Self-compassion and body-related self-conscious emotions: Examining within- and between-person variation among adolescent girls in sport

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ARTICLE INFO

Keywords:
Body image
Body shame
Body guilt
Embarrassment
Envy
Youth sport
Longitudinal

ABSTRACT

Objectives: Self-compassion protects against the occurrence of negative body image experiences and may be particularly useful in defending against negative body- and appearance-related self-conscious emotions in sport. The aim of this study was to examine within- and between-person associations between self-compassion and appearance-related self-conscious emotions.

Design & Method: In a three-year longitudinal cohort study, adolescent girls involved in organized sport (N = 518, M age = 14.02 ± 1.38) completed yearly self-reports of self-compassion, body- and appearance-related shame, guilt, embarrassment, and envy.

Results: Based on findings from multilevel models, higher levels of both average and time-varying self-compassion were associated with lower levels of body-related shame, guilt, embarrassment, and envy. Specifically, girls reported lower levels of negatively valanced self-conscious emotions when self-compassion was higher than usual.

Conclusions: These findings support previous accounts on the utility of self-compassion as a buffer against negative body image experiences and extend these findings to appearance-related self-conscious emotions in the sport context. In light of the declining levels of self-compassion for girls in adolescence, it is important to focus intervention efforts on cultivating self-compassion to protect girls from negative body-related emotional experiences in sport.

Adolescent girls report lower rates of sport participation and higher rates of disengagement compared to boys of the same age (Belanger, Gray-Donald, O’Loughlin, Paradis, & Hanley, 2009; Tucker Center for Research on Girls & Women in Sport, 2018). This sport-related gender inequity is first observed in adolescence and tracks well into adulthood (Scheerder et al., 2006), and may contribute to women reporting lower physical activity engagement across the lifespan (Guthold, Stevens, Riley, & Bull, 2018). Body image concerns have been identified as a potential factor contributing to the gender disparity in sport participation (Sabiston, Pila, Vani, & Thogersen-Ntoumani, 2019; Slater & Tiggemann, 2011; Soulliard, Kauffman, Fitterman-Harris, Perry, & Ross, 2019). Specifically, pressures around appearance, body shape, size, and weight disproportionately impact girls in adolescence, and these demands are further exacerbated by the sport environment which promotes social evaluation of the physique and pressure to conform to sport-specific body ideals (Petrie & Greenleaf, 2012). These social pressures impact girls’ evaluations of their bodies and often result in negative emotions (Daniels, Zurbriggan, & Monique Ward, 2020) and withdrawal from sport (Vani, Pila, DeJonge, Solomon-Krakus, & Sabiston, 2020). Identifying psychosocial factors that protect against painful body-related emotional experiences, including shame, guilt, envy, and embarrassment, is therefore critical to help curb disengagement from sport.

☆ This work was supported by a Social Sciences and Humanities Research Council of Canada (SSHRC) grant awarded to the last author. The last author holds a Canada Research Chair in Physical Activity and Mental Health (Tier II). The second author was supported by a SSHRC Postdoctoral Fellowship. None of the authors has a conflict of interest to declare related to this project.

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https://doi.org/10.1016/j.psychsport.2021.102083
Received 6 May 2021; Received in revised form 14 September 2021; Accepted 11 October 2021
Available online 13 October 2021
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1. Body-and-appearance-related self-conscious emotions in sport

Negatively valanced appearance-related self-conscious emotions (i.e., shame, guilt, envy, embarrassment) are elicited in response to a negative evaluation of one’s body and appearance (Sabiston, Pila, Croker, et al., 2020) and have been linked to sport experiences in adolescent girls (Pila et al., 2020; Sabiston, Pila, & Gilchrist, 2020). Shame is the most commonly studied self-conscious emotion related to appearance, and results from perceived, feared, or experienced loss of social standing and failure to meet internalized societal demands of physical appearance and body ideals (Gilbert & Miles, 2002; Sabiston et al., 2010). Body and appearance-related guilt has received relatively less attention; defined as the experience of regret or remorse due to behavioral transgressions related to not meeting internalized body and appearance ideals. Body- and appearance-related shame and guilt often co-occur (Sabiston et al., 2010), yet are unique emotions with specific causal attributions, motivational dimensions, and associated outcomes (Tangney & Dearing, 2002; Tangney, Miller, Flicker, & Barlow, 1996). Shame arises from internal and uncontrollable attributions of the core self as inadequate and is associated with experiential avoidance, whereas guilt is elicited from external and controllable attributions of one’s specific behavior, and thus often leads to reparative action to fix the transgression (Castonguay, Sabiston, Kowalski, & Wilson, 2016; Thompson, Dinell, & Dill, 2003). In adolescent girls involved in sport, appearance-related shame and guilt increase over time (Sabiston, Pila, Croker, et al., 2020) and are associated with worsened sport experiences, such as lower sport enjoyment, and commitment (Pila et al., 2020), thereby positioning body-related shame and guilt as unique body image indicators that threaten adolescent girls’ sport participation and experiences.

Envy and embarrassment are other understudied negatively valanced self-conscious emotions experienced when thinking about and evaluating one’s body and appearance (Sabiston, Pila, & Gilchrist, 2020). Body- and appearance-related embarrassment is elicited due to public exposure of a social transgression involving the physical body, such as unintentional exposure of a body part (Vani, Pila, Willson, & Sabiston, 2020). Globally, embarrassment is an emotion that is elicited by events caused by stable, uncontrollable, and global attributions, and phenomenologically characterized by blushing and a desire to hide (Tangney et al., 1996). Contextualized to the body, body- and appearance-specific embarrassment experiences are commonly reported in physical activity contexts, with a specific emphasis on sport, and more frequently experienced in girls compared to boys (Vani, Pila, DeJonge, et al., 2020). Because avoidance of physical activity context has been identified as a key behavioral outcome of body-related embarrassment (Vani, Pila, Willson, & Sabiston, 2020), the need to examine body-related embarrassment experiences in athletes is critical to understand potential impacts on sport participation.

Body-and-appearance-related envy was first examined using a social comparison framework (Pila, Stamiris, Castonguay, & Sabiston, 2014) and is characterized by a multifaceted array of unpleasant psychological states, including feelings of inferiority, hostility, and resentment (Smith & Kim, 2007). Body- and appearance-related envy is elicited in response to an unfavourable social comparison when a target’s physical appearance is evaluated as superior to the self, and when one wishes to possess one’s specific behavior, and thus often leads to reparative action to fix the transgression (Castonguay, Sabiston, Kowalski, & Wilson, 2016; Thompson, Dinell, & Dill, 2003). In adolescent girls involved in sport, appearance-related shame and guilt increase over time (Sabiston, Pila, Croker, et al., 2020) and are associated with worsened sport experiences, such as lower sport enjoyment, and commitment (Pila et al., 2020), thereby positioning body-related shame and guilt as unique body image indicators that threaten adolescent girls’ sport participation and experiences.

2. The protective role of self-compassion

Researchers have documented growing support for self-compassion as an individual-level psychosocial factor that protects against and manages negative body image (Braun, Park, & Gorin, 2016; Turk & Waller, 2020). Self-compassion may also protect against the experience of body- and appearance-related self-conscious emotions (Sabiston, Pila, & Gilchrist, 2020). Initially introduced by Neff (2003), self-compassion functions to direct acceptance and kindness towards the self during times of perceived failure or suffering and can be fostered via three main mechanisms: self-kindness (i.e., showing empathy towards the self in a difficult situation), mindful awareness (i.e., viewing a difficult situation objectively and free of emotion), and common humanity (i.e., recognizing that human suffering is universal). There is substantial evidence to show that self-compassion is inversely associated with specific indices of negative affect and psychopathology more broadly (MacBeth & Gumley, 2012). Specifically, self-compassion is inversely associated with global guilt, shame, and embarrassment in general populations (Leary, Tate, & Adams, 2007), and in female athletes (Reis et al., 2015). The inverse association between self-conscious emotions and self-compassion is thought to reflect the utility of self-compassion as an emotion regulation strategy, in that heightened self-compassion can reduce and diminish the onset of negative emotions (Berkling & Whittle, 2014; Inwood & Ferrari, 2018).

Researchers have posited that self-compassion operates as a protective factor against negative body image constructs through several pathways, including (i) decreasing outcomes associated with negative body image, (ii) preventing initial occurrence of body image concerns, (iii) interacting with risk factors to mitigate negative outcomes, and (iv) disrupting the mechanisms by which body image concerns lead to negative psychological outcomes (Braun et al., 2016). With respect to preventing initial occurrence, there has been robust support for self-compassion predominantly among female samples, for a range of body image indicators, including sociocultural pressures for thinness, thin-ideal internalization, drive for thinness, appearance comparisons, body surveillance, and body dissatisfaction (Braun et al., 2016). Several cross-sectional accounts have shown self-compassion to be inversely associated with body shame (Breines, Toole, Tu, & Chen, 2014; Daye, Webb, & Jafari, 2014; Sick, Pila, Nesbitt, & Sabiston, 2020), including evidence with female athletes (Mosewich, Kowalski, Sabiston, Sedgwick, & Tracy, 2011). Self-compassion has not been examined as a protective factor related to the range of body- and appearance-related emotions (i.e., guilt, embarrassment, envy), particularly in athletes. Due to the evidence of effects on other indicators of poor body image, self-compassion shows promise as a protective factor against the experience of body-related shame, guilt, embarrassment, and envy among athletes.

3. Self-compassion in adolescence

Self-compassion may be particularly relevant for girls during adolescence given this is a vulnerable developmental period of rapid biological, cognitive, and social changes. There is accumulating evidence that adolescent girls report lower levels of self-compassion compared to adolescent boys (Bluth & Blanton, 2016; Castroillo, Carvalho, Marques, & Pinto-Gouveia, 2017; Sun, Chan, & Chan, 2016). Adolescent girls navigate daily emotional and interpersonal challenges that are associated with the evolution of their self-concept and identity formation (Gilbert & Irons, 2008). Forming integrated self-concepts and identities involves intense social comparison, self-awareness, and self-evaluation, which are experienced in the context of heightened need for belonging, social connection, and acceptance (Shapka & Kozing, 2005). Self-consciousness, particularly regarding one’s body and physical attractiveness, can therefore result in self-evaluations that are
frequently harsh and overly critical (Neff & McGehee, 2010). Higher levels of self-compassion may mitigate the onset and reduce the negative affective reactions associated with negative self-evaluations. Self-compassion can support adolescents in relating to unfavourable evaluations of the self in a kind and understanding manner (rather than being self-critical), framing one’s experience as shared by others (rather than isolating), and mindfully observing personal challenges (rather than over-identifying with them), and may protect adolescents from the experience of negative self-conscious emotions around the body and appearance.

Examinations of self-compassion have been limited predominantly to between-person correlational designs (see Braun et al., 2016 for review), with longitudinal research contextualized primarily in interventions (Bluth & Eisenlohr-Moul, 2017; Galla, 2016). The lack of longitudinal examination of self-compassion during adolescence precludes an understanding of how self-compassion may naturally fluctuate over time, and how both trait-level and time-varying self-compassion are associated with indicators of body image. Drawing on evidence that self-compassion is lower in older versus younger adolescents (Bluth & Blanton, 2016; Bluth & Eisenlohr-Moul, 2017), and that negative body- and appearance-related self-conscious emotions increase in adolescent girls (Pila et al., 2020; Sabiston, Pila, Crocker, et al., 2020), examining temporal trends between self-compassion and body-related emotions in the sport context is pertinent in identifying the factors that perpetuate and protect against sport disengagement in adolescence.

**Purpose.** The aim of the present study was to examine the between- and within-person associations between self-compassion and appearance-related shame, guilt, embarrassment, and envy among adolescent girls involved in sport over time. Based on extant research that self-compassion is lower in older compared to younger adolescents (Bluth & Blanton, 2016), it was hypothesized that levels of self-compassion would decline over time (Hypothesis 1). Given that self-compassion can be protective against negative body-related experiences (Braun et al., 2016) and negatively valanced self-conscious emotions (Leary et al., 2007; Reis et al., 2015), it was expected that higher average levels of self-compassion would be negatively associated with appearance-related self-conscious emotions (Hypothesis 2) controlling for relevant demographic variables (i.e., age, years involved in sport, competitive status). Further, given literature suggesting within-person changes in self-compassion are associated with concomitant variations in body image (Kelly & Stephen, 2016; Thøgersen-Ntoumani, Dodos, Chatziasarantis, & Ntoumanis, 2017), it was hypothesized that during times when self-compassion was higher than usual, girls would report less frequent guilt, shame, embarrassment, and envy (Hypothesis 3).

### 4. Methods

#### 4.1. Participants and procedures

The present study draws from a three-year longitudinal cohort study of adolescent girls enrolled in organized sport, recruited from organized sports teams (e.g., soccer, softball, hockey) in the Greater Toronto Area. The primary outcomes of the longitudinal cohort study and detailed methodologies have been previously documented (Pila et al., 2020; Sabiston, Pila, Crocker, et al., 2020). Participants were adolescent girls engaged in community-based sport and completed a paper and pencil survey at baseline either individually, or with other team members (Time 1) and were followed prospectively 1-year later (Time 2) and 2-years later (Time 3) via online surveys. Participant assent and parental consent was sought at baseline, and the study received ethical approval from the University Research Ethics Board. Further details on the protocol and reporting of complete data have been reported elsewhere (Pila et al., 2020).

#### 4.2. Measures

**Demographics and Sport Characteristics.** At Time 1, participants reported a range of sociodemographic variables (refer to Pila et al., 2020 for full reporting), including age and ethnicity. At Time 1, participants were asked to list the number of sports they were currently involved with, specify their primary sport, and the number of years engaged in this sport, and the competitive status (competitive coded as 0; recreational coded as 1).

**Appearance-related self-conscious emotions.** At Time 1, 2, and 3, the shame and guilt subscales of the Body and Appearance-Related Self- Conscious Emotions Scale (BASES; Castonguay, Sabiston, Crocker, & Mack, 2014) were utilized as a domain-specific measure of negatively valanced self-conscious emotions. Participants were asked to report how often, on average, they experienced guilt and shame on 4-item subscales for guilt (e.g., “Guilty that I do not do enough to improve the way I look”) and shame (e.g., “Ashamed of how I look”). Each item was rated on a 5-point Likert scale ranging from 1 (never) to 5 (always), with higher scores reflecting greater frequency of experiencing each emotion. Evidence of score validity and reliability were documented in the development of the scale (Castonguay et al., 2014).

Appearance-related envy and embarrassment were assessed using 4-item purpose-built scales that align with phenomenological descriptions of each emotion (Pila et al., 2014; Robbins & Parlavecchio, 2006; Roseman, Wiest, & Swartz, 1994; Vani, Pila, Willson, & Sabiston, 2020) and the structure of the BASES items. Specifically, envy was assessed by asking participants to report how often, on average, they experienced envy about other people’s appearances (i.e., “Envious about other girls’ appearances”; “Inferior when I think about my appearance”; “Frustrated to see some people who have great appearance with little effort”; “Unfair that some people have the “perfect” appearance”). Meanwhile appearance-related embarrassment was assessed as “Embarrassed about my appearance”; “Foolish when my body and appearance are on display”; “Awkward when I am trying to improve my appearance”; “Nervous when I think about others seeing my appearance”. The same response scales were utilized as in the BASES, whereby each item was rated on a 5-point Likert scale ranging from 1 (never) to 5 (always), with mean scores computed whereby higher scores reflect higher frequency of experiencing each emotion. Psychometric testing of the 4-item body and appearance envy and embarrassment subscales is part of a larger forthcoming validation study also exploring fitness-related envy and embarrassment (Lucibello, Vani, Pila, & Sabiston, 2021), modeled after the Body-related Self-Conscious Emotions Fitness instrument (Castonguay et al., 2016). Preliminary evidence has supported a two-factor structure for body envy (which includes appearance and fitness-related factors) and body embarrassment (which includes appearance and fitness-related factors) with excellent model fit indicators. Factor loadings for the appearance envy items ranged from 0.69 to 0.88, with standard errors <0.05. Internal consistency for the appearance envy items was $\alpha = 0.89$. Meanwhile, factor loadings for the appearance envy items ranged from 0.74 to 0.85, with standard errors <0.05. Internal consistency for the appearance envy items was $\alpha = 0.88$. Further, evidence of convergent and discriminant validity of body envy and embarrassment instruments has been demonstrated (Lucibello et al., 2021).

**Self-compassion.** The short-form 12-item version of the Self-Compassion Scale (SCS-SF; Raes, Fommmier, Neff, & Van Gucht, 2011) was used to assess self-compassion at Time 1, 2, and 3. Items (e.g., “I try to be understanding and patient towards those aspects of my personality I don’t like.”) were rated on a five-point response scale ranging from almost never (1) to almost always (5). Similar to the full 26-item version of the SCS, the SCS-SF has a six-factor structure that encompasses self-kindness and self-criticism, common humanity and isolation, and mindfulness and overidentification. Along with the six-factor structure, the SCS-SF comprises a single higher-order factor of self-compassion. In the present investigation, a composite score was used by reversing the
negative subscale items and computing a mean score of all items, whereby higher scores indicate greater levels of self-compassion. Scores from the SCS-SF are strongly correlated to the full SCS (r ≥ 0.97) and scores have demonstrated reliability and validity evidence (Raes et al., 2011). Despite criticisms about the internal structure of the Self-Compassion Scale (SCS), which apply to the Self-Compassion Scale Short-Form (e.g., Muris & Otgaar, 2020; Muris & Petrocchi, 2017) arguing for a two-factor structure of the scale, we opted for use of the higher-order composite score of self-compassion. This decision was based on extensive evidence supporting a bi-factor structure as best fitting the data, indicating support for both a composite score and a six-factor scoring method, compared to the two-factor structure of compassionate and uncompassionate responding (see Neff et al., 2019; Cleare et al., 2018; Neff et al., 2019; Toth Kiraley et al., 2017). Further, the SCS-Short Form is recommended for use when examining a composite score of self-compassion, rather than the six components separately, due to poor subscale reliabilities (Raes et al., 2011; Neff, 2016).

4.3. Data analysis

SPSS Version 23.0 (IBM Corp., Armonk, N.Y., USA) was used to calculate descriptive statistics, McDonald’s coefficient omega (McDonald, 1999), and intra-class correlations. Missing values for between-person covariates (e.g., years involved in sport) were minimal (i.e., ≤1%) and were thus estimated using series mean replacement. For the main analysis, HLM 7.0 (Raudenbush, Bryk, & Congdon, 2011) was used to test four multilevel hierarchical models to assess whether self-compassion predicted between- and within-person variability in appearance-related guilt, shame, envy, and embarrassment. Specifically, Level-1 models tested the extent to which a participant’s time-varying self-compassion predicted within-person variability in appearance-related guilt, shame, embarrassment, envy, and a residual term. In all Level-1 models, both the intercept and slopes were treated as random. Specifically, participants could have different baseline values, whereby the intercept represents participant’s average levels of each emotion. The slope was modeled as varied, thus representing the rate of change in within-person associations between self-compassion and each emotion. As such, Level-1 variables were person-mean centered, with the exception of time which was uncentered. Time was defined as 0 (Time 1; baseline), 1 (Time 2; 1-year post-baseline), and 2 (Time 3; 2-years post-baseline), thereby representing the sample mean of each emotion at baseline. Meanwhile, in the second step, Level-2 models were estimated to examine whether the between-person levels of self-compassion (computed by averaging across three timepoints) were associated with the variability in participants’ overall levels of each self-conscious emotion. Additionally, baseline covariates (i.e., age, years involved in sport, competitive status) were modeled as between-person confounders on the intercept of each self-conscious emotion. Level-2 variables were grand-mean centered. Pseudo $R^2$ was calculated as an estimate of effect size. All models used restricted maximum likelihood estimation and robust standard errors were reported.

5. Results

5.1. Preliminary findings

At baseline, participants ranged in age from 11 to 18 with a mean age of 14.02 (SD = 1.38) years old, and predominantly identified as Caucasian (73.2%). On average, girls had 7.06 (SD = 3.37) years of experience in organized sport. The majority of participants (65.8%) reported their primary sport was competitive in the scope of community sport, whereas 29.9% classified their primary sport as recreational. Detailed demographics on the baseline sample have been previously reported (see Pila et al., 2020). There were no statistically significant differences between participants who disengaged from sport completely at either Time 2 or 3 and the remaining sample on baseline age, years in sport, or self-compassion. Further, there were no statistically significant differences between participants who completed Time 2 and/or Time 3 follow-up (n = 200) and those with baseline data only (n = 318) in self-compassion (p = .18, $d = 0.16$) scores at baseline. Table 1 presents descriptive statistics, internal consistency, and intra-class correlations and Table 2 presents bivariate correlations for main study variables.

5.2. Main findings

Contrary to Hypothesis 1, self-compassion scores did not linearly decrease over time ($γ = -0.05$, SE = 0.02, $p = .05$), though there was significant variation in the rate of change between participants ($σ^2 = 0.03$, $p < .01$). Results testing self-compassion as a predictor of self-conscious emotions are summarized in Table 3. In support of Hypothesis 2, within-person models indicated that when self-compassion was experienced less frequently than usual, girls reported significantly higher frequency of appearance-related guilt, shame, embarrassment, and envy, compared to times when self-compassion was more frequently endorsed. In support of Hypothesis 3 at the between-person level, less frequent average levels of self-compassion over three years were associated with higher frequency of endorsing appearance-related guilt, shame, embarrassment, and envy. Pseudo $R^2$ for the full models were 35% for shame, 31% for guilt, 30% for embarrassment and 23% or envy.

6. Discussion

The present study examined how self-compassion was related to negatively valanced body- and appearance-related self-conscious emotions both between and within adolescent girls in the sport context over time. While changes in self-compassion were not observed over time across the sample, self-compassion was associated with less frequent endorsement of appearance-related shame, guilt, embarrassment, and envy, both across and within adolescent athletes over the three-year period. Advancing the current literature, this study demonstrates that lower levels of self-compassion are associated with the endorsement of a range of self-relevant negative emotions contextualized to the body and appearance. This finding has important implications for the utility of self-compassion in promoting sustained sport participation given that negative body-related emotions have been identified as key threats to sport experiences (Pila et al., 2020).

Despite cross-sectional evidence for self-compassion being robustly associated with indicators of mental health in adolescence (Bluth & Blanton, 2015, 2016; Cunha, Martinho, Xavier, & Espírito Santo, 2013; Marsh, Chan, & MacBeth, 2018; Marshall et al., 2015; Neff & McGhee, 2010), longitudinal research on self-compassion throughout adolescence is scarce. In the present study, self-compassion scores did not change over three years across the sample, however participants differed in their rate of change over time. This observation is contrary to another 3-year longitudinal study of adolescents in China (Yang, Kong, Guo, & Kou, 2021), which reported that self-compassion decreased over time and decreases were more prominently observed in girls compared to boys. As the present study focuses exclusively on girls in sport, further research is needed to examine how developmental and maturation factors impact self-compassion in adolescence, and if changes are related to gender-specific factors. The presence of between-person variability in rates of change suggests that some girls may be at higher risk of self-compassion declines. Further research is needed to explore longitudinal trends in self-compassion across adolescents, with attention to identifying factors that predict worsening trajectories to inform directed intervention efforts.

Notwithstanding the lack of aggregate change in self-compassion across the sample, half of the variation in self-compassion scores were attributable to within-person variability, or how much a person differs from themselves over time. Since researchers have focused primarily on conceptualizations of self-compassion as an individual difference construct, the present finding indicates the importance of studying...
naturally occurring fluctuations in self-compassion across different time frames. Previous studies examining natural variation in self-compassion outside an intervention context have focused on brief timeframes in daily diary or ecological momentary assessment studies (Beekman, Stock, & Howe, 2017; Kelly, Miller, & Stephen, 2016; Kelly & Stephen, 2016; Thøgersen-Ntoumani et al., 2017), with only a few examinations of multi-year assessments (Gunnell, Mosewich, McEwen, Eklund, & Crocker, 2017; Marshall et al., 2015; Stutts, Leary, Zeveney, & Hufnagel, 2018; Yang et al., 2021). This finding emphasizes the merit of continuing to study self-compassion variation within individuals over time, particularly during the critical developmental period of adolescence, both within and beyond the sport context. Future research would benefit from focusing on specific sociodemographic or psychological factors that predict individual trajectories of self-compassion across adolescence.

Aligned with hypotheses, self-compassion was negatively associated with body-related self-conscious emotions at both the between- and within-person levels. Specifically, higher average levels of self-compassion over three years were associated with lower levels of body-related guilt, shame, embarrassment, and envy after controlling for age and time spent involved in sport. Further, during times when self-compassion was higher than usual, girls reported lower levels of body-related guilt, shame, embarrassment, and envy, compared to times when self-compassion was higher than usual. Taken together, these findings extend cross-sectional evidence that shows an inverse relationship between self-compassion and negative body image experiences (Braun et al., 2016; Turk & Waller, 2020) and support propositions that self-compassionate individuals experience less frequent negative body image concerns (Tylka and Kroon Van Diest, 2015). In addition to previously established body image constructs (e.g., sociocultural pressures for thinness, thin-ideal internalization, drive for thinness, appearance comparisons, body surveillance, body dissatisfaction, body shame; Braun et al., 2016), this study shows that self-compassion may protect against a broad range of body-related self-conscious emotions — indicators of affective body image with particular relevance to physical activity contexts (Sabiston, Pila, & Gilchrist, 2020).

The present findings also lend support to qualitative investigations of how directing self-compassion to the body can support the emotional well-being of adolescent women athletes (Eke, Adam, Kowalski, & Ferguson, 2019). In these narrative accounts, adolescent athletes reflected on how compassionate relating to the body supported emotional stability and regulation of negative emotions as they arose. It is noteworthy that the four self-compassion emotions in the present study demonstrated similar associations with self-compassion at the within- and between-person levels, and that associations between the emotions ranged from 0.64 to 0.78, indicating moderate to strong relationships. Though it is likely that self-compassion can be broadly protective against negative affective valance (Barnard & Curry, 2011), there is value in exploring discrete self-compassion emotions based on theoretical frameworks and empirical evidence that supports the unique characteristics, appraisals, and behavioral consequences of each self-compassion emotion (Gilbert & Miles, 2002; Tangney & Fischer, 1995; Tracy & Robins, 2007) as it may relate to compassion-based motivational systems (Gilbert, 2019). Future research examining associations between discrete

### Table 2

Bivariate aggregate between-person correlations of main study variables (n = 518).

<table>
<thead>
<tr>
<th>Variable</th>
<th>Time 1 (n = 518)</th>
<th>Time 2 (n = 292)</th>
<th>Time 3 (n = 215)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td></td>
</tr>
<tr>
<td>Shame</td>
<td>2.15</td>
<td>0.85</td>
<td>0.86</td>
</tr>
<tr>
<td>Guilt</td>
<td>1.96</td>
<td>0.86</td>
<td>0.82</td>
</tr>
<tr>
<td>Embarrassment</td>
<td>2.18</td>
<td>0.98</td>
<td>0.88</td>
</tr>
<tr>
<td>Envy</td>
<td>2.71</td>
<td>1.05</td>
<td>0.90</td>
</tr>
<tr>
<td>Self-compassion</td>
<td>3.10</td>
<td>0.56</td>
<td>0.77</td>
</tr>
</tbody>
</table>

Note: *p < .05, **p < .001. Aggregate scores of appearance-related emotions and self-compassion across Time 1 to 3. Age and years in sport are presented from Time 1.

### Table 3

Multilevel models testing self-compassion as a predictor of appearance-related self-conscious emotions (n = 518).

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Shame</th>
<th>Guilt</th>
<th>Embarrassment</th>
<th>Envy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression coefficients (fixed effects)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intercept ($\gamma_{00}$)</td>
<td>2.03 (0.05) **</td>
<td>1.85 (0.06) **</td>
<td>2.03 (0.06) **</td>
<td>2.60 (0.06) **</td>
</tr>
<tr>
<td>Time ($\gamma_{10}$)</td>
<td>0.15 (0.03) **</td>
<td>0.15 (0.03) **</td>
<td>0.19 (0.03) **</td>
<td>0.15 (0.03) **</td>
</tr>
<tr>
<td>Yearly self-compassion ($\gamma_{20}$)</td>
<td>-0.59 (0.07) **</td>
<td>-0.69 (0.06) **</td>
<td>-0.84 (0.07) **</td>
<td>-0.90 (0.07) **</td>
</tr>
<tr>
<td>Average self-compassion ($\gamma_{01}$)</td>
<td>-0.73 (0.06) **</td>
<td>-0.62 (0.08) **</td>
<td>-0.69 (0.08) **</td>
<td>-0.53 (0.07) **</td>
</tr>
<tr>
<td>Age ($\gamma_{11}$)</td>
<td>0.09 (0.02) **</td>
<td>0.11 (0.02) **</td>
<td>0.09 (0.02) **</td>
<td>0.12 (0.03) **</td>
</tr>
<tr>
<td>Years in sport ($\gamma_{21}$)</td>
<td>-0.01 (0.01)</td>
<td>0.01 (0.01)</td>
<td>-0.01 (0.01)</td>
<td>-0.01 (0.01)</td>
</tr>
<tr>
<td>Competitive Status ($\gamma_{30}$)</td>
<td>0.06 (0.06)</td>
<td>0.04 (0.06)</td>
<td>0.13 (0.07)</td>
<td>0.04 (0.08)</td>
</tr>
</tbody>
</table>

| Variance components (random effects) |
| Intercept ($u_0$) | 0.56** | 0.58** | 0.61** | 0.80** |
| Time ($u_1$) | 0.06* | 0.07** | 0.05* | 0.06 |
| Yearly Self-Compassion ($u_2$) | 0.07 | 0.13 | 0.11 | 0.03 |
| Residual Variance | 0.28 | 0.38 | 0.39 | 0.40 |

Parameter estimate standard errors listed in parentheses. *p < .05, **p < .001. Number of observations: 1554, Cases: 518
self-conscious emotions and self-compassion could adjust for negative affective valance and utilize latent variable modeling techniques to account for conceptual overlap and measurement error.

6.1. Limitations & future directions

Several limitations of the present study are worth considering and may inform the direction of future research. Since the observational nature of the present data precludes the ability to make causal inferences, future experimental and longitudinal research is needed to examine if self-compassion can prevent the onset of body-related shame, guilt, embarrassment, and envy in adolescent athletes. Additionally, since global non-domain specific emotions (e.g., global shame) or affective experiences (e.g., negative affect) were not measured and tested as covariates, it is not possible to determine if self-compassion is uniquely associated with body-related affective states, or if the models are capturing the well-documented association between self-compassion and global negative affect (Barnard & Curry, 2011). While the appearance domain has been identified as a vulnerable context for adopting self-reassurance compared to other domains (e.g., performance, interpersonal; Zuroff et al., 2021), additional research is needed to parse the unique associations of domain-specific affective experiences and self-compassion. Additionally, since baseline data collection occurred in person, some participants completed the paper and pencil surveys individually, while others completed surveys alongside teammates. Although participants were instructed to keep responses private and were monitored by a research assistant, it is not possible to rule out the potential impact of social desirability and biased responding in the group context. Further, without a non-athlete comparison group, it is not possible to extricate the impact of the sport context from the natural developmental processes of adolescence. As such, future longitudinal research ought to prospectively follow adolescents both within and beyond the sport context to understand how self-compassion and self-conscious emotions develop in relation to sport participation. Finally, the present study was limited to once yearly assessment points, thereby unable to capture more frequent fluctuations and variation in self-compassion and self-conscious emotions within individuals over time. Intensive longitudinal designs over several timepoints throughout adolescence would provide a more comprehensive understanding of these associations during adolescence.

6.2. Implications & conclusions

Due to the potential for body image concerns to contribute to negative sport experiences for girls in adolescence (Pila et al., 2020), and the capacity of the sport context to promote social evaluation and pressures to conform to physique ideals (Petrie & Greenleaf, 2012), it is important to examine psychosocial factors, such as self-compassion, that can protect against negative body-related experiences. Employing a prospective longitudinal design, the present study followed adolescent girl athletes over a three-year period to examine naturally occurring between- and within-person associations between self-compassion and body-related shame, guilt, embarrassment, and envy. In addition to highlighting natural declines in self-compassion among adolescent girls in sport across three-years of adolescence, we found that both dispositional-type and time-varying levels of self-compassion can mitigate the experience of shame, guilt, embarrassment, and envy regarding one’s appearance. Considering evidence that body-related guilt and shame increase yearly in adolescent girls in sport (Sabiston, Pila, Crocker, et al., 2020), and contribute to worsened sport experiences (Pila et al., 2020), self-compassion intervention strategies may be particularly useful for this population.

There is a growing body of literature testing the effectiveness of self-compassion interventions to target various indicators of negative body image in non-clinical samples, mostly consisting of adult women (see Turk & Waller, 2020 for review). Collectively, both brief and longer self-compassion interventions of varied modalities (e.g., writing exercises, group-based psychoeducation, experiential meditation practices, mindful self-compassion podcasts, etc.), demonstrate small to moderate effects compared to active or waitlist control conditions. Several self-compassion interventions have been developed for collegiate (Voelker, Petrie, Huang, & Chandran, 2019) and varsity female athletes (Mosewich & Crocker, 2013), which could be adapted for adolescent girls involved in both competitive and recreational sport in the community. Relatedly, existing self-compassion interventions aimed at adolescents (e.g., BodiMojo; Rodgers et al., 2018) could be adapted to target the body-related threats and negative emotions that girls experience in the sport context. Interventions focused on cultivating self-compassion may be helpful in developing awareness of societal and sport-specific appearance ideals and how they impact emotional states, as well as relate to these pressures and difficult emotions in a kind and understanding manner. By cultivating a compassionate stance to one’s body, and difficult emotions about one’s body, girls may have more positive and enriching sport experiences in adolescence, and consequent movement-based practices in adulthood.

Author statement

Eva Pila: Conceptualization; Data curation; Formal analysis; Project Administration; Writing – original draft, review, & editing.
Jenna Gilchrist: Conceptualization; Writing – review & editing.
Kent Kowalski: Writing – review & editing.
Catherine Sabiston: Conceptualization; Funding acquisition; Writing – review & editing.

Declaration of competing interest

Given their role as an Editorial Board member, Pila, E. and Sabiston, C.M. had no involvement in the peer-review of this article and had no access to information regarding its peer-review. All other authors have declared no conflicts of interest.

This work was supported by a Social Sciences and Humanities Research Council of Canada (SSHRC) grant awarded to the last author. The last author holds a Canada Research Chair in Physical Activity and Mental Health (Tier II). The second author was supported by a SSHRC Postdoctoral Fellowship.

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