

The Relationship between Passion and Injury in Dance Students

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Abstract

The present study explored whether dancers exhibit distinct injury profiles and injury-related coping behaviors as a function of their passion for dance. Results from 81 student dancers suggest that having a harmonious passion for dance is associated with suffering less from acute injuries, exhibiting more problem-focused health-promoting and less health-undermining coping behaviors when injured, being more flexibly involved in dance activities when injured, and engaging in self-initiated injury prevention. Obsessive passion for dance, on the other hand, is associated with prolonged suffering from chronic injuries, more rigid involvement in dance activities when injured, and the tendency to report that pride is a major factor preventing one from obtaining adequate treatment. Thus, it appears that obsessive passion for dance may constitute a risk factor for sustaining chronic injuries, and that harmonious passion is the more optimal motivational foundation for long-term, healthful involvement in dance.

“Professional ballet is not just something that you do; in a very deep sense it is who you are” – Wainwright, Williams and Turner¹

“Dancing... is no mere translation or abstraction from life; it is life itself” – H. Y. Ellis²

For many professional and student dancers, dancing is not merely something one does, it is something one does passionately. As the above quotations suggest, dance is a major, and in some cases exclusive, source of identity for dancers. It is not surprising that dance can become a passion given the many artistic, physical, and psychological rewards with which it is associated.³ At the same time, living and dancing with painful injuries is so common among dancers that some accept it as a sign of vocational commitment.^{1,4,5} This bleak image of what it entails to be a dedicated dancer raises some important questions: Is it possible to be passionate about one's calling as a dancer and at the same time preserve one's physical integrity in the long-run? If so, what type of motivational foundation or passion may help dancers achieve this goal?

The present paper explores whether passion in dance students is associated with adaptive or maladaptive coping

responses to common dance injuries, and whether passion may be considered a risk factor for sustaining acute and chronic injuries. The high frequency of injuries among professional and student classical ballet dancers has been confirmed by empirical data from the U.S., the U.K., Australia, Sweden, Germany, and Canada.⁶⁻¹² Although less information is available on contemporary dancers, recent empirical data suggests that modern and ballet dancers exhibit similar patterns of lower extremity overuse injuries.¹³ The high frequency of injuries among dancers has given rise to research linking certain psychological and psychosocial factors to dance injuries, albeit exclusively in professional and student ballet dancers. Stress, negative life events and mood states, sleep disturbances, trait anxiety, and the use of emotion-focused coping strategies such as alcohol and drug use are all associated with dance injuries.^{10,14-16} On a more positive note, good sleep quality, social support, and the use of problem-focused coping strategies such as planning and problem-solving may buffer the effects of stress and protect dancers from sustaining injuries.^{10,14,17}

On Passion for Activities

People often develop intimate and long-lasting relationships with activities they love, cherish, and value. The phenomenon of passion for activities has recently become the subject of

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empirical study. Notably, Vallerand and colleagues¹⁸ developed a conceptual framework of passion for activities in which they define passion as a strong inclination toward a self-defining activity that people like, find important, and in which they invest considerable time and energy. In line with philosophical accounts of passion as both an active endeavor (where the person feels in control of the passion), as well as a passive one (where the passion takes over and controls the person), Vallerand and colleagues¹⁸ model proposes two types of passion for activities: harmonious and obsessive.

Harmonious passion (HP) is postulated to be the result of an autonomous internalization of the activity into one's identity, which occurs when one freely accepts the passionate activity as important for him or her without feeling that self-esteem or social approval are contingent on continued activity involvement. Although in the case of HP the passionate activity occupies a significant place in one's identity, it is not overwhelming, and leaves room for other life pursuits. One values the passionate activity highly, but not to the detriment of all other life pursuits and domains. Also, one feels that involvement in the passionate activity is fully volitional and flexible, rather than uncontrollable and rigid. As such, this type of passion for an activity is in harmony with other life domains and activities. In addition to facilitating positive affect and cognition, HP is hypothesized to lead to flexible persistence; when one possesses HP one is in control of the activity, so that when conditions become noxious, behavioral involvement in the activity should either markedly decline or stop.

In contrast, obsessive passion (OP) is postulated to result from a controlled internalization of the activity into one's identity, which occurs when involvement in the passionate activity comes to be linked with intra- or inter-personal contingencies such as contingent feelings of self-esteem, social acceptance, or

uncontrollable excitement. Obsessive passion is characterized by over-identification with the passionate activity, such that the activity consumes one's thoughts and overwhelms one's identity. One values the passionate activity above all other life domains and pursuits. With OP, one feels internal pressure to engage in the passionate activity, is not in control of activity involvement, and comes to experience conflict between the activity and other life domains or pursuits. In addition to inducing negative affect and rumination about the passionate activity when one is not engaging in it, OP is hypothesized to lead to rigid persistence; because with OP one comes to be controlled by the passionate activity, persistence in the passionate activity is proposed to occur in the face of important personal and interpersonal costs.

Passion for Activities: Empirical Findings

Research on the concept of passion lends support to the theoretical model outlined above. Accordingly, harmonious passion for activities has been associated with positive affect, such as vitality and pride, and cognitive states, such as "flow," or profound immersion in the activity both during and after one engages in various self-identified passionate activities. HP has been found to be associated with increases in general positive affect in football players over the course of a football season, increases in subjective well-being in the elderly over time, psychological adjustment at work, and marital satisfaction.¹⁸⁻²¹ Although people motivated by both HP and OP tend to exhibit equally high levels of persistence in the passionate activity when the latter is associated with positive outcomes, important differences arise when persistence in the activity is associated with negative outcomes. In contrast to OP, HP was not associated with persistence in the passionate activity when such persistence is ill-advised (for example, cycling on dangerous or icy roads).¹⁸ Harmonious passion also appears to trigger an adaptive achievement process in

which one's goals are characterized by the drive to master the activity rather than to avoid failure or to achieve more than others.²²

Research on the concept of passion also suggests that it is indirectly linked to physical health. Specifically, it appears that engaging in an activity as a result of HP, as opposed to OP, allows one to experience less stress in his or her life, and to have fewer negative physical symptoms such as headaches, heartburn, and muscle aches.²³ In athletes, HP has been associated with emotional control and feelings of self-efficacy, which in turn protect against pre-competition state anxiety and against injury during competition.^{23,24} More generally, HP, but not OP, has been found to relate to the use of problem-focused coping strategies, such as confronting a problem or planning in a domain unrelated to the activity.²³ Problem-focused coping was found to relate positively to feelings of self-efficacy, which in turn appear to protect one from experiencing discomforting physiological arousal and physical symptoms after a stressful event, such as a final exam.²³

Contrastingly, obsessive passion has been associated with negative affective states, such as guilt and tension, and cognitive states, such as rumination and lack of concentration, after and when prevented from engaging in various passionate activities, signaling psychological dependence.¹⁸ Obsessive passion for one's work has been found to be associated with lower levels of psychological adjustment at work, and OP for gambling appears to be associated with negative emotions in life in general.^{19,25} In football players, OP, but not HP, has been found to relate to rigid persistence, that is, intending to return to play next season in spite of experiencing increases in general negative affect during the current football season.¹⁸ In athletes, OP was positively associated with performance anxiety, which in turn negatively related to feelings of self-efficacy.²³ Lastly, OP, but not HP, has been found to predict highly persistent but ill-advised behavior,

such as winter cycling and problem gambling.^{18,26}

The Present Research: On Passion in Dance

Some authors have suggested that dancers feel internally compelled to dance and perform even when they have an injury because they come to be psychologically dependent on the sheer physicality of their working lives.^{1,27} On the other hand, research on the concept of passion suggests that obsessive passion for activities, but not harmonious passion, is characterized by the loss of control over one's involvement such that one feels internal pressure to persist even when such persistence is ill-advised and self-defeating. In line with these findings, we expected that OP for dance would be positively associated with suffering from both acute and chronic injuries, because in the case of OP the dancer feels internal pressure to persist even when persistence may lead to injury. In contrast, we expected that HP would be negatively associated with suffering from acute injuries and unrelated to suffering from chronic injuries.

Previous research has also demonstrated that although HP is positively associated with the use of problem-focused coping, OP is not.²³ As a result, we hypothesized that HP in injured dancers would be positively associated with displaying health-promoting problem-focused coping behaviors, such as seeking information on the injury and its treatment, and negatively associated with less adaptive forms of coping with injury, such as ignoring pain. In contrast, we hypothesized that OP in injured dancers would be either unrelated or negatively related to health-promoting problem-focused coping behaviors, and positively related to less adaptive forms of coping.

Previous research also suggested that OP, and not HP, is associated with experiencing signs of psychological dependence when one is prevented from engaging in the passionate activity.¹⁸ Thus, OP for dance was expected

to be associated with continued persistence in dance activities when injured, not only to avoid experiencing withdrawal, but also to protect one's dance-contingent self-esteem. In contrast, HP for dance was expected to be associated with flexible persistence when injured, characterized by more days spent in complete respite from dance activities.

In the case of OP, self-esteem can be linked to continued persistence in the passionate activity.¹⁸ Therefore, the dancer may continue dancing and not seek treatment for the injury because doing so would involve fully acknowledging the ongoing problem posed by injuries, and constitute a threat to the maintenance of one's pride and self-esteem. As a result, we expected that OP, but not HP, would be associated with feelings that personal pride prevents one from obtaining adequate treatment.

Previous research on the concept of passion also suggests that harmonious passion is associated with an adaptive achievement process characterized by mastery goals.²² In line with these findings, we hypothesized that having a harmonious passion for dance would be associated with self-initiated injury prevention in dancers because engaging in prevention is analogous to the goal of mastering the problem posed by injuries in dance.

Material and Methods Participants and Procedure

A total of 81 francophone dancers ranging in age from 15 to 31 (mean age: 22.1 years; median: 21 years) participated in this study. Participants consisted of 68 females and 7 males, with 6 participants failing to specify their gender. Years of dance experience ranged from 2 to 24 years (mean years of experience: 11.6 years; median: 12 years). Participants most frequently reported dance experience in modern dance (42%), classical ballet (17%), jazz ballet (15%), and jazz (12%), with other dance-types accounting for 14% of the sample.

Participants were recruited from the Department of Dance at the University of Quebec at Montreal, which

emphasizes contemporary dance. All participants were volunteers. Upon receiving informed consent, the participants were asked to complete a self-report questionnaire in French. This questionnaire included demographic information, the Passion for Dance Scale, and the Dancer Injury Profile Questionnaire described below. Fifty participants completed the questionnaire while auditioning for the dance program. The remaining 31 participants completed the questionnaire while enrolled as second- and third-year dance students.

Research Materials

The Passion for Dance Scale (PDS) was adapted from Vallerand and colleagues' Passion Scale.¹⁸ Results using both exploratory and confirmatory factor analysis have supported the two-factor structure of the latter, which in turn has repeatedly displayed high internal consistency.^{18,20,25,26} Akin to the original Passion Scale, the adapted PDS was composed of two six-item subscales assessing harmonious and obsessive passions for dance, as well as four passion criterion items measuring whether dance could be considered a "passion" for each participant. Participants rated the items on a seven-point scale ranging from "Do Not Agree At All" (one point) to "Completely Agree" (seven points). The harmonious passion subscale included items such as "Dance reflects the qualities I like about myself" and "Dance is in harmony with my other life activities." The obsessive passion subscale included items such as "Dance is the only thing that really turns me on" and "I have an almost obsessive feeling for dance." In the present study, internal consistency indices of .78 and .84 were obtained for the harmonious and obsessive passion subscales, respectively. Passion criterion items assessed the extent to which dance is labeled a "passion" (for example, "Dance represents a passion for me"), is a loved activity, is important for the person, and the extent to which the person invests considerable time and energy

in dance activities. Cronbach's alpha for the criterion items was .76.

Inclusion of Dance in the Self

In order to assess the extent to which dance is part of the person's identity, a final element related to the definition of passion, we used an adapted version of Aron and colleagues' Inclusion of the Other in the Self (IOS) measure.²⁸ The adapted version of this single-item pictorial instrument featured seven sets of Venn diagrams indicating increased degrees of overlap between two circles, the first circle representing the self, and the second representing dance. Participants were asked to select the diagram, ranging from no overlap to nearly complete overlap between the two circles, which best characterizes their relationship with dance.

Participants were judged to be "passionate" about dance and retained for further analyses if they scored four or above on all of the passion criterion items, as well as on the single-item Inclusion of Dance in the Self measure.

Dancer Injury Profile

The dance-related injury data were collected using 21 questions, which were taken and adapted from the DanceUK and the GRASP questionnaires.^{7,29} The Dancer Injury Profile questionnaire included questions assessing sites of acute and chronic injuries, duration of suffering from these injuries, time spent in complete and partial respite from dance activities when injured, factors perceived to prevent dancers from obtaining adequate treatment for their injuries, self-initiated injury prevention behavior, and coping behaviors in responses to pain and injury. We included items assessing health-promoting, as well as health-undermining coping behaviors. Specifically, participants were asked to what extent they sought information about the injury and its treatment, consulted a professor when in pain, consulted a health professional, ignored the injury-related pain and hid the injury from others. Participants rated the items on a seven-point scale

ranging from "Never" (one point) to "Always" (seven points).

Design and Analyses

The present study's design was correlational. Semi-partial correlations ("part" correlations in SPSS) were computed for each type of passion and the dependent variables using SPSS for Windows, version 12.0. Semi-partial correlations were computed for each type of passion while controlling for the other passion because: a) the harmonious and obsessive passion subscales were significantly correlated, and b) we were interested in each passion's unique contribution to the total variance of the outcome variables, which is expressed by a squared semi-partial correlation.³⁰ Sample size for the semi-partial correlations varies because some participants had missing scores and were excluded from the analyses. Because this research was exploratory in nature, in addition to reporting statistically significant results, we decided to also report those results that were only marginally statistically significant.

Results

The distributional properties of the data and the assumptions underlying the statistical procedures were verified. Before proceeding with further analyses, a logarithmic transformation was performed on the positively skewed variable measuring the duration of suffering from acute injuries. Following the transformation, this variable was normally distributed. Descriptive statistics were then computed. The mean for the passion criterion items was 6.55 on a seven-point scale (S.D. = .55). Participants were judged to be "passionate" in relation to dance if they scored four or more on all of the passion criterion items, as well as on the Inclusion of Dance in the Self single-item measure. All participants met this criterion and were retained for further analyses. The mean for the harmonious passion subscale was 6.08 on a seven-point scale (S.D. = .67), whereas the mean for the obsessive passion subscale was

4.23 (S.D. = 1.33). Consistent with previous studies, these two subscales were significantly correlated ($r = .30$, $p = .008$).¹⁸⁻²⁵

Also, bivariate correlations were computed between demographic variables (for example, age, sex, years of dance experience, and technique) and other measures to control for significant relationships in subsequent analyses. Sex (dummy coded: female = 0; male = 1) was negatively associated with consulting a professor when injured ($r = -.33$, $p = .005$), and positively associated with feeling that pride prevents one from obtaining adequate treatment ($r = .52$, $p = .000$). That is, males reported having less of a tendency to consult a professor when injured and more of a tendency toward feeling that pride prevents them from obtaining adequate treatment. Years of dance experience was also negatively associated with the tendency to consult a professor when injured ($r = -.36$, $p = .002$). Controlling for these statistically significant bivariate correlations did not significantly alter the results of the semi-partial correlations analyses reported below.

The most commonly reported acute and chronic injuries incurred in the past 12 months were lower back injuries (30 dancers), knee injuries (27 dancers), ankle injuries (24 dancers), neck injuries (22 dancers), and foot injuries (21 dancers). Results of semi-partial correlation analyses are presented in Table 1. Harmonious passion for dance was negatively associated with prolonged suffering from acute injuries ($r = -.44$, $p = .03$), whereas obsessive passion for dance was positively associated with prolonged suffering from one or more chronic injuries ($r = .42$, $p = .03$).

As expected, harmonious passion was positively related to health-promoting coping responses to injury, including seeking information about the injury and its treatment ($r = .34$, $p = .003$) and consulting a professor ($r = .39$, $p = .001$), and it was negatively related to maladaptive coping responses to injury, including ignor-

Table 1 Different Types of Passion Associated With Injuries, Coping, and Prevention

	HP	OP	N
Duration of suffering from:			
Acute injuries	-.44†	-.25	23
Chronic injuries	.01	.42†	26¶
Coping with injury: When injured:			
...I seek info on the injury and its treatment	.34‡	.02	74
...I consult a professor	.39§	-.12	75
...I consult a health professional	.04	-.01	75
...I ignore the pain	-.33‡	.20*	75
...I hide the injury	-.34‡	.05	75
Dance involvement flexibility: When injured:			
...I partially stop dance activities	-.12	-.30†	51
...I completely stop dance activities	.26*	.06	47
Pride prevents adequate treatment	-.19*	.40§	75
Self-initiated injury prevention	.25†	-.06	70

* $p < .10$; † $p < .05$; ‡ $p < .01$; § $p \leq .001$; ||23 dancers reported having at least 1 acute injury; ¶26 dancers reported having at least 1 chronic injury.

ing injury-related pain ($r = -.33$, $p = .004$) and hiding injury ($r = -.34$, $p = .003$). Harmonious passion for dance was also positively, but marginally, associated with completely stopping dance activities when injured ($r = .26$, $p = .08$), and positively associated with engaging in a self-initiated injury-prevention regimen ($r = .25$, $p = .03$). Contrary to expectation, having a harmonious passion for dance was not associated with the tendency to consult a health professional.

Obsessive passion, on the other hand, was positively, but marginally, associated with ignoring injury-related pain ($r = .20$, $p = .08$) and negatively associated with partially stopping dance activities when injured ($r = -.30$, $p = .03$), such as selectively engaging in dance activities to promote healing. Finally, obsessive passion was positively associated with reports that personal pride prevents one from obtaining adequate treatment when injured ($r = .40$, $p = .000$).

Discussion and Conclusion

The general purpose of the present study was to assess whether dancers exhibit distinct injury profiles and patterns of injury-related coping behavior as a function of passion. We expected that harmonious passion for dance would be associated

with sustaining less behavior-related acute and chronic injuries, exhibiting more health-promoting coping behaviors in response to injury, being more flexibly involved in dance activities when injured, and engaging in self-initiated injury prevention. In contrast, we expected that obsessive passion for dance would be associated with suffering from both acute and chronic injuries, exhibiting health-undermining coping behaviors when injured, rigidly persisting in dance activities when injured, and feeling that pride prevents one from obtaining adequate treatment.

Overall, the results lend support to our hypotheses. In particular, as hypothesized, having a harmonious passion for dance is associated with spending less time suffering from acute injuries, and is unrelated to spending time suffering from chronic injuries. Harmonious passion for dance also appears to facilitate health-promoting coping responses to pain and injury, flexible involvement in dance activities when injured, and involvement in a self-initiated injury-prevention regimen. In a similar vein, results indicate that the more dancers are harmoniously passionate, the less they ignore injury-related pain and hide their injuries from others. In sum, our results suggest that having a harmonious passion for dance leads

student dancers to attend more to common injuries, take time off to promote healing, and actively engage in injury prevention. Thus, it appears that dancing out of harmonious passion promotes healthy adaptation in the highly demanding realm of dance.

In line with our hypotheses, obsessive passion was unrelated to health-promoting coping in dancers when injured. Also consistent with our hypotheses, the more dancers are obsessively passionate, the less time they spend selectively engaging in dance activities to promote healing when injured, and the more they report that personal pride is a major factor preventing them from obtaining adequate treatment for their injuries. Importantly, results indicate that the more dancers are obsessively passionate, the more time they spend suffering from chronic injuries. Sadly, it appears that although dancers with an obsessive passion report suffering most as a result of their chronic injuries, they do not take time off when injured to promote healing. Results for obsessive passion would appear more equivocal because obsessive passion was only marginally related to health-undermining coping responses, such as ignoring injury-related pain, and was unrelated to hiding injury from others. However, although not all of the correlations with obsessive passion were statistically significant, as expected, additional tests of correlations for obsessive and harmonious passions revealed statistically significant differences between the two types of passion on most items.

These findings for obsessive passion in student dancers are consistent with previous research on the concept of passion, suggesting that OP, but not HP, is characterized by the loss of control over one's involvement such that one feels internal pressure to persist in the passionate activity, even when such persistence is associated with personal costs.^{18,20,26} The findings for OP in student dancers are also in line with qualitative research on professional ballet and contempo-

rary dancers, suggesting that dancers experience a strong need to dance and find it difficult to miss a performance when they have an injury.^{1,4} It is also possible that because OP, relative to HP, implies an identity that more exclusively depends on dance, injuries pose not only a physical but also a psychological or identity-based threat to an obsessively passionate dancer, preventing him or her from putting dance aside if even for a short while. Previous research has identified several psychological correlates of dance-related injuries in ballet dancers, including negative life events, stress, negative mood states, sleep disturbances, trait anxiety, and emotion-focused coping.^{10,14-16} The present study suggests that obsessive passion for dance is another correlate of dance-related injury, as it is associated with prolonged suffering from chronic injuries, whereas harmonious passion is not.

Our findings on the use of health-promoting coping strategies by harmoniously passionate dance students support previous research suggesting that HP is positively associated with the use of problem-focused coping, whereas OP is not.²³ The finding that HP is associated with injury prevention in dance students is consistent with previous research on the concept of passion suggesting that HP is associated with an adaptive achievement process characterized by mastery goals.²² That is, HP for dance may be associated with self-initiated injury prevention in dancers because engaging in prevention is analogous to the goal of mastering the problem posed by injuries in dance. Overall, these findings suggest that harmonious passion is the more optimal motivational foundation for sustained and healthful involvement in dance.

There are limitations to the present study. First, although the correlations between the two passions and injury-related suffering are relatively high, they are based on self-report and not on actual medical reports of acute and chronic injuries. These results thus need to be replicated with more objective measures. Second, the sample

consisted of pre-professional dancers, who may still carry the “cultural habitus” of the amateur milieu.³¹ It is possible that a study of only final-year dance students would lead to more pronounced results for obsessive passion, as we should not underestimate the potential enculturation effect that may lead an enthusiastic young amateur to become a completely devoted, obsessively passionate, and uncompromising aspiring professional dancer. Third, although we found that obsessive passion was associated with prolonged suffering from chronic injuries, we do not know whether some student dancers in our sample were physically predisposed to injury. Such predisposition to physical injury can be ascertained by means of a physical assessment screening program, which identifies those students who are most at risk of sustaining an injury while undertaking full-time dance training. Finally, the results of the present study are correlational in nature, and causal conclusions are not warranted.

In addition to exploring the correlates of obsessive and harmonious passion in professional dancers, future research could trace the development of obsessive and harmonious passion in dancers by employing a longitudinal design. Such a study would contribute to our understanding of the psychological and social factors that promote the development of one type of passion over the other. Once these factors are better understood, dance educators may be able to encourage the development of harmonious rather than obsessive passion in dancers. Future research is also needed to verify whether the experience of injury is associated with a greater identity threat in dancers who have an obsessive passion. Another important future research avenue would be to qualitatively explore the meaning attributed to passion and to the experience of injury in dancers having a more harmonious, as opposed to obsessive, passion for their art. Wainwright and colleagues¹ have shown that although injuries can put an end to a dancing career, they are nevertheless accepted as an inevitable part of the vocation

of dance. A comprehensive account of the relationship between dancers’ passion and their health would have to address the social construction process through which passion for dance develops and injuries are sustained and rendered normative.

Because dancers are devoted to and passionate about their art form, and because the dance milieu holds to a “culture of pain” in which dancers are expected to suffer in silence,³² helping dancers understand that their passion can also be experienced in a manner less detrimental to their health should be a goal of educational programs informed by future research. Until the antecedents of harmonious and obsessive passion are better understood, passionate pre-professional dancers may benefit from education programs designed to help them integrate dance activities more harmoniously with other aspects of their life, guide them away from neglecting their physical health and engaging in behaviors that may facilitate or exacerbate injury, and promote seeking information about and treatment for their injuries. Encouraging pre-professional dancers to develop a more harmonious passion, such that their career goals do not come to overpower and conflict with health concerns and other life domains, may promote overall dancer health and well-being. In sum, it would appear that harmonious passion for dance is the more optimal motivational foundation for dance engagement.

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