Int. J. Sport Psychol., 2021; 52: 287-309
doi: 10.7352/IJSP.2021.52.287

Self-compassion plays a role in Canadian women athletes' body appreciation and intuitive eating: A mixed methods approach

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Researchers propose self-compassion as a resource for athletes; yet, it remains unclear how self-compassion relates to athletes' positive body and eating experiences in sport. The purpose of this research was to explore the role of self-compassion in Canadian women athletes' body appreciation and intuitive eating, applying an explanatory sequential mixed methods design. Quantitative results (n=90) highlight that self-compassion was positively related to body appreciation (r=.68, p< .01) and intuitive eating (r=.53, p< .01) and negatively related to disordered eating (r=-.59, p< .01), compulsive exercise (r=-.37, p< .01), and state self-criticism (r=-.45, p< .01). Further, self-compassion contributed beyond self-esteem in study variables (ΔR^2s .04 to .09, ps <.01). Three generated themes highlight women's experiences (n=6): (a) the uniqueness of sport, (b) compassionate awareness, and (c) personalized expectations. The findings highlight that self-compassion plays a role in Canadian women athletes' body and eating attitudes by promoting adaptive perspectives, and protecting and facilitating well-being.

KEY WORDS: Body image, Female athletes, Positive psychology, Sport, Well-being.

Sport participation can be a positive experience for women, often including physical, psychological, and social benefits such as healthy cardiovascular function, satisfaction of psychological needs, and social development (e.g., Bartholomew, Ntoumanis, Ryan, & Thøgersen-Ntoumani, 2011). However, women in sport also face potential psychological challenges related

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to self-criticism, harsh evaluations, and performance expectations (e.g., Bartholomew et al., 2011) that can negatively affect their athletic experiences (Bartholomew et al., 2011; De Souza et al., 2014). Body and eating psychopathologies, for instance, are prominent in sport and can manifest in athletes' attitudes and behaviors towards their bodies, eating, and training (Gordon & LeBoff, 2015; Plateau et al., 2014).

Self-compassion provides a unique lens for self-examination and is described as "being touched by and open to one's own suffering, not avoiding or disconnecting from it, generating the desire to alleviate one's suffering and to heal oneself with kindness" (Neff, 2003a, p.87). Together the components of self-compassion (i.e., self-kindness – being kind and understanding toward the self; common humanity – perceiving experiences as connected to other people; and mindfulness – holding thoughts and feelings in a state of balanced awareness) should protect against self-judgment, feelings of isolation, and rumination (Neff, 2003a). Self-compassion has been proposed as a valuable resource for women athletes to manage emotionally challenging and difficult sport experiences, particularly related to harsh self-evaluation and self-criticism (e.g., Eke, Adam, Kowalski, & Ferguson, 2020; Mosewich, Crocker, Kowalski, & DeLongis, 2013).

Research with women athletes highlights that self-compassion contributes to lower self-criticism (Mosewich et al., 2013). It is possible that women athletes could experience lower levels of compulsive exercise and eating psychopathologies through self-compassion, as self-compassion encourages less social comparison and increased self-awareness (Neff, 2003a, 2003b). Further, it is possible that self-compassion can provide a buffer against the desire to control ones' appearance through exercise or eating behaviors through the promotion of self-kindness, common humanity, and mindfulness. However, it is unknown how self-compassion and the sub-components might promote body appreciation and intuitive eating among athletes.

Body appreciation is a construct representing positive body image, focusing on less critical self-attitudes (Avalos, Tylka, & Wood-Barcalow, 2005). Body appreciation requires that people "(a) hold favorable opinions of their bodies, (b) accept their bodies in spite of their weight, body shape, and imperfections, (c) respect their bodies by attending to their body's needs and engaging in healthy behaviors, and (d) protect their body image by rejecting unrealistic images of the thin-ideal prototype" (Avalos et al., 2005, p.287). Body appreciation is of particular interest to women athletes because it conceptually includes aspects of other positive body image constructs, such as feeling good about the body regardless of shape or size (e.g., body pride), protecting one's body image by rejecting "ideals" (e.g., body-esteem),

and having positive opinions about the body and what it can do (e.g., body competence; Avalos et al., 2005).

Eating attitudes and behaviors are important correlates of women athletes' physical and psychological health and well-being (e.g., Gordon & LeBoff, 2015). One construct of adaptive eating attitudes and behaviors is intuitive eating (Tylka & Kroon Van Diest, 2013). Intuitive eating shares similarities to both self-compassion and body appreciation in that it is also informed by positive psychology and is associated with lower levels of self-criticism and increased self-awareness (Tylka & Kroon Van Diest, 2013). Intuitive eating is described as eating attitudes and behaviors that are based on physiological signals (Tylka & Kroon Van Diest, 2013). There are four components of intuitive eating: (a) eating for physical reasons, (b) unconditional permission to eat, (c) reliance of hunger and satiation cues, and (d) body-food choice congruence – eating what the body needs (Tylka & Kroon Van Diest, 2013). Intuitive eating has been explored using the acceptance model with women athletes (Oh et al., 2012), highlighting that perceived acceptance by others fosters intuitive eating for women athletes. Further, intuitive eating is proposed as a relevant construct in sport contexts because athletes face unique nutritional requirements in sport, and intuitive eating focuses on physiologically driven eating that has the potential to highlight women athletes' adaptive eating attitudes.

It is also possible that self-compassion might play a meaningful role in women athletes' body appreciation and intuitive eating by helping women to look within to gain an appreciation of the body through mindful-awareness (Avalos et al., 2005; Neff, 2003b). Experiencing sport in a self-compassionate way has the potential to promote positive body image, while protecting women from body dissatisfaction through increased self-kindness and protection against self-criticism (Neff, 2003a, 2003b). Mindfulness buffers against over-identifying with hard thoughts, emotions, and experiences (Neff, 2003a), potentially offering a key link to women athletes' intuitive eating. Being mindfully aware of bodily requirements could help women athletes to eat in physiologically driven ways, as well as help to prevent over identifying with eating choices and attitudes (e.g., obsessing over a "bad" food choice). Taken together, the theoretical and empirical evidence to date suggests that self-compassion might be a particularly important construct to consider in research on women athletes' body appreciation and intuitive eating.

Overall Design

We applied an explanatory sequential mixed methods design (Creswell & Plano-Clark, 2018). Adopting a mixed methods approach allowed us to

integrate women athletes' unique sport experiences with key constructs of interest (Sparkes, 2015). Aligned with mixed methods approaches, this study was completed with a pragmatic interpretive framework (Creswell & Plano Clark, 2011, 2018) and is presented utilizing a recommended structure for mixed methods designs (Creswell & Plano Clark, 2011). Specifically, pragmatism promotes design and decision-making focused on the outcomes of research, the question posed, and the application of multiple methods of data collection (Creswell & Plano Clark, 2011, 2018). Pragmatic and mixed methods approaches have been identified as a valuable way to advance the literature within sport and exercise psychology (Moran, Matthews, & Kirby, 2011; Sparkes, 2015).

Quantitative Phase

The purpose of the quantitative phase was to examine the relationships between self-compassion and women athletes' body appreciation, intuitive eating, and aspects of well-being (i.e., eating psychopathologies, compulsive exercise, and self-criticism). *Hypothesis 1* was that self-compassion would be positively correlated with women athletes' body appreciation and intuitive eating and be negatively correlated with disordered eating, compulsive exercise, and self-criticism. *Hypothesis 2* was that self-compassion would contribute unique variance beyond self-esteem, after controlling for age and Body Mass Index (BMI), in women athletes' body appreciation, intuitive eating, disordered eating, compulsive exercise, and self-criticism.

Participants

Woman athletes living in Canada were invited to participate if they were 18 to 35 years with at least two years of sport-specific experience, had competed in the past 12 months, and were currently competing at a level ranging from local to international, and were not currently pregnant or lactating. The 90 women were between 18.3 and 27.5 years old (M_{age} = 21.3, SD = 2.3) with BMI's between 13.8 to 29.5 kg/m^2 (M_{BMI} = 19.5, SD = 3.1), and were predominantly white (95%) and Canadian (95%). The women identified a variety of team/individual and aesthetic/non-aesthetic primary sports (e.g., volleyball, track and field, dance, and cheerleading). They reported currently competing at the local (n = 28), provincial (n = 22), regional (n = 13), national (n = 19), elite for age (n = 3), and international (n = 5) levels.

Measures

Demographic Survey

Demographic information was collected from participants, including age, self-reported height and weight, sport involvement including their primary sport, their position or role in their sport, length of sport participation, and competition level (highest and current).

Self-Compassion

The Self-Compassion Scale (SCS) is a 26-item scale consisting of six subscales, which together represent self-compassion: self-kindness (5 items; e.g., "I'm tolerant of my own flaws and inadequacies"), self-judgment (5 items; e.g., "when times are really difficult, I tend to be tough on myself"), mindfulness (4 items; e.g., "when something upsets me I try to keep my emotions in balance"), over-identification (4 items; e.g., "when something upsets me I get carried away with my feelings"), common humanity (4 items; e.g., "I try to see my failings as part of the human condition"), and isolation (4 items; e.g., "when I fail at something that's important to me I tend to feel alone in my failure"; Neff, 2003b, p.231-232). Responses range from 1 (almost never) to 5 (almost always). Subscale means are calculated with original responses, while the composite score is calculated after reverse coding negative items. Higher composite scores represent higher self-compassion. Internal consistency of scores on the SCS in three different samples of women athletes has been reported between $\alpha = .79$ and $\alpha = .93$ (Ferguson, Kowalski, Mack, & Sabiston, 2015; Mosewich et al., 2011; Mosewich et al., 2013).

Self-Esteem

The Rosenberg Self-Esteem Scale (RSES) is a 10-item scale (e.g., "I feel that I'm a person of worth, at least on an equal plane with others"; Rosenberg, 1965); with responses *from 3 (strongly agree) to 0 (strongly disagree). RSES composite scores were calculated after reverse coding negatively worded items, higher composites represent higher self-esteem. Internal consistency is reported between* $\alpha = .83$ *and* $\alpha = .93$ *for women athletes (Mosewich et al., 2011; Reis et al., 2015*).

Body Appreciation

The Body Appreciation Scale (BAS[1]) is a 13-item measure (e.g., "On the whole, I am satisfied with my body"; Avalos et al., 2005). Responses range from

[1] This research was completed prior to the publication of the second version of the BAS.

1 (never) to 5 (always), with negatively worded items reverse coded. Items are then averaged to calculate a final BAS score, with higher scores representing higher levels of body appreciation. Internal consistency for women athletes' BAS scores has been reported at $\alpha = .92$ (Ferguson et al., 2015).

Intuitive Eeating Scale -2

The Intuitive Eating Scale-2 (IES-2) is a 23-item measure, addressing four components of intuitive eating: eating for physical reasons (8 items; e.g., "When I am bored, I do NOT eat just for something to do"), unconditional permission to eat (6 items; e.g., "I allow myself to eat what food I desire at the moment"), reliance on hunger and satiety cues (6 items; e.g., "I rely on my hunger signals to tell me when to eat") and body-food choice congruence (3 items; e.g., "most of the time I desire to eat nutritious foods"; Tylka & Kroon Van Diest, 2013). Responses range from 1 (strongly disagree) to 5 (strongly agree). To score the IES-2, negative items are reverse coded and mean scores are calculated, with higher scores representing higher levels of intuitive eating. Internal consistency was assessed in a general sample and is reported as $\alpha = .87$ (Tylka & Kroon Van Diest, 2013).

Disordered Eating

The Eating Disorder Examination Questionnaire (EDE-Q), an indicator of eating psychopathology, is a 28-item measure addressing four behavioral aspects of disordered eating: restraint (5 items; e.g., "have you been deliberately *trying* to limit the amount of food you eat to influence your shape or weight [whether or not you have succeeded]?"), shape concern (8 items; e.g., "has thinking about *shape or weight* made it very difficult to concentrate on things you are interested in [for example, working, following a conversation, or reading]?"), weight concern (5 items; e.g., "has your *weight* influenced how you think about [judge] yourself as a person?"), and eating concern (5 items; e.g., "have you had a definite fear of losing control over eating?"; Fairburn & Beglin, 1994). Psychometric evaluation for the EDE-Q has shown that the scores from the measure have evidence of internal consistency, reliability, and validity (Berg, Peterson, Frazier, & Crow, 2012; Luce & Crowther, 1999). Higher EDE-Q scores represent higher levels of disordered eating. Internal consistency for athletes is reported as $\alpha = .91$ (Plateau et al., 2014).

Compulsive Exercise

The Compulsive Exercise Test-Athlete Version (CET-AV) is a revised version of the compulsive exercise test that was adapted for athletes (Plateau

et al., 2014). The CET-AV is a 15-item measure with three subscales: avoidance of negative affect (6 items; e.g., "if I cannot exercise I feel low or depressed"), mood improvement (5 items; e.g., "exercise improves my mood"), and weight control exercise (4 items; e.g., "if I feel I have eaten too much, I will do more exercise"). Responses range from 0 (never true) to 5 (always true), and higher scores indicate greater compulsivity related to athletes' exercise behavior. The CET-AV produces both subscale scores and a global score (Plateau et al., 2014). Subscale mean scores are calculated, and then the three domains are summed for a global CET-AV score. For athletes, the internal consistency for the CET-AV global score has been reported at = .62 (Plateau et al., 2014).

Self-Criticism

The self-criticism athlete version (SC-AV) scale is a 7-item measure (Mosewich et al., 2013) that asks participants to reflect on and respond to questions about a salient negative event from the past week in their sport (e.g., "How intrusive were your self-critical thoughts about a recent negative sport event?"). Responses range from 1 (not at all) to 10 (very intrusive). Before calculating means an item is reverse scored, higher mean scores represent higher levels of self-criticism (Mosewich et al., 2013). Internal consistency has been reported at $\alpha = .86$ to $\alpha = .89$ for women athletes (Killham et al., 2018; Mosewich et al., 2013).

Procedure

After gaining institutional ethical approval at a Canadian University and before proceeding to the online survey package, the women completed an online consent form.

Analysis

Prior to data analysis, data cleaning and assumption testing was completed. The data were analyzed using the Statistical Package for Social Sciences (SPSS version 21). Pearson's Correlation Coefficient was used to test the significance of relationships among self-compassion, body appreciation, intuitive eating, disordered eating, compulsive exercise, and self-criticism (Hypothesis 1). Hierarchical regression analysis was used to determine if self-compassion (Step 3) added unique variance beyond age and BMI (Step 1) and self-esteem (Step 2) on the constructs of body appreciation, intuitive eat-

ing, disordered eating, compulsive exercise, and self-criticism for women athletes (Hypothesis 2). Significance levels were set at $p < .05$ for all analyses, following Cohen's R^2 effect size conventions (Field, 2009).

Quantitative Results

Descriptive Statistics and Scale Reliabilities

Descriptive statistics and scale reliabilities are presented in Table I. No outliers were detected. The distributions for the IES-2 and the EDE-Q were normalized through logarithmic and square root transformations, as recommended by Field (2009) and Tabachnick and Fidell (2013), due to violations for skewness (values beyond +/- 2). Analyses were re-run with the transformed scales. The conclusions from the analyses with transformed scales did not differ from the non-transformed data; therefore, the original non-transformed scores are reported.

TABLE I
Quantitative descriptive statistics and scale reliabilities

Variable (Measure)	Items	Range	Mean	Median	SD	α
Self-Compassion (SCS)	26	1.92 – 4.31	2.94	2.85	0.61	.92
Self-Kindness	(5)	1.20 – 4.40	2.91	3.00	0.75	.83
Common Humanity	(4)	1.25 – 5.00	3.18	3.25	0.84	.80
Mindfulness	(4)	1.75 – 4.75	3.21	3.25	0.67	.70
Self-Judgement	(5)	1.00 – 4.80	2.66	2.6	0.83	.81
Isolation	(4)	1.00 – 4.75	2.89	3.0	0.76	.67
Over Identification	(4)	1.00 – 4.75	2.84	2.75	0.88	.77
Body Appreciation (BAS)	13	2.15 – 5.00	3.67	3.81	0.65	.91
Intuitive Eating (IES-2)	23	1.87 – 4.43	3.33	3.37	0.53	.88
Self-Esteem (RSES)	10	0.70 – 2.90	1.98	2.00	0.50	.88
Disordered Eating (EDE-Q)	28	0.06 – 4.84	1.57	1.33	1.23	.95
Restraint	(5)	0.00 – 5.00	1.15	0.80	1.22	.76
Eating concerns	(5)	0.00 – 4.80	0.91	0.40	1.10	.80
Shape concerns	(8)	0.13 – 6.00	2.38	2.00	1.65	.92
Weight concerns	(5)	0.00 – 5.20	1.85	1.50	1.55	.86
Compulsive Exercise (CET-AV)	15	2.65 – 14.75	8.63	8.55	2.60	.89
Mood improvement	(5)	1.80 – 5.00	3.86	4.00	0.86	.69
Weight control exercise	(4)	0.25 – 5.00	2.53	2.50	1.20	.84
Avoidance of negative affect	(6)	0.00 – 5.00	2.24	2.00	1.22	.90
Self-Criticism (SC-AV)	7	1.00 – 9.29	4.27	4.43	1.80	.90

Note. item # indicates the number of total scale items, while (#) indicates number of items per subscale. SCS = Self-Compassion Scale, BAS = Body Appreciation Scale, IES-2 = Intuitive Eating Scale -2, RSES = Rosenberg Self-Esteem Scale, EDE-Q = Eating Disorder Examination-Questionnaire, CET-AV = Compulsive Exercise Test-Athlete Version, and SC-AV = Self-Criticism-Athlete Version.

Hypothesis Testing

Hypothesis 1

There was support for the first hypothesis, as self-compassion was correlated in expected directions (all $p < .01$) with women athletes' body appreciation ($r = .68$, $r^2 = .46$, large effect size), intuitive eating ($r = .53$, $r^2 = .28$, large effect size), disordered eating ($r = -.59$, $r^2 = .35$, large effect size), compulsive exercise ($r = -.37$, $r^2 = .14$, medium effect size), and self-criticism ($r = -.45$, $r^2 = .20$, medium effect size) in the expected directions (see Table II). The positive sub-components of self-compassion were positively correlated with body appreciation and intuitive eating and negatively correlated with disordered eating, compulsive exercise, and self-criticism (medium to large effect sizes). Further, the negative sub-components of self-compassion were correlated with disordered eating, compulsive exercise, and self-criticism and negatively correlated with body appreciation and intuitive eating (small to large effect sizes).

Hypothesis 2

There was support for the second hypothesis, as self-compassion contributed unique variance beyond self-esteem, after controlling for age and BMI, in women athletes' body appreciation ($\Delta R^2 = .04$, $p < .001$), intuitive eating ($\Delta R^2 = .09$, $p < .001$), disordered eating ($\Delta R^2 = .09$, $p < .001$), compulsive exercise ($\Delta R^2 = .08$, $p < .01$), and self-criticism ($\Delta R^2 = .08$, $p < .01$; see Table III). Additionally, self-compassion also contributed unique variance to all four subscales of disordered eating (ΔR^2s .04 to .11, all ps $< .01$) and two of the three subscales of compulsive exercise (ΔR^2s .04 to .12, all ps $< .05$; see Table III).

Qualitative Phase

The purpose of the qualitative phase was to explore *how* self-compassion plays a role in women athletes' body appreciation and intuitive eating experiences. This phase describes in-depth lived experiences through a collective case study framework (Creswell & Poth, 2018).

Participants

Six women participated in the qualitative phase of this research. The women were between 18 and 24 years (Mage = 21.1) and had a BMI ranging

TABLE III
Correlations: Self-compassion, body appreciation, intuitive eating, self-esteem, disordered eating, compulsive exercise, and self-criticism

	1.	1a.	1b.	1c.	1d.	1e.	1f.	2.	3.	4.	5.	5.a	5.b	5.c	5.d	6.	6.a	6.b	6.c
1. Self-Compassion	- - -																		
1a. Self-kindness	.83**	- - -																	
1b. Common Humanity	.73**	.60**	- - -																
1c. Mindfulness	.71**	.63**	.74**	- - -															
1d. Self-Judgement	-.84**	-.66**	-.40**	-.35**	- - -														
1e. Isolation	-.81**	-.40**	-.34**	-.43**	.60**	- - -													
1f. Over Identification	-.70**	-.51**	-.41**	-.26*	.73**	.64**	- - -												
2. Body Appreciation	.68**	.67**	.54**	.53**	-.57**	-.37**	-.50**	- - -											
3. Intuitive Eating	.53**	.47**	.38**	.34**	-.52**	-.32**	-.41**	.64**											
4.Self-Esteem	.73**	.69**	.44**	.52**	-.64**	-.51**	-.58**	.73**	.44**	- - -									
5. Disordered Eating	-.59**	-.52**	-.37**	-.26*	.67**	.36**	.50**	-.71**	-.73**	-.51**	- - -								
5.a Restraint	-.36**	-.25*	-.20	-.02	.52**	.20	.35**	-.40**	-.62**	-.28**	.79**	- - -							
5.b Eating Concern	-.51**	-.50**	-.31**	-.21*	.54**	.31**	.40**	-.60**	-.67**	-.46**	.88**	.63**	- -						
5.c Shape Concern	-.64**	-.59**	-.42**	-.35**	.68**	.39**	.46**	-.77**	-.68**	-.56**	.94**	.60**	.77**	- - -					
5.d Weight Concern	-.56**	-.49**	-.37**	-.30**	.62**	.36**	.41**	-.70**	-.65**	-.47**	.95**	.64**	.77**	.91**	- - -				
6. Compulsive Exercise	-.38**	-.28**	-.12	-.07	.49**	.28**	.42**	-.37**	-.43**	-.25*	.54**	.42**	.52**	.51**	.47**	- - -			
6.a Mood Improvement	-.02	-.01	-.06	-.09	.07	.01	.11	.03	-.01	.05	.08	.06	.16	.05	.03	.70**	- - -		
6.bWeight Control Exercise	-.36**	-.31**	-.18	-.08	-.49**	.24*	.30**	-.55**	-.58**	-.29**	.70**	.54**	.56**	.69**	.67**	.77**	.24*	- - -	
6.c Avoidance of Negative Affect	-.44**	-.30**	-.12	-.13	-.51**	.37**	.52**	-.27**	-.33**	-.28**	.41**	.33**	.45**	.37**	.33**	.88**	.56**	.49**	- - -
7. Self-Criticism	-.45**	-.38**	-.32**	-.25*	.43**	.34**	.34**	-.44**	-.33**	-.35**	.49**	.35**	46**	.47**	47**	.25*	-.06	.30**	.27**

Note. 1=Self-Compassion, 2=Body Appreciation, 3=Intuitive Eating, 4= Self-Esteem, 5= Disordered Eating, 5.a= Restraint, 5.b= Eating Concerns, 5.c= Shape Concerns, 5.d= Weight Concerns, 6= Compulsive Exercise, 6.a= Mood Improvement, 6.b= Weight Control Exercise, 6.c= Avoidance of Negative Affect, 7= Self-Criticism
Degrees of freedom (88) *$p < 0.05$ (two-tailed), ** $p < 0.01$ (two-tailed).

TABLE III
Hierarchical Regression Analysis For The Unique Role Of Self-Compassion Beyond Self-Esteem, After Controlling For Age And BMI, In The Outcome Variables (Step Three Only)

Outcome Variable	R^2	ΔR^2	Age B	BMI B	RSES B	SCS B
Body Appreciation	.61***	.04**	-.03	-.18**	.51***	.30**
Intuitive Eating	.30***	.09**	.07	-.09	.12	.44**
Disordered Eating	.42***	.09***	-.04	.23**	-.17	-.45***
Restraint	.17**	.04*	-.15	.14	-.04	-.31*
Eating Concern	.28***	.06*	-.01	.09	-.20	-.36*
Shape Concern	.49***	.11***	.01	.24**	-.21	-.48***
Weight Concern	.42***	.09***	-.01	.32***	-.14	-.44***
Compulsive Exercise	.15**	.08**	.05	.02	.06	-.43**
Mood Improvement	.04	.01	.10	-.14	.14	-.14
Weight Control Exercise	.16**	.04*	-.05	.15	-.06	-.30*
Avoid Negative Affect	.20**	.12***	.08	<.00	.09	-.51***
Self-Criticism	.24***	.08**	-.09	.16	-.04	-.41**

Note. Table contains step three results (at step one age and BMI were entered, and at step two self-esteem was entered). BMI = Body Mass Index, RSES = Rosenberg Self-Esteem Scale, and SCS = Self-Compassion Scale
Note: Degrees of freedom at step three = 85. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.00$.

from 16.3 to 21.2 kg/m2 (MBMI = 18.2). Their primary sports were: cheerleading, long distance running, soccer, volleyball (n = 2), and wrestling. At the time of data collection, the women were competing at the local, provincial, and regional levels. Their highest level of previous **sport competition ranged from the regional to national levels. The athletes' self-selected pseudonyms were Amanda, Amy, Elise, Jane**, *Jennifer*, and *Lillian*.

PROCEDURES

Aligned with collective case study approaches that emphasize the importance of a cohesive sample to best describe shared experience, patterns, and processes (Creswell & Plano Clark, 2018; Stake, 1995). The athletes from the quantitative phase were purposefully invited to participate in the qualitative phase of this research who would have lived experiences of the constructs. Allowing us to add meaningful additional description to the research question and purpose, which is aligned specifically with explanatory sequential designs (Creswell & Plano Clark, 2011). In addition to the general inclusion criteria, to maintain clear case boundaries that promote similarity between participants so that collective and shared findings could be presented and discussed in-depth, women who (a) self-identified as high in self-compassion, body appreciation, and intuitive eating *and* (b) statistically scored above the mid-point on each of the three corresponding scales were invited to par-

ticipate in the qualitative phase. Athletes who consented completed one-on-one semi-structured interviews with a drawing activity to facilitate conversation (audio-recorded interviews ranged from 39 to 54 minutes).

Role Of The Researcher

The first author played an active role in all research processes, such as design, conducting interviews, transcription, and quantitative and qualitative analyses. Within mixed methods studies researchers play important roles in integrating multiple data types to integrate and represent multifaceted findings (Creswell & Plano Clarke, 2018). As such, it is important to note key aspects about the first author that facilitated interpretations. The first author is Canadian, applied a pragmatic lens, and is a women athlete who was currently participating in soccer and long-distance running. She also had either current or previous athletic experience between 2 (wrestling) and 20 (soccer) years in comparable or specific sports to the athletes interviewed. Finally, while the first author led the research process she was supported and mentored by the co-authors who each had extensive quantitative and qualitative research experience throughout all stages of this research process.

Data Collection

The interview guide was designed to provide insight into women athletes' personal sport experiences and describe the role of self-compassion in their body appreciation and intuitive eating. The first section of the interview aimed to build rapport and to help prime athletes to think specifically about their sport experiences (e.g., "Can you tell me about what roles you fill during competition?"). The second section of the interview worked to familiarize the women with self-compassion, body appreciation, and intuitive eating. The women were asked to talk about what each construct meant to them without reference materials, which was followed by a conversation about how the constructs are defined in the literature. Each athlete was then asked to provide personal examples that represented their understanding of each construct (e.g., "Can you think of a time when you were compassionate to yourself as an athlete?"). This section of the interview helped to ensure that the athlete had an understanding of each construct and a relevant sport experience. The third section consisted of two drawing tasks in which the women were asked to draw connections between the sub-components of self-compassion, body appreciation, and intuitive eating (the drawing task handout is available upon request). The participants worked through each drawing task

while talking about how and why they thought the sub-components were related (e.g., "Do you feel like this is a general connection or is there something specific?").

Analysis

Audio recordings were transcribed verbatim. Following transcription, thematic analysis was performed. The analysis followed recommendations of Creswell and Poth (2018) to promote consistency and depth. Further, categorical aggregation and direct interpretation were applied during data analysis (Stake, 1995) to generate initial codes and generate themes. In alignment with case study approaches, emphasis was placed on identifying and describing salient patterns in the data and to provide both general (categorical) and specific (direct) examples within the presented themes related to the case and context (Creswell & Poth, 2018; Stake, 1995).

Qualitative Results

The Uniqueness Of Sport

Self-compassion helped the athletes to appreciate their bodies and eat in adaptive ways through a recognition that sport contexts are different from non-sport contexts. They discussed how they think they feel different from non-athletes in two key ways: (a) in sport contexts it is important to be able to value what the body can do regardless of physical appearance, and (b) that eating is different for athletes compared to non-athletes because of training and competition schedules. Specifically, the athletes expressed that self-compassion, through mindfulness and self-kindness, helped them to value what their bodies could do beyond aesthetics. *Amy* described a situation where she valued and embraced what her body was capable of during competition:

> *When I wrestle … I wasn't super tired and I obviously worked hard and all that, but my body is in really good condition; and I just really feel really good because my body was, I could tell that my cardio was good and my strength was good. And I was just feeling like really good in my body, and it was doing what I wanted it to, and just my mind was good.*

Being able to appreciate the body for its abilities was more challenging for athletes from weight classed sports (i.e., cheerleading and wrestling), as they were required to maintain a specific weight to continue competing. Specifically, the two weight classed athletes spoke about how they needed to "cut weight" (*Amy*) or keep their "weight down" (*Amanda*) to compete. The

women from cheerleading and wrestling said that they could not focus only on their physical abilities because to compete they also had to maintain a specific weight. Further, *Amanda* emphasized that within cheerleading she not only had to maintain a specific weight, but also look a certain way – "pretty and feminine". However, when they saw past the weight requirements or aesthetic expectations in their sports, both *Amanda* and *Amy* were able to appreciate what their bodies could do.

The athletes also discussed that self-compassion, specifically mindfulness, helped them identify that eating demands for women athletes are different from other women. Specifically, that to be successful in sport they could not simply rely feeling hungry or full. Being mindful about sport contexts helped them identify two main ways that athletic intuitive eating is different from intuitive eating in general: (a) that sometimes athletes need to eat when not hungry and (b) that having forbidden or restricted foods is a part of athletic intuitive eating because not all foods help athletes perform their best. Several of the athletes spoke about how they needed to plan their eating to properly prepare for training and competitions. *Jennifer* talked about how she cannot always rely on hunger cues to signal her eating:

> *Reliance on hunger cues especially could differ when in athletes, because I know I need to eat before I'm hungry sometimes in the morning, I don't always want to, but I know I need to … it would be easy to wait until I'm hungry to start eating. But that would be halfway through my workout so that just wouldn't work.*

Generally, the athletes described that their performance during training or competition would suffer if they did not develop an eating routine. Specifically, they would eat at specific times or when not hungry because they had learned from past experience what it was like to "bonk" (*Lillian*) or "under preform" (*Amy*) because they didn't have enough "fuel" (*Jennifer*) or what it was like to "feel sick" (*Jane*) or "vomit" (*Elise*) because they ate too close to training or competition.

Mindfulness also helped the athletes to recognize that there are specific foods that they will not and should not eat before training or competition. Having forbidden foods is not in line with intuitive eating (Tylka & Kroon Van Diest, 2013); however, the women suggested that there are specific foods they avoid because they hinder sport performance and those choices might be decisions related to body-food choice congruence. For example, *Jane* talked about how she eats the same breakfast before racing regardless of hunger, refusing to eat anything out of her routine, because she knows how it will make her body feel, she said "when I get up I'm just not hungry. But I

know that I'm going to run a race, so I always have a really good breakfast that day, because I know that my body needs that [specific breakfast] to perform to its best." The women concluded that it is important to consider the timing and content of their eating as it directly impacts how they feel during training and competitions, impacting their success in sport.

Compassionate Awareness

Self-compassion also plays a role in women athletes' body appreciation and intuitive eating through developing compassionate awareness. The women felt that self-compassion, particularly mindfulness, helped them to develop self-awareness and recognize media images of the thin ideal. Being compassionately aware of what is in the media contributed to the women's body appreciation because it helped them to realize that media images represent cultural ideals of beauty rather than reality. The athletes discussed that social media has led to a culture where they are constantly exposed to idealistic images that are becoming more athlete focused but that by being aware, they were able to reject aesthetic ideals and feel less alone. *Jennifer* said:

> In society as of late it [body ideal] has shifted more and more with fitness, and you want to have those flat six pack stomachs and abs, and they [media outlets] say that "strong is the new sexy", … When I was younger it was these tiny little models and these skinny models that I wanted to look like; but now it's more attractive to have muscle. A certain kind of muscle … not being big or bulky, but being very thin and tall and a little bit muscular … they [models] are super athletic and they look like, they look strong but still so thin. It's kind of a contradiction.

The women gave examples of how self-compassion contributed to their ability to treat the body well, explaining that recognizing what the body needs is a key part of body appreciation and healthy decision making. Several women talked about injury experiences, expressing that being aware of what the body needed was a way that self-compassion helped them to respect and appreciate their bodies. For instance, body awareness helped the athletes make decisions about if they should train, compete, follow through with physiotherapy, and talk to their coaches.

> *A lot of the time we are told to just push through injuries, but I understand when to and when not to… You can just tell when something is more serious… [the injury] I say I need to sit out and ice and I make an appointment with physio… (Amanda)*

The athletes expressed the importance of food choices on their athletic performance and that compassionate awareness assisted in making adaptive food choices; suggesting that when they are aware, it is easier to tell the difference between eating for physical reasons and eating for emotional or situational reasons. *Elise* talked about how compassionate awareness helped her:

> *Okay, so this [mindfulness] is just being aware of like yourself and what's going on. And you have to be aware of your motivation for eating like, "am I doing it [eating] because I'm bored, am I doing it [eating] because I'm just really depressed right now and I just need something to make me feel better?"*

Differentiating between eating for physical reasons and emotional reasons was important for the athletes because the women saw eating as an important way to fuel the body. *Amy* discussed that being self-compassionate through her food choices was important to her, because when she ate well she was setting herself up for success: "there's stuff you know you shouldn't eat. Especially coming up to competition, or like, eating a chocolate bar before practice you'll probably feel pretty crappy." Overall, the women suggested that eating for physical reasons was the most adaptive way that they could approach fueling their bodies, which is consistent with intuitive eating. They also said that they had to be aware of and in tune with their bodies to be able to make food choices that would help them rather than leave them feeling distracted, tired, or ill.

Personalized Expectations

Self-compassion plays a role in women athletes' body appreciation and intuitive eating by helping them set realistic and appropriate standards and expectations for themselves. The athletes said that being flexible and adaptable helped them to set appropriate standards and expectations, without feeling the need to strive toward unrealistic standards (e.g., a perfect body or perfect diet). The athletes suggested that the flexibility to adapt came primarily from the self-kindness and mindfulness components of self-compassion. *Amy* recognized that, when she was self-compassionate media images were not a standard she expected herself to attain:

> *Being critical about what you see and being like, … only a few people can attain [thin ideal], there's no way to attain that, and I don't want to try to attain that, it's just not realistic, and not what I want, and not what my body wants or can handle.*

Rejecting media images allowed the athletes to set realistic and appropriate standards and expectations for their bodies, in turn helping the athletes to more fully appreciate their bodies.

When the athletes were injured, self-compassion was useful to adjust or modify what they expected their bodies to be able to do. The contrast between their healthy and unhealthy bodies helped the women to recognize how skilled they are, which put their expectations in perspective. As an example, *Lillian* described how her history with injury led her to become aware of what her body is capable of; and how her experiences helped her to recognize and appreciate her body.

> *When you're unhealthy you realize how much you value your body when it is healthy. And so, I think that some of the experiences I've had helped me to really appreciate being healthy and having the body that I do have. Being able to do the things that I do;*

Realizing their bodies capacities during challenging injury experiences helped the women to reassess the expectations they held and be able to accept those changing expectations. They felt encouraged and positive about their sport experiences and their bodies and eating when they were setting standards and expectations that were reasonable and appropriate for themselves.

Discussion

The intent of this mixed methods study was to explore the role of self-compassion in Canadian women athletes' body appreciation and intuitive eating. The quantitative phase highlighted positive relationships between self-compassion and body appreciation and intuitive eating, and negative relationships between self-compassion and women athletes' eating psychopathologies, compulsive exercise, and state self-criticism. The qualitative phase illuminated the role of athletes' self-compassion in experiences of body appreciation (e.g., physical ability) and intuitive eating (e.g., eating for reasons that promote athletic performance). Together, these findings support the importance of self-compassion for women athletes.

The quantitative findings are consistent with past research finding self-compassion related to body appreciation, self-criticism, and disordered eating (Ferguson et al., 2015; Mosewich et al., 2013; Wasylkiw, MacKinnon, & MacLellan., 2012) and that self-compassion plays a role beyond self-esteem and social comparison in body appreciation for women (Homan & Tylka, 2015; Wasylkiw et al., 2012). The findings build on past research by also con-

sidering intuitive eating and compulsive exercise, which have not previously been linked to self-compassion. Further, this study adds to the literature through exploring the relationships of the sub-components of self-compassion and women athletes' body appreciation, intuitive eating, disordered eating, compulsive exercise, and self-criticism.

Results highlight that self-compassion and components are relevant to Canadian women athletes' body appreciation (correlation, regression, and sport experiences). Conceptually, self-compassion and body appreciation share reduced self-criticism and increased self-acceptance and awareness (e.g., Avalos et al., 2005; Neff, 2003a). Typically, in sport research self-compassion is examined at the global level only (e.g., Ferguson et al., 2015; Mosewich et al., 2013; Reis et al., 2015), rather than looking at each component. Findings from both phases suggest that the sub-components of self-compassion are independently relevant to the athletes' body appreciation experiences. Not only was self-compassion and components of self-compassion correlated with body appreciation, but the women also discussed how self-kindness influenced their ability to remain positive about their bodies. An example that the women spoke to was their ability to embrace what the body can do, focusing on physical ability over physical appearance through self-kindness. However, it is important to note that the two athletes from weight classed sports (wrestling and cheerleading) acknowledged having a harder time accepting the functionality of their bodies as they had to consider the weight and appearance expectations in addition to their skill to succeed. The embodied kind experiences described by the athletes in this study have also been described in the context of body self-compassion for women exercisers (Berry, Kowalski, & McHugh, 2010) and with young women athletes (Eke et al., 2019). The importance of common humanity in the athletes' body appreciation was clear when they discussed how it helped them to not feel alone in their frustrations and perceived physical flaws and allowed them to let go of unrealistic expectations and embrace their bodies. Regardless of sport type, the women suggested that the primary role mindfulness plays in body appreciation was to help them to reject the salient media images representing cultural beauty ideals, which do not necessarily match the body standards expected of athletes or reflect a muscular body that is typically required for high performance (Eke et al., 2019; Mosewich, Vangool, Kowalski, & McHugh, 2009). Together the results indicate that the self-kindness and mindfulness components of self-compassion might offer the most significant contributions to positive body experiences for women in sport, while common humanity and mindfulness assists in buffering against body dissatisfaction, and self-judgement and over identification play a role in compulsive exercise and eating psychopathologies.

Although research with women athletes has started to consider self-compassion and body appreciation, self-compassion and intuitive eating among women athletes has not been explored. Self-compassion was positively related to intuitive eating in the quantitative phase. However, building on these results, the qualitative phase highlighted that self-kindness and mindfulness in particular might be most critical to women athletes' intuitive eating experiences. Specifically, self-kindness seems to promote intuitive eating because being kind toward the self includes making sure the body is fueled properly for sport. The athletes also suggested that self-kindness encourages flexible and balanced eating, in turn their bodies might be better nourished and equipped to perform. This is an important recognition by athletes, because balanced flexible diets are described as important to helping athletes perform well (e.g., Eke et al., 2019; Highton, Twist, Lamb, & Nicholas, 2013). The findings of this study also highlight that women athletes learn through experience how to eat in ways that promote their success in training and competition. The strategies that the women in this study described (i.e., scheduled eating and eating when not hungry) do not fully align with the conceptualization of intuitive eating (Tylka & Kroon Van Diest, 2013). However, the athletes clearly articulated that they still believed that these strategies aligned with intuitive eating because they perceived their decisions were all about physiological approaches to eating that also promoted their physical performance in a range of sport contexts. This finding highlights that intuitive eating might be experienced differently within sport contexts compared to in general everyday experiences. Additionally, mindfulness might further promote intuitive eating through raising awareness regarding motivations and awareness of needs (Neff, 2003a). In the qualitative phase, the athletes described that mindfulness helped to reduce the amount that they ate for emotional reasons through awareness and emphasizing body-food choice congruence.

Limitations

The main limitation of the current research was that an updated version of the BAS was published after all study data had been collected. The second version, the BAS-2, was updated to account for men and non-college aged samples, and to refine items, which overall improved the measure (Tylka & Wood-Barcalow, 2015). Unfortunately, when measures are updated the previous version is often considered to be of lesser quality regardless of its strengths. Therefore, while the BAS is no longer the primary scale to assess body appreciation; the presentation of the original BAS is appropriate in this

study: 5 of the 10 original items are intact, the unidimensional structure, and major changes included examining men's body appreciation and modifying perceived women specific language in the update. The study findings are still relevant and meaningful as the original scale was evaluated in a sample of similar age and gender and because of the mixed methods approach we were able to converse with athletes and reflect their language of body appreciation in discussion and data representation. This limitation is important to consider as it is related to how our work will be relevant to future research in the area. Additionally, this study was limited through the application of member checking procedures in the qualitative phase. Within this study, adding a full member reflection process in addition to participating the quantitative and qualitative phases would have been potentially too much participant burden. However, in future research we are excited to apply more active forms of reflection proposed in recent commentary regarding novel strategies to engage participants in meaningful reflection on generated data that can increase the quality and rigor of qualitative research (Smith & McGannon, 2018), without substantially increasing participant burden.

Strengths

Beyond the addition of unique findings that contribute to the literature as discussed above, there are two primary strengths of the current study. The first strength of this research was the examination of variables informed by positive psychology and psychopathology. This promoted balanced descriptions of the role of self-compassion as both a buffer and facilitator in sport. The second strength was the application of a mixed methods design, which helps with data richness (Creswell & Plano Clark, 2018), reflecting an area of growth in sport psychology research (Sparkes, 2015). A mixed methods approach allowed us the opportunity to build on our initial quantitative results by providing additional insight into the role of self-compassion in women athletes' experiences through a qualitative phase, leading to a more holistic understanding of women athletes' self-compassion, body appreciation, and intuitive eating.

Future Directions

Continuing to explore women athletes' self-compassion and well-being is important to gain a richer understanding of positive sport experiences (Mosewich, Ferguson, et al., 2019). There are two key future directions to advance the study of women athletes' self-compassion, body appreciation,

and intuitive eating. First, research could explore women athletes' self-compassion and body and eating attitudes and behaviors overtime and within specific sport and international cultural contexts. Such a line of inquiry could expand on our findings that athletes in weight classed sports might have unique experiences regarding body appreciation. This research is also important to consider how variables change or remain stable over time and across cultural contexts. Second, while initial assessments highlight that self-compassion is related to sport performance perceptions (e.g., Killham et al., 2018), it is unclear how body appreciation and intuitive eating are related to sport performance. It is important to consider the role of body image and eating related to sport performance, as athletes provided sport specific reasons why intuitive eating might be different for athletes for performance reasons.

Conclusions

The novel findings of this research illustrate the protective and facilitative role of self-compassion in body appreciation, intuitive eating, disordered eating, compulsive exercise, and self-criticism for Canadian women athletes. This research also adds to the self-compassion literature by providing greater depth of understanding to *how* self-compassion contributes to positive sport experiences for Canadian women athletes related to body appreciation and intuitive eating. Such knowledge further justifies the development and promotion of self-compassion both as a tool and an intervention to heighten well-being among women athletes, and support a healthy body image and approach to the body.

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Manuscript resubmitted December 2020. Accepted for publication Januiary 2021.