



How do passionate sport fans feel? An examination using a quadripartite approach

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Abstract

The purpose of this research was to test if the ways sport fans felt while supporting their favourite teams – both in terms of typical feelings and changes in feelings over time – were associated with different combinations of harmonious passion (HP) and obsessive passion (OP) for being a sports fan. We conducted two studies in which fans reported how they typically felt while watching their favourite teams (Study 1, $N=430$), and how they were feeling at three time points throughout an 8-month season (Study 2, $N=418$). The results showed that the most adaptive fan outcomes (i.e., low negative feelings, high positive feelings and enjoyment) were associated with high HP combined with low OP. In contrast, the least adaptive fan outcomes (i.e., high negative feelings, low positive feelings and enjoyment) were associated with low HP combined with high OP. These results help us understand more about how the feelings of sports fans are shaped by combinations of HP and OP.

Keywords Emotions · Enjoyment · Harmonious passion · Obsessive passion · Sports fandom

“Fuelled by Passion”—Winnipeg Jets (National Hockey League)

“Passion 4 Purple”—Sacramento Kings (National Basketball Association)

“Pride. Passion. Pittsburgh Pirates.”—Pittsburgh Pirates (Major League Baseball)

Sport fans can cheer for their favourite teams with a great deal of passion. This passion is commonly viewed as a positive feature of sports fandom; as the above-mentioned team slogans demonstrate, professional sports teams often boast about their highly passionate fanbases. But the passion that many fans feel toward their favourite teams can also lead to less-than-ideal outcomes, including verbal/physical aggression toward others (e.g., officials, fans of opposing teams), conflict with other areas of one’s life (e.g., work, relationships), and even riots (Wann & James, 2019). Passion thus

appears to have the potential to cause sport fans to feel both positively (e.g., proud, excited) and negatively (e.g., angry, anxious) while supporting their teams. This duality in the concept of passion is captured by the dualistic model of passion (DMP; Vallerand, 2015), which conceptualizes passion as coming in two forms: *harmonious passion* (HP) and *obsessive passion* (OP). Since its introduction in 2003, the DMP has become a dominant approach to the study of passion in various domains (e.g., Curran et al., 2015; Pollack et al., 2020), especially in sport (e.g., Vallerand & Verner-Filion, 2020).

Research with sport fans has shown that passion has the potential to bring out both the best and the worst in sport fans, depending on the extent to which passion is driven primarily by either HP or OP (e.g., Vallerand et al., 2008). However, HP and OP are not mutually exclusive; they coexist within people to different degrees (Vallerand, 2015). It is currently not known if certain *combinations* of HP and OP are associated with more adaptive outcomes in sport fans than others. Recently, the quadripartite approach to passion (Schellenberg et al., 2019) has been proposed as a way to study how within-person combinations of HP and OP relate to outcomes. The purpose of this research was to use this quadripartite approach to test if specific combinations of HP and OP were associated with different outcomes among sport fans, focussing specifically on the way fans feel while supporting their favourite teams.

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Passion in sport fans

The DMP conceptualizes passion as a strong desire to engage in an activity that one likes, finds valuable and meaningful, pursues regularly, and has incorporated into one's identity (Vallerand, 2015). According to this perspective, highly passionate fans of the Winnipeg Jets, for example, would enjoy supporting the Jets, consider the Jets to be a meaningful part of their lives, regularly watch the Jets play and engage in other fan behaviours (e.g., follow the Jets via newspaper articles, talk radio, podcasts, etc.), and identify as being "Jets fans". But the DMP posits that the effect that passion has in people's lives depends on the extent to which passion is harmonious or obsessive. HP emerges from an autonomous internalization of an activity into the self and entails a balanced engagement in an activity that remains under a person's control. This means that fans with high levels of HP love to support their teams and can be fully engaged while doing so. OP, in contrast, emerges from a controlled internalization of an activity into the self and entails an imbalanced, rigid engagement in an activity (Vallerand, 2015). This means that fans with high levels of OP also love to support their teams, but they feel an overwhelming urge to do so and experience more conflict between their fandom and other life domains.

Research with sport fans has studied the different fan outcomes and experiences that are uniquely associated with HP and OP. HP has been linked with positive outcomes including greater life satisfaction and self-esteem (Vallerand et al., 2008), affective forecasting accuracy (Verner-Filion et al., 2012), savouring positive fan experiences (Schellenberg & Gaudreau, 2020; Schellenberg et al., 2020), and positive forms of escapism (Astakhova et al., 2022). OP, in contrast, has been linked with more maladaptive outcomes, including more dampening positive fan experiences (Schellenberg & Gaudreau, 2020; Schellenberg et al., 2020), negative forms of escapism (Astakhova et al., 2022), and ruminating about games, missing work and other important events to attend games, hating and mocking fans of opposing teams, and interpersonal relationship conflict (Vallerand et al., 2008). These findings with sport fans mirror those found with other populations (e.g., athletes, employees, students): HP (while statistically controlling for OP) usually predicts more adaptive outcomes, whereas OP (while statistically controlling for HP) usually predicts less adaptive and more maladaptive outcomes (see Curran et al., 2015; Pollack et al., 2020; Vallerand, 2015).

Quadripartite approach

The DMP considers HP and OP to exist on two continua, meaning that both can be present within individuals to different extents (Vallerand, 2015). Empirical support for this proposition has been obtained by research consistently finding that HP and OP are positively, but imperfectly, correlated (e.g., Marsh et al., 2013), and that either HP or OP can be temporarily enhanced via writing exercises (e.g., Bélanger et al., 2013). The quadripartite approach (Schellenberg et al., 2019) has been proposed to test associations between different within-person combinations of HP and OP. The approach focuses on four specific combinations of passion: *pure HP* (high HP combined with low OP), *pure OP* (high OP combined with low HP), *mixed passion* (high HP combined with high OP), and *non-passion* (low HP combined with low OP). When outlining this approach, Schellenberg et al. (2019) also proposed six broad hypotheses about how these combinations might differ in their associations with outcomes. Hypotheses 1–3 predict that pure HP will be associated with more adaptive outcomes than pure OP (Hypothesis 1), mixed passion (Hypothesis 2), and non-passion (Hypothesis 3). Hypotheses 4 and 5 predict that pure OP will be associated with less adaptive outcomes than mixed passion (Hypothesis 4) and non-passion (Hypothesis 5). Finally, given competing empirical evidence and theoretical arguments that can be made in support of opposing hypotheses (Schellenberg et al., 2019, 2021), Hypothesis 6 has been presented as a set of competing hypotheses predicting that the non-passion will be associated with worse (Hypothesis 6a) or better (Hypothesis 6b) outcomes than mixed passion. All six hypotheses were based on findings that have emerged from research examining the unique effects of both HP and OP.¹

The quadripartite approach has been used in research with various populations, including undergraduates and video gamers (Schellenberg et al., 2019), marijuana users (Dolan et al., 2021), athletes (Schellenberg et al., 2021, 2023), and workers (Gillet et al., 2022). This research has tested associations with various outcomes such as physical and psychological health, marijuana cravings, psychological need satisfaction, well-being, and work-family conflict. Although there are some exceptions, this research has more often than not supported Hypotheses 1–5 of the quadripartite approach

¹ Like Hypothesis 6, Hypothesis 5 was originally presented as a set of competing hypotheses predicting that pure OP would be associated with better (Hypothesis 5a) or worse (Hypothesis 5b) outcomes than non-passion. However, the results from previous applications of the quadripartite approach have almost never supported Hypothesis 5a. Therefore, at this point and in line with recent recommendations (Schellenberg et al., 2023), we believe it is fair to abandon Hypothesis 5a and proceed with Hypothesis 5b, which we believe should now be referred to as Hypothesis 5 going forward.

while finding inconsistent support for both Hypotheses 6a and 6b.

A focus on fan feelings

Being a sport fan can sometimes feel like being on an emotional rollercoaster; people's favourite teams can cause them to feel happy, excited, proud, and grateful, but also sad, angry, humiliated, and bored (see Wann & James, 2019). We were interested in studying these fan feelings for two reasons. First, feelings matter. From a fan perspective, the way fans feel is an important subjective experience that can produce physiological changes (e.g., changes in heart rate, blood pressure) and action tendencies (see Vallerand & Blanchard, 2000) that impact their broader sense of physical and psychological well-being (Fredrickson, 2013). From an outsider's perspective, sport organizations and leagues would certainly want fanbases to experience greater positive feelings and fewer negative feelings, if only for the economic benefits that come from having happier consumers (e.g., Taute et al., 2010; Wang & Kaplanidou, 2013). Second, feelings change. Fan feelings can of course change in the short term based on the result of one kick, throw, or shot. But feelings can also change in the long-term depending on how one's team is performing. Over the course of a season, certain types of fans may be more susceptible to having their feelings impacted by team performance than others (Schellenberg & Verner-Filion, 2021). For these reasons, we focussed on the associations between different combinations of passion and fan feelings and how these feelings change over time.

Sport fans have a variety of affective experiences that range in specificity (e.g., angry, bad) and arousal level (e.g., joyful, content) over varying timeframes (e.g., seconds, weeks, years). We were primarily interested in the valence of these affective states (i.e., ranging from positive to negative) and how they can change over the course of several months, rather than specific emotions (e.g., guilt, surprise), moods (e.g., good, bad) or relatively stable emotional traits or temperament (Vallerand & Blanchard, 2000). We therefore considered the concept of "feelings" to be most appropriate in this research because it captures a variety of emotional responses (Terry, 2021) that can last for several days (Vallerand & Blanchard, 2000). In addition to positive and negative fan feelings, we were interested in a specific fan feeling that we believed is especially relevant in sport fandom: fan enjoyment. From a theoretical perspective, the extent to which people experience enjoyment and pleasure in sport has been treated as a key predictor of commitment and engagement among sport fans (e.g., Yoshida et al., 2014) and other sport participants such as athletes (Scanlan et al., 2016). We also reasoned that, by nature of being an activity

that is pursued during one's discretionary time, cheering for a team can be considered to be a form of leisure (Voss, 1967) which, by definition, makes it an activity that is at least to some degree "meant to be enjoyed" (Tonietto et al., 2021, p. 1).

The current research

The purpose of this research was to use the quadripartite approach to test if the ways sport fans felt while supporting their favourite teams were associated with different combinations of HP and OP. As in most research with sport fans (for a review, see Wann & James, 2019), our targeted population in this research consisted of people who self-identified as fans of specific sports teams. We conducted two studies that were designed to recognize that fans can have typical feelings while supporting a team, but also that these feelings can change. In Study 1, we conducted a cross-sectional study to test associations between passion subtypes and the way fans usually felt while watching their favourite teams play. This design allowed us to test the six hypotheses of the quadripartite approach with both adaptive (positive feelings, enjoyment) and maladaptive (negative feelings) outcomes. In Study 2, we conducted a longitudinal study to test associations between passion subtypes and changes in the way Winnipeg Jets fans felt about watching the Jets play over the course of the 2021–2022 season. Both studies relied on data that were collected as part of larger projects on sport fan experiences. We have written manuscripts based on the Study 1 (Schellenberg & Gaudreau, 2023) and Study 2 (Schellenberg et al., 2024) datasets that concentrate on topics that are different than the focus of the current manuscript. Ethics approval for both studies was obtained from our institutional research ethics board before data collection. All participants provided informed consent. Data and output files for both studies are available on the Open Science Framework at <https://osf.io/t7m8s/>.

Study 1

Method

Participants and procedure

We invited members of Prolific Academic, an online research recruitment website, to participate in this study (see Peer et al., 2022). Prolific users were invited to participate in the current study if, on an initial screening survey, they reported that they were (a) 18 years of age or older, and

(b) regularly watched a sport. All data for this study were collected in January 2021. The required sample size for our planned analysis (latent moderated structural equation modeling) depended on many factors that could not be known beforehand (e.g., strength of item loadings, factor correlations; Kline, 2016). Our recruitment goal was therefore to have at least 300 fans participate in this study because it was a realistic goal that was comparable to previous research adopting the quadripartite approach with latent variables (Schellenberg et al., 2019, 2021).

A total of 430 sport fans were included in the final analysis. An additional 29 Prolific users agreed to participate but were excluded from the analysis because they did not meet our inclusion criteria for being sport fan or honest responding (see the online Supplementary File for details). Participants ranged in age from 18 to 70 years old ($M=28.78$ years, $SD=9.63$ years), and most often identified as having a White/European ethnic background (80.7%). There were more male ($n=352$) than female ($n=74$) participants (four participants did not report a gender). Participants reported being fans of teams that competed in various leagues in countries all over the world; however, most participants were fans of teams competing in football (soccer; 77.4%). On average, the participants had been supporting their team for 15.84 years ($SD=10.80$ years). Each participant received £0.94 (approximately \$1.20 USD) for participating.

Measures

Fan passion

Participants reported their favourite sports team and answered questions from the Passion Scale (Vallerand, 2015) while thinking of that team. The Passion Scale assesses both HP (e.g., “Being a fan of my team is in harmony with the other activities in my life”) and OP (e.g., “I have almost an obsessive feeling for being a fan of my team.”) with 6 items each. Participants rated their agreement with each item on a scale from 1 (*not agree at all*) to 7 (*totally agree*). Following previous research using the Passion Scale (Vallerand, 2015), we modified the wording of the original items to refer to being a sport fan. There is strong support for the psychometric properties of this scale, both within sport (Vallerand & Verner-Filion, 2020) and in general (e.g., Marsh et al., 2013; see Vallerand, 2015). Acceptable levels of internal consistency were obtained for both HP ($\alpha=0.837$) and OP ($\alpha=0.865$).

Fan feelings

We assessed fan feelings using the Scale of Positive and Negative Experience (SPANE; Diener et al., 2010). Following the stem “When I watch my favourite team play, I

usually feel...”, participants rated the extent to which they have negative (6 items; e.g., “bad”, “sad”) and positive (6 items; e.g., “good”, “happy”) feelings using a 5-point scale ranging from 1 (*very rarely or never*) to 5 (*very often or always*). Previous research has supported the psychometric properties of SPANE scores (e.g., Jovanović, 2015). The SPANE has also been used in previous tests of the quadripartite approach in sport (Schellenberg et al., 2021). As we explain below and in the Supplementary File, one item from the negative feelings scale (item 9: “Afraid”) was excluded from all analyses.

Enjoyment

Levels of fan enjoyment were assessed with a single item: “I enjoy watching my favourite team”. Participants rated their agreement with this item on a scale from 1 (*not agree at all*) to 7 (*totally agree*).

Data Analysis

The quadripartite approach (Schellenberg et al., 2019) assesses associations between outcomes and different within-person combinations of HP and OP. The approach adopts variable-centered analyses (e.g., regression analyses, structural equation modeling) to predict scores on outcome variables based on combinations of pre-specified scores of HP and OP. The approach uses pre-specified scores of $1 SD$ above and below the mean of HP and OP to test associations with four passion combinations: pure HP (high HP combined with low OP), pure OP (low HP combined with high OP), mixed passion (high HP combined with high OP), and non-passion (low HP combined with low OP). The reasoning for using $\pm 1 SD$ in these calculations is that they are sufficiently extreme to reasonably represent people scoring high and low on both passion dimensions, yet not so extreme that they reflect the passion levels of only a small proportion of people (assuming a normal distribution, a score of $+1 SD$ is at the 84th percentile, whereas a score of $-1 SD$ is at the 16th percentile). It is important to emphasize that the quadripartite approach does *not* classify people into groups or categories, nor does it posit the existence of only four types of passionate people on this earth. Instead, it assumes that both dimensions of passion are continuously distributed in a population and uses pre-specified high and low levels of HP and OP as “fuzzy regions in a two-dimensional space” (Shaver & Mikulincer, 2008, p. 1846) to compute and test associations with four *prototypical subtypes* of passion.²

² Variable-centered approaches can be contrasted with person-centered approaches (e.g., profile analyses), which have also been used to examine different combinations of HP and OP (e.g., Gillet et al., 2023; Li et al., 2020). In contrast to variable-centered approaches, which assume that samples are drawn from a single population,

Preliminary analyses were conducted in SPSS (version 27) to calculate descriptive statistics and correlations (using observed scores), and to check for missing data. There was only one missing data point, likely because participants were prompted but not required to respond when a question was missed. We then examined differences between the four passion subtypes in Mplus (version 8.8; Muthén & Muthén, 1998–2022) using latent moderated SEM (Klein & Moosbrugger, 2000). All models were estimated using robust full information maximum likelihood (MLR) to account for potential deviations in normality.

Following previous analyses adopting the quadripartite approach (e.g., Gillet et al., 2022; Schellenberg et al., 2021), we analyzed the data in three steps. First, we conducted confirmatory factor analyses (CFAs) with each scale individually, and with each outcome variable along with HP and OP. This first step allowed us to examine the model fit of each scale and identify potential sources of misfit. As a result of these CFAs, small modifications were made to the measurement of passion (three correlated residuals were included in the model) and negative feelings (one item was excluded from all analyses). All final models yielded acceptable levels of model fit (see the Supplementary File for details).

Second, we tested *interactive effects* models in which each outcome variable was regressed on latent variables representing HP and OP (both mean centered) and their interaction effect. In situations in which an interaction effect was not statistically significant, we proceeded to test and interpret *main effects* models in which each outcome variable was regressed on latent variables representing HP and OP (both mean centered), and the interaction effects were constrained to zero. Either interactive effects models or main effects models can be used to calculate predicted scores on outcome variables for the four passion subtypes; in the absence

of a significant interaction effect, main effects models were interpreted to enhance model parsimony (Gaudreau, 2012).

Finally, to test the hypotheses of the quadripartite approach, we estimated and compared predicted values of outcome variables for each passion subtype. We estimated predicted values using regression equations for either the interactive effects models (when the interaction effect was statistically significant), or the main effects models (when the interaction effect was not statistically significant). Predicted values were estimated at high (+1 *SD*) and low (-1 *SD*) levels of HP and OP in combinations that corresponded with the four passion subtypes. We compared predicted values using two methods. First, simple slopes allowed us to compare differences between (a) mixed passion vs. pure HP (Hypothesis 2; simple slope: OP at high HP), (b) pure HP vs. non-passion (Hypothesis 3; simple slope: HP at low OP), (c) mixed passion vs. pure OP (Hypothesis 4; simple slope: HP at High OP), and (d) pure OP vs. non-passion (Hypothesis 5; simple slope: OP at low HP). Second, we computed Cohen's *d* values for the differences between each subtype and interpreted the corresponding significance tests. Cohen's *d* values were computed by dividing the difference between both predicted values by the standard deviation of the outcome variable (Gaudreau et al., 2016). All standard deviations were calculated using the square root of the variance obtained in CFAs that included HP, OP, and the outcome variable. Cohen's *d* values were especially important for comparing two sets of passion subtypes that cannot be compared using simple slopes: (a) pure HP vs. pure OP (Hypothesis 1) and (b) mixed passion vs. non-passion (Hypothesis 6).

In both studies, we tested for the potential influence of outliers in the main analyses (i.e., the regression models in Study 1, and the conditional models in Study 2) by visually inspecting log-likelihood distance influence measures (Cook & Weisberg, 1982) in Mplus. Between 1 and 2 outliers were identified in each analysis. Repeating the analyses with these potential outliers removed resulted in negligible changes in the results. We therefore report analyses with all cases included.

Results

Results from interactive and main effects models for each outcome variable in each sample are reported in Table 1. Hypothesis tests are reported in Table 2, and passion subtypes are plotted in Fig. 1.

Negative feelings

The interactive effect model yielded a significant HP × OP interaction, $b = -0.232$, $p = 0.010$. We thus calculated the predicted values using the simple intercept and slopes

Footnote 2 (continued)

person-centered approaches assume that samples are drawn from multiple subpopulations. The goal of person-centered approaches is therefore to identify and describe these different subpopulations by categorizing people into groups or profiles (Howard & Hoffman, 2018; Morin et al., 2011). This allows for the identification of any number of distinct groups of people that each have unique configurations of different variables. This approach can also allow one to determine the proportion of people who fall into these different categories. However, person-centered approaches are inherently exploratory; although they can be used for confirmatory purposes (Morin et al., 2018), the number and composition of the groups/profiles is data-driven. In contrast, a benefit of a variable-centered approach is that specific values of HP and OP can be specified a priori, ensuring that the hypotheses of the quadripartite approach are precisely tested and compared across samples. Our view is that both variable- and person-centered analyses should be viewed as complementary approaches (Howard & Hoffman, 2018; Marsh et al., 2009) that both help us understand more about the different combinations of HP and OP.

Table 1 Study 1: Results from Main Effects and Interactive Models

	Main effects model			Interactive effects model		
	HP	OP	HP×OP	HP	OP	HP×OP
Negative feelings	–	–	–	–0.342* [–0.655, –0.030]	0.347** [0.155, 0.539]	–0.232** [–0.409, –0.055]
Positive Feelings	0.611** [0.347, 0.876]	–0.174* [–0.312, –0.036]	.000 ^a	0.658** [0.370, 0.947]	–0.223** [–0.392, –	0.091 [–0.025, 0.206]
Enjoyment	1.041** [0.606, 1.475]	–0.099 [–0.322, 0.123]	.000 ^a	1.017** [0.564, 1.470]	–0.074 [–0.348, 0.200]	–0.047 [–0.227, 0.133]

Unstandardized beta coefficients are reported with 95% confidence intervals in brackets

HP harmonious passion, OP obsessive passion

* $p \leq .05$. ** $p \leq .01$

^aIdentifies parameters that were fixed at zero

Table 2 Study 1: Association between passion subtypes and outcome variables

Outcome variable	<i>d</i>	Description	<i>b</i>	<i>SE</i>	95% CI
Negative feelings					
H1: PHP v. POP	–1.590**	—	—	—	—
H2: MP v. PHP	0.598**	OP at High HP	0.213**	0.082	[0.052, 0.374]
H3: PHP v. NP	–0.243	HP at Low OP	–0.135	0.144	[–0.417, 0.147]
H4: MP v. POP	–0.993**	HP at High OP	–0.550**	0.208	[–0.958, –0.142]
H5: POP v. NP	1.347**	OP at Low HP	0.481**	0.134	[0.218, 0.743]
H6: MP v. NP	0.354	—	—	—	—
Positive feelings					
H1: PHP v. POP	1.856**	—	—	—	—
H2: MP v. PHP	–0.570*	OP main effect	–0.174*	0.070	[–0.312, –0.036]
H3: PHP v. NP	1.286**	HP main effect	0.611**	0.135	[0.347, 0.876]
H4: MP v. POP	1.286**	HP main effect	0.611**	0.135	[0.347, 0.876]
H5: POP v. NP	–0.570*	OP main effect	–0.174*	0.070	[–0.312, –0.036]
H6: MP v. NP	0.717**	—	—	—	—
Enjoyment					
H1: PHP v. POP	1.329**	—	—	—	—
H2: MP v. PHP	–0.172	OP main effect	–0.099	0.113	[–0.322, 0.123]
H3: PHP v. NP	1.158**	HP main effect	1.041**	0.222	[0.606, 1.475]
H4: MP v. POP	1.158**	HP main effect	1.041**	0.222	[0.606, 1.475]
H5: POP v. NP	–0.172	OP main effect	–0.099	0.113	[–0.322, 0.123]
H6: MP v. NP	0.986**	—	—	—	—

H1-H6 corresponds to hypotheses 1 to 6. Unstandardized beta coefficients are reported

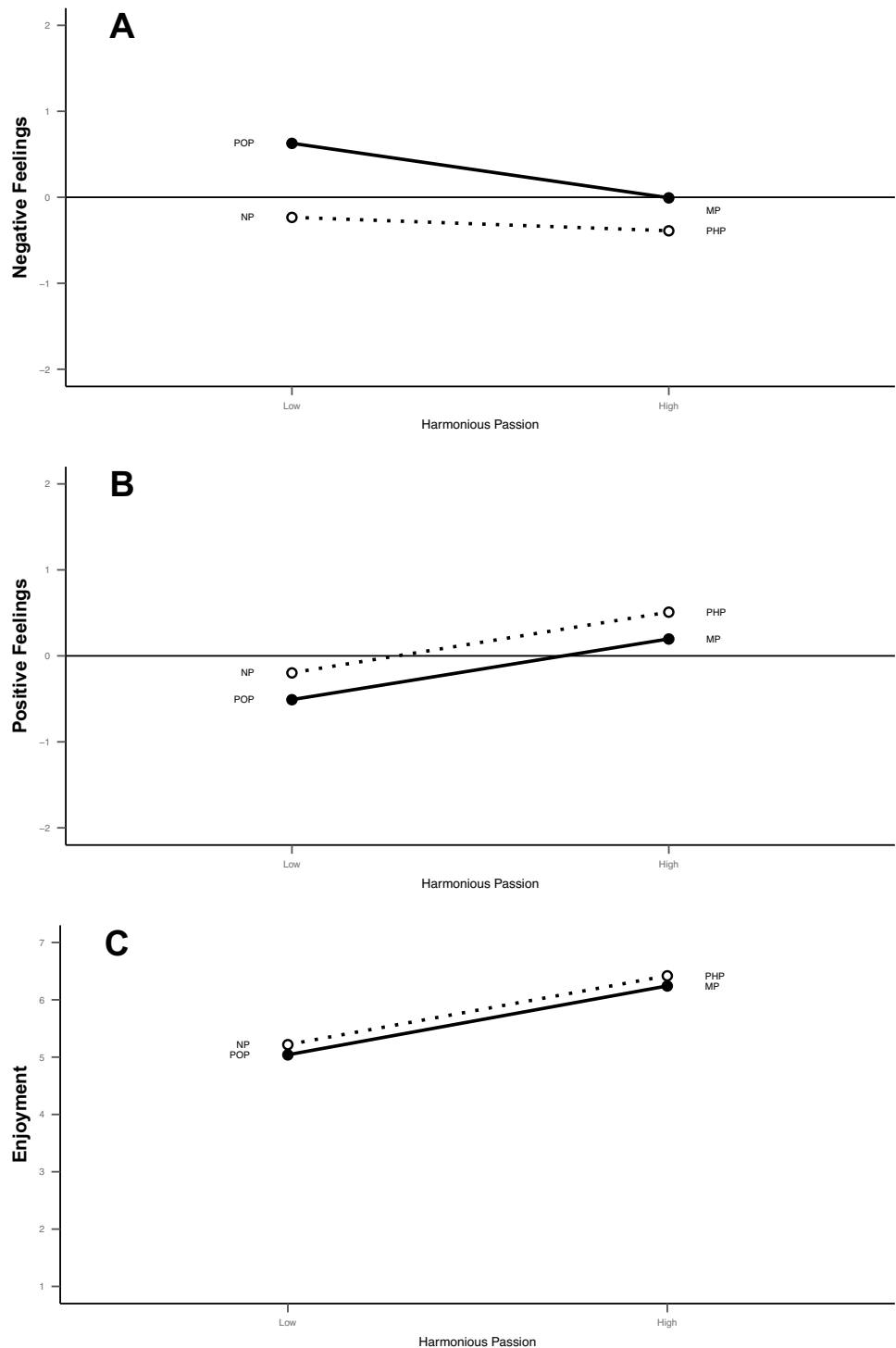
PHP pure harmonious passion, POP pure obsessive passion, MP mixed passion, NP non-passion, HP harmonious passion, OP obsessive passion

* $p \leq .05$. ** $p \leq .01$

from the interactive effect model. Estimates of predicted values showed that the pure OP subtype was associated with the most negative fan feelings, whereas the pure HP and non-passion subtypes were associated with the least negative fan feelings. When subtypes were compared, pure HP was associated with lower negative feelings than pure OP (supporting Hypothesis 1; $d = -1.590, p = 0.003$) and mixed passion (supporting Hypothesis 2; $d = 0.598,$

$p = 0.009$), and pure OP was associated with greater negative feelings than mixed passion (supporting Hypothesis 4; $d = -0.993, p = 0.008$) and non-passion (supporting Hypothesis 5; $d = 1.347, p < 0.001$). Associations with negative feelings did not differ between non-passion and either pure HP (Hypothesis 3; $d = 0.243, p = 0.348$) or mixed passion (Hypothesis 6; $d = 0.354, p = 0.062$).

Fig. 1 Associations between harmonious passion, obsessive passion, and negative feelings (Panel A), positive feelings (Panel B), and enjoyment (Panel C). High and low values of harmonious and obsessive passion are plotted at one standard deviation above and below the mean. Solid lines represent high obsessive passion; dotted lines represent low obsessive passion. Passion scores are mean centered, and both negative and positive feeling scores are standardized. PHP = pure harmonious passion; POP = pure obsessive passion; MP = mixed passion; NP = non passion



Positive feelings

The interactive effect model did not yield a significant HP \times OP interaction, $b = 0.090$, $p = 0.125$. We therefore interpreted the main effects model, which showed that positive fan feelings were positively associated with HP ($b = 0.611$, $p < 0.001$) and negatively associated with OP

($b = -0.174$, $p = 0.013$). Estimates of predicted values showed that the pure HP subtype was associated with the most positive fan feelings, whereas the pure OP subtype was associated with the least positive fan feelings. When subtypes were compared, pure HP was associated with greater positive feelings than pure OP (supporting Hypothesis 1; $d = 1.856$, $p < 0.001$), mixed passion (supporting

Hypothesis 2; $d = -0.570$, $p = 0.013$), and non-passion (supporting Hypothesis 3; $d = 1.286$, $p < 0.001$), pure OP was associated with less positive feelings than mixed passion (supporting Hypothesis 4; $d = 1.286$, $p < 0.001$) and non-passion (supporting Hypothesis 5; $d = -0.570$, $p = 0.013$), and mixed passion was associated with greater positive feelings than non-passion (supporting Hypothesis 6a; $d = 0.717$, $p < 0.001$).

Enjoyment

The interactive effect model did not yield a significant HP \times OP interaction, $b = -0.047$, $p = 0.609$. We therefore interpreted the main effects model, which showed that fan enjoyment was positively associated with HP ($b = 1.041$, $p < 0.001$) and unrelated with OP ($b = -0.099$, $p = 0.381$). Estimates of predicted values showed that the pure HP and mixed passion subtypes were associated with the greatest levels of fan enjoyment, whereas the pure OP and non-passion subtypes were associated with the lowest levels of fan enjoyment. When subtypes were compared, pure HP was associated with greater enjoyment than pure OP (supporting Hypothesis 1; $d = 1.329$, $p = 0.001$) and non-passion (supporting Hypothesis 3; $d = 1.158$, $p < 0.001$), pure OP was associated with less enjoyment than mixed passion (supporting Hypothesis 4; $d = 1.158$, $p < 0.001$), and mixed passion was associated with greater enjoyment than non-passion (supporting Hypothesis 6a; $d = 0.986$, $p < 0.001$). Associations with enjoyment did not differ between pure HP and mixed passion (Hypothesis 2; $d = -0.172$, $p = 0.381$), or between pure OP and non-passion (Hypothesis 5; $d = -0.172$, $p = 0.381$).

Brief discussion

Study 1 adds to our understanding of passion based on the quadripartite approach by showing that the ways sport fans usually feel while watching their teams play are associated with different passion subtypes. The results show that fans who experience the least negative feelings and the greatest sense of enjoyment support their teams with high HP (i.e., pure HP or mixed passion). Fans who experience the most positive feelings support their teams with high HP combined with low OP (i.e., pure HP).

Study 2

The goal of Study 1 was to test associations between passion subtypes and the way fans usually felt while watching their favourite teams play using a cross-sectional design. To build on these results, our aim in Study 2 was to test associations between passion subtypes and *changes* in the way fans

felt while watching their favourite teams play throughout a season using a longitudinal design. To do this, we relied on data that we had collected from fans of the Winnipeg Jets throughout the 2021–2022 National Hockey League (NHL) season. Before data collection, we did not formulate any hypotheses regarding the relationship between passion subtypes and changes in fan feelings because we could not know the outcome of the Jets season beforehand. However, after the season was over and the data had been collected, it was clear that this had been a particularly disappointing season for the Jets. The Jets performed poorly throughout the year, their head coach resigned mid-way through the season, there were local newspaper reports about growing fan frustration and declining game attendance (McIntyre, 2021, 2022) and the Jets failed to qualify for the Stanley Cup Playoffs for the first time in five seasons (Friesen, 2022).

We wondered if this disappointing Jets season had a bigger impact on changes in fan feelings and enjoyment with some passion subtypes compared to others. There was reason to suspect that this might be the case. Previous research has found that the effects of challenging situations for sport fans are more tumultuous for fans with high OP. Research with hockey fans has shown that the effect of team performance on both fan feelings and situational life satisfaction is most prominent for fans with high OP (Lafrenière et al., 2012; Schellenberg & Verner-Filion, 2021). Also, OP has been linked with more negative responses, such as perceived stress, threat appraisals, and drug/alcohol use, during difficult times such as when sport seasons were disrupted due to a labour dispute (Schellenberg et al., 2013) and a pandemic (Schellenberg et al., 2021). Therefore, after the Jets season was over and the data from this study had been collected, we hypothesized that fans with high OP (i.e., pure OP and mixed passion) would develop stronger negative feelings over this Jets season.

Method

Participants and procedure

We invited fans of the Winnipeg Jets to participate in a longitudinal study during the 2021–2022 NHL regular season. Our recruitment goal was simple: We wanted to recruit as many Jets fans as we could at the start of the season. Given recommended sample sizes for latent growth modeling (e.g., Fan & Fan, 2005; Park & Schutz, 2005), we knew that at least 200 Jets fan would need to participate to be able to analyze change in fan feelings over time. Fans were initially recruited before the season using a social media campaign that included a link to the first online survey (available between September–October 2021; Time 1). The first survey asked participants to provide their email addresses which

were used to send them links to two additional online surveys near the middle (January 2022; Time 2) and end (April 2022; Time 3) of the season.

A total of 418 Jets fans completed at least one survey. An additional 87 survey submissions were received but were excluded from the analysis (see the online Supplementary File for details). Participants ranged in age from 18 to 82 years old ($M = 42.64$ years, $SD = 13.42$ years), and most identified as having a White/European ethnic background (71.5%). There was a similar number of male ($N = 204$; 48.8%) and female ($N = 198$, 47.4%) participants. Three participants identified as transgender/non-binary, and 13 participants did not report their gender. Years as a fan ranged from 2 to 10 years ($M = 9.29$ years, $SD = 1.89$ years). Note that the Winnipeg Jets relocated to Winnipeg in 2011, meaning that 10 years was the most amount of time that fans could have been a fan of the team at the time of this study. Most participants (86.3%) reported that they had been a fan for all 10 years.

Measures

Passion

Levels of HP and OP for being a Jets fan at Time 1 were assessed with a short version of the Passion Scale (Vallebrand, 2015). We administered a short version of the Passion Scale in order to reduce the length of each survey, which we expected would reduce participant burden and ultimately enhance ongoing participation. This scale included three items to assess HP (“Being a Winnipeg Jets fan is in harmony with the other activities in my life”, “Being a Winnipeg Jets fan is well integrated in my life”, “Being a Winnipeg Jets fan is in harmony with other things that are part of me”), and three items to assess OP (“I have almost an obsessive feeling for being a Winnipeg Jets fan”, “Being a Winnipeg Jets fan is so exciting that I sometimes lose control over it”, “I have the impression that being a Winnipeg Jets fan controls me.”). These items have been used in previous research adopting a short version of the Passion Scale (e.g., Trépanier et al., 2014). We modified the wording of the original items to refer to being a fan of the Winnipeg Jets. Participants rated their agreement with each item on a scale from 1 (*not agree at all*) to 7 (*totally agree*). Acceptable levels of internal consistency were obtained for both HP ($\alpha = 0.921$) and OP ($\alpha = 0.844$).

Fan feelings

Like in Study 1, we assessed fan feelings at each time point using the SPANE. However, instead of answering the items while thinking of how they usually feel while watching their team play, fans answered the items with the following stem:

“When I watch the Winnipeg Jets play, I feel...”. Like in Study 1, one item from the negative feelings scale (item 9: “Afraid”) was excluded from all analyses (see the Supplementary File for details).

Enjoyment

Levels of fan enjoyment were assessed at each time point with a single-item: “I enjoy watching the Winnipeg Jets play”. Participants once again rated their agreement with this item on a scale from 1 (*not agree at all*) to 7 (*totally agree*).

Data Analysis

We analyzed the data in four steps. First, we conducted preliminary analyses in SPSS (version 27) to organize the data and assess missing data. Of the 418 participants, 230 participants (55%) completed all three surveys, 100 participants (23.9%) completed two surveys only, and 88 participants (21.1%) completed the first survey only. Missing data were managed using full information maximum likelihood (FIML), the default procedure in Mplus. FIML is a model-based approach that involves using all information to estimate parameters when data are missing (Little, 2013; Schlomer et al., 2010). FIML works under the assumption that missing data are either missing completely at random (MCAR) or missing at random (MAR). Using SPSS, we conducted Little’s MCAR test to examine if missing data on the items assessing HP, OP (both at Time 1), enjoyment, negative feelings, and positive feelings (at all three time points) could be considered to be MCAR. The results showed that the null hypothesis that the data are MCAR was rejected, Little’s MCAR $\chi^2(376) = 538.058$, $p < 0.001$. This means that the missing data were likely not MCAR. We therefore proceeded under the untestable assumption that the missing data were MAR (Enders, 2013; Muthén et al., 2016). Note that whether participants completed (coded as 1, $n = 230$) or did not complete (coded as 0, $n = 188$) all three time points was not significantly correlated with age and years as a fan, or mean levels of OP, enjoyment, negative feelings, and positive feelings assessed at Time 1. A small but significant positive correlation was observed with mean levels of HP at Time 1 ($r = 0.124$, $p = 0.012$, $r^2 = 0.015$).

Second, we imported the data into Mplus to conduct confirmatory factor analyses (CFAs) on items assessing passion at Time 1, and items assessing both negative and positive feelings at each time point (CFAs were not conducted with enjoyment because it was assessed as a single-item observed variable at each time point). As a result of these CFAs, small modifications were made to the measurement of passion (one correlated residual was included in the model and a small negative residual variance was constrained to equal 0.100) and negative feelings (one item was excluded

from all analyses). All final models yielded acceptable levels of model fit. We then specified strong longitudinal factorial invariance of both negative and positive feelings by constraining the factor structure, item loadings, and item intercepts to be equal over time. This is an important preliminary step in latent growth modeling (LGM) analyses (Park & Schutz, 2005) because it ensures that the same construct is assessed on the same metric over time (Widaman et al., 2010). These models yielded acceptable levels of fit. More details on these CFA and invariance models are reported in the Supplementary File.

The third and fourth steps involved examining change over time using LGM in Mplus (Bollen & Curran, 2006; Curran et al., 2010). LGM is an approach that examines change over time based on the structural equation modeling framework (Park & Schutz, 2005). In the third step of our analysis, we tested *unconditional models* that modeled changes in negative feelings, positive feelings, and enjoyment using two latent factors: an intercept (in which loadings at each measurement point are fixed to 1) and a slope (in which loadings at the first, second, and third time points are fixed to 0, 1, and 2, respectively). Separate models were tested for each outcome variable. For both negative and positive feelings, the models specifying strong invariance were used as the baseline models for this analysis. Mean intercepts indicate average levels of a construct at Time 1, whereas the mean slopes indicate average rates of change in a construct over time. The intercept for models with negative and positive feelings was fixed to zero by default in Mplus because they were modeled as latent variables. The intercept for models with enjoyment (an observed variable) was centered using the mean of enjoyment at Time 1 to aid interpretation and align with the intercepts of negative and positive feelings.

In the fourth step, we tested *conditional models* in which three variables were added as predictors of both the intercept and slope in each model: HP, OP, and the HP \times OP latent interaction effect. The latent interaction effect was computed in Mplus using the XWITH command. Note that fit indices are not available for these models because they need to be analyzed using the TYPE = RANDOM option, which is required when using the XWITH command in Mplus (Muthén & Muthén, 1998–2022). We probed significant HP \times OP interaction effects by calculating simple intercepts and simple slopes representing levels of a construct at Time 1 and rates of change over time at different levels of HP and OP. We did so using procedures described by Curran et al. (2004) along with the MODEL CONSTRAINT function in Mplus. Each simple intercept and simple slope is tested against the null hypothesis of no significant effect (i.e., equal to zero; Bollen & Curran, 2006). In line with previous applications of the quadripartite approach (e.g., Schellenberg et al., 2021), simple intercepts and simple slopes

were calculated using high (+1 SD) and low (-1 SD) levels of each passion dimension, thus allowing a simple intercept and simple slope to be calculated for each of the four passion subtypes. Standard deviations were calculated by taking the square root of the variance obtained in CFA with HP and OP. As in Study 1, in situations in which the HP \times OP interaction effect was not statistically significant, models were re-analyzed with this interaction effect constrained to equal zero. Finally, we again used the MODEL CONSTRAINT function in Mplus to compute difference scores for the differences between each simple slope. This procedure by default uses the Delta method to compute standard errors (Muthén et al., 2016), which allowed us to test if each difference score was statistically different than zero.

Results

Unconditional LGM

Results of the unconditional LGM are reported in Table 3. All models fit the data well. The means of the slopes indicated that average levels of negative feelings (slope = 0.326, $p < 0.001$) increased throughout the season, and that average levels of positive feelings (slope = -0.537, $p < 0.001$) and enjoyment (slope = -0.279, $p < 0.001$) decreased throughout the season.³

Conditional LGM

Results of the conditional LGM, in which intercepts and slopes were regressed on HP, OP, and the HP \times OP interaction effect, are reported in Table 4. Estimated simple intercepts and simple slopes for each passion subtype are reported in Table 5. Simple slopes comparisons are reported in full in the Supplementary File (Table S5).

Negative feelings

The intercept of negative feelings was predicted by the main effects of both HP and OP, whereas the slope was predicted by the HP \times OP interaction. To calculate simple slopes and simple intercepts, we respecified this model to constrain the regression of the intercept on the HP \times OP interaction effect to equal zero. Pure OP was associated with the highest intercept, whereas pure HP was associated with the lowest intercept. All four passion subtypes were associated with

³ Note that the unconditional LGM model with negative feelings is based on responses from 417 participants because one participant did not answer any items assessing negative feelings on any of the three surveys.

Table 3 Study 2: Unconditional latent growth models

	Negative feelings			Positive feelings			Enjoyment		
	Estimate	<i>p</i>	<i>SE</i>	Estimate	<i>p</i>	<i>SE</i>	Estimate	<i>p</i>	<i>SE</i>
Slope									
Mean	0.326	<.001	.060	-0.537	<.001	.067	-0.279	<.001	.028
Variance	0.311	.079	.177	0.261	.044	.130	0.128	.015	.053
Intercept									
Mean	0.00 ^a	—	—	0.00 ^a	—	—	0.00 ^b	.997	.058
Variance	2.626	<.001	.692	3.903	<.001	.793	1.202	<.001	.131
Covariance									
Intercept–Slope	-0.276	.158	.196	-0.160	.350	.171	-0.069	.235	.058
MLR χ^2	136.828	.001		200.953	<.001		0.974	.324	
<i>df</i>	91			137			1		
<i>CFI</i>	.979			.978			1.00		
<i>TLI</i>	.976			.975			1.00		
<i>RMSEA</i>	.035			.033			.000		
[90% CI]	[.022, .046]			[.023, .043]			[.000, .129]		

All *p-values* are two-tailed. Negative and Positive Feelings were analyzed with models in which the factor structure, items loadings, and item intercepts were constrained to be equal across time (i.e., strong longitudinal measurement invariance)

^aIntercepts were constrained to equal zero by default

^bIntercept was centered using the mean of enjoyment at Time 1

Table 4 Study 2: Conditional latent growth models

	Intercept			Slope		
	<i>b</i>	95% CI	<i>p</i>	<i>b</i>	95% CI	<i>p</i>
Negative Feelings						
HP	-0.258	[-0.467, -0.049]	.015	-0.045	[-0.159, 0.070]	.444
OP	0.250	[0.111, 0.389]	<.001	0.058	[-0.011, 0.128]	.101
HP×OP	-0.005	[-0.110, 0.101]	.928	-0.061	[-0.116, -0.005]	.032
Positive Feelings						
HP	0.645	[0.400, 0.890]	<.001	-0.061	[-0.183, 0.062]	.332
OP	0.162	[0.018, 0.305]	.028	-0.017	[-0.095, 0.061]	.663
HP×OP	0.018	[-0.086, 0.122]	.734	-0.004	[-0.055, 0.048]	.892
Enjoyment						
HP	0.302	[0.190, 0.414]	<.001	0.019	[-0.045, 0.082]	.564
OP	0.252	[0.187, 0.318]	<.001	-0.040	[-0.082, 0.002]	.061
HP×OP	-0.067	[-0.113, -0.020]	.005	0.029	[0.006, 0.052]	.013

HP harmonious passion, OP obsessive passion

increases in negative feelings over time, with the greatest increase associated with pure OP (estimate = 0.755, *p* < 0.001) and the weakest increase associated with non-passion (estimate = 0.209, *p* = 0.021). Simple slope comparisons showed a significant difference between the pure OP and non-passion slopes (diff = 0.546, *p* = 0.010).

Positive feelings

The intercept of positive feelings was predicted by the main effects of both HP and OP, whereas the slope was

not associated with either any main effect or the interaction effect. We therefore did not compute simple slopes for each passion subtype given that the slope was not significantly associated with both the main and interactive effects. To calculate simple intercepts, we respecified this model to constrain the regression of the intercept on the HP×OP interaction effect to equal zero, and the regression of the slope on both main effects and the interaction effects to equal zero. Mixed passion was associated with the highest intercept, whereas non-passion was associated with the lowest intercept.

Table 5 Study 2: Estimated simple intercept and simple slope for each passion subtype

		Simple intercept			Simple slope		
		<i>Estimate</i>	<i>SE</i>	<i>p</i>	<i>Estimate</i>	<i>SE</i>	<i>p</i>
Negative feelings							
	PHP	−0.815	0.230	< .001	0.405	0.125	.001
	POP	0.815	0.230	< .001	0.755	0.199	< .001
	MP	0.127	0.135	.349	0.311	0.109	.004
	NP	−0.127	0.135	.349	0.209	0.090	.021
Positive feelings							
	PHP	0.500	0.238	.036	–	–	–
	POP	−0.500	0.238	.036	–	–	–
	MP	1.111	0.154	< .001	–	–	–
	NP	−1.111	0.154	< .001	–	–	–
Enjoyment							
	PHP	0.100	0.149	.503	−0.297	0.092	.001
	POP	0.247	0.184	.180	−0.500	0.106	< .001
	MP	0.717	0.048	< .001	−0.299	0.040	< .001
	NP	−1.062	0.124	< .001	−0.197	0.043	< .001

PHP pure harmonious passion, *POP* pure obsessive passion, *MP* mixed passion, *NP* non-passion

Enjoyment

Both the intercept ($b = -0.067, p = 0.005$) and the slope ($b = 0.029, p = 0.013$) of enjoyment were predicted by the HP × OP interaction. We used this interactive effect model to calculate the simple intercept and simple slope at each passion subtype. All three subtypes with at least one high level of passion (i.e., pure HP, pure OP, mixed passion) had higher initial levels of enjoyment than the non-passion subtype. All four passion subtypes were associated with a decline in enjoyment over time, with the greatest decline associated with pure OP (estimate = $-0.500, p < 0.001$) and weakest decline associated with non-passion (estimate = $-0.197, p < 0.001$). Simple slope comparisons showed a significant difference between the pure OP and non-passion slopes (diff = $-0.304, p = 0.008$).

Brief Discussion

The results from Study 2 supported what many Jets fans had already suspected: on average, Jets fans’ negative feelings increased whereas both positive feelings and enjoyment decreased throughout the 2021–2022 NHL season. However, the effect of this disappointing Jets season was more pronounced for some fans than others. Specifically, pure OP was associated with the steepest increase in negative feelings and the steepest decline in enjoyment throughout the season, although the magnitude of these changes was statistically significantly different only from the changes associated with non-passion.

General Discussion

This research showed that the way fans feel while cheering for their teams, and how these feelings change over the course of a season, is associated with unique within-person combinations of HP and OP. In line with previous applications of the quadripartite approach (Gillet et al., 2022; Schellenberg et al., 2019), it appears that the most adaptive fan outcomes (i.e., low negative feelings, high positive feelings and enjoyment) are most often associated with the pure HP subtype. In contrast, the least adaptive fan outcomes (i.e., high negative feelings, low positive feelings and enjoyment) are most often associated with the pure OP subtype. These results have practical implications for anybody committed to maximizing the positive experiences of sport fans, including leagues, sport organizations, and fans themselves. Rather than attempting to boost the amount of passion fans feel toward their favourite team, these results show that positive fan feelings would be maximized by raising certain dimensions of passion (i.e., HP) while also lowering others (i.e., OP).

Pure HP

The pure HP subtype is characterized by all hallmarks of HP (e.g., balanced engagement) without any of the hallmarks of OP (e.g., preoccupation) and is predicted to be associated with more positive outcomes than pure OP (hypothesis 1), mixed passion (hypothesis 2), and non-passion (hypothesis 3; Schellenberg et al., 2019). Study 1 generally supported these hypotheses, although pure HP did not differ

from non-passion in levels of negative feelings, or from mixed passion in levels of enjoyment. When it comes to how fans generally feel while watching their favourite teams, it appears that the most positive feelings and least negative feelings are most often associated with pure HP. However, the results of Study 2 showed that pure HP is not immune to the negative effects of a bad season. Over the 2021–2022 Jets season, pure HP was associated with significant increases in negative feelings and decreases in enjoyment. A losing season – particularly one as disappointing as this one for the Jets – can be considered to be a crisis that can even lead some organizations to apologize to their fans as a way to repair their image (Compton & Compton, 2014). Our results show that the pain and dejection that can come from a season such as this can be felt by all types of passionate fans, even those who are purely harmoniously passionate.

Pure OP

The pure OP subtype is predicted to be associated with more negative outcomes than pure HP (hypothesis 1), mixed passion (hypothesis 4) and non-passion (hypothesis 5; Schellenberg et al., 2019). Study 1 supported hypothesis 1 and 4, and partially supported hypothesis 5 (associations with enjoyment did not differ between pure OP and non-passion). When it comes to how fans generally feel while watching their favourite teams, it appears that the most negative feelings and least positive feelings are most often associated with pure OP. But fans with a pure OP may be especially sensitive to poor team performances (e.g., Schellenberg & Verner-Filion, 2021), and this appeared to be the case throughout the Jets season: pure OP was associated with the greatest increase in negative feelings and the greatest decline in enjoyment. HP and OP involve different ways of engaging in an activity and responding to adversity. HP entails having a secure sense of self-esteem and adopting a mindful, non-defensive, and problem-focused orientation toward adversity. In contrast, OP involves having one's self-esteem become contingent on performance and adopting a defensive and avoidant-focused orientation toward adversity (Lyimo & Schellenberg, 2022; Mageau et al., 2011; Vallerand, 2015). This means that the impact of a disappointing team season on fans' emotional distress and well-being should be strongest for those with low HP and high OP (i.e., pure OP). This research offered longitudinal evidence to support this viewpoint.

Mixed passion

But what about fans who simultaneously experience high HP and high OP (i.e., mixed passion)? Mixed passion is hypothesized to be associated with less adaptive outcomes than pure HP (hypothesis 2), more adaptive outcomes than

pure OP (hypothesis 4), and either more or less adaptive outcomes than non-passion (hypotheses 6a and 6b, respectively). The results from Study 1 partially support hypothesis 2 (associations with enjoyment did not differ between mixed passion and pure HP), fully support hypothesis 4, and partially support hypothesis 6a (associations with negative feelings did not differ between mixed passion and non-passion). These results support the view that having high HP protects against the costs that come with high OP (Schellenberg et al., 2021); when OP is high, having high HP is associated with better outcomes compared to when HP is low (i.e., pure OP vs. mixed passion; hypothesis 4). The protective role of having high HP when OP is also high was also evident in the results from Study 2. The increases in negative feelings and decreases in enjoyment that were associated with mixed passion were more comparable to the rate of change with pure HP than pure OP (see Table 5 and Table S5 in the Supplementary File). Therefore, although it appears that the most adaptive outcomes are linked with low OP, the negative effects of having high OP may be reduced when HP is also high.

Non-passion

Being a fan of a team does not necessarily mean you are a passionate fan. With the quadripartite approach, the non-passion subtype represents people who score low on both HP and OP and is hypothesized to be associated with worse outcomes than pure HP (hypothesis 3), better outcomes than pure OP (hypothesis 5), and either worse or better outcomes than mixed passion (hypotheses 6a and 6b, respectively). In Study 1, partial support was found for hypothesis 3 (associations with negative feelings did not differ between non-passion and pure HP), hypothesis 5 (associations in enjoyment did not differ between non-passion and pure OP), and hypothesis 6a (associations with negative feelings did not differ between non-passion and mixed passion). Study 2 showed that, although non-passion was associated with increases in negative feelings and decreases in enjoyment throughout the season, these changes were more muted compared to those associated with pure OP. There are two noteworthy implications of these findings. First, it appears that there is more support for hypothesis 6a than hypothesis 6b; however, support for hypothesis 6a was not found with negative feelings, the only negatively-laden outcome assessed in this research. This aligns with previous tests of the quadripartite in sport (Schellenberg et al., 2021), in which support was only found for hypothesis 6a with positively-laden outcomes and hypothesis 6b with negatively-laden outcomes. Although non-passionate fans may be protected from feeling negatively while supporting a team and having these negative feelings increase dramatically over the course of a disappointing season, they may also be sheltered

from experiencing all the joy and excitement that can come from being a sports fan. Second, also aligned with previous research in sport (e.g., Schellenberg et al., 2021, 2023), non-passion was associated with lower negative feelings and greater positive feelings than pure OP (hypothesis 5). This finding adds to the fascinating conclusion that has emerged from research adopting the quadripartite approach: it is often better to have no passion for being a sport fan than to be purely obsessed.

Limitations and future directions

This research should be interpreted in light of several limitations, including its reliance on self-report assessments in both studies and cross-sectional data in Study 1. We should note that both samples identified predominantly as having White/European ethnic/cultural backgrounds and, in Study 1, most participants identified as male. This means that our findings may not generalize to all types of sport fans (for more on potential moderators, see Curran et al., 2015). Our assessment of fan enjoyment in both studies was done with a single item, which prevents us from determining its reliability. Also, although not necessarily a limitation, we should acknowledge that the analyses for Study 2 should be treated as post hoc given that the outcome of the 2021–2022 season for the Jets could not be known beforehand. Study 1, in contrast, tested the hypotheses of the quadripartite approach which have been proposed elsewhere (Schellenberg et al., 2019). These limitations all underscore the need for replication with different samples of fans with additional measures of fan enjoyment.

There are three avenues for future research that we would like to highlight. First, this research focussed exclusively on different fan feelings and did not focus on other important fan outcomes that have been linked to individual passion dimensions (e.g., self-esteem, interpersonal relationships, aggression toward officials or fans of competing teams; Valerand et al., 2008). Looking at how the different passion subtypes relate to these outcomes will be an important next step. Second, Study 2 was, to our knowledge, the first study to test associations between passion subtypes and changes in outcomes over time. However, this study included only three assessment points, which does not allow for more subtle changes in fan feelings to be assessed. Going forward, including additional assessments would allow researchers to test the associations between passion subtypes and different patterns of change in fan outcomes (quadratic, cubic, phasic), and examine how these changes are affected by key events that occur within a season, including those that are predictable (e.g., trade/transfer deadlines) and unpredictable (e.g., player injuries). Finally, the quadripartite approach can test for differences between passion subtypes on predicted outcome variables scores. It is not, however, able to

determine how many fans identify with the different subtypes. More research using different methods (see Bélanger & Ratelle, 2021; Gaudreau, 2015) is needed to determine if some passion subtypes are more prevalent among sport fans than others.

Conclusion

Although professional sport organizations often brag about their highly passionate fanbases, this research indicates that the impact that this passion has on fan feelings depends on the extent to which their passion is harmonious and obsessive. We found that the most positive fan feelings were associated with high HP combined with low OP (i.e., pure HP). In contrast, the most negative fan feelings, the greatest increase in negative feelings, and the greatest decrease in enjoyment throughout a disappointing team season were associated with high OP combined with low HP (i.e., pure OP). These results help us understand more about the experiences of passionate sport fans and how their feelings are shaped by the extent to which their passion is harmonious and obsessive.

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Data availability Anonymous data and output are available on the Open Science Framework at <https://osf.io/t7m8s/>.

Declarations

Competing interests The authors have no relevant financial or non-financial interests to disclose.

Ethical approval Both studies were approved by the Research Ethics Board at the University of Manitoba (both studies under protocol # E2020:020).

Consent to participate Informed consent was obtained from all individual participants included in both studies.

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