a more global sense (Swami et al., 2021), is perceived to be accepted by key interpersonal agents in sport, and its role in nurturing athletes' experience of positive body image. Of note, is that body acceptance by teammates could be differentially related to positive body image depending on one's involvement in individual versus team sports (Dosil, 2008). While teammates

(or training colleagues) can positively influence athletes' body image in individual sports, their impact may be more significant in team sports due to stronger relationships and greater interactions (Dosil, 2008; Scott et al., 2019, 2021). Therefore, athletes' sport category (i.e., individual vs. team) is important to consider when examining these associations.

**Sport-related Correlates of Positive Body Image**

Of relevance to SEP, is evidence of positive body image being associated with greater sport-confidence and successful sport performance evaluations (Soulliard et al., 2019). In conceptualizing the Sport-Confidence Model, Vealey (1986) defined sport-confidence as "the belief or degree of certainty individuals possess about their ability to be successful in sport" (p. 222). The Sport-Confidence Model (Vealey, 1986; Vealey et al., 1998), built on foundations of Bandura's (1977) self-efficacy theory, is a useful framework for understanding the role of positive body image in facilitating athletes sport-confidence and successful performance evaluations. Aligning with developments in personality research during the 20th century, sport-confidence was separated into two constructs termed *trait sport-confidence* (i.e., the degree of certainty one usually possesses about their ability to be successful in their sport) and *state sport-confidence* (i.e., the belief in one's ability to be successful in their sport at a particular moment; Vealey, 1986). Vealey and colleagues (1998) identified nine sources of sport-confidence most salient to athletes. The nine sources were predicted to be directly related to athletes' sport-confidence levels and indirectly related to athletes' affect (e.g., enjoyment), behavior (e.g., effort), cognitions (e.g., performance evaluations), and performance outcomes (Vealey et al., 1998).

*Physical self-presentation*, defined as perceptions of the physical self (Vealey et al., 1998), is the source of sport-confidence of interest to the current project. According to athletes in Vealey et al.'s (1998) study, this source of sport-confidence emanated from perceptions of positive body

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image. However, within the Sport-Confidence Model (Vealey et al., 1998), physical self-presentation was operationalized as an appearance-based construct, such that higher scores indicated a more favorable evaluation of the physical self. Assessing physical self-presentation solely based on appearance does not accurately capture other facets of the physical self that contribute to positive body image (Tylka & Wood-Barcalow, 2015b). This may explain why Vealey et al. (1998) found a greater reliance on physical self-presentation to be associated with lower levels of sport-confidence. For athletes, perceptions of the physical self may also incorporate the body's health, fitness, and functionality (Abbott & Barber, 2011; Allen et al., 2019; Menzel & Levine, 2011; Petrie & Greenleaf, 2011), features that prove to be important to athletes' sport-confidence and performance evaluations (Soulliard et al., 2019). Thus, there is a need for additional research that extends the physical self-presentation construct of the Sport-Confidence Model (Vealey et al., 1998), beyond a narrow focus on appearance, to assess core facets of positive body image in relation to athletes' sport-confidence.

In later refinements to the Sport-Confidence Model, Vealey and Knight (2002) acknowledged the construct's multidimensionality, outlining three types of sport-confidence most crucial to athletes: sport confidence in (1) *physical skills and training* (i.e., belief in one's ability to execute the physical skills necessary to perform successfully), (2) *cognitive efficiency* (i.e., belief in one's ability to mentally focus, concentrate, and make effective decisions for successful performance), and (3) *resilience* (i.e., belief in one's ability to refocus and bounce back from performance decrements). Importantly, perceptions of positive body image may be differentially related to the types of sport-confidence. A positive body image could facilitate greater confidence in one's physical skills and training, as these athletes may be more in tune with and trusting of their body's ability to demonstrate its physical competencies (Piran et al., 2020). A positive body

image may also be protective to athletes' confidence in cognitive efficiency and resilience, though these domains may appear less connected to perceptions of the physical self (Machida, 2008). Athletes with a positive body image are less likely to experience body image disturbances that disrupt the ability to mentally focus, concentrate, and refocus after experiencing performance decrements (Voelker & Reel, 2015, 2018). However, no known study has investigated the associations between positive body image and multidimensional sport-confidence. An examination of these associations could provide an improved understanding of the positive body image and sport-confidence relationship.

Despite recommendations for additional research with diverse sport populations (Coakley, 2003; Duda & Allison, 1990), the perspectives of athletes from regions of Africa and the African Diaspora (e.g., the Caribbean) remain noticeably scarce in the sport-related psychosocial literature (Chinomona, 2014; McSweeney & Nakamura, 2020; Sabiston et al., 2019; Thomas et al., 2019). Longstanding calls have been made for the interconnection of regions in A-frica and the Diaspora, particularly through research (Halidu, 2022; Okpewho & Nzegwu, 2009). Jamaica, a small Caribbean island in the Diaspora (Mullings et al., 2018), and Botswana, a country in Southern Africa (Brown et al., 2015), offer intriguing contexts for exploring positive body image and its implications for sport experiences and outcomes. Alongside the establishment of sporting infrastructure to support athletic achievement, both regions place significant emphasis on fostering athletic excellence, and have amassed governmental support for advancing sport development (Toomer, 2015; Tshube et al., 2022). Despite these advancements, knowledge of the psychosocial factors contributing to athletic success remains sparse in both countries, hindering opportunities for targeted and culturally relevant SEP practice (Mason & Morgan, 2022; Tshube et al., 2022).

In the context of athletic pursuits, a distinguishing feature of Jamaica and Botswana lies in the degree of attained sporting excellence. Jamaica boasts an extensive record of international successes, particularly in sports such as soccer, cricket, and track (Franklyn, 2010; Taylor, 2015; Toomer, 2015). Botswana, however, has had a shorter history of international sport successes (Tshube et al., 2022). The region has faced persistent challenges related to nurturing athlete talent, leading to poor performances at many national and international events (Tshube et al., 2022). This raises the question of whether there are lessons to be learned from regions of Africa and the Diaspora that are transferable across these contexts to promote sport success. To address this question, further investigations of the sporting landscape and experiences of individuals across these regions are warranted. Notably, positive perceptions of the physical self are considered important for confident and competent sport engagement in both Jamaica (Malete et al., 2008) and Botswana (Shehu & Moruisi, 2011). It therefore appears feasible to examine, more specifically, the role of positive body image in facilitating confident and successful sport performance in athletes from these regions. An examination of these associations could uncover psychosocial factors to target when supporting athlete talent development and success in these countries, further connecting both regions through shared knowledge and experiences.

**The Current Project**

To extend the literature beyond a focus on body-related psychopathologies among athletes in the Global North, this study examined the adaptive aspects of athlete body image in two understudied regions in the Global South - *Jamaica* and *Botswana*. This project comprises two independent studies guided by the Sport-Confidence Model (Vealey, 1986; Vealey et al., 1998; Vealey & Knight, 2002). However, both studies extend the physical self-presentation construct of the Sport-Confidence Model, beyond a focus on appearance, to examine core facets of positive

body image – *body appreciation* and *functionality appreciation.* Study 1, which targeted a sample

of Jamaican athletes, examined a model of the associations among body and functionality

appreciation, trait sport-confidence, and sport performance evaluations, controlling for age, sex,

and sport participation level (recreational vs. competitive). Study 2, which targeted a sample of

Botswana athletes, builds on the findings of Study 1 in two ways. First, Study 2 expanded the

model assessed in Study 1 to investigate perceived body acceptance by coaches and teammates in

relation to athletes' positive body image, accounting for the additional factors of BMI, percent

body fat, and engagement in team versus individual sports. Second, for a more comprehensive

understanding of the positive body image, sport-confidence, and performance relationship, the

model examined in Study 2 was expanded to account for the multidimensionality of sport-

confidence.

**Anticipated Contributions**

The current project is expected to advance the literature by providing theory-driven insights

on the role of positive body image in contributing to athletes' sport-confidence and performance

evaluations. This project has the potential to uncover individual athlete characteristics (e.g., age,

sex, body composition) and sport-related contextual features (e.g., sport level, perceived body

acceptance by coaches and teammates) that facilitate positive body image, sport-confidence, and

successful sport performance. Thus, the findings of these studies may present important

implications for sport practitioners aiming to promote positive sport experiences and outcomes

among their region's athletes. Furthermore, understanding the psychosocial factors that drive

successful sport engagement is not only beneficial for promoting high level performance, but also

has implications for supporting enjoyable and lifelong physical activity (MacNamara et al., 2011).

To address questions regarding the generalizability of theories in SEP, additional research with

diverse athlete populations has been recommended (Papaioannou, 2013). While the Sport-Confidence Model was developed in the United States (US) and has primarily been examined among US athlete samples (Hays et al., 2007; Machida et al., 2012, 2017; Vealey, 1986; Vealey et al., 1998; Vealey & Knight, 2002), the results of the current project can provide insights on the applicability of this model to two diverse, yet understudied cultural contexts. Importantly, this project contributes to ongoing efforts to bridge the gap between regions of Africa and the Diaspora by advancing scholarship pertinent to both contexts.

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CHAPTER II: STUDY 1

**ABSTRACT**

Guided by the Sport-Confidence Model, this study examined the associations among positive body image, sport-confidence, and sport performance evaluations. Using a cross-sectional design, a purposive sample of 314 Jamaican athletes (male = 70.7%; $M_{age}$ = 22.85; $SD$ = 4.89) completed measures of body and functionality appreciation, sport-confidence, and subjective sport performance. Results from path analysis provided evidence for good model-data fit. Body ($B$ = 9.03, $p$ < .001) and functionality ($B$ = 4.93, $p$ = .036) appreciation exerted direct effects on sport-confidence. Sport-confidence exerted a direct effect on sport performance evaluations ($B$ = 0.09, $p$ < .001). Body ($B$ = 0.79, $CI_{95\%}$ [0.44, 1.17]) and functionality ($B$ = .43, $CI_{95\%}$ [0.05, 0.92]) appreciation exerted indirect effects on sport performance evaluations through sport-confidence. Results indicate that supporting the development of positive body image in athletes may contribute to feelings of sport-confidence and positive performance outcomes.

**INTRODUCTION**

The body's centrality in sport transcends its physical capabilities. Perceptions, emotions, and behaviors related to the body's appearance and function (Cash & Smolak, 2011) also contributes to athletes' sport experiences (Koulanova et al., 2021). It is well-established that the appearance-related pressures present in many sport contexts may increase athletes' risk for developing a negative body image (Sabiston et al., 2019) and the associated psychopathologies (e.g., eating disorders and excessive exercise; Galli et al., 2017; Petrie et al., 2014; Vani et al., 2021). While a negative body image has deleterious implications for athletes' well-being (Joy et al., 2016; Koulanova et al., 2021), knowledge of the relationship between body image and psychosocial functioning in athletes may be limited by a disproportionate focus on pathology. A

comprehensive understanding of this relationship requires additional research on the adaptive aspects of athlete body image. Furthermore, body image research in sport has predominantly been conducted in Western regions (Sabiston et al., 2019), despite longstanding calls for more cross-cultural research in SEP (Duda & Allison, 1990; Ryba et al., 2013). Jamaica, a small developing island in the Caribbean (Mullings et al., 2018), is described as a 'sporting nation', with international successes in sports such as netball, soccer, cricket, and track and field (Franklyn, 2010; Toomer, 2015). Knowledge derived from athletes in non-Western 'sporting regions', such as Jamaica, may contribute diverse perspectives that are beneficial for advancing the field. This study responds to calls for diversifying SEP research, by examining the adaptive aspects of body image and its implications for sport-confidence and performance in a sample of Jamaican athletes.

**Sport Participation and Positive Body Image**

While sport participation affords athletes the opportunity to develop their physical competencies in areas such as speed and coordination (Greenleaf et al., 2009), this pursuit may also be promising for the development of a *positive body image (*Baceviciene & Jankauskiene, 2020; Jankauskiene et al., 2020; Soulliard et al., 2019). A positive body image represents the love, respect, and acceptance that one has for their body (Tylka & Wood-Barcalow, 2015b). This multifaceted construct extends beyond mere body satisfaction and positive appearance evaluations, to also incorporate an appreciation for the body's form and functionality (Alleva et al., 2017; Tylka & Wood-Barcalow, 2015b). Two core facets that comprise the positive body image construct are *body appreciation* and *functionality appreciation.* Body appreciation reflects an admiration for the body's unique features, health, and beauty (Tylka & Wood-Barcalow, 2015b), while functionality appreciation represents gratitude for what the body can and is capable of doing (e.g., physical capabilities; Alleva et al., 2017).

Importantly, when compared to their non-athlete counterparts, athletes have been found to report higher levels of body and functionality appreciation (Baceviciene & Jankauskiene, 2020; Jankauskiene et al., 2020; Soulliard et al., 2019). The bodies of athletes are capable of engaging in intricate movement patterns, therefore, athletes may be more aware and appreciative of the unique features and capabilities of their bodies. As a result of their sport participation, athletes may develop close and connected relationships with their bodies (i.e., a sense of embodiment; Menzel & Levine, 2011), and cultivate identities that are not based solely on their physical appearance, but that also incorporates their physical skills and potential (Abbott & Barber, 2011; Allen et al., 2019). Sport participation could also be protective against the development of a negative body image, as evidence indicates lower negative, but higher positive body image perceptions among sport participants (Sabiston et al., 2019). However, previous studies have predominantly utilized *body satisfaction* and *positive appearance evaluations* as indicators of positive body image in athletes (Sabiston et al., 2019). Given the multifaceted nature of a positive body image, an examination of its key components is required for an improved understanding of the athlete body image and psychosocial functioning relationship.

**Positive Body Image, Sport-confidence, and Sport performance**

Characteristic features of a positive body image include portraying confident behaviors (e.g., smiling, asserting oneself) and a high self-regard (Tylka, 2012). Therefore, it is no surprise that athletes with higher levels of body and functionality appreciation also report higher levels of sport-confidence (Soulliard et al., 2019). Sport-confidence, defined as the degree of certainty that one has about their ability to be successful in sport (Vealey, 1986), is of key interest, given its established role as a predictor of successful sport performance (Hays et al., 2009; Levy et al., 2011; Martin & Gill, 1991; Vealey et al., 1998). Athletes high in confidence are reportedly more skilled

and effective in using cognitive resources and employing the achievement behaviors necessary to be successful in their sport (Hays et al., 2009). Similarly, athletes with a positive body image spend less time critiquing their body's appearance and more time celebrating its functional capabilities (Tylka, 2012). This positive view of the body may serve as a source of encouragement about one's ability to successfully execute sport-specific courses of action.

The Sport-Confidence Model (Vealey, 1986; Vealey et al., 1998) is a useful framework for understanding the associations among a positive body image, sport-confidence, and sport performance. Emerging from self-efficacy theory (Bandura, 1977), this model was developed to provide a parsimonious conceptualization of self-confidence in the sport domain (Vealey, 1986). The Sport-Confidence Model classifies sport-confidence into trait and state dimensions (Vealey, 1986), with trait sport-confidence reflecting the degree of certainty one generally possesses about their ability to be successful in sport, and state sport-confidence reflecting the degree of certainty about one's ability to be successful in sport at a particular moment (Vealey, 1986). Vealey and colleagues (1998) extended the sources of self-confidence beyond that of self-efficacy theory (Bandura, 1977), and identified nine sources of sport-confidence most salient to athletes (e.g., mastery, demonstration of ability). These nine sources were directly related to athletes' sport-confidence levels and indirectly related to athletes' affect (e.g., enjoyment), behavior (e.g., performance), and cognitions (e.g., performance evaluations; Vealey et al., 1998).

Physical self-presentation, or athletes' perception of the physical self, was highlighted as an important source of sport-confidence by athletes, and was reportedly derived from perceptions of a positive body image (Vealey et al., 1998). However, in the Sport-Confidence Model (Vealey, 1986; Vealey et al., 1998), physical self-presentation was assessed as an appearance-based construct, with higher scores indicative of greater sport-confidence derived from a positive

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evaluation of one's physical appearance. An appearance-based focus neglects other features of the physical self (e.g., health and functionality) that play a role in body image (Tylka & Wood-Barcalow, 2015b). Thus, this study extends the physical self-presentation construct of the Sport-Confidence Model (Vealey et al., 1998), beyond an evaluation of appearance, to examine body and functionality appreciation in relation to athletes' sport-confidence.

Given that greater sport-confidence is associated with better athlete performance (Martin & Gill, 1991), it is expected that athletes with a positive body image will not only approach their sport more confidently, but will also exhibit higher levels of performance (Vealey et al., 1998). These athletes may be more in tune with and trusting of their body's ability to execute the skills necessary to perform well in their sport (Piran et al., 2020). Additionally, these athletes may be less likely to experience body image disturbances that disrupt the ebb and flow of the physiological and psychological processes that facilitate successful sport performance (Voelker & Reel, 2015, 2018). This is of practical significance for sport stakeholders (e.g., coaches and sport psychologists), and indicates that promoting the development of a positive body image in athletes may be a potential avenue to not only facilitate feelings of sport-confidence, but also indirectly promote positive sport outcomes.

Only one known study has provided evidence of positive associations among body and functionality appreciation, sport-confidence, and sport performance evaluations (Soulliard et al., 2019). Importantly, this study established weak positive associations between body and functionality appreciation and sport performance evaluations (Soulliard et al., 2019). This is to be expected, as there are more immediate and influential contextual (e.g., coaches), personal (e.g., confidence), training (e.g., physical skills), and competition-related (e.g., managing pressure) factors that contribute to successful sport performance (Durand-Bush & Salmela, 2002). Despite

their contributions, Soulliard et al. (2019) examined these associations in the absence of a conceptual framework. Theoretical frameworks provide a conceptual base of which to define, examine, and explain relationships among variables across a range of predicted situations (Wacker, 2008). Predictions by the Sport-Confidence Model (Vealey et al., 1998) point to an indirect association between positive body image and sport performance evaluations, by way of sport-confidence. A theory-driven examination of these associations may provide crucial insights on factors on which to intervene to promote positive sport experiences and outcomes.

As proposed by Vealey et al. (1998), body image may be differentially related to sport-confidence and performance based on athlete characteristics (e.g., age, sex) and the organizational culture of sport (e.g., sport type and level). Body image perceptions tend to be more adaptive with increasing age (Kantanista et al., 2018; Tylka & Wood-Barcalow, 2015b), among males (Jankauskiene et al., 2020; Soulliard et al., 2019), at higher sport participation levels (Jankauskiene et al., 2020; Kantanista et al., 2018), and in non-aesthetic sports (e.g., soccer; Abbott & Barber, 2011). With increasing age comes a greater understanding and awareness of the body's functional capabilities (Tiggemann, 2015; Tylka & Wood-Barcalow, 2015b). Likewise, male athletes may self-objectify their bodies to a lesser extent than female athletes (Soulliard et al., 2019), and their bodies tend to be valued more highly for its physical capabilities (Tylka & Wood-Barcalow, 2015b). Due to their greater physical training and fitness, athletes competing at higher levels of sport are considered to be more aware and appreciative of their bodies (Kantanista et al., 2018; Petrie & Greenleaf, 2011). Similarly, non-aesthetic sports are considered to have a more instrumental, as opposed to appearance-based focus (Lucibello et al., 2021), and as such, present greater opportunities to value the body's form and functionality (Abbott & Barber, 2011). Consequently, athlete demographics and sport-related contextual features are crucial factors to

consider when examining associations among a positive body image, sport-confidence, and sport performance.

To advance the field of contemporary SEP, additional research with diverse cultural identities has been recommended (Duda & Allison, 1990; Ryba et al., 2013). An increased representation of diverse populations in the SEP literature is crucial for uncovering insights that inform contextually relevant teaching, research, and practice (McGannon et al., 2014; Ryba et al., 2013). Jamaica is known for its sporting talents (Franklyn, 2010; Toomer, 2015), yet little is known about the psychosocial factors that contribute to the performance of Jamaican athletes. While body image perceptions have been investigated in samples of Jamaican weightlifters (Ricketts et al., 2020) and physically active adolescents (Harrison et al., 2022), no known studies have examined psychosocial correlates of body image perceptions in Jamaican athletes. A study of this nature supplements the growing body of research seeking to examine the adaptive aspects of athlete body image, and may uncover factors that contribute to positive sport experiences in Jamaican athletes, while responding to calls for more cross-cultural research.

**Aim and Hypotheses**

In line with predictions by Vealey and colleagues (1998), this study aimed to examine a path model of the associations among a positive body image (i.e., body and functionality appreciation), sport-confidence, and sport performance evaluations, in a Jamaican athlete sample. Given that Vealey et al. (1998) found more internally based sources of sport-confidence to be associated with more enduring feelings of sport-confidence, trait sport-confidence (referred hereinafter as sport-confidence) was the variable of interest in this study. The following hypotheses were investigated:

***Hypothesis 1.*** Body and functionality appreciation would exert positive direct effects on sport-confidence.

***Hypothesis 2.*** Sport-confidence would exert a positive direct effect on sport performance evaluations.

***Hypothesis 3.*** Body and functionality appreciation would exert positive indirect effects on sport performance evaluations through sport-confidence.

## METHODS

### Participants and Procedures

Ethical approval to conduct this study was granted by the Michigan State University Institutional Review Board (STUDY0000669) and the University of the West Indies, Mona Campus Research Ethics Committee, Jamaica (ECP 31). Following ethical approval, this cross-sectional study recruited a purposive sample of Jamaican athletes, ages 18 years and older. Given the paucity of psychosocial research conducted with Jamaican athletes and the limited knowledge of the adult sport demographic, no restriction was placed on maximum age in the present study to prevent limiting the number of available participants. The adult sport demographic predominantly comprises of individuals below the age of 35 years, though a considerable number of sport participants are between ages 35 – 64 years (Eime et al., 2016, 2021; Woods, n.d.). These trends, however, are specific to countries in the global North (i.e., Australia and the United States) and may not be applicable to the Jamaican context. Not delimiting age in the current study presents two advantages. First, it allows for an improved understanding of the Jamaican adult sport demographic. Second, given previously reported age differences in the variables under study (Gyomber et al., 2013; Hall et al., 2009; Tiggemann, 2015; Tylka & Wood-Barcalow, 2015b), it

presents an opportunity to detect and account for age-related variabilities in positive body image, sport-confidence, and sport performance evaluations.

Permission was attained from Sport Administrators prior to recruiting participants from various athletic departments, sports teams, and clubs. Additionally, participants were recruited from the general population. Research Assistants aided in participant recruitment and dissemination of the questionnaires, which took the form of an online Qualtrics survey. Data were collected as a part of a larger study investigating a positive body image and its association with psychological outcomes and sport experiences. Participants were required to provide Informed Consent using the Qualtrics platform, after which they completed measures of demographic information, body appreciation, functionality appreciation, sport-confidence, and sport performance. To verify athlete status, participants were asked whether they participated in sport, as well as to identify either as a recreational or competitive athlete based on the following criteria: (a) *Recreational athlete:* participates in sport without training or competing regularly and mainly for the purpose(s) of being physically active, fun/enjoyment, and/or social engagement (Maron et al., 2004); (b) *Competitive athlete*: member of an organized sports team or individual sport that requires regular training and competition, with a high premium placed on athletic excellence and achievement (Maron & Mitchell, 1994). The participants were offered the opportunity to enter a raffle to win one of multiple Western Union cash transfers of 20 USD.

## Power Estimation

A power analysis for testing focal parameters within a model (e.g., Hancock & French 2013; MacCallum et al., 1996) was conducted as advocated in exercise science (e.g., Myers et al., 2016; Myers et al., 2018), using an online utility (Preacher & Coffman, 2006). Focal parameters were the three direct effect model parameters specified in Hypotheses 1 and 2. The two indirect

effects specified in Hypotheses 3 were both a function of these direct effect model parameters. Peripheral parameters were the remaining 10 model parameters to be estimated in the full path model, which had 2 degrees of freedom. Alpha was set to .05. Sample size was set to 300. Degrees of freedom were set to 5 in the null (i.e., peripheral parameters only) model, where each of the three focal direct effects were assumed to have a value of zero, and to 2 in the alternative (i.e., peripheral + focal parameters) model, where at least one focal direct effect was assumed to have a non-zero value. Population model data fit (e) was set to .10 in the null condition ($e_0$) to represent poor fit consistent with general methodological recommendations (Steiger & Lind, 1980) and theory (e.g., assuming no effect of confidence on performance). Population model data fit was set to .025 in the alternative condition ($e_1$) to represent close fit consistent with general methodological recommendations (Steiger & Lind, 1980) and theory (e.g., assuming a non-zero effect of confidence on performance). Power estimation equaled .91.

**Measures**

*Demographic Information Questionnaire.* Participants reported demographic information including age, sex, sport participation and competition level, duration and frequency of sport participation, employment status, education level, and socioeconomic status (see Appendix B).

*Body Appreciation.* The Body Appreciation Scale-2 (BAS-2; Tylka & Wood-Barcalow, 2015a) is a 10-item measure assessing the extent to which individuals accept, respect, and have favorable attitudes toward their bodies (see Appendix C; Avalos et al., 2005). Items on the BAS-2 (e.g., "I appreciate the different and unique characteristics of my body") are scored on a 5-point scale ranging from *1 = Never* to *5 = Always*. A total body appreciation score is calculated by averaging participants' responses to all items, with higher scores indicating greater body appreciation. Scores derived from the BAS-2 boast good psychometric properties, with alpha

coefficients ranging from .95 to .97 among samples of athletes (Jankauskiene et al., 2020; Soulliard et al., 2019), as well as high test-retest reliability, and evidence of construct validity (Tylka & Wood-Barcalow, 2015a). The internal consistency (α) of scores produced by the BAS-2 in the current study was .93.

*Functionality Appreciation.* The Functionality Appreciation Scale (FAS; Alleva et al., 2017) is a 7-item measure of the extent to which individuals appreciate, respect, and honor their body's functional capabilities (see Appendix D). Items on the FAS (e.g., "I respect my body for the functions that it performs") are scored on a 5-point scale ranging from *1 = Strongly Disagree* to *5 = Strongly Agree*.  A total functionality appreciation score is derived from averaging participants scores on all items, with higher scores indicating greater functionality appreciation. Scores derived from the FAS are reportedly psychometrically sound, with evidence of test-retest reliabilities of .81 for women and .74 for men (over a 3-week period), construct and criterion-related validity (Alleva et al., 2017), as well as an internal consistency of .85 in an athlete sample (Soulliard et al., 2019). The internal consistency (α) of scores produced by the FAS in the current study was .89.

*Sport-Confidence*. The Trait Sport-Confidence Inventory (TSCI; Vealey, 1986) is a 13-item measure of how confident athletes generally feel when they compete in or play their sport (see Appendix E). Using a 9-point scale *(1 = low confidence, 5 = medium confidence, 9 = high confidence)*, participants are asked to compare their own self-confidence to the most self-confident athlete they know (e.g., "Compare your confidence in your ability to execute the skills necessary to be successful to the most confident athlete you know"). To compute total TSCI scores, responses are added (range = 13-117), with higher scores indicative of greater trait sport-confidence. Scores derived from the TSCI are found to have good psychometric properties, including evidence of

concurrent and construct validity, test-retest reliability (one day: $r = .86$; one week: $r = .89$; one month: $r = .83$; Vealey, 1986), as well as excellent internal consistency reliability ($\alpha = .97$; Soulliard et al., 2019). The internal consistency ($\alpha$) of scores produced by the TSCI in the current study was .96.

*Sport Performance.* The Subjective Performance Questionnaire (SPQ) developed by Soulliard et al. (2019) was derived from previously used subjective performance measures by Vealey (1986). The scale consists of two items that assess performance from one's most recent competitive season (see Appendix F). Participants are asked to use an 11-point scale ranging from *0 = extremely unsuccessful, to 10 = extremely successful*, to respond to item one, "For your most recent competitive season, please rate your overall performance". A similar 11-point scale ranging from *0 = extremely unsatisfied, to 10 = extremely satisfied"* was used to respond to item two, "For your most recent competitive season, please rate your overall satisfaction with your performance". To account for recreational athletes who may not have competitive seasons, these participants were asked to rate their performance based on their most recent sport participation. To compute a total score on the SPQ, the scores for both items are summed, with higher scores indicating a higher evaluation of one's sport performance (range = 0-20). Among a sample of student-athletes, the internal consistency of scores derived from the SPQ was found to be .85 (Soulliard et al., 2019). The internal consistency ($\alpha$) of scores produced by the SPQ in the current study was .84.

**Data Analysis**

Continuous data were summarized with means and standard deviations, and categorical data (e.g., demographics) with frequencies and percentages. Skewness, kurtosis, and the magnitude of correlations (small = .10, medium = .30, large = .50; Cohen, 1988) were examined for continuous variables. For descriptive purposes (i.e., unrelated to the study hypotheses), a

regression model was analyzed to examine potential differences in body and functionality appreciation by age, sex, and sport participation level. Sex (male [reference category] vs. female), and sport participation level (i.e., recreational [reference category] vs. competitive) categories were dummy coded prior to conducting the analyses. Observed variable path analysis was conducted using M*plus* 8.8 (Muthén & Muthén, 2017) to test hypotheses: (1) body and functionality appreciation would exert positive direct effects on sport-confidence, (2) sport-confidence would exert a positive direct effect on sport performance evaluations, and (3) body and functionality appreciation would exert positive indirect effects on sport performance evaluations through sport-confidence. Body and functionality appreciation were allowed to covary in the model. The demographic covariates of age, sex and sport participation level were controlled for in this analysis, given their established associations with the outcome variables (Cox et al., 2010; Gyomber et al., 2013; Hall et al., 2009; Hays et al., 2009; Krane & Williams, 1994; Machida et al., 2017; Nicholls et al., 2010).

The model was fit using maximum likelihood estimation with robust standard errors (MLR). Missing data were handled using full-information maximum likelihood, the default modern approach (i.e., assuming missing at random) in M*plus* under MLR estimation (Muthén & Muthén, 2017), and consistent with Patel et al. (2021). Given the cross-sectional nature of the data and thus the absence of temporal precedence, this study tested for statistical indirect effects as opposed to causal mediation (Kline, 2015). Bootstrapping is unavailable under MLR estimation in M*plus* (Muthén & Muthén, 2017), therefore, indirect effects were tested using maximum likelihood (ML) estimation, requesting 2000 bias-corrected bootstrapped replications, and 95% bias-corrected bootstrapped confidence intervals (CI; Bollen & Stine, 1990; MacKinnon, 2008; MacKinnon et al., 2004). Indirect effects are considered significant when the 95% CI does not

include zero. The indices used to assess model-data fit were $\chi^2$, RMSEA, CFI, TLI, and SRMR. Model-data fit heuristics were consistent with Hu and Bentler's (1999) classification of a good fitting model (i.e., RMSEA ≤ .06; CFI ≥ .95; TLI ≥ .95; SRMR ≤ .08). Unstandardized direct effects were examined for statistical significance at the .05 level. Though the hypotheses of this study are directional and support the use of one-tailed tests (Jones, 1954), given the lack of existing studies examining associations among body and functionality appreciation, sport-confidence, and sport performance, two-tailed tests were conducted for conservativeness (Welkowitz et al., 2012).

## RESULTS

**Preliminary Findings**

Participants of this study were 314 male (n = 222) and female (n = 92) Jamaican athletes, between the ages of 18 to 58 years ($M$ = 22.85, $SD$ = 4.89), with most participants below the age of 25 years (76.8%). The majority of the participants identified as competitive athletes (56.7%), with 29.3% having competed at the high school level. The most frequently reported sports played were soccer (26.5%), track and field (20.2%), volleyball (9.6%), lacrosse (9.6%), basketball (5.3%), swimming (4.0%), and tennis (4.0%). The majority of the participants reported that they had been playing their sport for more than four years (78.3%) and play their sport several days per week (67.2%). The participants of this study identified mainly as being students (56.1%), tertiary-level educated (53.1%), and of middle socioeconomic status (78.8%). Table 1 presents a summary of the sample description.

Table 1. *Sample Description (Study 1)*

| Variable | n | % |
|---|---|---|
| Age ranges | **310** | |
| 18 – 24 years | 238 | 76.8 |
| 25 – 34 years | 65 | 21.0 |
| 35 – 58 years | 7 | 2.3 |

Table 1 (cont'd)

| | | |
|---|---|---|
| Sex | **314** | |
| Male | 222 | 70.7 |
| Female | 92 | 29.3 |
| Sport participation level | **314** | |
| Recreational | 136 | 43.3 |
| Competitive | 178 | 56.7 |
| Highest sport competition level | **314** | |
| International | 59 | 18.8 |
| National | 49 | 15.6 |
| Regional | 39 | 12.4 |
| Intercollegiate | 47 | 15.0 |
| High school | 92 | 29.3 |
| Never competed | 28 | 8.9 |
| Length of sport participation | **313** | |
| 0 - 3 months | 3 | 1.0 |
| 4 - 7 months | 6 | 1.9 |
| 8 - 11 months | 5 | 1.6 |
| 1 – 4 years | 54 | 17.3 |
| > 4 years | 245 | 78.3 |
| Frequency of sport participation | **314** | |
| < 1 day per week | 40 | 12.7 |
| 1 day per week | 63 | 20.1 |
| Several days per week | 211 | 67.2 |
| Primary employment status | **314** | |
| Full-time employment | 71 | 22.6 |
| Part-time employment | 22 | 7.0 |
| Self-employed | 29 | 9.2 |
| Student | 176 | 56.1 |
| Unemployed | 14 | 4.5 |
| Other (Contract Worker) | 2 | .6 |
| Highest education level | **313** | |
| Junior  Secondary/Incomplete School | 1 | .3 |
| High school | 146 | 46.6 |
| Bachelor's degree/equivalent | 148 | 47.3 |
| Master's degree/equivalent | 15 | 4.8 |
| Doctoral degree/equivalent | 3 | 1.0 |
| Socioeconomic status | **312** | |
| Low | 59 | 18.9 |
| Middle | 246 | 78.8 |

Table 1 (cont'd)

| | | |
|---|---|---|
| High | 7 | 2.2 |

*Note.* N = 314. Bold text reflects the number of participants with available data on each demographic variable. Columns may not equal 100% due to rounding.

Table 2. *Descriptive Statistics and Correlations (Study 1)*

| Scale | *M* | *SD* | Skewness | Kurtosis | BA | FA | SC | SP |
|---|---|---|---|---|---|---|---|---|
| BA | 4.20 | .77 | -.62 | -.32 | – | .46*** | .43*** | .24*** |
| FA | 4.53 | .56 | -.77 | .20 | | – | .29*** | .17** |
| SC | 85.29 | 20.80 | -.87 | .64 | | | – | .43*** |
| SP | 13.53 | 4.04 | -.65 | .20 | | | | – |

*Note.* BA = body appreciation; FA = functionality appreciation; SC = sport-confidence; SP = sport performance evaluations.
\* $p < .05$.  \*\*$p < .01$. \*\*\* $p < .001$.

Descriptive statistics and correlation coefficients for body and functionality appreciation, sport-confidence, and sport performance evaluations are presented in Table 2. Univariate skewness and kurtosis for all continuous variables were within the range of ±2 and were therefore treated as approximately normally distributed (Hahs-Vaughn & Lomax, 2020). Body appreciation scores were positively and moderately correlated with functionality appreciation ($r$  =.46, $p < .001$) and sport-confidence scores ($r = .43, p < .001$), but weakly correlated with scores on sport performance evaluations ($r = .24, p < .001$). Functionality appreciation scores were positively, but weakly correlated with scores on sport-confidence ($r = .29, p < .001$) and sport performance evaluations ($r = .17, p = .004$). A positive, moderate correlation was found between sport-confidence and  sport performance evaluations ($r = .43, p < .001$).  Body appreciation scores differed by sex ($B = -0.30$, $SE = 0.10, p = .002$) and sport participation level ($B = 0.21, SE = 0.09, p = .023$), but not by age ($B = 0.00, SE = 0.01, p = .625$), with males and competitive athletes reporting higher levels of body appreciation. Functionality appreciation scores did not differ by age ($B = 0.01, SE = 0.01, p$

= .387), sex ($B$ = 0.00, $SE$ = 0.07, $p$ = .952), or sport participation level ($B$ = 0.08, $SE$ = 0.07, $p$ = .203).

**Path Model**

The primary aim of this study was to examine a path model of the associations among body and functionality appreciation, sport-confidence, and sport performance evaluations, as depicted in Figure 1. Examination of the fit indices indicated evidence of good model-data fit ($\chi^2$(2) = 2.22, $p$ = .330; RMSEA [$CI_{90\%}$] = .019 [.000, .116], CFI = .998, TLI = .990, SRMR = .021). The model explained 24.3% ($R^2$ = .243, $p$ < .001) of the variance in sport-confidence and 19.5% of the variance in sport performance evaluations ($R^2$ = .195, $p$ < .001). Figure 1 presents the unstandardized parameter estimates for Hypotheses 1 and 2. Estimates for Hypothesis 3 are provided in the notes section of Figure 1.

**Hypothesis 1**

It was hypothesized that body and functionality appreciation would exert positive direct effects on sport-confidence. The path coefficients to sport-confidence from body appreciation ($B$ = 9.03, $SE$ = 1.78, $p$ < .001) and functionality appreciation ($B$ = 4.93, $SE$ = 2.28, $p$ = .036) were positive and statistically significant, controlling for age, sex, and sport participation level. There was a significant effect for sex on sport-confidence, with females reporting lower sport-confidence than males ($B$ = -7.40, $SE$ = 2.36, $p$ = .002). Age ($B$ = 0.49, $SE$ = 0.26, $p$ = .060) and sport participation level ($B$ = 3.69, $SE$ = 2.11, $p$ = .080) did not exert significant effects on sport-confidence. Thus, support was provided for Hypothesis 1.

**Hypothesis 2**

It was hypothesized that sport-confidence would exert a positive direct effect on sport-performance evaluations. The path coefficient to sport performance evaluations from sport-

confidence ($B = 0.09$, $SE = .01$, $p < .001$) was positive and statistically significant, controlling for age, sex, and sport participation level. No significant effects were noted for age ($B = -0.04$, $SE = 0.05$, $p = .369$), sex ($B = 0.05$, $SE = 0.46$, $p = .910$), or sport participation level ($B = -0.73$, $SE = 0.44$, $p = .099$) on sport performance evaluations. Thus, support was provided for Hypothesis 2.

**Hypothesis 3**

It was hypothesized that body and functionality appreciation would exert positive indirect effects on sport performance evaluations through sport-confidence. The 95% bias-corrected bootstrapped CI for the path coefficient from body appreciation to sport performance evaluations through sport-confidence, did not include 0.00 ($B = 0.79$, $CI_{95\%}$ [0.44, 1.17]). The 95% bias-corrected bootstrapped CI for the path coefficient from functionality appreciation to sport performance evaluations through sport-confidence, did not include 0.00 ($B = 0.43$, $CI_{95\%}$ [0.05, 0.92]). Thus, support was provided for Hypothesis 3.

Figure 1. *Observed variable path model with unstandardized parameter estimates.*
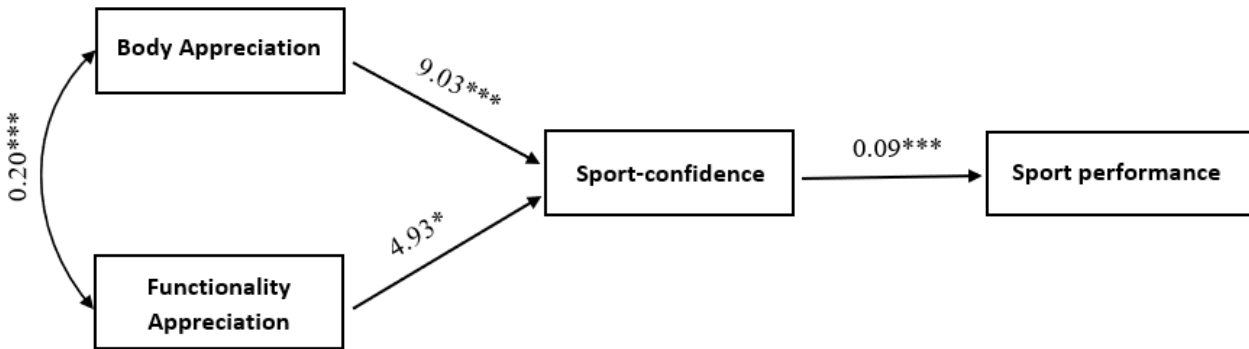


*Note.* The effects of age, sex, and sport participation level (recreational vs. competitive) were controlled for at each endogenous variable.
Values are unstandardized parameter estimates.
Body Appreciation → Sport-confidence → Sport performance ($B = 0.79$, $CI_{95\%}$ [0.44, 1.17]).
Functionality Appreciation → Sport-confidence → Sport performance ($B = 0.43$, $CI_{95\%}$ [0.05, 0.92]).
$* p < .05.$  $*** p < .001.$

**DISCUSSION**

The aim of this study was to examine a path model of the associations among a positive body image (i.e., body and functionality appreciation), sport-confidence, and sport performance evaluations, in accordance with predictions by the Sport-Confidence Model (Vealey et al., 1998). It was hypothesized that (1) body and functionality appreciation would exert positive direct effects on sport-confidence, (2) sport-confidence would exert a positive direct effect on sport performance evaluations, and (3) body and functionality appreciation would exert positive indirect effects on sport performance evaluations through sport-confidence. Results from a sample of Jamaican athletes provide support for the hypothesized model, including evidence for good model-data fit, significant positive direct effects for Hypotheses 1 and 2, and significant positive indirect effects for Hypothesis 3. These findings will be discussed with respect to the three hypotheses.

First, the findings of this study provide evidence for positive direct effects from body and functionality appreciation to sport-confidence. This finding aligns with Sport-Confidence Model (Vealey et al., 1998) predictions, whereby an evaluation of the physical self was hypothesized as being directly related to athletes' sport-confidence. This positive direct effect was significant regardless of athletes' age, sex, or sport participation level, indicating a robust association (Lenz & Sahn, 2021). Importantly, female athletes in the present study reported lower body appreciation and sport-confidence compared to male athletes. These sex differences have been reported in previous research (Hays et al., 2009; Jankauskiene et al., 2020; Krane & Williams, 1994; Soulliard et al., 2019), and are attributable to females' greater susceptibility to body-related sociocultural pressures (Soulliard et al., 2019) and confidence debilitating factors (Hays et al., 2009). The organizational culture of sport (e.g., sport participation level) appears to be more critical to the sources of sport-confidence (e.g., body image), and less critical to actual sport-confidence levels (Vealey et al., 1998). It therefore follows that sport-confidence in this study did not differ by sport

participation level, despite body appreciation scores being higher in competitive athletes. Notwithstanding this, adaptive body image perceptions appear to provide a source of positive information to athletes about their ability to be successful in their sport (Vealey et al., 1998). This positive source of information may facilitate sustained focus on the task-specific behaviors relevant for the confident execution of sport skills (Piran et al., 2020).

This study extends the findings of Vealey and colleagues (1998) by examining core facets of a positive body image in relation to sport-confidence, as opposed to examining positive body image as an appearance-based construct. Theoretical developments in body image research over the past decade highlights the multidimensionality of a positive body image, as well as the limitations of examining this construct solely based on appearance (Tylka & Wood-Barcalow, 2015b). An examination of body and functionality appreciation captures the multifaceted nature of a positive body image (Alleva et al., 2017; Tylka & Wood-Barcalow, 2015b), and its role in facilitating athletes' sport-confidence. Furthermore, while there is evidence of positive associations between body and functionality appreciation and sport-confidence (Soulliard et al., 2019), these associations were previously examined in the absence of conceptual framework. This study supplements the existing literature by providing theory-driven findings that support positive associations between body and functionality appreciation and sport-confidence. Compared to Soulliard et al.'s (2019) work on highly competitive student-athletes in the United States (i.e., National Collegiate Athletic Association Division I athletes), this study was based on a sample of Jamaican athletes participating in sport at competitive (i.e., high school, intercollegiate, national, regional, & international) and recreational levels. Thus, this study extends earlier findings by Soulliard et al. (2019) to a diverse athlete sample. Specifically, these findings indicate that the

implications of a positive body image for confident sport engagement transcends competitive collegiate athletics, and extends to recreational sport participation.

Second, the findings of this study provide support for a positive direct effect from sport-confidence to sport performance evaluations. This finding is also in accordance with Sport-Confidence Model (Vealey, 1986; Vealey et al., 1998) predictions, whereby sport-confidence was proposed to be directly related to athletes' performance related cognitions. Studies conducted with athletes from Western regions (Hays et al., 2009; Levy et al., 2011; Martin & Gill, 1991) have provided support for this association. However, this is the first known study to establish this association in a Jamaican athlete sample, thereby, extending the applicability of Sport-Confidence Model (Vealey et al., 1998) predictions to another cultural context. The present study uncovered that regardless of age, sex, and sport participation level, sport-confidence was an important psychosocial factor contributing to the performance evaluations of Jamaican athletes. Sport-confidence is considered to be critical to sport performance, as it facilitates the effective employment of cognitive resources and achievement behaviors necessary for the successful execution of sport skills (Hays et al., 2009). Consequently, identifying and targeting factors that serve to enhance and maintain the sport-confidence of Jamaican athletes may be one avenue to indirectly facilitate successful sport performance.

Third, the findings of this study provide support for positive indirect effects from body and functionality appreciation to sport performance evaluations, through sport-confidence. This finding is also in accordance with predictions by Vealey and colleagues (1998), whereby physical self-presentation was proposed as being directly associated with athletes' sport-confidence, and indirectly associated with performance related cognitions, by way of sport-confidence. Specifically, there is evidence that an adaptive focus on the body's form and functionality has

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positive implications for athletes' sport-confidence and sport performance evaluations. This finding is plausible, as athletes with a greater appreciation for the unique features and functionality of their bodies may exude greater confidence when engaged in embodying activities such as sports. This greater level of confidence is crucial for driving successful sport performance (Hays et al., 2009; Levy et al., 2011; Martin & Gill, 1991). Hence, body and functionality appreciation prove to be targetable factors for facilitating athletes' sport-confidence and positive performance evaluations.

A key implication emerging from these findings involves the potential for targeting athlete sport-confidence levels and performance outcomes and/or evaluations, by supporting their development of a positive body image. To assist in developing an appreciation for their body's form and functionality, sport practitioners (e.g., coaches, sport psychologists) should consider delivering messages to athletes that emphasize the body's physical capabilities and competencies. The results of this study provide evidence of high functionality appreciation regardless of age, sex, and sport participation level, which corroborates the notion that any involvement in sport is beneficial to valuing the body's functionality (Abbott & Barber, 2011; Jankauskiene et al., 2020). However, female athletes (Soulliard et al., 2019) and those participating at lower sport levels (Jankauskiene et al., 2020) are considered more susceptible to body-related sociocultural pressures that hinder body appreciation (Soulliard et al., 2019). Therefore, it is recommended that special attention be given to these vulnerable groups when supporting the development of a positive body image in athletes.

**Limitations and Future Research Directions**

Despite the contributions of this study, a few limitations are worth noting. First, the cross-sectional nature of this study did not allow for the assessment of causality or temporality of

associations. Second, sport-confidence is considered to fluctuate depending on the situation (Vealey & Chase, 2008). This study examined general perceptions of sport-confidence (i.e., trait sport-confidence) without accounting for its temporal instability. To capture this fluctuating property, it has been recommended that studies assess sport-confidence pre, during, and post-competition or play (Levy et al., 2011). Third, this study utilized a subjective measure of sport performance, which may have been prone to issues of bias and/or inaccuracy. If feasible, future studies should consider including objectively-based measures of sport performance. Fourth, the findings of this study have limited generalizability to athlete populations external to the Jamaican context. To increase cross-cultural extensions of this research, future studies should examine this model among samples of athletes from diverse cultural contexts. Similarly, this study consisted mainly of athletes from non-aesthetic sports (e.g., track & field, soccer), in comparison to aesthetic sport types (e.g., gymnastics, cheerleading). While the lack of representation of athletes from aesthetic sports may reflect the sport demographic in Jamaica, future studies should aim to recruit a representative sample of athletes from various sport types.

**Conclusion**

The present study provides support for positive associations among body and functionality appreciation, sport-confidence, and sport performance evaluations in a Jamaican athlete sample. A notable contribution of the present study is theory-driven evidence of positive indirect associations between body and functionality appreciation and sport performance evaluations, by way of sport-confidence. These findings have important implications for sport practitioners (e.g., coaches, sport psychologists), and indicate the potential to facilitate athletes' sport-confidence and positive performance outcomes, by supporting their development of a positive body image. Importantly, the present study adds to a growing body of research aiming to investigate the

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adaptive aspects of athlete body image, and responds to calls for more cross-cultural research in

SEP.

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CHAPTER III: STUDY 2

**ABSTRACT**

Extending the Sport-Confidence Model to Botswana athletes, this study examined the associations among perceived body acceptance by coaches and teammates, positive body image (i.e., body appreciation and functionality appreciation), multidimensional sport-confidence (i.e., SC-physical skills and training, SC-cognitive efficiency, and SC-resilience), and sport performance evaluations. A purposive sample of 508 Botswana athletes (male = 65.3%, $M_{age}$ = 25.32, $SD$ = 7.10) completed measures of body acceptance by coaches and teammates, body and functionality appreciation, multidimensional sport-confidence, and subjective sport performance in a cross-sectional design. Results from path analysis demonstrated acceptable model-data fit. Perceived body acceptance by coaches ($B$ = 0.18, $p$ = .032) and teammates ($B$ = 0.16, $p$ = .032) exerted direct effects on body appreciation, whereas only body acceptance by teammates exerted a direct effect on functionality appreciation ($B$ = 0.16, $p$ = .012). While body appreciation exerted direct effects on SC-physical skills and training ($B$ = 1.62, $p$ = .001), SC-cognitive efficiency ($B$ = 1.07, $p$ < .001), and SC-resilience ($B$ = 1.65, $p$ < .001), functionality appreciation only exerted direct effects on SC-physical skills and training ($B$ = 1.12, $p$ = .034) and SC-cognitive efficiency ($B$ = 0.74, $p$ = .040). Of the sport-confidence domains examined, only SC-cognitive efficiency exerted a direct effect on sport performance evaluations ($B$ = 0.32, $p$ = .008). These findings highlight confidence in mental skills as important for successful performance among Botswana athletes, alongside promoting body acceptance from coaches and teammates to nurture positive body image and facilitate multidimensional sport-confidence.

**INTRODUCTION**

Sport programming in many African countries, including Botswana, has garnered immense attention and witnessed notable progress, marked by international successes in sports such as track and field and boxing (Tshube et al., 2022; Tshube & Hanrahan, 2016). Nonetheless, many of the region's athletes face persistent challenges in talent development, contributing to underperformance at national and international events (Tshube et al., 2022). This issue may be partly attributable to the limited research available on the psychosocial factors driving successful sport performance among Botswana athletes, leaving practitioners ill-equipped to provide effective interventions (Tshube et al., 2022). In Botswana, scholars have examined factors such as motivation (Malete, 2004a; Tshube et al., 2012) and perceived competence (Malete, 2004b) in relation to sport participation. However, other variables considered critical to successful performance, such as sport-confidence, and its contributing factors (e.g., body-related self-perceptions; Hays et al., 2009; Vealey et al., 1998), are yet to be examined. To advance scholarship in the region and expand the cultural dimensions of SEP, this study responded to calls for additional research on the psychosocial factors linked to successful sport engagement among Botswana athletes (Tshube et al., 2022; Tshube & Hanrahan, 2016).

**Sport-confidence and Performance**

Self-confidence has gained specific interest in the sport-related psychosocial literature, given its role in distinguishing between successful and less successful athletes (Feltz, 2007). *Sport-confidence*, defined as one's belief in their ability to be successful in their sport (Vealey, 1986), is a key driver of world-class sport performance (Hays et al., 2009). Past research has consistently established positive associations between sport-confidence and successful sport performance evaluations (Levy et al., 2011; Ricketts et al., 2023; Soulliard et al., 2019). Athletes high in sport-

confidence are more skilled at employing the cognitive resources (e.g., sustained focus) and achievement behaviors (e.g., increased effort) necessary to facilitate successful performance (Hays et al., 2009). Though much research has been devoted to understanding the factors driving athletes' sport-confidence (Hays et al., 2007; Machida et al., 2012; Vealey et al., 1998), these studies have primarily focused on North American athlete populations, with unknown generalization to other contexts. In Botswana, sport psychology practice is largely informed by the findings of studies conducted elsewhere (Tshube & Hanrahan, 2016). Yet, the findings of such studies may not be directly applicable to the country's diverse context, as broader sociocultural factors may shape the meaning and experience of sport across regions (Baker & Horton, 2004). Thus, to provide crucial insights that inform contextually relevant practice, there is a need for additional research on the psychosocial factors driving confident sport engagement among Botswana athletes.

### *The Sport-Confidence Model*

The Sport-Confidence Model, developed by Vealey and colleagues (1986, 1998, 2002), provides a conceptual basis for understanding sport-confidence and its role in facilitating successful sport performance. The Sport-Confidence Model (Vealey, 1986) was built on the foundations of Bandura's (1977) self-efficacy theory, providing a parsimonious conceptualization of self-confidence in the sport domain. Vealey (1986) separated sport-confidence into two constructs: *trait sport-confidence* (i.e., the degree of certainty one usually possesses about their ability to be successful in their sport) and *state sport-confidence* (i.e., belief in one's ability to be successful in their sport at a particular moment). To further understand the factors driving self-confidence in sport, Vealey and colleagues (1998) identified nine sources of sport-confidence most salient to athletes. Each source was theorized as directly related to athletes' sport-confidence

levels, but indirectly related to athletes' affect (e.g., enjoyment), cognitions (e.g., performance evaluations), behavior (e.g., effort), and performance outcomes (Vealey et al., 1998).

**Positive Body Image, Sport-confidence, and Performance**

Given the body's centrality in sport (Greenleaf et al., 2009), it is unsurprising that *physical self-presentation*, or perceptions of the physical self, emerged as an important source of sport-confidence to athletes (Vealey et al., 1998). Though reported to emanate from perceptions of positive body image, physical self-presentation, as operationalized by Vealey et al. (1998), does not reflect what are now recognized as key facets of positive body image. A *positive body image* represents the love, respect, and acceptance that one has for their body (Tylka & Wood-Barcalow, 2015b). This multifaceted construct extends beyond body satisfaction and positive appearance evaluations to include core facets such as *body appreciation* and *functionality appreciation* (Alleva et al., 2017; Tylka & Wood-Barcalow, 2015b). Body appreciation represents an admiration for the body's features, health, and beauty (Tylka & Wood-Barcalow, 2015b), while functionality appreciation reflects gratitude for what the body can do (Alleva et al., 2017). Compared to non-athletes, athletes have been found to report higher levels of body and functionality appreciation (Soulliard et al., 2019, 2021). This finding is plausible, as sport participation allows for greater body responsiveness, physical empowerment, and physical competence (Menzel & Levine, 2011).

In the Sport-Confidence Model (Vealey et al., 1998), physical self-presentation was assessed as an appearance-based construct, with higher scores reflecting greater sport-confidence derived from a positive evaluation of one's physical appearance. Given the limitations of assessing positive body image solely based on appearance (Tylka & Wood-Barcalow, 2015b), as well as evidence linking an appearance-based focus on the body to negative sport experiences (Vani et al., 2021), it is unsurprising that Vealey et al. (1998) found physical self-presentation to be associated

with lower levels of sport-confidence. Athletes' bodies can engage in intricate movement patterns (Ricketts et al., 2023), each of which is necessary for the successful execution of sport skills (Greenleaf et al., 2009). Thus, athletes' perceptions of the physical self may extend beyond appearance to include an appreciation for the body's health, fitness, and functionality (Abbott & Barber, 2011; Allen et al., 2019).

Previous research conducted in the United States provided evidence of positive associations between body and functionality appreciation and sport-confidence (Soulliard et al., 2019). In light of these findings, Ricketts et al. (2023) extended the physical self-presentation construct of the Sport-Confidence Model (Vealey et al., 1998) to examine theory-driven associations among body and functionality appreciation, sport-confidence, and sport performance evaluations. The findings of Ricketts et al. (2023), derived from a sample of Jamaican athletes, provided support for body and functionality appreciation as contributors to confident and successful sport engagement. Notably, in Botswana, Olympic athletes have associated powerful and healthy bodies with confident and competent sport participation (Shehu & Moruisi, 2011), underscoring the importance of the functional body in facilitating positive sport experiences and outcomes (Piran et al., 2020). Considering these findings, investigating the role of body and functionality appreciation in the sport-confidence and performance of Botswana athletes appears plausible. An examination of these associations could uncover important factors to target in supporting successful sport outcomes and experiences in the region.

Although previous studies offer valuable insights into the positive body image and sport-confidence relationship (Ricketts et al., 2023; Soulliard et al., 2019), they primarily examined sport-confidence as unidimensional, in line with Vealey's (1986) trait-based conceptualization. However, evidence has also been provided for the multidimensionality of sport-confidence. Vealey

and Knight (2002) identified three types of sport-confidence most important to athletes: sport confidence in (1) *physical skills and training* (SC-physical skills and training), (2) *cognitive efficiency* (SC-cognitive efficiency), and (3) *resilience* (SC-resilience). SC-physical skills and training refers to one's belief in their ability to execute the physical skills necessary to facilitate successful performance. SC-cognitive efficiency reflects one's belief in their ability to mentally focus, concentrate, and make effective decisions for successful performance. Lastly, SC-resilience refers to one's belief in their ability to refocus and bounce back from performance decrements (Vealey & Knight, 2002). Importantly, Vealey and Knight (2002) found the types of sport-confidence to differentially predict performance based on the social-cognitive demands of sport.

Perceptions of positive body image may also be differentially related to the types of sport-confidence. Athletes with a positive body image may be more aware, appreciative, and trusting of their body's physical competencies (Piran et al., 2020), thus facilitating greater confidence in physical skills and training. A positive body image may also facilitate sport-confidence in cognitive efficiency and resilience, though these domains appear less connected to physical self-perceptions (Machida, 2008). Athletes with a positive body image are less susceptible to body image disturbances that disrupt the mobilization of cognitive resources needed to mentally focus, concentrate, and refocus after experiencing performance decrements (Voelker & Reel, 2015, 2018). Thus, positive body image could serve a protective role in facilitating sport-confidence in these domains. However, research on the multidimensionality of sport-confidence is limited (Machida et al., 2017), highlighting the need for additional studies examining the associations between positive body image and the sport-confidence domains. Such investigations could shed light on the types of sport-confidence most amenable to positive body image perceptions.

**Factors Contributing to Positive Body Image and Sport-confidence in Athletes**

Vealey and colleagues (1998) proposed that individual characteristics (e.g., age, sex) and sport-related contextual features (e.g., coaching behaviors, sport level) influence the sources and levels of sport-confidence manifested by athletes. Previous studies suggest that any involvement in sport, whether recreational or competitive (Ricketts et al., 2023), aesthetic or non-aesthetic (Jankauskiene et al., 2020), is valuable for appreciating the body's form and functionality. However, body image tends to be more adaptive among older athletes, males, at higher sport participation levels (Kantanista et al., 2018; Soulliard et al., 2019), and in non-aesthetic sports (e.g., soccer; Abbott & Barber, 2011). Similarly, sport-confidence levels tend to increase with age and are higher among males and competitive athletes (Hall et al., 2009; Krane & Williams, 1994; Machida et al., 2017). Thus, individual characteristics and sport-related contextual features are important to consider when examining the positive body image and sport-confidence relationship.

BMI has also been investigated as a correlate of positive body image, as individuals with higher BMI often experience negative attitudes toward their bodies, which can hinder body and functionality appreciation (Lucibello et al., 2023; Tylka, 2018). While findings from non-sport populations indicate inverse associations between BMI and body and functionality appreciation (Linardon et al., 2021; Tylka & Wood-Barcalow, 2015a), studies conducted within the sport context have not established significant associations between these variables (Soulliard et al., 2019, 2021). Notably, within these studies, BMI was derived from self-reported height and weight, measures considered prone to social desirability biases, thereby increasing the risk for weight status misclassification (Gay et al., 2009; Wilson et al., 2019). Estimating BMI using device-based measures of height and weight may improve understanding of the weight status and positive body image relationship. However, due to their relatively higher muscularity and lower body fat

percentage compared to the general population, BMI has limitations when used with athletes, conflating efforts at deciphering whether their weight is due to larger fat-free mass or excess fat (Malina, 2007). Accounting for variations in percent body fat could shed light on the unique role of BMI in athletes' positive body image (Malina, 2007), signaling the need for further investigations into the connections among device-based estimates of BMI, percent body fat, body appreciation, and functionality appreciation in athletes.

Though athletes appear uniquely positioned to develop positive body image (Menzel & Levine, 2011), they may only be afforded this advantage if the sport environment is conducive to nurturing adaptive body image perceptions. One sport-related contextual feature associated with athletes' positive body image is *body acceptance by others* (Oh et al., 2012). Specifically, athletes who perceived greater acceptance of their bodies from coaches and teammates, key communicators of body image in sport (Coppola et al., 2014; Hague et al., 2021), reported higher levels of body appreciation and value for the body's functionality (Oh et al., 2012). Greater perceived acceptance of the body by others directs attention away from physical appearance, resulting in an orientation toward the body's functional capabilities (Avalos & Tylka, 2006). Likewise, individuals are more likely to accept their body when they perceive it to be accepted, as is, by important others in their environment (Andrew et al., 2016).

The only known study to examine athletes' body acceptance by others in sport operationalized the construct as being specific to body shape and weight (Oh et al., 2012), neglecting the various ways in which athletes may receive body acceptance from others (e.g., for their physical capabilities and bodily creativity; Abbott & Barber, 2011; Swami et al., 2021). Examining body acceptance in a more global sense (Swami et al., 2021) may advance understanding of the sport-related contextual factors that support athletes' experience of positive

body image. Aligning with Sport-Confidence Model (Vealey & Knight, 2002) predictions, body acceptance by coaches and teammates is expected to be directly related to body and functionality appreciation. Notably, body acceptance by teammates could be differentially related to athletes' positive body image depending on involvement in individual versus team sports (Dosil, 2008). While teammates (or training colleagues) can have a positive influence on athletes' body image in individual sports, their impact may be more prominent in team sports, where the strength of relationships and the degree of interaction among athletes tend to be greater (Dosil, 2008; Scott et al., 2019). Thus, athletes' sport category (i.e., individual vs. team) is an important factor to consider when examining these associations.

**The Present Study**

Despite significant growth in Botswana's sport industry, athletic success in the region is hindered by a limited understanding of the psychosocial factors driving successful sport engagement (Tshube et al., 2022). To advance regional scholarship and aid in the tailoring of targeted interventions, this study extends Sport-Confidence Model (Vealey & Knight, 2002) predictions to a Botswana athlete sample, building upon the model examined in Ricketts et al. (2023), to examine the associations among body acceptance by coaches and teammates, body and functionality appreciation, multidimensional sport-confidence, and sport performance evaluations (see Figure 2). As the Sport-Confidence Model was developed and primarily examined with US athlete samples (Machida, 2008; Machida et al., 2017; Vealey & Knight, 2002), this study will expand existing research on the applicability of this framework to an African and less-studied cultural context, while adding to the sparse literature on multidimensional sport-confidence.

**Hypotheses**

Three sets of hypotheses were investigated in this study:

*Hypothesis Set 1* sought to explain associations among perceived body acceptance by coaches and teammates, body appreciation, and functionality appreciation, with the specific hypothesis as follows:

- *Hypothesis Set 1.* Perceived body acceptance by coaches and teammates would exert positive direct effects on body appreciation and functionality appreciation *(paths 1 – 4)*.

*Hypothesis Set 2* sought to explain associations among body appreciation, functionality appreciation, and multidimensional sport-confidence, with the specific hypothesis as follows:

- *Hypothesis Set 2.* Body and functionality appreciation would exert positive direct effects on SC-physical skills and training, SC-cognitive efficiency, and SC-resilience *(paths 5 – 10)*.

*Hypothesis Set 3* sought to explain associations among multidimensional sport-confidence and sport performance evaluations, with the specific hypothesis as follows:

- *Hypothesis Set 3.* SC-physical skills and training, SC-cognitive efficiency, and SC-resilience would exert positive direct effects on sport-performance evaluations *(paths 11 – 13)*.

Figure 2. *Hypothesized observed variable path model.*
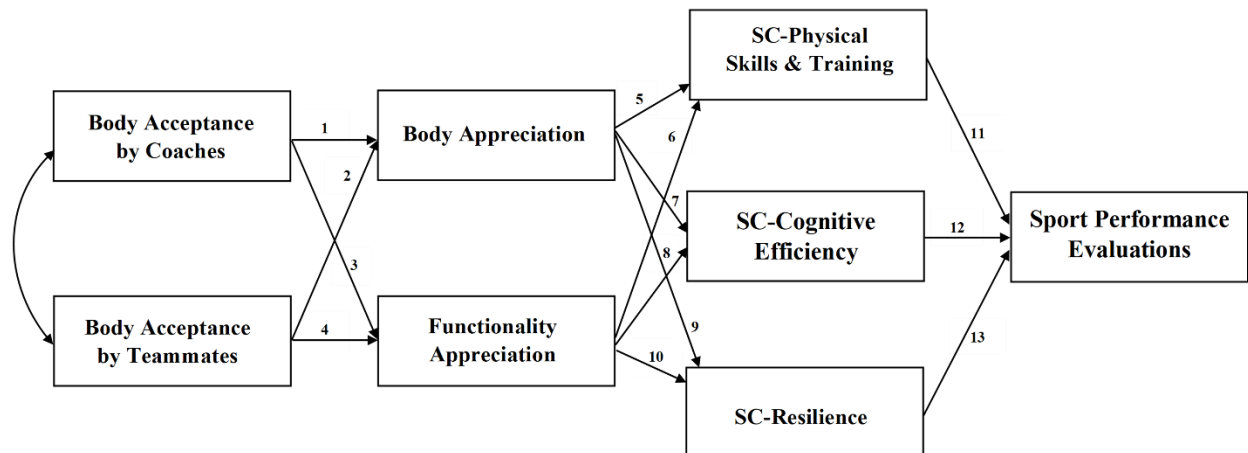


*Note.* All hypothesized associations are positive.

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**Participants and Procedures**

Ethical approvals to conduct this study were obtained from the Michigan State University Institutional Review Board (STUDY00009200) and the Ministry of Youth Empowerment, Sport, and Culture Development in Botswana (MYSC 9/1/1). This cross-sectional study recruited a purposive sample of athletes, ages 18 years and older, from sports teams and clubs across various towns, urban villages, and cities in Botswana. Study locations were intentionally chosen to enhance geographic reach across Botswana's populous eastern corridor, covering areas such as Francistown and Gaborone, with extensions to Maun in the north, and Jwaneng in the south. Notably, Botswana's population is concentrated along the eastern corridor, where most economic activity and sport programs are likely to be situated (Malepa & Komane, 2014). Consistent with Ricketts et al. (2023), the maximum age was not restricted in the present study to ensure a sufficient pool of participants. Given the lack of psychosocial research conducted with Botswana adult sport participants (Tshube et al., 2022), along with evidence of age differences in the variables under study (Gyomber et al., 2013; Hall et al., 2009; Tiggemann, 2015; Tylka & Wood-Barcalow, 2015a), not delimiting age allows for an improved understanding of the Botswana adult sport demographic and assessment of age differences in the variables under study.

The Administrators of various sports teams and clubs were approached before data collection to establish rapport, explain the purpose and procedures of the study, and obtain permission for participant recruitment. Participants were required to provide Informed Consent, after which they completed self-report survey measures of demographic information, body acceptance by coaches and teammates, body appreciation, functionality appreciation, multidimensional sport-confidence, and sport performance evaluations. To verify athlete status,

participants were asked whether they participated in sport, as well as to identify as either a recreational or competitive athlete based on criteria by Maron and colleagues (2004, 1994): (a) *Recreational athlete:* participates in sport without training or competing regularly and mainly for the purpose(s) of being physically active, fun/enjoyment, and/or social engagement; (b) *Competitive athlete*: member of an organized sports team or individual sport that requires regular training and competition, with a high premium placed on athletic excellence and achievement.

All data were collected in written English format. Although a Setswana (national language of Botswana) version of the tools was available, participants faced no constraints in completing the English version because English is widely used and the official language in Botswana. Following survey completion, one trained data collector measured participants' height, while another trained data collector assessed participants' weight and percent body fat. The surveys were administered before assessing body composition to prevent immediate measurement outcomes from biasing body image perceptions. At the end of data collection, participants were offered the opportunity to enter a raffle to win one of multiple cash prizes of 50 BWP (approximately 4 USD).

*Sample Size Determination*

A necessary sample size was determined using power analysis for testing focal parameters within a model (Hancock & French, 2013; MacCallum et al., 1996), as recommended in exercise science (e.g., Myers et al., 2016, 2018) using an online utility (Preacher & Coffman, 2006). Focal parameters were the 13 direct effects specified in Hypotheses 1 through 3. Peripheral parameters were the remaining 45 parameters to be estimated in the full path model, which had 34 degrees of freedom. Alpha was set to .05. Power was set to .80. Degrees of freedom were set to 47 in the null model (i.e., peripheral parameters only), where each of the 13 focal direct effects was assumed to have a value of zero, and to 34 in the alternative model (i.e., peripheral + focal parameters), where

at least one focal direct effect was assumed to have a non-zero value. Consistent with general methodological recommendations (Steiger & Lind, 1980) and theory (e.g., assuming no effect of SC-resilience on performance), population model data fit (e) was set to .05 in the null condition to represent the lower boundary of unacceptable fit ($e_0$). Population model data fit was set to .025 in the alternative condition ($e_1$) to represent close fit aligning with general methodological considerations (Steiger & Lind, 1980) and theory (e.g., assuming a non-zero effect of SC-resilience on performance). Power analysis yielded a necessary sample size of 187 participants. To broaden the geographic representation of participants and account for potential missing data, a sample size larger than the minimum requirement was recruited.

**Measures**

 ***Demographic Information Questionnaire.*** Participants were asked to report demographic information including age, sex, sport type, level (recreational vs. competitive), category (individual vs. team), length of time working with their current coach, and competing/training alongside their current teammates (see Appendix G). In this study, 'teammates' included other athletes on one's organized sport team or individual sport team, with whom they compete and/or train with regularly (Scott et al., 2019).

 ***Body Acceptance by Coaches and Teammates.*** The Body Acceptance by Others Scale-2[1] (BAOS-2; Swami et al., 2021) is a 13-item measure of perceived acceptance, respect, and appreciation for the body by important others (see Appendix H). Items on the BAOS-2 (e.g., "I feel acceptance from important others regarding my body") are rated on a 5-point scale ranging from *1 = Never* to *5 = Always.* BAOS-2 items can be adapted to reflect a distinct measure of body acceptance by specific others. In this study, items were adapted to reflect body acceptance by

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[1] Permission was obtained from Dr. Viren Swami to adapt the BAOS-2 for use in this study (see Appendix I).

coaches (e.g., "I believe that my coach values my body as it is without trying to change it") and teammates (e.g., "I don't have to change my body to feel accepted by my teammates"). Participants were asked to make distinct ratings for coaches and teammates on all items. BAOS-2 scores were computed by averaging response items, with higher scores indicating greater body acceptance by coaches and teammates. Scores produced by the BAOS-2 have shown evidence of construct, incremental, and convergent validity, as well as adequate internal consistency and test-retest reliability (Swami et al., 2021). The internal consistency (α) of scores produced by the BAOS-2 in this study was .92 for the coach-specific adaptation and .91 for the teammate-specific adaptation.

**Body Appreciation.** The 10-item Body Appreciation Scale-2[2] (BAS-2; Tylka & Wood-Barcalow, 2015a) measures the extent to which individuals accept, respect, and have favorable attitudes toward their bodies (Appendix C). Items on the BAS-2 (e.g., "I take a positive attitude towards my body") are scored on a 5-point scale ranging from *1 = Never* to *5 = Always*. A total BAS-2 score is computed by averaging response items, with higher scores indicating greater body appreciation. Scores derived from the BAS-2 have demonstrated good psychometric properties, including evidence of excellent internal consistency reliability among samples of athletes (Jankauskiene et al., 2020; Soulliard et al., 2019), high test-retest reliability, and evidence of construct validity (Tylka & Wood-Barcalow, 2015a). The internal consistency (α) of scores produced by the BAS-2 in this study was .91.

**Functionality Appreciation.** The 7-item Functionality Appreciation Scale[3] (FAS; Alleva et al., 2017) gauges individuals' appreciation, respect, and honor for their body's functional capabilities (see Appendix D). Items on the FAS (e.g., "I appreciate my body for what it is capable of doing") are scored on a 5-point scale ranging from *1 = Strongly Disagree* to *5 = Strongly Agree*.

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[2] Permission to use the BAS-2 in research is not required (Tylka & Wood-Barcalow, 2015a).
[3] Permission to use the FAS in research is not required (Alleva et al., 2017).

A total FAS score is derived from averaging response items, with higher scores indicating greater functionality appreciation. Evidence has been provided for the construct and criterion-related validity, as well as test-retest reliability of scores produced by the FAS (Alleva et al., 2017). Scores produced by the FAS have also demonstrated excellent internal consistency among samples of athletes (Ricketts et al., 2023; Soulliard et al., 2019). The scores produced by the FAS in this study demonstrated an internal consistency (α) of .90.

   ***Multidimensional Sport-Confidence.*** The Sport-Confidence Inventory[4] (SCI; Vealey & Knight, 2002) is a 14-item measure of individuals' sport-confidence across three domains: physical skills and training (5 items; e.g., "You can execute the physical skills necessary to succeed"), cognitive efficiency (4 items; e.g., "You can keep mentally focused throughout the competitive event"), and resilience (5-items; e.g., "You can overcome doubt after a poor performance"; see Appendix J). To account for athletes who may not formally compete, these participants were asked to provide sport-confidence ratings based on their experiences engaging in recreational sport play. Items on the SCI are rated on a 7-point scale ranging from *1 = Can't do it at all* to *7 = Totally certain.* Subscale scores on the SCI were derived by adding designated item responses, with higher scores indicating greater domain-specific sport-confidence. Scores produced by the SCI have demonstrated evidence of content, concurrent, and construct validity, as well as adequate internal consistency, and test-retest reliability (Machida et al., 2017; Vealey & Knight, 2002). Scores produced by SCI subscales in this study demonstrated internal consistencies (α) of .84 for physical skills and training, .79 for cognitive efficiency, and .83 for resilience.

   ***Sport Performance Evaluations.*** The Subjective Performance Questionnaire[5] (SPQ) was developed by Soulliard et al. (2019) and derived from previously used subjective performance

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[4] Permission was obtained from Dr. Robin S. Vealey to utilize the SCI in this study (see Appendix K).
[5] Permission to use the SPQ in research is not required (Soulliard et al., 2019).

measures by Vealey (1986; see Appendix F). The scale consists of two items that assess performance from one's most recent competitive season. Participants were asked to use an 11-point scale ranging from *0 = extremely unsuccessful,* to *10 = extremely successful*, to respond to item one, "For your most recent competitive season, please rate your overall performance". A similar 11-point scale ranging from *0 = extremely unsatisfied* to *10 = extremely satisfied"* was used to respond to item two, "For your most recent competitive season, please rate your overall satisfaction with your performance". Participants who do not formally compete were asked to rate their performance based on their most recent sport participation. A total score on the SPQ was computed by summing both items, with higher scores indicating a higher evaluation of sport performance. Scores produced by the SPQ have demonstrated excellent internal consistency reliability among samples of athletes (Ricketts et al., 2023; Soulliard et al., 2019). The internal consistency ($\alpha$) of scores produced by the SPQ in this study was .85.

**BMI and Percent Body Fat.** To obtain BMI, calculated as kg/m², height, and weight were assessed according to standard procedures (i.e., light clothing and no shoes and socks). Height was measured to the nearest 0.1 cm using a portable stadiometer (Seca, Hamburg, Germany), while weight and percent body fat were assessed to the nearest 0.1kg and 0.1% using a portable bioelectrical impedance analysis scale (BIA; Tanita, Tokyo, Japan). Two height measures, each within 1.0 cm, were taken and averaged. In instances where values exceeded this threshold, a third measure was taken, and the two closest measures averaged (Montoye et al., 2013). Due to logistical constraints, encompassing limited equipment availability and participants' need to promptly return to competition/play, measures of weight and percent body fat were performed only once. Values produced by the Tanita BIA scale have shown evidence of validity ($r = .97$ with air displacement plethysmography) and reliability (intraclass correlation coefficient = .99; Vasold et al., 2019).

**Data Analysis**

Categorical data (e.g., demographics) were summarized with frequencies and percentages, and continuous data with means and standard deviations. Skewness and kurtosis (with values between ±2 indicating a normal distribution; Hahs-Vaughn & Lomax, 2020), as well as the magnitude of correlations (i.e., small = .10, medium = .30, large = .50; Cohen, 1988), were examined for all continuous variables. Observed variable path analysis was conducted using M*plus* 8.9 (Muthén & Muthén, 2017) to test the study hypotheses sets: (1) perceived body acceptance by coaches and teammates would exert positive direct effects on body appreciation and functionality appreciation, (2) body and functionality appreciation would exert positive direct effects on SC-physical skills and training, SC-cognitive efficiency, and SC-resilience, and (3) SC-physical skills and training, SC-cognitive efficiency, and SC-resilience would exert positive direct effects on sport-performance evaluations. To maintain focus and conceptual clarity, only direct effects were explicitly tested. Establishing these direct relationships was deemed necessary before examining indirect pathways in later longitudinal research. This somewhat cautious modeling approach is consistent with the cross-sectional nature of the current dataset and more general methodological recommendations for causal inference in kinesiology (e.g., Myers et al., 2024). Interested readers are, however, directed to the supplementary material (see Appendix L) for details on total, total indirect, and specific indirect effects for all relevant variables.

Based on theory and previous research (Cox et al., 2010; Gyomber et al., 2013; Hall et al., 2009; Kantanista et al., 2018; Krane & Williams, 1994; Machida et al., 2017; Nicholls et al., 2010; Ricketts et al., 2023; Soulliard et al., 2021), age, sex, and sport participation level were controlled for at each endogenous variable. To account for their potential effects, BMI, percent body fat, and sport category (individual vs. team) were controlled for at body and functionality appreciation. A

dichotomous variable was created to distinguish involvement in individual versus team sports using sport type data. Athletes in sports emphasizing individual performance (e.g., tennis) were categorized as individual sport participants, while those in sports emphasizing shared responsibility among teammates (e.g., soccer) were categorized as team sport participants (Dosil, 2008). To accurately classify athletes, those in sports with both individual and team aspects (e.g. track, swimming) specified their main event (e.g., track: relay). Sex (male = 0, female = 1), sport participation level (recreational = 0, competitive = 1), and sport category (individual = 0, team = 1) were dummy-coded before conducting the analysis.

A covariance was specified between perceived body acceptance by coaches and teammates, considering their mutual roles in shaping body image in sport (Coppola et al., 2014; Hague et al., 2021). Body and functionality appreciation, both grounded in the underlying positive body image construct (Tylka, 2018), were expected to share common variance, warranting a specified covariance between them. Likewise, covariances were specified among SC-physical skills and training, SC-cognitive efficiency, and SC-resilience, all of which assess confidence specific to the performance demands of sport (Vealey & Knight, 2002). The model was fit using maximum likelihood estimation with robust standard errors (MLR) and missing data handled using full-information maximum likelihood estimation (i.e., assuming missing at random; Rubin, 1976; Patel et al., 2021). Given the nested data structure (i.e., body acceptance ratings nested within teams) and the lack of two-level hypotheses, the non-independence of observations was handled using the TYPE = COMPLEX command in M*plus*. This approach computes standard errors and model-data fit indices treating team as a dependency (Asparouhov & Muthén, 2009).

Model-data fit was assessed using $\chi^2$, RMSEA, CFI, TLI, and SRMR, with good model-data fit interpreted as RMSEA ≤ .06; CFI ≥ .95; TLI ≥ .95; SRMR ≤ .08 (Hu & Bentler, 1999).

Type 1 error rate was set at 0.05. Consistent with Ricketts et al. (2023), though the study hypotheses are directional and support one-tailed tests (Jones, 1954), two-tailed tests were conducted for conservativeness (Welkowitz et al., 2012). Modification indices were examined post hoc to detect potential model misspecifications (Saris et al., 2009), with re-specification considered only if suggested changes were theoretically defensible (Bollen & Noble, 2011).

## RESULTS

### Preliminary Findings

Participants of this study were 508 male (65.3%) and female (34.7%) Botswana athletes, ages 18 to 62 years ($M_{age}$ = 25.32, $SD$ = 7.10), with most participants below the age of 27 years (65.4%). Participants were recruited from 25 towns, urban villages, and cities in Botswana, with a considerable proportion of the participants hailing from the country's capital, Gaborone (49.2%). The primary sports played were soccer (40.2%), netball (14.8%), track (10.7%), and softball (9.5%), with 76.3% of participants involved in team sports. Team-level sample size was 163, ranging from 1 to 23 participants per team. Most participants identified as competitive athletes (69.2%), with 33.9% having competed nationally. The majority reported playing their sport for 1 to 4 years (75.5%) and played their sport several days per week (80.0%). A considerable proportion of participants worked with their current coach (30.8%) and trained/competed alongside their current teammates (32.7%) for 1 to 4 years. The participants of this study mainly identified as students (32.7%), with 49.7% having attained senior-secondary level education (i.e., equivalent to high school). Table 3 presents a summary of the sample description.

Table 3. *Sample Description (Study 2)*

| Variable | N | % |
| --- | --- | --- |
| Age ranges | **492** | |
| 18 – 26 years | 322 | 65.4 |
| 27 – 35 years | 114 | 23.2 |

Table 3 (cont'd)

| | | |
|---|---|---|
| 36 – 44 years | 43 | 8.7 |
| 45 – 53 years | 12 | 2.4 |
| 54 – 62 years | 1 | .2 |
| Sex | **505** | |
| Female | 175 | 34.7 |
| Male | 330 | 65.3 |
| Residential town | **508** | |
| Gaborone | 250 | 49.2 |
| Jwaneng | 52 | 10.2 |
| Selebi Phikwe | 48 | 9.4 |
| Other | 158 | 31.1 |
| Sport participation level | **478** | |
| Recreational | 147 | 30.8 |
| Competitive | 331 | 69.2 |
| Highest sport competition level | **499** | |
| International | 133 | 26.7 |
| National | 169 | 33.9 |
| Regional | 91 | 18.2 |
| Intercollegiate | 24 | 4.8 |
| High school | 52 | 10.4 |
| Never competed | 30 | 6.0 |
| Length of sport participation | **501** | |
| 0 - 3 months | 16 | 3.2 |
| 4 - 7 months | 26 | 5.2 |
| 8 - 11 months | 32 | 6.4 |
| 1 – 4 years | 228 | 45.5 |
| > 4 years | 199 | 39.7 |
| Frequency of sport participation | **499** | |
| < 1 day per week | 30 | 6.0 |
| 1 day per week | 70 | 14.0 |
| Several days per week | 399 | 80.0 |
| Coaching duration | **422** | |
| 0 - 3 months | 78 | 18.5 |
| 4 - 7 months | 53 | 12.6 |
| 8 - 11 months | 69 | 16.4 |
| 1 – 4 years | 130 | 30.8 |
| > 4 years | 92 | 21.8 |

Table 3 (cont'd)

| | | |
|---|---|---|
| Teammate training/competition duration | **489** | |
| 0 - 3 months | 78 | 16.0 |
| 4 - 7 months | 57 | 11.7 |
| 8 - 11 months | 65 | 13.3 |
| 1 – 4 years | 160 | 32.7 |
| > 4 years | 129 | 26.4 |
| Primary employment status | **480** | |
| Full-time employment | 121 | 25.2 |
| Part-time employment | 44 | 9.2 |
| Self-employed | 43 | 9.0 |
| Student | 157 | 32.7 |
| Unemployed | 115 | 24.0 |
| Highest education level | **495** | |
| Primary | 1 | .2 |
| Junior  Secondary | 61 | 12.3 |
| Senior Secondary | 246 | 49.7 |
| Technical/vocational | 96 | 19.4 |
| Bachelor's degree/equivalent | 80 | 16.2 |
| Master's degree/equivalent | 11 | 2.2 |

*Note.* N = 508. Bold text reflects the number of participants with
available data on each demographic variable.
Columns may not equal 100% due to rounding.

Table 4. *Descriptive Statistics and Correlations (Study 2)*

| Variable | *M* | *SD* | Skew. | Kurt. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. BABC | 4.36 | .82 | -1.05 | .33 | – | .79*** | .35*** | .31*** | .24*** | .18*** | .17*** | .24*** |
| 2. BABT | 4.32 | .84 | -1.20 | 1.09 | | – | .37*** | .33*** | .25*** | .21*** | .19*** | .25*** |
| 3. BA | 4.59 | .70 | -1.69 | 2.18 | | | – | .47*** | .28*** | .27*** | .30*** | .24*** |
| 4. FA | 4.60 | .61 | -1.65 | 3.85 | | | | – | .26*** | .21*** | .23*** | .26*** |
| 5. SC-PST | 29.12 | 5.28 | -1.32 | 2.12 | | | | | – | .70*** | .69*** | .35*** |
| 6. SC-CE | 23.71 | 3.73 | -1.00 | .79 | | | | | | – | .77*** | .38*** |
| 7. SC-R | 29.10 | 4.91 | -.98 | .72 | | | | | | | – | .31*** |
| 8. SPE | 13.04 | 4.54 | -.40 | -.32 | | | | | | | | – |

*Note.* BABC = perceived body acceptance by coaches; BABT = perceived body acceptance by teammates; BA = body appreciation; FA = functionality appreciation; SC-PST = SC-physical skills and training; SC-CE = SC-cognitive efficiency; SC-R = SC-resilience; SPE = sport performance evaluations; Skew. = skewness; Kurt. = kurtosis.

Coefficients for the specified model covariances: BABC and BABT (*cov* = 0.55, *p* < .001), BA and FA (*cov* = 0.14, *p* < .001), SC-PST and SC-CE (*cov* = 11.00, *p* < .001), SC-PST and SC-R (*cov* = 12.85, *p* < .001), and SC-CE and SC-R (*cov* = 11.51, *p* < .001).

\*\*\* *p* < .001.

Descriptive statistics and correlation coefficients for all study variables are presented in Table 4. While values of univariate skewness were between the range of ±2 for all continuous variables, values for univariate kurtosis slightly exceeded this range for body appreciation (2.18), functionality appreciation (3.85), SC-physical skills and training (2.12), age (3.20), and BMI (3.57). These values, however, did not indicate a severe departure from normality (Kline, 2015). The mean BMI in the sample was considered in the normal range ($M = 23.05$, $SD = 4.31$) based on World Health Organization (2000) guidelines. The mean percent body fat for males ($M = 15.67$, $SD = 7.13$) and females ($M = 27.69$, $SD = 9.87$) fell within the acceptable range according to sex-specific criteria (Jeukendrup & Gleeson, 2010). Significant positive correlations were observed among all variables in the hypothesized model, with coefficients ranging from $r = .17$ (perceived body acceptance by coaches and SC-resilience) to $r = .79$ (perceived body acceptance by coaches and teammates). Given the noticeably large correlations between perceived body acceptance by coaches and teammates ($r = .79$), SC-physical skills and training and SC-cognitive efficiency ($r = .70$), SC-cognitive efficiency and SC-resilience ($r = .77$), and BMI and percent body fat ($r = .78$), tolerance and variance inflation factor (VIF) statistics were examined to detect potential multicollinearity. All tolerance values were $> .10$ and VIF values $< 10$, indicating no evidence of multicollinearity (Kline, 2015).

**Path Model**

The primary objective of this study was to examine a path model of associations among perceived body acceptance by coaches and teammates, body and functionality appreciation, multidimensional sport-confidence, and sport performance evaluations, as depicted in Figure 2. Examination of fit indices indicated evidence of acceptable model-data fit ($\chi^2(34) = 66.476$, $p < .001$; RMSEA [$CI_{90\%}$] = .055[.035, .074], CFI = .956, TLI = .918, SRMR = .062). Modification

indices yielded no theoretically defensible adjustments to the model, and as such, it was retained as originally specified. Coefficients for the specified model covariances were all positive and significant (see notes section of Table 4). The model explained significant proportions of variance in body appreciation ($R^2 = .239$, $p < .001$), functionality appreciation ($R^2 = .168$, $p < .001$), SC-physical skills and training ($R^2 = .172$, $p = .001$), SC-cognitive efficiency ($R^2 = .179$, $p = .001$), SC-resilience ($R^2 = .188$, $p < .001$), and sport performance evaluations ($R^2 = .186$, $p = .002$).

**Hypothesis Set 1**

It was hypothesized that perceived body acceptance by coaches and teammates would exert positive direct effects on body and functionality appreciation. The path coefficients from perceived body acceptance by coaches ($B = 0.18$, $SE = 0.08$, $p = .032$) and teammates ($B = 0.16$, $SE = 0.08$, $p = .032$) to body appreciation were significant and positive. Significant effects were observed for age ($B = 0.02$, $SE = 0.01$, $p = .003$), sport participation level ($B = 0.28$, $SE = 0.08$, $p = .001$), and BMI ($B = -0.03$, $SE = 0.02$, $p = .024$) on body appreciation, with older athletes, competitive athletes, and those with lower BMI reporting higher scores. While the path coefficient from perceived body acceptance by coaches to functionality appreciation was not significant ($B = 0.15$, $SE = 0.08$, $p = .070$), the path coefficient from perceived body acceptance by teammates was significant and positive ($B = 0.16$, $SE = 0.06$, $p = .012$). There was a significant effect for BMI on functionality appreciation ($B = -0.03$, $SE = 0.01$, $p = .047$), whereby athletes with lower BMI reported higher scores. Thus, partial support was provided for Hypothesis 1.

**Hypothesis Set 2**

It was hypothesized that body and functionality appreciation would exert positive direct effects on SC-physical skills and training, SC-cognitive efficiency, and SC-resilience. The path coefficients from body ($B = 1.62$, $SE = 0.47$, $p = .001$) and functionality appreciation ($B = 1.12$,

*SE* = 0.53, *p* = .034) to SC-physical skills and training were significant and positive. There was a significant effect for sport participation level on SC-physical skills and training (*B* = 2.60, *SE* = 0.68, *p* < .001), with competitive athletes reporting higher scores. The path coefficients from body (*B* = 1.07, *SE* = 0.30, *p* < .001) and functionality appreciation (*B* = 0.74, *SE* = 0.36, *p* = .040) to SC-cognitive efficiency were significant and positive. There were significant effects for age (*B* = 0.09, *SE* = 0.03, *p* = .004), sex (*B* = 1.07, *SE* = 0.51, *p* = .034), and sport participation level (*B* = 2.07, *SE* = 0.50, *p* < .001) on SC-cognitive efficiency, with older athletes, males, and competitive athletes reporting higher scores. Although the path coefficient from body appreciation to SC-resilience was significant and positive (*B* = 1.65, *SE* = 0.47, *p* < .001), the path coefficient from functionality appreciation was not significant (*B* = 0.96, *SE* = 0.59, *p* = .106). Significant effects were observed for age (*B* = 0.14, *SE* = 0.03, *p* < .001) and sport participation level (*B* = 2.45, *SE* = 0.69, *p* < .001) on SC-resilience, with older athletes and competitive athletes reporting higher scores. Thus, partial support was provided for Hypothesis 2.

**Hypothesis Set 3**

It was hypothesized that SC-physical skills and training, SC-cognitive efficiency, and SC-resilience would exert positive direct effects on sport performance evaluations. The path coefficient from SC-physical skills and training (*B* = 0.15, *SE* = 0.08, *p* = .054) and SC-resilience (*B* = -0.04, *SE* = 0.08, *p* = .615) to sport performance evaluations were both non-significant. However, the path coefficient from SC-cognitive efficiency to sport performance evaluations was significant and positive (*B* = 0.32, *SE* = 0.12, *p* = .008). There was a significant effect for age on sport performance evaluations (*B* = 0.09, *SE* = 0.04, *p* = .013), with older athletes reporting higher scores. Thus, partial support was provided for Hypothesis 3.

**DISCUSSION**

Guided by the Sport-Confidence Model (Vealey & Knight, 2002), this study examined a model of associations among perceived body acceptance by coaches and teammates, body and functionality appreciation, multidimensional sport-confidence, and sport performance evaluations. It was hypothesized that (1) perceived body acceptance by coaches and teammates would exert positive direct effects on body appreciation and functionality appreciation, (2) body and functionality appreciation would exert positive direct effects on SC-physical skills and training, SC-cognitive efficiency, and SC-resilience, and (3) SC-physical skills and training, SC-cognitive efficiency, and SC-resilience would exert positive direct effects on sport performance evaluations. Results from a Botswana athlete sample demonstrated acceptable model-data fit and partial support for the three hypotheses. These findings will be discussed in the subsequent paragraphs.

First, this study demonstrates positive direct effects from perceived body acceptance by coaches and teammates to body appreciation, with only the latter exerting a positive direct effect on functionality appreciation. This finding extends the Sport-Confidence Model (Vealey & Knight, 2002) by highlighting body acceptance by coaches and teammates as contextual factors associated with athletes' positive body image, uncovering their distinct roles in this relationship. Amid the appearance-related pressures pervasive in many sport contexts (Kong & Harris, 2015), perceiving body acceptance from coaches may hold greater salience for athletes' body appreciation, shifting focus from appearance to a more holistic valuation of the body (Avalos & Tylka, 2006). This perceived validation from coaches, given their significant role as communicators of body image in sport (Coppola et al., 2014; Hague et al., 2021), may send the message to athletes that their bodies are worth appreciating, regardless of its flaws (Avalos & Tylka, 2006). Athletes, however, rely on teammates' health and functionality for collective success, irrespective of involvement in

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individual or team sports (Evans & Eys, 2015). Receiving body acceptance from teammates may affirm the unique features and capabilities of athletes' bodies, nurturing appreciation for its form and functionality (Oh et al., 2012). Moreover, in Botswana, where societal values emphasize the primacy of the group and collective unity rather than individualism (Mabuta et al., 2021), teammates' acceptance may cultivate environments where athletes' bodies are valued for their unique contributions to the team (Raabe et al., 2016), thus supporting body and functionality appreciation in this collectivistic context.

While these findings are consistent with that of Oh et al. (2012), this study extends the literature by adopting a holistic approach to assessing perceived body acceptance by coaches and teammates, departing from the appearance-based focus of prior research. This approach acknowledges that body acceptance in athletics may extend beyond appearance to encompass characteristics such as physical prowess and ingenuity (Abbott & Barber, 2011), providing a more comprehensive view of the construct (Swami et al., 2021). Beyond the primary findings of Hypothesis Set 1, noteworthy insights emerged from the analysis of covariates. In this study, older and competitive athletes reported greater body appreciation, a finding attributable to heightened self-acceptance with increasing age and greater connection with the body at elevated fitness levels (Kantanista et al., 2018). Notably, this study established significant associations between BMI and core positive body image facets in athletes. Unlike previous studies relying on self-reported height and weight to estimate BMI (Soulliard et al., 2019, 2021), this study utilized device-based metrics and accounted for variations in percent body fat, likely aiding in identifying the unique contribution of BMI in these relationships (Malina, 2007). Specifically, lower BMI was associated with greater body and functionality appreciation, a finding consistent with the prevailing stigma against excess weight in many sport contexts (Vani et al., 2021). Unlike BMI, percent body fat did

not emerge as significant in these associations, a plausible outcome for two reasons. First, most athletes in this study participated in sports where aesthetics and leanness were not primary determinants of success (e.g., soccer, netball), potentially explaining the non-significant role of percent body fat in athletes' positive body image (Ackland et al., 2012; Kong & Harris, 2015). Second, athletes often face pressure to conform to weight standards in their sport, viewing weight as a benchmark for achieving the 'ideal' physique (Sundgot-Borgen et al., 2013; Kong & Harris, 2015). Hence, athletes may equate lower BMI with improved body form and functionality, highlighting its significance in their perceptions of positive body image (He et al., 2020).

Second, this study provides evidence of positive direct effects from body and functionality appreciation to SC-physical skills and training and SC-cognitive efficiency, with only body appreciation exerting a positive direct effect on SC-resilience. These findings support Sport-Confidence Model predictions (Vealey & Knight, 2002), whereby perceptions of the physical self were theorized as directly related to sport-confidence domains. Likewise, these findings corroborate arguments by Ricketts et al. (2023) to examine core facets of positive body image in relation to sport-confidence, reiterating their significance in athletes' confidence perceptions. Specifically, this study revealed direct relationships between positive body image facets and SC-physical skills and training, as well as SC-cognitive efficiency. Athletes with high levels of body and functionality appreciation are likely more trusting of their bodies to demonstrate its physical competencies, facilitating greater SC-physical skills and training (Piran et al., 2020). These facets of positive body image also appear protective to SC-cognitive efficiency, potentially averting body image disturbances that could disrupt mental focus, concentration, and effective decision-making for successful performance (Voelker & Reel, 2015, 2018). In this study, only body appreciation emerged as important to SC-resilience. While performance fluctuations may be influenced by

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external factors in which the body's functionality plays a lesser role (e.g., managing pressure; Durand-Bush & Salmela, 2002), the optimistic, rather than self-critical outlook typical of individuals with higher body appreciation may foster increased confidence in one's ability to recover from performance setbacks (Tylka, 2012).

Building on prior research that assessed sport-confidence as unidimensional (Ricketts et al., 2023; Soulliard et al., 2019), this study adopted a multidimensional approach, improving understanding of the positive body image and confidence relationship, while adding to the sparse research in this area (Machida, 2008). Notably, across all domains, competitive athletes reported higher levels of sport-confidence. This finding, documented in prior research, has been attributed to an enhanced ability to categorize the specific skills required for success at higher sport levels (Machida et al., 2017). Similarly, older athletes reported greater SC-cognitive efficiency and SC-resilience, likely explained by the parallel increase in sport experiences as athletes age (Gyomber et al., 2013), facilitating improved mental skills and adaptability to dynamic game situations (Galli & Vealey, 2008). In this study, females also reported lower levels of SC-cognitive efficiency, potentially linked to their heightened susceptibility to confidence debilitating factors (Hays et al., 2009). Notwithstanding, these findings suggest that adaptive body image perceptions may provide positive cues to Botswana athletes about their ability to perform physical skills, utilize mental resources, and employ coping strategies essential for sport success.

Third, among the sport-confidence domains examined, this study only identified a positive direct effect from SC-cognitive efficiency to sport performance evaluations. This finding is plausible, as Vealey and Knight (2002) found the types of sport-confidence to differentially predict performance based on the social-cognitive demands of sport. In this study, the salience of SC-cognitive efficiency to the performance evaluations of Botswana athletes may be partly due to their

primary involvement in 'strategic sports', such as soccer, netball, and softball (Krenn et al., 2018). These sports demand efficient mobilization of cognitive resources to navigate diverse situations involving teammates, opponents, positions, and objects (e.g., balls; Krenn et al., 2018), potentially explaining athletes' greater reliance on this sport-confidence domain for successful performance. Notably, SC-cognitive efficiency is deemed the most unstable type of sport-confidence, susceptible to disruptions by situational (e.g., distractions) and internal factors (e.g., negative thoughts; Vealey & Knight, 2002). Hence, athletes may heavily depend on SC-cognitive efficiency to navigate evolving personal and contextual dynamics in sport (Durand-Bush & Salmela, 2002). In Botswana, where training of physical skills is prioritized over mental skills training (Keatlholetswe & Malete, 2019), proficiency in athletic abilities may reduce the relevance of SC-physical skills and training in athletes' performance assessments (Vealey & Knight, 2002). Additionally, athletes in this study, likely due to their extensive sport experience, may have developed effective strategies for rebounding from performance setbacks, minimizing the significance of SC-resilience in their performance evaluations (Galli & Vealey, 2008).

Collectively, the findings of this study present important implications for sport stakeholders, including the potential to promote successful performance among the region's athletes by bolstering their confidence in mental skills (e.g., attention and concentration) using psychological skills training techniques (Hanrahan & Andersen, 2010). Targeting the development of positive body image may be an avenue to facilitate athletes' confidence in performing physical skills, utilizing cognitive resources, and employing coping strategies essential for sport success, particularly relevant as Botswana athletes depend on healthy, functional bodies for confident sport engagement (Shehu & Moruisi, 2011). Coaches and teammates may facilitate this process by demonstrating respect, acceptance, and appreciation for athletes' bodies (e.g., sharing positive

feedback regarding physical competencies as opposed to negative body-related criticisms). Particular attention may be warranted for younger athletes, recreational participants, females, and those with higher BMI, given their greater susceptibility to sociocultural pressures that hinder confidence and positive body image (Hays et al., 2009; Lucibello et al., 2023; Ricketts et al., 2023; Soulliard et al., 2019).

**Strengths, Limitations, and Future Research Directions**

This study demonstrates several methodological strengths, including its large sample size, utilization of device-based measures to assess body composition, and consideration of the nested data structure. Notably, this study recruited a diverse athlete sample (i.e., spanning various ages, sport types and levels, and residential locations), providing a foundation for more targeted investigations into how these relationships unfold within specific athlete subgroups. Despite its strengths, this study has a few limitations. First, although the model provided evidence of acceptable fit, less-than-exact fit may suggest only preliminary evidence for its validity, given some evidence for misfit (Myers et al., 2006). Future research should cross-validate this model with additional samples of Botswana athletes. Likewise, investigating the model at the team level could uncover ways in which group-level factors contribute to observed relationships, particularly within Botswana's collectivistic context (Mabuta et al., 2021). Second, due to the preliminary and cross-sectional nature of this study, only direct effects were explicitly tested, necessitating future longitudinal designs to better evaluate indirect pathways (Myers et al., 2024).

Third, despite the utility of BIA in field research (Pfeiffer et al., 2019), logistical constraints prevented meeting some of its underlying assumptions (e.g., nutrition, hydration, and exercise status; Kyle et al., 2004), alongside assessing interrater reliability and technical error of measurement for weight and percent body fat. Future research anticipating challenges with

meeting BIA assumptions could explore alternative methods, such as skinfold measurements, for assessing percent body fat in field studies (Eliakim et al., 2000). Additionally, incorporating somatotype assessments could provide additional insights into how body shape and composition contribute to athletes' perceptions of positive body image. To address similar logistical constraints in future studies, securing adequate equipment, training ample personnel, and ensuring sufficient breaks for body composition measurements may also be beneficial. Notably, this study primarily consisted of non-aesthetic sport participants (e.g., soccer, netball), a characteristic likely mirroring the prevailing sport landscape in Botswana. Prior research indicates that individuals participating in non-aesthetic sports are afforded greater opportunities to develop positive body image compared to their counterparts in aesthetic sports, attributable to the instrumental rather than appearance-based focus of these activities (Abbott & Barber, 2011). Consequently, future research should aim to recruit more comparable samples of athletes from both aesthetic and non-aesthetic sports to explore potential variations in model relationships by sport type involvement.

**Conclusion**

This study provides evidence of associations among perceived body acceptance by coaches and teammates, body and functionality appreciation, multidimensional sport-confidence, and sport performance evaluations in Botswana athletes. Perceived body acceptance by coaches and teammates contributed to body and functionality appreciation, with coaches playing a particularly salient role in athletes' body appreciation. Both positive body image facets emerged as significant contributors to SC-physical skills and training and SC-cognitive efficiency, while body appreciation uniquely contributed to SC-resilience. In this study, SC-cognitive efficiency emerged as most integral to the performance of Botswana athletes. Hence, sport stakeholders may prioritize interventions to enhance athletes' confidence in mental skills and nurture positive body image,

involving coaches and teammates in these efforts. Importantly, these findings supplement the sparse research on multidimensional sport-confidence, extend Sport-Confidence Model predictions to a diverse cultural context, and respond to calls for additional research on the psychosocial factors linked to successful sport engagement among Botswana athletes.

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CHAPTER IV: GENERAL DISCUSSION

Considerable evidence suggests less negative and more positive body image perceptions among sport participants (Sabiston et al., 2019), as these activities allow for greater body responsiveness and physical empowerment (Menzel & Levine, 2011). Of relevance to SEP, is evidence linking core facets of positive body image, namely body and functionality appreciation, to athletes' sport-confidence (Soulliard et al., 2019), a predictor of successful sport performance (Hays et al., 2009). While the Sport-Confidence Model (Vealey et al., 1998; Vealey & Knight, 2002) proves valuable in explaining these relationships, this framework operationalizes positive body image as an appearance-based construct, neglecting the centrality of body functionality to athletes' body image (Abbott & Barber, 2011). Moreover, much research in this area underrepresents and disconnects the experiences of individuals from regions of the Global South, including Africa (Vancini et al., 2014) and the Diaspora (e.g., Caribbean; Thomas et al., 2019). Centered on two understudied regions in these contexts – *Jamaica* and *Botswana*, this dissertation sought to extend the literature by examining core facets of positive body image in relation to athletes' sport-confidence and performance, thereby, expanding upon the Sport-Confidence Model (Vealey et al., 1998; Vealey & Knight, 2002).

Jamaica and Botswana were considered intriguing contexts for this project. Both regions share comparable strides in sport development and prioritize athletic achievement, despite varying degrees of attained sporting excellence (Toomer, 2015; Tshube et al., 2022). Jamaica's extensive history of international sport successes, particularly in track and field and soccer (Franklyn, 2010; Taylor, 2015; Toomer, 2015), contrasts with Botswana's relatively shorter history of successes in similar athletic pursuits (Tshube et al., 2022; Tshube & Hanrahan, 2016). This presented an opportunity to examine transferable insights for enhancing sport achievement across these settings. In both regions, athletes regard positive perceptions of the body as integral to confident and

competent sport engagement (Malete et al., 2008; Shehu & Moruisi, 2011). Therefore, it appeared feasible to examine the specific role of positive body image in the confidence and performance of Jamaican and Botswana athletes, prompting initiation of this two-study project.

Study 1 examined a model of the associations among body and functionality appreciation, trait sport-confidence, and performance evaluations in Jamaican athletes. This study revealed evidence of (1) good-model data fit, (2) positive direct effects from body and functionality appreciation to sport-confidence, (3) positive direct effects from sport-confidence to performance evaluations, and (4) positive indirect effects from body and functionality appreciation to performance evaluations, via sport-confidence. This study presented noteworthy contributions to the literature. First, Study 1 established support for extending the Sport-Confidence Model to examine core facets of positive body image in relation to sport-confidence, departing from the appearance-based focus of Vealey et al. (1998). Second, Study 1 provided theory-driven evidence of associations among positive body image, sport-confidence, and performance evaluations, employing a robust path modeling approach (Duncan, 1966). Third, Study 1 demonstrated that positive body image contributed to sport-confidence in both competitive and recreational sports. This finding is promising for sustaining engagement in these pursuits, given the recognized importance of confidence for continued sport participation (Jowett & Felton, 2013). Fourth, Study 1 supplements the sparse literature on the psychosocial factors contributing to successful sport engagement among Jamaican athletes (Thomas et al., 2019). Practical implications emerging from these findings included the potential to enhance sport-confidence and performance among the region's athletes by nurturing their appreciation for the body's form and functionality. However, in Jamaica, females and recreational athletes were identified as requiring special attention during

intervention efforts due to encountering heightened pressures that hinder sport-confidence and body appreciation (Hays et al., 2009; Soulliard et al., 2019).

Having established the role of body and functionality appreciation in the confidence and performance of Jamaican athletes, the model examined in Study 1 was extended to the Botswana sport context (i.e., Study 2). In contrast to the unidimensional trait-based approach to sport-confidence taken in Study 1 (Vealey, 1986), Study 2 adopted a multidimensional perspective, aligning with Vealey and Knight's (2002) revised conceptualization of the construct. As such, sport-confidence was assessed across three domains: physical skills and training, cognitive efficiency, and resilience. Furthermore, to identify contextual factors associated with positive body image, Study 2 examined perceived body acceptance by coaches and teammates in relation to body and functionality appreciation. Hence, Study 2 examined a model of the associations among perceived body acceptance by coaches and teammates, body and functionality appreciation, multidimensional sport-confidence, and performance evaluations in a Botswana athlete sample. This study revealed evidence of (1) acceptable model-data fit, (2) positive direct effects from perceived body acceptance by teammates to body and functionality appreciation, with perceived body acceptance by coaches exerting a positive direct effect only on body appreciation, (3) positive direct effects from body and functionality appreciation to SC-physical skills and training and SC-cognitive efficiency, with only body appreciation exerting a positive direct effect on SC-resilience, and (4) a positive direct effect only from SC-cognitive efficiency to performance evaluations.

These findings also provided noteworthy contributions to the literature. First, extending the Sport-Confidence Model (Vealey & Knight, 2002), Study 2 identified perceived body acceptance by coaches and teammates as contextual factors that differentially contribute to athletes' positive body image. Second, Study 2 broadened the conceptualization of body acceptance beyond a focus

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on body shape and weight, adopting a holistic perspective more relevant to the sport domain (Swami et al., 2021), where body acceptance may encompass recognition of one's physical capabilities and bodily creativity (Abbott & Barber, 2011). Third, by controlling for the effects of BMI on body and functionality appreciation, this study revealed significant associations between these variables in athletes. This is likely due to the use of objective metrics for BMI estimation, alongside accounting for variations in percent body fat. Fourth, by assessing multidimensional sport-confidence, Study 2 offered a more nuanced understanding of the positive body image, sport-confidence, and performance relationship. These findings offer valuable insights for regional scholarship and practice in Botswana, addressing the need for research on the psychosocial factors linked to successful sport engagement in the region (Tshube et al., 2022; Tshube & Hanrahan, 2016), and supplementing the sparse literature on multidimensional sport-confidence (Machida et al., 2017). The practical implications emerging from Study 2 entailed targeting successful performance in Botswana athletes by bolstering their confidence in mental skills, alongside promoting body acceptance from coaches and teammates to nurture positive body image and facilitate sport-confidence in physical skills, cognitive efficiency, and resilience. In Botswana, younger athletes, recreational participants, females, and those with higher BMI were identified as warranting special consideration given their potential vulnerability to sociocultural pressures that impede confidence and positive body image (Hays et al., 2009; Soulliard et al., 2019; Lucibello et al., 2023).

The non-equivalence of the models examined in Studies 1 and 2 precludes direct comparisons between their findings. Nonetheless, the discernible trends emerging across both studies are worth noting. Evidence supporting the applicability of Sport-Confidence Model (Vealey et al., 1998; Vealey & Knight, 2002) predictions was found in both Jamaican and

Botswana athlete samples. This finding is particularly relevant given the imperative to address questions about the generalizability of theories in SEP (Papaioannou, 2013). Although primarily developed and investigated in North America (Hays et al., 2007; Machida et al., 2012, 2017; Vealey, 1986; Vealey et al., 1998; Vealey & Knight, 2002), the model's applicability to the Jamaican and Botswana contexts support its utility in understanding relationships among positive body image, sport-confidence, and performance, and guiding subsequent interventions. This is especially relevant as SEP practice in both regions tends to be informed by the findings of studies conducted elsewhere, with limited consideration of their cultural utility (Mason & Morgan, 2022; Tshube et al., 2022).

The findings of both studies also highlight the contributing role of positive body image to athletes' sport-confidence. These findings are noteworthy, as promoting positive body image among athletes could preempt the development of body image disturbances that disrupt the mobilization of cognitive resources necessary for confident sport engagement (Voelker & Reel, 2015, 2018). Additionally, in both studies, sport-confidence was highlighted as a psychosocial factor associated with successful sport performance, with this finding specific to SC-cognitive efficiency in the Botswana sample. These findings underscore the robustness of the sport-confidence and performance relationship, further corroborating its instrumental role in athletic achievement (Hays et al., 2009). Likewise, across both studies, there was evidence of lower body appreciation and sport-confidence among females, with the latter specific to SC-cognitive efficiency in the Botswana sample. These trends have also been noted in studies with US athletes (Hays et al., 2009; Krane & Williams, 1994; Soulliard et al., 2019, 2021), suggesting that broader sociocultural pressures hindering positive body image and sport-confidence may persist cross-culturally, warranting the need for targeted interventions with female athletes.

Select insights from the Botswana sport context hold potential for fueling further research in the Jamaican context. An examination of body acceptance by coaches and teammates in relation to body and functionality appreciation could shed light on the sport-specific social dynamics supporting positive body image in Jamaican athletes. This is especially relevant in light of evidence indicating the crucial role of supportive coach and teammate relationships in fostering successful sport engagement in the region (Thomas et al., 2019). Although not investigated in Study 1, the relationship between BMI and positive body image could offer valuable insights into the physiological factors associated with adaptive body image perceptions in Jamaican athletes. Adopting the methodological approach used in Study 2, which entailed the device-based estimation of BMI, alongside accounting for variations in percent body fat, may prove particularly useful when investigating these relationships. Furthermore, examining sport-confidence from a multidimensional perspective could contribute depth of insights into the associations among positive body image facets, sport-confidence domains, and performance evaluations in Jamaican athletes. Collectively, this two-study dissertation exemplifies how scholarly research can foster interconnectedness between regions, offering transferable insights useful for promoting positive outcomes and experiences, even in the absence of direct cross-cultural comparisons.

**STRENGTHS AND LIMITATIONS**

Several key strengths of this dissertation are worth noting. This project represents a much-needed shift towards investigating the adaptive aspects of body image in sport, contributing to a more comprehensive understanding of athlete body image. Conducted in two understudied regions of the Global South, this dissertation broadened the evidence-base to offer invaluable insights for advancing the cultural dimensions of SEP (Coakley, 2003; Duda & Allison, 1990; Papaioannou, 2013), while contributing to regional scholarship in Jamaica and Botswana (Thomas et al., 2019;

Tshube et al., 2022). Methodologically, this dissertation recruited large, adequately powered samples of athletes spanning varying ages and sport types, from both recreational and competitive contexts. Particularly noteworthy is the extensive reach of Study 2, which recruited participants from 25 towns and cities across Botswana. Likewise, notable strengths were evident in the data handling procedures employed throughout this dissertation, which entailed addressing missing data, controlling for key covariates, and accounting for the nested data structure in Study 2. The objective estimation of height, weight, and percent body fat by trained members of the research team also served as a strength of this dissertation.

The current project also has noteworthy limitations. First, the findings of this dissertation have limited generalizability external to the Jamaican and Botswana sport contexts. Notably, both studies consisted mainly of participants of non-aesthetic sports, restricting generalizability of findings to aesthetic sport participants. Second, the cross-sectional nature of both studies precluded examinations of causality or temporality of associations. Third, the TSCI (trait sport-confidence) and SCI (multidimensional sport-confidence) used in Studies 1 and 2 respectively, both assessed general or typical perceptions of sport-confidence, without accounting for the construct's temporal instability (Levy et al., 2011). Fourth, in both studies, sport performance was evaluated based on subjective assessments, potentially introducing issues of bias and/or inaccuracy. Fifth, Study 2 provided only preliminary evidence for the validity of the hypothesized model, given its less-than-excellent fit to the data (Myers et al., 2006). Sixth, logistical constraints (e.g., limited equipment, participants needing to promptly return to play), hindered the verification of underlying assumptions of BIA (e.g., nutrition, hydration, and exercise status; Kyle et al., 2004), and prevented the assessment of interrater reliability and technical error of measurement. Despite these limitations, this project offers a solid foundation for future research to expand this line of inquiry.

## FUTURE RESEARCH DIRECTIONS

To increase cross-cultural extensions of this research, future studies should examine the models from Studies 1 and 2 across diverse sport populations. A notable avenue for further inquiry entails investigating these model relationships among comparable samples of athletes from aesthetic and non-aesthetic sports. Such investigations could shed light on how these relationships manifest within sport environments that emphasize appearance versus functionality. Likewise, the diverse participant demographics covered in both studies – spanning various ages, sport types and levels, and residential locations – establish a foundation for more nuanced inquiries into how these relationships unfold within specific athlete subgroups. These investigations could aid in the identification of key moderating variables pertinent to the hypothesized models. Moreover, further research is needed to cross-validate these models with additional samples of Jamaican and Botswana athletes. This is especially relevant for the model examined in Study 2, given its less-than-exact fit to the data. Examining this model at the team level could further uncover how group-level factors contribute to observed relationships.

Future longitudinal research is recommended to investigate the temporal associations among the variables examined in both studies. Given the preliminary nature of Study 2, alongside the emphasis on maintaining conceptual clarity, statistical indirect effects were not tested. Thus, future longitudinal studies could provide valuable insights into the indirect associations among these variables. To address the temporal instability of sport-confidence, future research should aim to assess this construct pre, during, and post-competition or play (Levy et al., 2011). Such an investigation could reveal fluctuations in model relationships at various stages of sporting events. For more precise and comprehensive assessments of performance, future studies could incorporate objective measures across four key areas – physical, mental, technical, and tactical skills (Carling

et al., 2008). Additionally, in field-based research, where it may be impractical to meet some assumptions of BIA, alternative methods, such as skinfold measurements, could be considered for assessing percent body fat (Eliakim et al., 2000). Furthermore, employing evaluative methods such as somatotype assessments could offer additional insights into how body shape and composition contribute to athletes' perceptions of positive body image. To avoid encountering logistical challenges similar to those in Study 2, researchers may consider securing adequate equipment, ensuring sufficient breaks in participants' schedules to accommodate measurements, and training a sufficient number of personnel to assess body composition.

## CONCLUSIONS

Three major conclusions can be drawn from the combined results of this dissertation. First, when examined within the framework of the Sport-Confidence Model (Vealey et al., 1998; Vealey & Knight, 2002), body and functionality appreciation emerged as significant contributors to athletes' sport-confidence. These findings support extending the Sport-Confidence Model to examine core facets of positive body image in relation to sport-confidence, moving beyond its current appearance-based focus. Second, these studies identified sport-confidence as an important psychosocial factor contributing to successful performance in Jamaican and Botswana athletes. Multidimensional assessments of sport-confidence offer a more nuanced understanding of this relationship, as diverse social-cognitive demands in sport may lead to the prioritization of certain confidence dimensions over others (Vealey & Knight, 2002). Third, these studies provide evidence of the applicability of Sport-Confidence Model (Vealey et al., 1998; Vealey & Knight, 2002) predictions to the Jamaican and Botswana contexts, supporting its utility in understanding relationships among positive body image, sport-confidence, and performance, and guiding subsequent interventions.

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# APPENDIX A: Permission to use Published Manuscript in Dissertation

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APPENDIX B: Demographic Information Questionnaire – Study 1

Date: _____

1. Age: _____

2. Weight (pounds): _____

3. Height (feet and inches): _____

4. Gender Identity *(indicate the appropriate response)*
   a. Female
   b. Male
   c. Other *(please specify):* _____

5. What is your highest level of education? *(indicate the appropriate response)*
   a. No education
   b. Primary
   c. Jnr. Secondary/Incomplete School
   d. High School
   e. Bachelor's Degree or equivalent
   f. Master's Degree or equivalent
   g. Doctoral Degree or equivalent
   h. Other *(please specify)*: _____ _____

6. What is your current employment status? ***(tick all that apply)***
   a. Full-time employment
   b. Part-time employment
   c. Self-employed
   d. Student
   e. Unemployed
   f. Other *(please specify):* _____

7. How would you classify your socioeconomic status?
   a. lower socioeconomic status
   b. middle socioeconomic status
   c. higher socioeconomic status

8. Do you currently play sports?
   a. Yes
   b. No

9. If your response to item #8 is *Yes*, give the name of the *primary* sport that you play_____

10. How many days a week did you take part in this sport over the past 7 days?
   a. Less than one day a week
   b. One day a week
   c. Several days a week

11. How long have you been playing this sport? *(indicate the appropriate response)*
    a. 0-3 months
    b. 4-7 months
    c. 8-11 months
    d. 1-4 years
    e. More than 4 years

12. Please choose the option below that **best** describes you *(choose one response only):*
    a. *Recreational athlete*: I participate in sport on a regular or inconsistent basis and do not train or compete against others regularly. My participation in sport is usually for the purpose(s) of being physically active, fun/enjoyment, and/or social engagement.

    b. *Competitive athlete:* I am a member of an organized sports team or an individual sport that requires regular training and competition against others. Athletic excellence and achievement are very important to me.

    c. *Neither:* I do not identify as an athlete.

13. What is the highest level that you have competed in your sport?
    a. International
    b. National
    c. Regional
    d. Intercollegiate
    e. High School
    f. I have never competed in my sport.

14. Are you currently experiencing a sport injury?

    a. Yes

    b. No

APPENDIX C: The Body Appreciation Scale – 2

***Directions:*** Please read each statement below carefully and select either number 1 *(never)*, 2 *(seldom)*, 3 *(sometimes)*, 4 *(often)*, or 5 *(always)*, which indicates how much each statement applies to you.

| Statements | 1 Never | 2 Seldom | 3 Sometimes | 4 Often | 5 Always |
|---|---|---|---|---|---|
| 1.  I respect my body. | | | | | |
| 2.  I feel good about my body. | | | | | |
| 3.  I feel that my body has at least some good qualities. | | | | | |
| 4.  I take a positive attitude towards my body. | | | | | |
| 5.  I am attentive to my body's needs. | | | | | |
| 6.  I feel love for my body. | | | | | |
| 7.  I appreciate the different and unique characteristics of my body. | | | | | |
| 8.  My behaviour reveals my positive attitude toward my body; for example, I hold my head high and smile. | | | | | |
| 9.  I am comfortable in my body. | | | | | |
| 10. I feel like I am beautiful even if I am different from media images of attractive people (e.g., models, actresses/actors). | | | | | |

APPENDIX D: The Functionality Appreciation Scale

*Directions:* Please read each statement below carefully and indicate how much you agree or disagree with each statement.

| Statements | 1 Strongly Disagree | 2 Disagree | 3 Neither Agree nor Disagree | 4 Agree | 5 Strongly Agree |
|---|---|---|---|---|---|
| 1. I appreciate my body for what it is capable of doing. | | | | | |
| 2. I am grateful for the health of my body, even if it isn't always as healthy as I would like it to be. | | | | | |
| 3. I appreciate that my body allows me to communicate and interact with others. | | | | | |
| 4. I acknowledge and appreciate when my body feels good and/or relaxed. | | | | | |
| 5. I am grateful that my body enables me to engage in activities that I enjoy or find important. | | | | | |
| 6. I feel that my body does so much for me. | | | | | |
| 7. I respect my body for the functions that it performs. | | | | | |

APPENDIX E: Trait Sport-Confidence Inventory

***Directions:*** Think about how self-confident you are when you compete in (or play) your sport. Answer the following questions based on how confident you generally feel when you compete (or engage) in your sport. Please try to determine how you really feel, not how you would like to feel. Compare your self-confidence level to the self-confidence level of the most self-confident athlete you know Your answers will be kept confidential. Scale: 1 = lowest; 5 = medium; 9 = highest.

Please choose a number from 1 to 9.

| | Low | | | | Medium | | | | High |
|---|---|---|---|---|---|---|---|---|---|
| 1. Compare your confidence in your ability to execute the skills to be successful to the most confident athlete you know. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 2. Compare your confidence in your ability to make critical decisions during competition (or play) to the most confident athlete you know. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 3. Compare your confidence in your ability to perform under pressure to the most confident athlete you know. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 4. Compare your confidence in your ability to execute successful strategy to the most confident athlete you know. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 5. Compare your confidence in your ability to concentrate well enough to be successful to the most confident athlete you know. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 6. Compare your confidence in your ability to adapt to different game situations and still to be successful to the most confident athlete you know. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

| | Low | | | | Medium | | | | High |
|---|---|---|---|---|---|---|---|---|---|
| 7. Compare your confidence in your ability to achieve your competitive goals to the most confident athlete you know. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 8. Compare your confidence in your ability to be successful to the most confident athlete you know. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 9. Compare your confidence in your ability to consistently be successful to the most confident athlete you know. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 10. Compare your confidence in your ability to think and respond successfully during competition (or play) to the most confident athlete you know. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 11. Compare your confidence in your ability to meet the challenge of competition (or play) to the most confident athlete you know. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 12. Compare your confidence in your ability to be successful even when the odds are against you to the most confident athlete you know. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 13. Compare your confidence in your ability to bounce back from performing poorly and be successful to the most confident athlete you know. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

APPENDIX F: Sport Performance Questionnaire

*Directions:* Think about your sport performance over your most recent athletic season (or session of play). Respond to the following items using the respective scale.

**Item 1 Response Scale:**

*10 = Extremely Successful*

*0 = Extremely Unsuccessful*

Please choose a number from 0 to 10.

*Extremely Unsuccessful*                    *Extremely Successful*

1.  For your most recent competitive season     0     1     2     3     4     5     6     7     8     9     10
    (or session of play), please rate your
    overall performance.

**Item 2 Response Scale:**

*0 = Extremely Unsatisfied*                         *10 = Extremely Satisfied*

Please choose a number from 0 to 10.

*Extremely Unsatisfied*                         *Extremely Satisfied*

2.  For your most recent competitive season     0     1     2     3     4     5     6     7     8     9     10
    (or session of play), please rate your
    overall satisfaction with your
    performance.

APPENDIX G: Demographic Information Questionnaire – 2

Date: _____

1. Age: _____

2. What is your height (cm)?: _____ **cm**

3. What is your weight (kgs.)?:_____ **kgs.**

4. Sex *(indicate the appropriate response)*
      a. Female
      b. Male
      c. Other *(please specify):* _____

5. What is your highest level of education? *(indicate the appropriate response)*
      a. Primary                                              f. Master's Degree or equivalent
      b. Junior Secondary School                  g. Doctoral Degree or equivalent
      c. Senior Secondary School                   h. Other *(please specify)*:
      d. Technical/Vocational college                 _____
      e. Bachelor's Degree or equivalent            _____

6. What is your current employment status? *(tick all that apply)*
      a. Full-time employment
      b. Part-time employment
      c. Self-employed
      d. Student
      e. Unemployed
      f. Other *(please specify):* _____

7. Do you currently play sports?
      a. Yes                                                      b. No

8. If your response to item #8 is *Yes*, give the name of the *primary* sport that you
      play_____

9. If your primary sport is **track** or **swimming**, please indicate the name of your *main* event
      (e.g., sprints, relay, backstroke, medley relay)
      _____

10. How many days a week did you take part in this sport over the past 7 days?
      a. Less than one day a week
      b. One day a week
      c. Several days a week

11. How long have you been playing this sport? *(indicate the appropriate response)*
      a. 0-3 months                                          b. 4-7 months

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    c.  8-11 months                                                 e.  More than 4 years

    d.  1-4 years

12. Please choose the option below that **best** describes you *(choose one response only):*

    a.  *Recreational athlete*: I participate in sport on a regular or inconsistent basis and do not train or compete against others regularly. My participation in sport is usually for the purpose(s) of being physically active, fun/enjoyment, and/or social engagement.

    b.  *Competitive athlete:* I am a member of an organized sports team or an individual sport that requires regular training and competition against others. Athletic excellence and achievement are very important to me.

    c.  *Neither:* I do not identify as an athlete.

13. What is the highest level that you have competed in your sport?

    g.  International                                     k.  High School

    h.  National                                        l.  I have never competed in my

    i.  Regional                                               sport.

    j.  Intercollegiate

14. Do you have a coach?

    a.  Yes                                                 b.  No

15. What is the first and last name of your coach (this information will only be used to group you with your other teammates)?

_____

16. How long have you been working with your current coach? *(indicate the appropriate response)*

    a.  0-3 months                                  d.  1-4 years

    b.  4-7 months                                  e.  More than 4 years

    c.  8-11 months

17. In what town or village is your sports team located?

_____

18. Do you have teammates or training colleagues (i.e., other athletes on your broader sports team, club, or department that you play or train with)?

    a.  Yes                                                 b.  No

19. What is the name of your sports team (this information will only be used to group you with your other teammates)?_____

20. How long have you been training/competing with your current teammates?

    a.  0-3 months                                  b.  4-7 months

c. 8-11 months
d. 1-4 years

e. More than 4 year

*Directions:* The questionnaire below is about the way in which your coaches and teammates relate to your body and its physical characteristics or features, including shape, size, height, skin tone, build (e.g., muscle, fat), and so on.

Please rate your agreement with each of the following statements while thinking about your coaches and teammates. Each question is repeated to allow you to provide ratings for your coaches and teammates separately. Please read each statement carefully and select either number 1 *(never)*, 2 *(seldom)*, 3 *(sometimes)*, 4 *(often)*, or 5 *(always)*, which indicates how much each statement applies to you.

| Statements | 1<br>Never | 2<br>Seldom | 3<br>Sometimes | 4<br>Often | 5<br>Always |
|---|---|---|---|---|---|
| 1. I feel acceptance from my **coach** regarding my body. | | | | | |
| 2. I feel acceptance from my **teammates** regarding my body. | | | | | |
| 3. I believe that my **coach** values my body as it is, without trying to change it. | | | | | |
| 4. I believe that my **teammates** value my body as it is, without trying to change it. | | | | | |
| 5. I believe that my **coach** trusts me to do what is best for myself regarding my body. | | | | | |
| 6. I believe that my **teammates** trust me to do what is best for myself regarding my body. | | | | | |
| 7. I believe that my **coach** is accepting of my body without comparing me to other people. | | | | | |
| 8. I believe that my **teammates** are accepting of my body without comparing me to other people. | | | | | |
| 9. I don't have to change my body to feel accepted by my **coach**. | | | | | |
| 10. I don't have to change my body to feel accepted by my **teammates**. | | | | | |

| Statements | 1 Never | 2 Seldom | 3 Sometimes | 4 Often | 5 Always |
|---|---|---|---|---|---|
| 11. I believe that my **coach** embraces and cherishes my body. | | | | | |
| 12. I believe that my **teammates** embrace and cherish my body. | | | | | |
| 13. My **coach** helps me feel calm and contented toward my body, rather than worried about it. | | | | | |
| 14. My **teammates** help me feel calm and contented toward my body, rather than worried about it. | | | | | |
| 15. I believe that my **coach** respects my body. | | | | | |
| 16. I believe that my **teammates** respect my body. | | | | | |
| 17. I get the feeling that my **coach** likes my body as it is, even if they don't say anything. | | | | | |
| 18. I get the feeling that my **teammates** like my body as it is, even if they don't say anything. | | | | | |
| 19. I believe that my **coach** appreciates my unique body. | | | | | |
| 20. I believe that my **teammates** appreciate my unique body. | | | | | |
| 21. My **coach** helps me feel comfortable regarding my body. | | | | | |
| 22. My **teammates** help me feel comfortable regarding my body. | | | | | |
| 23. I can count on my **coach** to accept my body. | | | | | |
| 24. I can count on my **teammates** to accept my body. | | | | | |
| 25. My **coach** refrains from criticizing or critiquing my body. | | | | | |
| 26. My **teammates** refrain from criticizing or critiquing my body. | | | | | |

APPENDIX I: Permission to Adapt the Body Acceptance by Others Scale – 2

**Re: Permission to Adapt the BAOS-2 for use with Coaches and Athletes**

Swami, Viren <viren.swami@aru.ac.uk>
Sat 3/25/2023 5:41 AM
To: Ricketts, Chelsi <ricket41@msu.edu>

Hi Chelsi,

I'm happy to give you permission to do so. Good luck with your research!

All the best,
Viren

**Viren Swami | FHEA CPsychol AFBPsS**

**Professor of Social Psychology | Director, ARU Centre for Societies and Groups**
School of Psychology and Sport Science
Anglia Ruskin University
Cambridge CB1 1PT
United Kingdom

**Adjunct Professor | Director, Centre for Psychological Medicine**
Perdana University
Wisma Chase Perdana
Changkat Semantan, Damansara Heights
50490 Kuala Lumpur
Malaysia

E: viren.swami@aru.ac.uk | T: +44 (0) 1245 684357 | W: aru.ac.uk/people/viren-swami

From: Ricketts, Chelsi <ricket41@msu.edu>
Sent: 24 March 2023 20:46
To: Swami, Viren <viren.swami@aru.ac.uk>
Subject: Permission to Adapt the BAOS-2 for use with Coaches and Athletes

Dear Professor Swami,

I hope that this email finds you well. My name is Chelsi Ricketts, and I am a Doctoral Candidate in Kinesiology at Michigan State University. As I prepare for my dissertation research, which centers around athlete body image, I wanted to reach out to seek your permission to adapt the BAOS-2 for use with coaches and athletes. This would only include making adaptations to items to elicit distinct ratings specific to perceived body acceptance by coaches and teammates.

Thank you for taking the time out to read my email. Please let me know if you have any questions or need any additional information. I look forward to hearing from you.

Have a lovely weekend.

Best regards,

Chelsi

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Athletes need many different abilities to succeed (e.g., physical skills, mental focus, optimal fitness). In this survey, you are asked to assess many of **your abilities as an athlete**.

Read the example item listed below, and then decide **how certain you are** that you can **successfully** do what is described in that item. Consider **"success"** to be whatever you define as successful for you (your **personal definition of success**).

**Respond to each item based on how you TYPICALLY FEEL about your abilities in your sport.**

Use the continuum shown below to guide your self-assessment.

| 7 | 6 | 5 | 4 | 3 | 2 | 1 |
|---|---|---|---|---|---|---|
| **Totally Certain** (Absolutely Sure I Can Without a Doubt) | **Very Certain** (Very Sure I Can) | **Fairly Certain** (I Feel Like I Can) | **Maybe I Can** | **Fairly Uncertain** (I Have Doubts) | **Very Uncertain** (Pretty Sure I Can't) | **Can't Do It At All** (Absolutely Not At All) |
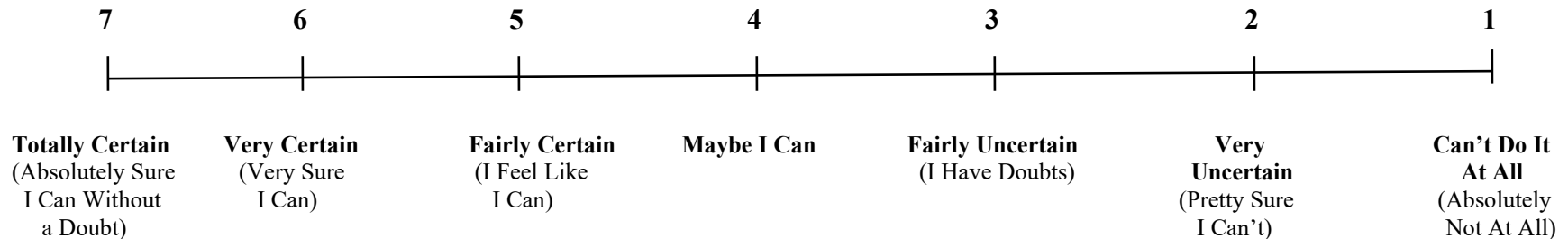
Keep in mind that 7 and 1 represent **absolute levels** in which you are totally certain that you can do this or absolutely sure that you cannot.

On the following page, read each item and **circle the number** that represents **HOW CERTAIN YOU FEEL** that you can do what is described in that item.

**Your answers will be kept strictly confidential**. Please answer as **you really feel** being totally honest (as opposed to answering as you would LIKE to feel or think that you are SUPPOSED to feel). All athletes are different in their abilities, and **there are no right or wrong responses**.

| 7 | 6 | 5 | 4 | 3 | 2 | 1 |
|---|---|---|---|---|---|---|
| **Totally Certain** (Absolutely Sure I Can Without a Doubt) | **Very Certain** (Very Sure I Can) | **Fairly Certain** (I Feel Like I Can) | **Maybe I Can** | **Fairly Uncertain** (I Have Doubts) | **Very Uncertain** (Pretty Sure I Can't) | **Can't Do It At All** (Absolutely Not At All) |

## HOW CERTAIN ARE YOU THAT ...

**7**   **totally certain** (ABSOLUTELY sure I CAN without a doubt)
**6**   **very certain** (VERY SURE I CAN)
**5**   **fairly certain** (I feel like I CAN)

(CIRCLE ONLY **ONE** NUMBER FOR EACH ITEM)

**4**   **MAYBE I can**
**3**   **fairly uncertain** (I have DOUBTS)
**2**   **very uncertain** (PRETTY SURE I CAN'T)
**1**   **can't do it at all** (ABSOLUTELY NOT AT ALL)

1   you can **execute** the **physical skills** necessary to succeed?........................................ 7   6   5   4   3   2   1

2   you can keep **mentally focused** throughout the competitive event (or game)? ........ 7   6   5   4   3   2   1

3   you can **bounce back** from performing poorly to successfully execute your skills?.. 7   6   5   4   3   2   1

4   your **physical training** has **prepared** you enough to succeed? ............................... 7   6   5   4   3   2   1

5   you can successfully **make critical decisions** during competition (or play) ? ....... 7   6   5   4   3   2   1

6   you can **regain your mental focus** after a performance **error**? ............................. 7   6   5   4   3   2   1

7   your **physical fitness level** will allow you to compete successfully? .................. 7   6   5   4   3   2   1

8   you can effectively **use strategy** needed to succeed? ........................................ 7   6   5   4   3   2   1

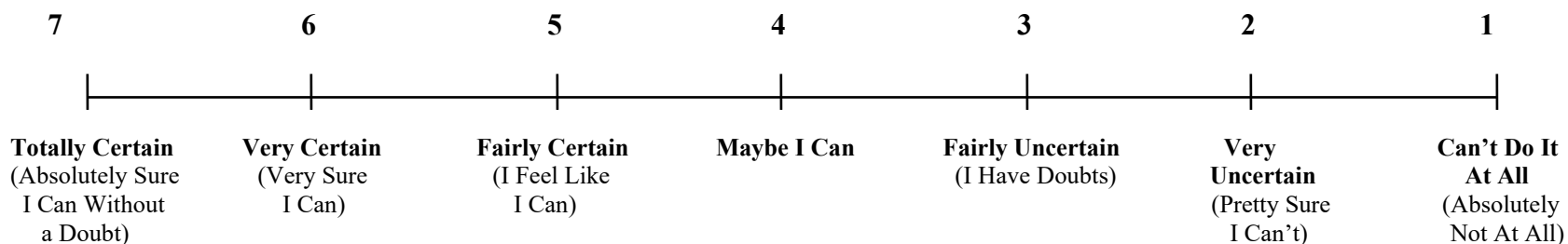| 7 | 6 | 5 | 4 | 3 | 2 | 1 |
|---|---|---|---|---|---|---|
| **Totally Certain** (Absolutely Sure I Can Without a Doubt) | **Very Certain** (Very Sure I Can) | **Fairly Certain** (I Feel Like I Can) | **Maybe I Can** | **Fairly Uncertain** (I Have Doubts) | **Very Uncertain** (Pretty Sure I Can't) | **Can't Do It At All** (Absolutely Not At All) |

## HOW CERTAIN ARE YOU THAT ...

(CIRCLE ONLY **ONE** NUMBER FOR EACH ITEM)

| | |
|---|---|
| 7 | **totally certain** (ABSOLUTELY sure I CAN without a doubt) |
| 6 | **very certain** (VERY SURE I CAN) |
| 5 | **fairly certain** (I feel like I CAN) |
| 4 | **MAYBE I can** |
| 3 | **fairly uncertain** (I have DOUBTS) |
| 2 | **very uncertain** (PRETTY SURE I CAN'T) |
| 1 | **can't do it at all** (ABSOLUTELY NOT AT ALL) |

9   you can **overcome doubt** after a poor performance? ................................................ 7   6   5   4   3   2   1

10  you can successfully **perform the physical skills** required in your sport? ................. 7   6   5   4   3   2   1

11  you can **maintain the mental focus** needed to perform successfully? ......................... 7   6   5   4   3   2   1

12  you can **overcome problems and setbacks** to perform successfully? ......................... 7   6   5   4   3   2   1

13  you have the **physical preparation** that is needed to compete (or play) successfully?  7   6   5   4   3   2   1

14  you can successfully **manage your nervousness** so that it doesn't hurt your
performance? ................................................................................................................ 7   6   5   4   3   2   1

# APPENDIX K: Permission to Use the Sport- Confidence Inventory

## Re: Permissions: Adapt Sport-Confidence Model and use Sport-Confidence Inventory in Dissertation Research

Vealey, Robin <vealeyrs@miamioh.edu>
Fri 3/24/2023 9:42 AM
To: Ricketts, Chelsi <ricket41@msu.edu>

▌ 4 attachments (197 KB)
SCI-4.docx; SCIscoring.docx; SCIframes.docx; SCImanuscript.docx;

Hi Chelsi,

Of course, absolutely! I've attached the SCI and a couple of other files. Send any questions if you have them. Best wishes on your study.

Robin

On Fri, Mar 24, 2023 at 9:33 AM Ricketts, Chelsi <ricket41@msu.edu> wrote:

Dear Dr Vealey,

I hope that this email finds you well. My name is Chelsi Ricketts, and I am a Doctoral candidate at Michigan State University. I am studying with Dr Leapetswe Malete, and I also work closely with Dr Nick Myers. My work looks at extending the Sport-Confidence Model to understudied populations (e.g., Jamaica and Botswana), while expanding the physical self-presentation construct to include core features of a positive body image. As I prepare for my dissertation work, I wanted to reach out to gain your permission to include the Sport-Confidence Model figure in my Dissertation document and any potential publication that may result from the prospective study. Additionally, I wanted to gain your permission to use and access the Sport-Confidence Inventory, as I am interested in assessing multidimensional sport-confidence.

Thank you for taking the time out to read my email. I look forward to hearing from you and I am open to any questions or conversations.

Have a lovely weekend!

Best regards,
Chelsi


**Chelsi Ricketts, M. Sc.**
Doctoral Candidate, Department of Kinesiology
*Michigan State University*
Institute for the Study of Youth Sport


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APPENDIX L: Study 2 Supplementary Material[6]

Supplemental Table 1. *Summary of Total, Total Indirect, and Specific Indirect Effects for SC-Physical Skills and Training*

| Path | Estimate | 95% CI Lower | 95% CI Upper |
|---|---|---|---|
| **Effects from BABC to SC-PST** | | | |
| Total Effect | 0.45 | 0.07 | 0.97 |
| Total Indirect Effect | 0.45 | 0.07 | 0.97 |
| Specific Indirect Effect | | | |
| BA | 0.29 | 0.03 | 0.76 |
| FA | 0.16 | 0.01 | 0.46 |
| **Effects from BABT to SC-PST** | | | |
| Total Effect | 0.44 | 0.07 | 0.82 |
| Total Indirect Effect | 0.44 | 0.07 | 0.82 |
| Specific Indirect Effect | | | |
| BA | 0.26 | 0.05 | 0.63 |
| FA | 0.17 | 0.01 | 0.52 |

*Note.* CI = confidence interval; BABC = perceived body acceptance by coaches; BABT = perceived body acceptance by teammates; BA = body appreciation; FA = functionality appreciation; SC-PST = SC-physical skills and training.

Supplemental Table 2. *Summary of Total, Total Indirect, and Specific Indirect Effects for SC-Cognitive Efficiency*

| Path | Estimate | 95% CI Lower | 95% CI Upper |
|---|---|---|---|
| **Effects from BABC to SC-CE** | | | |
| Total Effect | 0.30 | 0.05 | 0.68 |
| Total Indirect Effect | 0.30 | 0.05 | 0.68 |
| Specific Indirect Effect | | | |
| BA | 0.19 | 0.03 | 0.50 |
| FA | 0.11 | 0.00 | 0.36 |
| **Effects from BABT to SC-CE** | | | |
| Total Effect | 0.43 | 0.08 | 0.54 |
| Total Indirect Effect | 0.43 | 0.08 | 0.54 |
| Specific Indirect Effect | | | |
| BA | 0.29 | 0.02 | 0.40 |
| FA | 0.14 | 0.01 | 0.35 |

*Note.* CI = confidence interval; BABC = perceived body acceptance by coaches; BABT = perceived body acceptance by teammates; BA = body appreciation; FA = functionality appreciation; SC-CE = SC-cognitive efficiency.

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[6] Statistical indirect effects were tested using maximum likelihood estimation, requesting 2000 bias-corrected bootstrapped replications, and 95% bias-corrected bootstrapped confidence intervals. Indirect effects are considered significant if the 95% confidence interval does not include zero.

Supplemental Table 3. *Summary of Total, Total Indirect, and Specific Indirect Effects for SC-Resilience*

| Path | Estimate | 95% CI Lower | 95% CI Upper |
|---|---|---|---|
| **Effects from BABC to SC-R** | | | |
| Total Effect | 0.43 | 0.05 | 0.86 |
| Total Indirect Effect | 0.43 | 0.05 | 0.86 |
| Specific Indirect Effect | | | |
| BA | 0.29 | 0.04 | 0.78 |
| FA | 0.14 | -0.01 | 0.55 |
| **Effects from BABT to SC-R** | | | |
| Total Effect | 0.29 | 0.10 | 0.81 |
| Total Indirect Effect | 0.29 | 0.10 | 0.81 |
| Specific Indirect Effect | | | |
| BA | 0.17 | 0.04 | 0.68 |
| FA | 0.11 | 0.00 | 0.45 |

*Note.* CI = confidence interval; BABC = perceived body acceptance by coaches; BABT = perceived body acceptance by teammates; BA = body appreciation; FA = functionality appreciation; SC-R = SC-resilience.

Supplemental Table 4. *Summary of Total, Total Indirect, and Specific Indirect Effects for Sport Performance Evaluations*

| Path | Estimate | 95% CI Lower | 95% CI Upper |
|---|---|---|---|
| **Effects from BABC to SPE** | | | |
| Total Effect | 0.14 | 0.02 | 0.37 |
| Total Indirect Effect | 0.14 | 0.02 | 0.37 |
| Specific Indirect Effect | | | |
| BA → SC-PST | 0.04 | 0.00 | 0.18 |
| FA → SC-PST | 0.02 | 0.00 | 0.11 |
| BA → SC-CE | 0.06 | 0.01 | 0.19 |
| FA → SC-CE | 0.34 | 0.00 | 0.14 |
| BA → SC-R | -0.01 | -0.11 | 0.03 |
| FA → SC-R | -0.01 | -0.05 | 0.01 |
| **Effects from BABT to SPE** | | | |
| Total Effect | 0.14 | 0.03 | 0.29 |
| Total Indirect Effect | 0.14 | 0.03 | 0.29 |
| Specific Indirect Effect | | | |
| BA → SC-PST | 0.04 | 0.00 | 0.14 |
| FA → SC-PST | 0.03 | 0.00 | 0.12 |
| BA → SC-CE | 0.06 | 0.01 | 0.17 |
| FA → SC-CE | 0.04 | 0.00 | 0.14 |
| BA → SC-R | -0.01 | -0.10 | 0.02 |
| FA → SC-R | -0.01 | -0.05 | 0.01 |
| **Effects from BA to SPE** | | | |
| Total Effect | 0.52 | 0.20 | 0.97 |

Supplemental Table 4 (cont'd)

| | | | |
|---|---|---|---|
| Total Indirect Effect | 0.52 | 0.20 | 0.97 |
| Specific Indirect Effect | | | |
|    SC-PST | 0.24 | 0.01 | 0.62 |
|    SC-CE | 0.34 | 0.10 | 0.75 |
|    SC-R | -0.07 | -0.43 | 0.17 |
| **Effects from FA to SPE** | | | |
|   Total Effect | 0.36 | 0.03 | 0.78 |
|   Total Indirect Effect | 0.36 | 0.03 | 0.78 |
|   Specific Indirect Effect | | | |
|    SC-PST | 0.17 | -0.01 | 0.54 |
|    SC-CE | 0.24 | 0.00 | 0.61 |
|    SC-R | -0.04 | -0.25 | 0.11 |

*Note.* CI = confidence interval; BABC = perceived body acceptance by coaches; BABT = perceived body acceptance by teammates; BA = body appreciation; FA = functionality appreciation; SC-PST = SC-physical skills and training; SC-CE = SC-cognitive efficiency; SC-R = SC-resilience; SPE = sport performance evaluations.