PROFESSIONAL FEMALE DANCERS IN CANADA: TOBACCO, ALCOHOL USE AND THEIR CORRELATES INCLUDING DISORDERED EATING, BODY DISSATISFACTION, STRESS, DEPRESSION, AND SOCIAL PRESSURE

By

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Abstract

The dance research regarding substance use has been limited to international samples (e.g., Oreb, et al., 2006; Sekulic et al., 2010) and there is no research examining the substance use correlation with body dissatisfaction, social pressure, disordered eating, stress and depression in a Canadian dance sample. We examined group comparisons for substance use, as well as the relationship between substance use and body dissatisfaction/body-esteem, social pressure, disordered eating, stress, and depression. Results indicated that female professional dancers consume more alcohol, have more alcohol dependence, and are at a higher risk for alcohol-related harm, when compared to female non-dancers. Among female professional dancers, alcohol use was correlated with body-esteem attribution, alcohol dependence was correlated with body-esteem weight, stress and depression, and alcohol-related harm was correlated with body-esteem attribution and depression. Tobacco use was correlated with body esteem attribution and disordered eating. Findings suggest specific treatment services for Canadian professional dancers.
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Introduction

Serious substance use, specifically alcohol and tobacco use, has been reported among professional dancers (e.g., Oreb, et al., 2006; Sekulic, Peric, & Rodek, 2010). However, since studies examining substance use have predominately been European and American (e.g., Oreb, et al., 2006; Sekulic, Peric, & Rodek, 2010), there is a need to investigate substance use in Canadian samples. This is especially important since previous research has demonstrated that there is no psychological and/or medical service available for professional dancers compared to other athletes (Sekulic et al., 2010). In other words, substance use research in Canadian professional dancers could assist policy makers and dance authorities in making decisions regarding the well-being of professional dancers. A second reason why research on substance use among professional dancers is important is because previous research has largely focused on comparing different dance styles with one another (Oreb et al., 2006; Sekulic et al., 2010) and only one international study has compared professional dancers to non-dancers regarding substance use (Holderness, Brooks-Gunn, & Warren, 1993). In addition, differences in tobacco and alcohol use were found between non-Canadian professional dancers (Oreb, et al., 2006; Sekulic, Peric, & Rodek, 2010) and the Canadian population (Statistics Canada, 2014; Statistics Canada, 2012). In other words, it is likely that there might be differences in Canadian professional dancers and non-dancers’ substance use (i.e. alcohol and cigarette use). Finally, since the substance use correlation with eating disorders/disordered eating, body image dissatisfaction/body-esteem, stress and depression has been thoroughly investigated in the general population (i.e., non-dancers; Foreman & Morello, 2003; O’Brien, Ali, Cotter, O’Shea, & Stannard, 2007; Pedrelli et al., 2011; Von Ranson, Iacono,
& McGue, 2001), but not in a dance sample\textsuperscript{1}, there is a need to investigate this correlation in dancers. This is especially important since previous dance research has hypothesized that substance use might be correlated with eating disorders/disordered eating (Holderness, et al., 1993), body dissatisfaction (Sekulic, et al., 2010), depression (Holderness et al., 1993), and stress (Sekulic, et al., 2010) among professional dancers. In addition, such substance use correlates may have implications for future research and psychotherapy regarding professional dancers. In summary, there are two main purpose regarding the present study:

1. To compare substance use, specifically alcohol and tobacco use, among female Canadian professional dancers to a sample of non-dancers\textsuperscript{2}.

2. To examine the substance use, specifically alcohol and tobacco use, correlation with disordered eating/eating disorders, body dissatisfaction/body esteem, social pressure, stress and depression among female Canadian professional dancers and non-dancers. As mentioned earlier, the intention was to look at males and females, but it was not feasible because of the low numbers of males who participated.

**Literature Review**

**Alcohol and Tobacco Use in Dancers**

The first purpose of this study is to examine the percentages of substance use, specifically alcohol consumption and tobacco use, among female Canadian professional dancers and

\textsuperscript{1} Of note, the substance use association with body dissatisfaction, stress and depression have not been examined in a dance sample. However, the substance use association with eating disorders has been investigated in one study (Holderness, Brooks -Gunn, & Warren, 1994).

\textsuperscript{2} Due to the small number of men dancers and non-dancers recruited we had to drop them for the analysis. So the data reported in this thesis pertains only to women dancers and non-dancers.
compare these percentages with a comparable group of non-dancers. To give context to this research, the rates of substance use in the Canadian population is discussed first.

**Substance Use in the Canadian Population.** A 2013 study by Statistics Canada (2014) examined tobacco smoking in females and found that, 16.5% of Canadian females ages 11 and older described themselves as being a current smoker. This is the latest statistics on smoking; however, in 2011, Statistics Canada reported that 14.2% of the females were heavy smokers (i.e., 25 or more cigarettes a day) in the age range, 11 years or older.

In the same study, alcohol consumption percentages were also examined. Specifically, in 2012, 31.12% of Canadian females, who were older than 11, described themselves as heavy drinkers, where heavy drinking is defined as “having 5 or more drinks on one occasion, at least once a month in the past 12 months” (Statistics Canada, 2014, p. 1).

In summary, Statistics Canada found differences regarding tobacco and alcohol use in females. More specifically, females were more likely to be heavy alcohol consumers than tobacco consumers.

**Substance Use in Non-Canadian Dancers.** To date, very few studies have examined the percentages of substance use, specifically alcohol and tobacco use, among professional dancers. Only Holderness et al. (1993) compared alcohol use between female professional dancers and non-dancers, which consisted of American adolescents and adult ballerinas. The authors found no differences between these two groups regarding alcohol use.

Unlike Holderness et al. (1993), Oreb et al. (2006) compared various dance styles with one another in terms of tobacco use. More specifically, Oreb et al. (2006) examined smoking in Croatian ballerinas and folk dancers and found that the percentages of smoking among female ballerinas (45%) and folk dancers (44%) were high, however no significant differences were
found between these two dance styles. Interesting, when comparing these female professional dancers’ tobacco smoking to the Canadian female population (Statistics Canada, 2012), it was greater in female professional dancers (44-45%) than the general female population (16.5%) residing in Canada (Oreb et al., 2006). Of note, Oreb et al. (2006) is the only dance study that compared various dance styles with one another regarding tobacco use.

Nonetheless, Sekulic et al. (2010) and Sekulic et al. (2008), unlike the aforementioned authors (i.e., Holderness et al., 1993; Oreb et al., 2006) examined gender differences regarding substance use in dancers, and did not compare the various dance styles with one another like Oreb et al. (2006). Sekulic et al. (2010) found that that 14% of female reported smoking tobacco from ‘time to time’ or more than 10 cigarettes per day (this is compared to 28% of males). In addition, approximately 77% of male ballet dancers were drinking more than 1 time per week, whereas only 25% of female ballet dancers consumed more than 1 drink per week. These percentages of drinking are different than reports from Sekulic et al. (2008) who found that 19% of females never drank; however, all males reported drinking at least some of the time. Interesting, when comparing these dance studies results to the aforementioned section in the Canadian population, professional dancers (females = 25%; males = 77%; Sekulic et al., 2010) drinking percentages were different when compared to the Canadian population (females = 32.8% and males = 49.1%; Statistics Canada, 2014).

In summary, few studies have examined alcohol and tobacco use in dancers. More specifically, alcohol and tobacco use percentages did not differ among various dance styles or when comparing professional dancers to non-dancers, but males consumed more alcohol than females, and females smoked more cigarettes than males. In addition, differences between professional dancers and the Canadian population were obtained in terms of alcohol and tobacco
Tobacco and Alcohol Use and its Correlations

In order to address the second purpose of this study (i.e., to examine the alcohol and tobacco use with disordered eating/eating disorders, body dissatisfaction, depression, and stress among Canadian dancers and non-dancers), the present research is informed by research on the general population. The substance use correlation with disordered eating/eating disorders among the general population is presented first.

Substance Use and Disordered Eating/Eating Disorders among the General Population. The correlation between substance use and disordered eating/eating disorders has been reported in numerous studies involving various sample types such as high school, community, college and university samples (Dansky, Brewerton, & Kilpatrick, 2000; Dunn, Larimer, & Neighbors, 2002; Krahn, 1991; Piran & Robinson, 2006; Pisetsky, et al., 2008; Suzuki, Takeda, & Matsushita, 1995; Von Ranson, et al., 2001). In high school samples, consisting of males and females, disordered eating, specifically fasting, dieting and purging, was found to be positively correlated with both alcohol and tobacco use (Pisetsky, et al., 2008; Suzuki, et al., 1995). Some of these studies also examined the relationship between eating disorders and substance use (Suzuki, et al., 1995; Von Ranson, et al., 2001). For example, Suzuki, et al. (1995) and Von Ranson et al. (2001) found that bulimia nervosa was positively correlated with alcohol use and alcohol misuse. In addition, it was found that bulimics misused alcohol more than non-bulimics (Suzuki, et al., 1995).

Studies using college and university samples, consisting of males and females or females exclusively, examined the correlation between bulimia nervosa and alcohol use, binge eating and
alcohol use, and/or dieting with bingeing and smoking (Dunn, et al., 2002; Krahn, 1991; Piran & Robinson, 2006). However, in contrast to the studies mentioned above (Krahn, 1991; Piran & Robinson, 2006), Dunn, et al. (2002) found that students with eating disorders do not consume more alcohol than individuals without an eating disorder.

In studies using community-based samples of males and females or females exclusively, alcohol abuse/misuse was positively correlated with bulimia nervosa, and binge eating was positively correlated with alcohol consumption (Dansky, et al., 2000; Von Ranson, et al., 2001; Piran & Robinson, 2006). In addition, these studies found that smoking was positively correlated with disordered eating/eating disorders (Kenzor, et al., 2009; Piran & Robinson, 2006). For example, Piran and Robinson (2006) found that dieting with binge eating was positively correlated with smoking, whereas Kenzor, et al. (2009) found that bulimia nervosa was positively correlated with smoking.

Although the aforementioned studies have examined the correlation between substance use and eating disorders/disordered eating across various genders, only some studies have examined gender differences in these relationships (Suzuki, et al., 1995; Piran & Gadalla (2009). For example, Suzuki, et al. (1995) found that females with bulimic symptoms were more likely to be smokers compared to males with bulimic symptoms. In addition, Piran and Gadalla (2009) found that even though the correlation between eating disorder symptoms and alcohol problems was significant in both males and females, such a correlation was stronger in females than in males. There is an assumption that research is limited to females because disordered eating is much more common in females than in males. However, eating disorders should not be overlooked in males, but needs to be extended beyond females only. This is especially important since other variables other than gender impact whether a person develops an eating disorder or
not. For example, McGee, and Thompson (2013) found that disordered eating is correlated with sexual victimization (i.e., being forced to have sexual intercourse) in males.

In summary, several previous studies have found a correlation between substance use and eating disorders or disordered eating across age groups (i.e., adolescents, young and middle-aged adults) and sample types (i.e., community, college/university and epidemiological samples). Alcohol consumption in particular has been linked with binge eating and bulimia nervosa, and, to a lesser extent, smoking has been linked with bulimia, binge eating or dieting. Regarding gender differences, females with eating disorder symptoms were more likely to be smokers or experience alcohol interference, when compared to males with eating disorder symptoms.

Substance Use and Body Image Dissatisfaction among the General Population. The correlation between substance use and body image dissatisfaction among non-dancers has also been reported in various research studies. Such studies focused on the tobacco use correlation with body image dissatisfaction (Clark et al., 2005; Foreman & Morello, 2003; Lopez, Litvin, & Brandon, 2009; King et al., 2005; Wiseman, Turco, & Halmi, 1997). In high school samples of males and females, studies found a higher amount of body dissatisfaction among smokers when compared to non-smokers (Foreman & Morello, 2003; Wiseman, et al., 1997). For example, Foreman & Morello (2003) found that smokers were more likely to have weight concerns than non-smokers. Wiseman, et al. (1998) found that weight management was more important among smokers compared to non-smokers.

There are several studies that examined the correlation between tobacco use and body dissatisfaction in male and female college and university samples (Clark et al., 2005; Kendzor, et al., 2009; Lopez, et al., 2009). Most of these studies found that smokers were more dissatisfied with their body image in comparison to non-smokers (Clark et al., 2005; Kendzor, 2009). For
example, Clark et al., (2005) found that smokers, were more worried about being overweight, 
invested a greater amount of time on their physical appearance and thought that they were less 
healthy than non-smokers. Kendzor, et al. (2009) found that smokers were twice as likely to 
endorse extreme body dissatisfaction concerns when compared to non-smokers. Moreover, 
several college and university samples also reported that greater body dissatisfaction was 
correlated with higher amounts of tobacco use (Clark et al., 2005; Lopez, et al., 2009).

Studies examined the correlation between body dissatisfaction and tobacco use in a 
community sample (Johanson, 2001; King, et al., 2005). Such studies found a correlation 
between smoking cessation difficulties and poor body image. For example, King et al. (2005) 
found that female who reported greater concern about their overall appearance had more 
difficulties in abstaining from smoking as evidenced by the amount of tobacco they smoked per 
day. In addition, females who under-estimated the size of their bodies were more likely to quit 
smoking, whereas females who over-estimated the size of their bodies were least likely to quit 
smoking. Johnson (2001) found that tobacco-related body weight and overall body weight 
corns were greater in females participating in the smoking cessation program than females, 
who did not participate in the smoking cessation program.

Although the body dissatisfaction and tobacco use correlation has been examined in both 
males and females, only some studies examined gender differences in terms of this correlation 
(Clark et al., 2005; Foreman & Morello, 2003; King et al., 2005). Results of such studies found 
gender differences regarding the tobacco use and body dissatisfaction correlation (Clark et al., 
2005; Foreman & Morello, 2003; King et al., 2005). For example, females were not only more 
concerned about their body weight, when compared to males, but females had more smoking 
cessation difficulties if they were smoking to control their weight when compared to males
In summary several studies have found significant correlations between body dissatisfaction and smoking, of various age groups (e.g., adolescent, young adults, and middle-aged). Greater body dissatisfaction was particularly correlated with smoking cessation difficulties, and body dissatisfaction was stronger for smokers than non-smokers. Regarding gender differences, body dissatisfaction was more correlated with female smokers than male smokers. In addition, body dissatisfaction was more correlated to smoking cessation difficulties in females than in males.

Substance Use and Stress among the General Population. The correlation between substance use and stress among non-dancers has also been reported in various research studies (e.g., Bray, Fairbank, & Marsden, 1999; Butler, Dodge, & Faurote, 2010, Dawson, Grant, & Ruan, 2005; Fassa & Mazanov, 1999; O’Brien, et al., 2007). Although stress was operationalized in different ways in each study, the results still found a positive correlation between substance use and stress (Bray, et al., 1999; Butler, et al., 2010, Dawson, et al., 2005; Fassa & Mazanov, 1999; O’Brien, et al., 2007). For example, alcohol use was positively correlated with employment (i.e., number of hours worked), academic issues (e.g., problems with grades, academic stress, arguments with roommates and professors), traumatic experiences (i.e., physical, sexual abuse), legal, social, health and work-related stress (Bray, et al., 1999; Broman, 2005; Dawson et al., 2005; Fassa & Mazanov, 1999). Tobacco use was positively associated with employment, schooling stress and family stress (Bray, et al., 1999; Brook et al., 2011; Fassa & Mazanov, 1999).

The correlations between substance use and stress have also been found in various sample types, for example, military personnel, high school, and college/university samples. In
studies of military personnel substance use was positively correlated with stress (Bray, et al., 1999; Dawson, et al., 2005). In a study involving work and family life stress, males were more likely to smoke tobacco and consume alcohol heavily if they experienced a greater amount of stress (Bray, et al., 1999). In addition, Dawson, et al. (2005) found that males and females’ “heavy drinking frequency” (i.e. four or more drinks for females and five or more drinks for males) increased when more stressors (e.g., legal, social, health or work-related stress) were experienced (p. 453)

In high school samples consisting of females and males, both alcohol consumption and tobacco use were correlated with stress (Brook, et al., 2011; Fassa & Mazanov, 1999). Using self-reports on stress origins (e.g., family, schooling), Fassa & Mazanov (1999) found that stress was correlated with smoking and alcohol consumption, however the correlation between smoking and stress was the strongest. In addition, Brook et al. (2011) found that students were more likely to smoke tobacco and use alcohol if they perceived their environment as more stressful. According to these authors a stressful environment involved school related stress, low SES, and violent victimization.

In college and university samples, involving males and females, the focus has been on alcohol consumption and stress (Broman, 2005; Butler, et al., 2010). These studies found that alcohol consumption was positively correlated with various stressors (Broman, 2005; Butler, et al., 2010). More specifically, Broman (2005) found that alcohol consumption increased in relation to traumatic stress (i.e., physical, sexual abuse) and life stress (e.g., arguments with friends, family and romantic partners), whereas Butler (2010) found alcohol consumption increased in relation to employment stress (i.e., the number of hours worked each day).
Various gender studies have also been conducted on the correlation between substance use and stress (Bray, et al., 1999; Dawson, et al., 2005; Fassa & Mazanov, 1999). Such studies consistently found a stronger correlation between alcohol use and stress in males when compared to females (Bray, et al., 1999; Dawson, et al., 2005; Fassa & Mazanov, 1999). However, such results were inconsistent regarding the correlation between smoking and stress. More specifically, some studies found that females experienced a stronger correlation between stress and smoking when compared to males (Dawson, et al. 2005; Fassa & Mazanov, 1999), whereas other studies found that males compared to females were more likely to smoke tobacco when stressed (Bray, et al., 1999). In other words, such gender studies found some inconsistent results when examining the correlation between substance use and stress.

In summary, most of these studies found a correlation between substance use and stress, no matter the kind of stress (i.e., work/employment stress, family and environmentally related stress, sports stress, job, and legal-related stress) and age group (i.e., adolescents, young adults, and middle aged adults and older adults). A stronger correlation was found between smoking and stress, than alcohol use and stress. Both smoking and alcohol use was positively correlated with stress. Regarding gender differences, studies consistently found a stronger correlation between alcohol use and stress in males, more so than females. Some research reported that males compared to females, were more likely to smoke when stressed, whereas other studies reported the opposite (i.e., females compared to males, were more likely to smoke when stressed).

Clearly, more research is needed to clarify such inconsistent findings regarding the tobacco use and stress correlation, especially, when it comes to gender.

**Substance Use and Depression among the General Population.** The correlation between substance use and depression has also been examined in various studies (e.g., Conner,

The examination of the correlation between substance use and depression involved high school, university, college and community samples consisting of females and males. In high school samples, the correlation between substance use and depression has been found (Espada, et al., 2011; Morell & Cohen, 2006; Repetto, et al., 2005; Espada, et al., 2011; Kelder, et al., 2001). For example, in a meta-analysis a strong correlation between smoking and depression was found, regardless of methodology (longitudinal versus cross-sectional) and smoking habit [nicotine dependence versus smoking status (i.e. beginning to smoke, continuing to smoke, and cessation of smoking); Morell & Cohen (2006)]. In addition, two studies found that when greater amounts of alcohol were consumed, symptoms of depression increased (Espada, et al., 2011; Kelder, et al., 2001).

There are various studies that examined the substance use correlation with depression in college and university samples (Deykin & Levy, 1987; Harrell, & Karim, 2008; Kenney & Holahan, 2008; Saules, et al., 2004; Vogel, et al., 2003). Some of these studies found that smoking initiation became more probable, when depression symptoms increased (Kenney & Holahan, 2008; Saules, et al., 2004; Vogel, et al., 2003) and those who had higher levels of depression smoked more tobacco than those who had lower levels of depression (Kenney & Holahan, 2008). Nonetheless, in college and university studies controversies and inconsistencies have been found regarding the alcohol use and depression correlation (Dawson, et al., 2005; Deykin & Levy, 1987; Harrell, & Karim, 2008; Kassel & Jackson, & Unrod, 2000; Miller,
Miller, Verhegge, Linville, & Pumariega, 2002; Vickers, Bronars, Lane, & Stevens, 2004). Such inconsistencies and controversies might be due to the ways in which alcohol use was operationalized. For example, some college studies found no correlation between drinking frequency (Harrell, & Karim, 2008; Kassel et al., 2000), binge drinking (Dawson, et al., 2005, Vickers, et al., 2004) and heavy drinking episodes (Dawson, et al., 2005) with symptoms of depression. However, Deykin and Levy (1987) found that students that abuse alcohol compared to students that do not abuse alcohol, were three point six times more likely to have a major depressive disorder history. In addition, Miller, et al. (2002) found that among undergraduate student athletes there were an alcohol abuse and depressive symptom correlation.

In community samples, the positive correlation between substance use and depression has been the focus of various meta-analyses (Conner, et al., 2009; Saban & Flisher, 2010). For example, Saban and Flisher (2010) found a strong tobacco use and depression correlation. Conner et al.’s (2009) meta-analysis found that alcohol use and misuse was positively correlated with depression.

Although the correlations between substance use and depression have been found in both females and males, fewer studies examined gender differences regarding this correlation (Espada, et al., 2011; Morell, et al., 2010; Pedrelli et al., 2011; Vlahov et al., 2004). Results of such studies found gender differences regarding the substance use and depression correlation (Espada, et al., 2011; Morell, et al., 2010; Pedrelli et al., 2011; Vlahov et al., 2004). For example, Morell, et al. (2010) found a correlation between smoking status and susceptibility to depression in females, but not in males. In addition, Pedrelli et al. (2011) found that men’s everyday alcohol consumption increased as their symptoms of depression increased, however the same was not found for females.
These studies found that substance use was correlated with depression in various age groups (i.e. adolescents, young adults, and middle aged adults). Studies consistently found a strong correlation between smoking and depression, regardless of smoking status (i.e., beginning to smoke, continuing to smoke, and cessation of smoking) and study type (e.g., longitudinal versus cross-sectional). In addition, a positive correlation was found between tobacco use and depression. However, controversies exist regarding the alcohol and tobacco use correlation. For example, some studies found no correlation between alcohol use and depression, whereas others found a correlation. Regarding gender studies, Pedrelli et al. (2011) found that in males, unlike females, there was a positive correlation between alcohol use and symptoms of depression. In addition, Morell, et al. (2010) found that in females, unlike males, there was a positive correlation between smoking status and susceptibility to depression.

Again, unlike the general population, there is a bit of a gap in terms of discussing these issues/variables (i.e., the alcohol and cigarette use correlates with depression, stress, disordered eating, and body image dissatisfaction) in female professional dancers. The importance of studying these variables in professional dancers needs to be further highlighted.

**Methodological Limitations of Previous Research**

Methodological limitations in the dance research includes the following:

1. To date, the substance use (i.e. tobacco and alcohol use) research regarding professional dancers has been limited to a few international studies (European and American; Oreb, et al., 2006; Sekulic, Kostic, & Miletic, 2010; Holderness, et al., 1993). No studies, to date, have examined substance use in Canadian professional dancers. Therefore it is important to focus on the limited substance use research in professional dancers, particularly in Canadian dancers.
2. A second limitation is that even though the substance use correlation with disordered eating/eating disorders, body dissatisfaction, stress, and depression have been examined among various sample types, for example, high school, college, university and community samples (e.g., Broman, 2005; Brook et al., 2011; Clark et al., 2005; Conner, et al., 2009; Espada, 2011; Fassa & Mazanov, 1999; Foreman & Morello, 2003; Kenney & Holahan, 2008; King et al., 2005; Pisetsky, et al., 2008; Piran & Robinson, 2006), most of these correlations have not been examined in dance samples. Only one international dance study examined the substance use correlation with eating disorders (Holderness, Brooks-Gunn, & Warren, 1994). This is despite the fact that international dance studies have hypothesized that eating disorders (Holderness, et al., 1993), body image concerns (Sekulic, et al., 2010), depression (Holderness et al., 1993), and stress (Sekulic et al., 2010) may be potential reasons for substance use among professional dancers. Therefore, a study examining the aforementioned correlations in a dance sample could fill the gaps in the present literature, which could also lead to a better understanding regarding well-being of Canadian dancers.

3. Third, most of these studies examining substance use in dancers had small samples sizes (e.g., 16 or 21 or 50 female dancers; Oreb, et al., 2006; Sekulic, Kostic, & Miletic, 2010; Holderness, et al., 1993). Such sample sizes reduce the power to detect differences between groups. Thus, an attempt should be made by researchers to increase the dance sample sizes in order to increase the power between groups.
4. Fourth, comparisons of studies results regarding alcohol and/tobacco use were difficult due to the variety of measures utilized for alcohol and tobacco use. Most of the present studies composed their own measures (e.g., Sekulic, et al., 2010). An attempt should be made by researchers to reduce such methodological limitations by utilizing standardized measurements to examine substance use in dancers.

1. Finally, comparisons of dance studies results regarding alcohol and/tobacco use were difficult due to the variety comparison groups utilized. For example, one study compared dancers to non-dancers (Holderness, et al., 1993), while another study compared male dancers to female dancers (Sekulic et al., 2010), while a final study compared various dance styles with one another (i.e., ballet versus folk dancers; Oreb et al., 2006). Researchers could attempt to replicate such studies utilizing the same comparison groups (i.e., dancers versus non-dancers, one dance style versus another dance style, or male versus female dancers) to see if any consistency is obtained in the literature.

Aims & Predictions

This study involved various aims and predictions. Although one of the original aims of the study was to examine factors associated with alcohol and tobacco use among both male and female dancers, the aims were revised following data collection due to the limited number of male participants.

The aims of the present study involved the following:
1. To compare Canadian female professional dancers’ percentages of substance use, specifically alcohol and tobacco use, with a comparable group of female non-dancers.

2. To examine the substance use’s correlation, specifically alcohol and tobacco use, with body dissatisfaction (or body-esteem), social pressure (type of body-esteeem), disordered eating/unhealthy weight loss strategies, stress, and depression in Canadian female professional dancers.

The predictions of this present study involved the following:

1. Female professional dancers’ percentages of alcohol and tobacco use would be greater when compared to female non-dancers, which is based on previous research that reports that female professional dancer consume more substances than female non-dancers (Oreb et al., 2006; Sekulic et al., 2010; Statistics Canada, 2013, 2014).

2. Alcohol use and tobacco use would be positively correlated with body dissatisfaction, social pressure, disordered eating, stress, and depression among female professional dancers. This prediction is based on previous research speculations regarding female professional dancers (e.g., Holderness, et al., 1993; Oreb, et al., 2006; Sekulic, Peric, & Rodek, 2010), as well as previous research findings regarding female non-dancers (Bray, et al., 1999; Clark et al., 2005; Morell, et al., 2010; Pedrelli et al., 2011; Piran & Gadalla, 2009).

Method

Participants
In order to be included in the study, participants had to be between the ages 18 to 35. They had to have lived in Canada for at least two years, be fluent in English and meet the definition of professional dancer or non-dancer.

Professional dancers were defined as is an individual who gets paid to dance or is a student from a professional dance program (e.g., Canadian National Ballet or Bachelor of Arts in Dance). Non-dancers were defined as individuals who do not have any training/experience in dance or in competitive sports, does not participate in dance for health, interest and/or social reasons, and who does not get paid to dance on stage. In total, 161 individuals completed the questionnaire. However, a subset of participants \((n=49)\) was excluded from the data analysis because they did not meet the inclusion criteria or because they did not meet the definition of professional dancer or non-dancer (Appendix A). Exclusion criteria included those who engaged in recreational/non-professional dancing and competitive sports as these activities might have influenced their body image and eating patterns. Male participants were also excluded from the analysis because the number of male respondents was insufficient for statistical analysis. In total, 61 female professional dancers and 51 female non-dancers participated in this study.

**Recruitment**

Recruitment began following approval of the University of Toronto Social Sciences, Humanities and Education Ethics Review Board. All participant groups were recruited via listserv emails and advertisements posted online (e.g., Craigslist, Kiji, and Facebook). Listserv emails and online advertisement described the purpose of study and invited Canadian female professional dancers and female non-dancers to participate (Appendix B). Informed consent was obtained online by asking participants to indicate that they agree to participate in the study. If
they did not agree to participate, the questionnaires were not displayed on the screen. Suggested resources were also made available to participants after completing the study (Appendix C).

**Measures**

**Demographic Characteristics.** The Demographic Questionnaire asked participants to indicate their age, gender, and education level. Also, other questions pertaining to the inclusion and exclusion criteria of the current study was included in this questionnaire. For example, participants were asked: “Have you resided in Canada for at least 2 years?” “Are you able to read and write English at an eighth grade level?”, “Are you presently a part-time or full-time professional dancer?”, “Do you dance recreationally or are you a non-professional dancer?”, “How long have you been dancing for?” and “Do you engage in competitive sports (Appendix E)?”

**Alcohol Use.** The Alcohol Disorder Identification Test (AUDIT; Sauder et al., 1993) consists of 10 items, which measures hazardous alcohol consumption in the past 12 months. The scale includes 3 subscales, which measure: a) alcohol consumption, b) dependence symptoms and c) problem-related to alcohol use (Saunder, et al., 1993).

Participants who score above 5 on the alcohol consumption portion of the AUDIT (Saunder et al., 1993) demonstrate perhaps hazardous alcohol consumption. The maximum total score on this subscale is 12. Participants who score above 3 on the dependence symptoms portion of the AUDIT (Saunder et al., 1993) demonstrate perhaps alcohol dependence. The maximum total score on this subscale is 12. Participants that obtain any score above zero on the problems-related to alcohol use portion of the AUDIT (Saunder et al., 1993) demonstrate perhaps alcohol use problems. The maximum total score on the AUDIT is 40, with a score of 8 or more indicating alcohol problems (Saunder et al., 1993). Some sample items include: “How often do
you have a drink containing alcohol?” and “How often do you have six or more drinks on one occasion?” and “During the past year, how often have you needed a drink in the morning to get yourself going after a heavy drinking session?” Higher scores indicate more harmful alcohol use in comparison to lower scores. It has been indicated that the AUDIT has good reliability and validity (Reinert & Allen, 2007).

**Tobacco Smoking.** In order to assess tobacco smoking, participants were asked to respond to the following item: “In the past 30 days, on how many days did you smoke a cigarette (even a puff)?” Such an item was administered in a previous study and was found to be valid and reliable with comparable populations (Piran & Robinson, 2006). Items from Fagerstrom and Schneider (1989) were also administered and include: “How soon after you first wake do you smoke your first cigarette?” Participants choose from one of the following four options: “within 5 min, 6–30 min, 31–60 min, or after 60 min.” Such a variable was categorized into 1 of 2 categories “within 30 min versus after 30 min,” which represents a person’s dependence on nicotine (Fagerstrom & Schneider, 1989). Items from Fagerstrom and Schneider’s (1989) total score ranged from 0-10, with 0 representing, *least dependent smoker*, and 10 representing, *most dependent smoker*.

**Body-Esteem.** The Body-Esteem Scale for Adolescents and Adults (BESAA; Mendelson, et al., 2001) scale consists of 23 items, which examines individual’s feelings and attitudes about their looks and body. The scale includes three subscales which measure: “a) general feelings about appearance, b) weight satisfaction, and c) attributes of positive evaluations about one’s body and appearance to others” (p. 101). Some item examples are: “I think my appearance would help me get a job,” “I am preoccupied with changing my weight” and “People my own age like my looks.” Participants responded on a Likert-type scale with 1 representing
never, 2 representing seldom, 3 representing sometimes, 4 representing often, and 5 representing always. Higher scores demonstrate poorer body esteem and lower scores demonstrate greater body esteem. The reliability score for each subscale is: Body Esteem-Attribution ($r = .83$), Body Esteem-Appearance ($r = .89$), and Body Esteem-Weight ($r = .92$; Mendelson, et al., 2001).

**Social Pressure.** The Perceived Social Cultural Pressure Scale (PSCPS; Stice & Agras, 1998), which is an body image measure, consists of 10 items and examines the amount of social cultural pressure respondents perceive from others (e.g., friends, family, media) to be slender. Some question examples are: “I felt pressure from my friends to lose weight,” “Family members tease me about my weight or shape” and “I've felt pressure from the media (e.g., TV, magazines) to lose weight.” Participants responded on a Likert-type scale with 1 representing none and 5 representing a lot. It has been indicated that the PSCPS reliability score was an alpha of 0.93 (Stice & Agras, 1998).

**Disordered Eating/Unhealthy Weigh Loss Strategies.** The Unhealthy Weight Loss Method Factors Subscale of the Weight Control Behaviors Scale (WCBS; French et al., 1995) measures individuals’ unhealthy diet behaviors. Item examples include: In the past 12 months how frequently did you “skip meals” or “use diet pills” or “increase amount of cigarettes smoked.” Participants responded on a Likert-type scale with 0 representing never use this strategy, 1 representing sometimes use this strategy, and 2 representing always use this strategy. Higher scores indicate more frequent unhealthy diet behaviors. The reliability scores for the unhealthy weight loss measure are .67 for males and .70 for females (French et al., 1995).

**Depression.** The Centre for Epidemiological Studies Depression Scale Revised (CESD-R; Radloff, 1977) consists of 20 questions and measures the frequency of depressive symptoms experienced during the past week. Item examples include: “During the past week, I was bothered
by things that usually don’t bother me,” “During the past week, I felt that I could not shake off
the blues even with help from my family or friends,” and “During the past week, I did not feel
like eating; my appetite was poor.” This scale ranges from 0-4, with 0 representing rarely or
none of the time (less than one day) and 4 representing most or all of the time (five to seven
days). Higher scores indicate more symptoms of depression. It has been indicated that this
measure has adequate internal and test-retest reliability. The coefficient alpha reliability is high,
ranging from .85 to .90 (Radloff, 1977).

**Stress.** The Perceived Stress Scale (PSS; Cohen, Kamarck, & Mermelstein, 1983)
consists of 14 questions and assesses how much one perceives one’s life to have been stressful in
the past month. Some examples of questions include: “In the last month, how often have you felt
difficulties were piling up so high that you could not overcome them?” and “In the last month,
how often have you found that you could not cope with all the things that you had to do?”
Participants were asked to rate how frequently these above statements were experienced over the
past month. This scale ranges from 0 to 4, with 0 representing never, 1 representing almost
never, 2 representing sometimes, 3 representing fairly often and 4 representing very often. Higher
scores indicate greater stress. The coefficient alpha reliability is between .84 and .86. It has been
indicated that the PSS has adequate internal and test-retest reliability (Cohen, Kamarck, &
Mermelstein, 1983).

**Data Analysis Plan**

This quantitative study utilized SPSS 21 program to examine the data gathered from the
online surveys. A descriptive analysis was computed: frequencies were generated for categorical
variables (e.g., demographic information) and the means and standard deviations for percentages
of substance use, specifically alcohol consumptions and tobacco use. Independent sample-tests
were conducted to examine the mean difference in substance use percentages between participant groups. Prior to examining the association of substance use with body dissatisfaction, eating disorders/disordered eating, perceived social culture pressure, depression, and stress among participants, descriptive statistics (i.e., means and standard deviations) were generated for each of these variables. In addition, independent sample-tests were conducted to examine the mean difference in body dissatisfaction, social pressure, disordered eating, stress and depression between participant groups. Correlational analysis was completed to examine associations of substance use with body dissatisfaction/body-esteeem, perceived social culture pressure, disordered eating, stress and depression among female professional dancers.

**Results**

The results include descriptive statistics for demographics, alcohol and tobacco use, group comparisons (i.e., female professional dancers versus female non-dancers) for substance use, followed by correlation analyses on body dissatisfaction/body-esteem, social pressure, disordered eating, stress, and depression.

**Descriptive Statistics for the Sample**

A total of 134 professional dancers and non-dancers participated in the study, however as mentioned previously, due to the small sample size ($n=6$) for male professional dancers and male non-dancers ($n=16$) these groups were excluded from further analyses leaving a total of 112 participants: 61 female professional dancers (either part-time or full-time dancers) and 51 female non-dancers.

All participants resided in Canada for at least 2 years, described themselves as fluent in English writing and reading, and were between the ages of 18 and 35. The mean age for female professional dancers was 23.61 ($SD = 4.59$), whereas the mean age for female non-dancers was
24.88 (SD = 4.50). Female professional dancers engaged in professional dance for 6.03 (SD = 4.42) years and engaged in recreational dance for 12.68 years (SD = 4.52). The majority of both female professional dancers and female non-dancers were Caucasian. Table 1 shows the percentages and sample sizes regarding these aforementioned ethnic groups for female professional dancers and female non-dancers. The primary female professional dance style (i.e., contemporary/modern dance), followed by other dance styles is also included (Table 1). Of note, female non-dancers who participated in competitive sports or recreational dance were part of the exclusion criteria and, therefore, not included in the analysis.

Table 1

Demographic Information

<table>
<thead>
<tr>
<th>Variable</th>
<th>Professional dancers (n =61)</th>
<th>Non-dancers (n =51)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>Caucasian</td>
<td>51</td>
<td>83.6</td>
</tr>
<tr>
<td>Other ethnicities</td>
<td>10</td>
<td>16.4</td>
</tr>
<tr>
<td>Contemporary dancer</td>
<td>44</td>
<td>72.1</td>
</tr>
<tr>
<td>Other dance styles</td>
<td>17</td>
<td>27.9</td>
</tr>
</tbody>
</table>

Note. n = sample size, % = percent

Descriptive Statistics and Group Comparisons for Alcohol Use

Percentages of alcohol use were examined. Specifically, frequency distributions were generated and are summarized below. In addition, group comparisons between the female dancer and non-dancer groups were examined by conducting independent sample t-tests, and are summarized below.
Frequency Distributions: Alcohol Use. Participants who score above 5 on the alcohol consumption portion of the AUDIT (Saunders et al., 1993) demonstrate hazardous alcohol consumption. On this subscale, 21% ($n = 12$) of the female professional dancers and 11.5% ($n=3$) of the female non-dancers scored above 5.

Participants who score above 3 on the dependence symptoms portion of the AUDIT (Saunders et al., 1993) demonstrate perhaps a likelihood of alcohol dependence. On this subscale, 1.6% ($n=1$) of the female professional dancers and 0% ($n = 0$) of the female non-dancers scored above 3.

Participants who obtain any score above 0 on the problems related to alcohol consumption portion of the AUDIT (Saunders et al., 1993) demonstrate perhaps alcohol dependence. On this subscale, 21.35% ($n = 13$) of the female professional dancers and 14.9% ($n = 7$) of the female non-dancers obtained a score above zero.

Participant who obtain a score of 8 or more on the total AUDIT scale (Saunders et al., 1993), are very likely to demonstrate hazardous or dependent alcohol consumption (Saunders et al., 1993). On this scale, 31% ($n = 19$) of the female professional dancers and 18% ($n = 9$) of the female non-dancers obtained a score above 8 on this scale (Table 2: means and standard deviations and detailed statistics).
Table 2

Comparing Professional Dancers and Non-Dancers on the Alcohol Measures

<table>
<thead>
<tr>
<th>Measures</th>
<th>Professional dancers</th>
<th>Non-dancers</th>
<th>df</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
<td></td>
</tr>
<tr>
<td>Alcohol use</td>
<td>5.59</td>
<td>3.87</td>
<td>3.84</td>
<td>3.56</td>
<td>109</td>
</tr>
<tr>
<td>Alcohol dependence</td>
<td>0.62</td>
<td>1.05</td>
<td>0.04</td>
<td>0.70</td>
<td>109</td>
</tr>
<tr>
<td>Alcohol problems</td>
<td>0.46</td>
<td>0.93</td>
<td>0.43</td>
<td>1.10</td>
<td>106</td>
</tr>
<tr>
<td>AUDIT total</td>
<td>5.59</td>
<td>3.87</td>
<td>3.84</td>
<td>3.56</td>
<td>109</td>
</tr>
</tbody>
</table>

Note. M = mean. SD = standard deviation. df = degrees of freedom. t = t-value. p = p-value or significance level. ** Significant at .01. * Significant at .05.

**Group Comparisons: Alcohol Use.** On the alcohol use portion of the AUDIT (Saunders et al., 1993), group differences were found between female professional dancers and female non-dancers, t (109) = 2.45, p = .01. Specifically, female professional dancers’ percentages of alcohol use were greater than female non-dancers.

For the dependence symptoms portion of the AUDIT (Saunders et al., 1993), group differences were found between female professional dancers and female non-dancers, t (109) = 1.53, p = .04. Specifically, female professional dancers had more symptoms of alcohol dependence than female non-dancers.

Regarding the problems related to alcohol use portion of the AUDIT (Saunders et al., 1993), no group differences were found between female professional dancers and female non-dancers, t (109) = 1.11, p = .27. In other words, there were no differences in problems regarding alcohol use between female professional dancers and female non-dancers.
On the AUDIT (Saunder et al., 1993), group differences were found between female professional dancers and female non-dancers, $t(109) = 2.45, p = .02$. Specifically, female professional dancer were at a higher risk for alcohol-related harm when compared to female non-dancers. Overall, results from the alcohol measure indicate that female professional dancers consume more alcohol, have more alcohol dependence symptoms, and are at a higher risk for alcohol-related harm, when compared to female non-dancers, however the same could not be said for alcohol problems (i.e., no group differences were found).

**Descriptive Statistics and Group Comparisons for Tobacco Use**

Percentages of tobacco use were examined. Specifically, percentages were generated and are summarized below. No group comparisons were examined since there were not enough smokers, which is indicated below.

**Frequency Distributions and Group Comparisons: Tobacco Use.** The percentages were greater among the non-smoker groups than the smoker groups. Specifically, the percentage of smokers was 16.4% ($n=10$) for female professional dancers and 8% ($n = 4$) for female non-dancers. Cross tabulations indicated that there were not enough smoking individuals in each group to conduct further analyses (Table 3).

Table 3

<table>
<thead>
<tr>
<th>Measures</th>
<th>Professional dancers</th>
<th>Non-dancers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smoker</td>
<td>10 16.4</td>
<td>4 8</td>
</tr>
<tr>
<td>Non-smoker</td>
<td>51 83.6</td>
<td>46 92</td>
</tr>
</tbody>
</table>

*Note. n= sample size. % = percentage*
Descriptive Statistics and Group Comparisons for Body Dissatisfaction/Body-Esteem

Mean scores were computed and group comparisons were conducted for body-dissatisfaction/body-esteem and are summarized below.

**Mean Scores: Body-Esteem.** Briefly, the BESAA scale consists of three subscales (i.e., Body Esteem-Appearance, Body Esteem-Attribution, and Body Esteem-Weight; Mendelson, et al., 2001). The mean score on the Body Esteem-Appearance portion (BE-Appearance) of the BESAA was 33.44 ($SD = 4.83$) for female professional dancers and 35.84 ($SD = 7.94$) for female non-dancers. Higher scores on this subscale indicate more positive feelings about one’s body appearance. Mean scores on the Body Esteem-Attribution portion (BE-Attribution) of the BESAA were 17.62 ($SD = 2.91$) for female professional dancers and 16.48 ($SD = 3.24$) for female non-dancers. Total scores range from 0 to 20. Higher values indicate that one perceives others as having a positive view of one’s body and appearance (Mendelson, et al., 2001). Examination of these scores indicated that most participants believed others viewed their bodies and appearance in a positive manner.

The mean scores on the Body Esteem-Weight portion (BE-Weight) of the BESAA were 22.34 ($SD = 5.25$) for female professional dancers and 22.67 ($SD = 3.23$) for female non-dancers. Total scores range from 0 to 32. Higher scores indicate greater weight satisfaction (Mendelson, et al., 2001; Table 4).

**Group Comparisons: Body-Esteem.** On the BE-Attribution portion of the BESAA, group differences were found between female professional dancers and female non-dancers, $t(109) = 1.95$, $p = 0.05$. More specifically women professional dancers perceived others as having a more positive view of their body appearance than female non-dancers.
However, on the BE-Appearance, $t (109) = .34, p = .72$, and BE-Weight, $t (109) = .211, p = .83$, no group differences were found between female professional dancers. In other words, female professional dancers and female non-dancers did not differ in positive feelings about their body appearance or weight.

Overall, group differences were found on BE-Attribution, but not on the BE-Appearance or BE-Weight, when comparing female professional dancers and female non-dancers.

**Descriptive Statistics and Group Comparisons for Perceived Social Culture Pressure**

Mean scores or percentages were computed and group comparisons were made for perceived social culture pressure and are summarized below.

**Mean Scores: Perceived Social Culture Pressure.** The Perceived Social Culture Pressure Scale (PSCPS; Stice & Agras, 1998) was utilized to assess for perceived social pressures for thinness in one’s social environment. Mean scores on this scale were 1.88 ($SD = 0.48$) for female professional dancers and 1.93 ($SD = 0.69$) for female non-dancers. Total scores range from 1 to 5. Higher scores indicate that one perceives more social cultural pressures from others to be slender (Stice & Agras, 1998). Group averages were not elevated on this measure (Table 4).

**Group Comparisons: Social Pressure.** For social pressure revealed no group differences between female professional dancers and female non-dancers, $t (109) = .43, p = .66$. In other words, there were no group differences between female professional dancers and female non-dancers in the amount of cultural/social pressures they perceive from others to be slender (Stice & Agras, 1998; Table 4).

**Descriptive Statistics and Group Comparisons for Disordered Eating, Stress & Depression**
Means scores or percentages were computed and group comparisons were made for disordered eating, stress and depression and are summarized below.

**Mean Scores and Group Comparisons: Disordered Eating.** The cut-off score is 2 or more points for the Unhealthy Weight Loss Method Factors Subscale of the Weight Control Behaviors Scale (French et al., 1995), which indicates the use of unhealthy weight loss behaviors (i.e., disordered eating). The percentage of individuals that scored at or above the cut-off point on this subscale were 31% ($n = 19$) of the female professional dancers and 24% ($n = 12$) of the female non-dancers.

Independent sample $t$-tests revealed no group differences for disordered eating (i.e., unhealthy weight loss strategies). Specifically, for disordered eating/unhealthy weight loss behaviors, no differences were found between female professional dancers and female non-dancers, $t (109) = 1.38$, $p = 0.16$ (Table 4).

**Percentages and Group Comparisons: Stress.** The cut-off score is 19 points or higher on the Perceived Stress Scale (PSS; Cohen, Kamarck, & Mermelstein, 1983), which is indicative of being highly stressed. The percentage of individuals who scored at or above the cut-off point on this scale was 45% ($n = 27$) of the female professional dancers and 34.6% ($n = 24$) of the female non-dancers. Independent sample $t$-tests revealed no group differences for stress. Specifically, on the stress scale no differences were found between female professional dancers and female non-dancers, $t (109) = 0.95$, $p = 0.34$ (Table 4).

**Percentages and Group Comparisons: Depression.** The cut-off score is 16 or greater on the Centre for Epidemiological Studies Depression Scale Revised (CESD-R; Randloff, 1977), which demonstrates symptoms of mild/significant depression. The percentage of individuals who
scored at or above the cut-off score on this scale was 31.6% \((n = 19)\) of female professional dancers and 30% \((n=15)\) of the female non-dancers.

Independent sample \(t\)-tests revealed no group differences for depression. Specifically, for depression no differences were found between female professional dancers and female non-dancers, \(t(108) = 1.08, p = 0.28\) (Table 4).

In summary, comparisons between groups for three of the alcohol measures (i.e., alcohol consumption, alcohol dependence, and AUDIT; Saunder et al., 1993) indicated that female professional dancers consume more alcohol and experience greater alcohol dependence than female non-dancers. However, for tobacco use, no group comparisons could be conducted since there were not enough smokers in the female professional dancers and female non-dancers group. In other, there might be a discernable pattern for alcohol, but not for tobacco use, regarding the aforementioned group comparisons.

Of note, although group comparisons for body-esteem, social pressure, disordered eating, stress and depression were not planned as part of the original study conceptualization, it was important to examine group differences to provide a context for the reader regarding the aforementioned variables (i.e., body-esteem, social pressure, disordered eating, and stress). Results revealed, that for the body-esteem attribution only, there was a significant group difference, but not for the other variables (body esteem regarding weight and appearance, disordered eating, stress, and depression).
Table 4

Comparing Professional Dancers and Non-dancers on Body-Esteem (BE-Attribution, BE-Appearance, BE-Weight), Social Pressure, Disordered Eating (i.e., Unhealthy Weight Loss Strategies), Stress, and Depression

<table>
<thead>
<tr>
<th>Measures</th>
<th>Professional dancers</th>
<th>Non-dancers</th>
<th>df</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>BE-Attribution</td>
<td>17.6</td>
<td>16.5</td>
<td>109</td>
<td>1.9</td>
<td>.05*</td>
</tr>
<tr>
<td>BE-Appearance</td>
<td>27.5</td>
<td>27.5</td>
<td>109</td>
<td>0.3</td>
<td>.83</td>
</tr>
<tr>
<td>BE-Weight</td>
<td>22.3</td>
<td>22.7</td>
<td>109</td>
<td>0.2</td>
<td>.83</td>
</tr>
<tr>
<td>Social pressure</td>
<td>1.8</td>
<td>1.9</td>
<td>109</td>
<td>0.4</td>
<td>.66</td>
</tr>
<tr>
<td>Unhealthy weight loss strategies</td>
<td>1.3</td>
<td>0.9</td>
<td>109</td>
<td>1.3</td>
<td>.16</td>
</tr>
<tr>
<td>Stress</td>
<td>20.1</td>
<td>19.1</td>
<td>109</td>
<td>0.9</td>
<td>.34</td>
</tr>
<tr>
<td>Depression</td>
<td>14.8</td>
<td>12.9</td>
<td>108</td>
<td>1.0</td>
<td>.28</td>
</tr>
</tbody>
</table>

Note. M = mean. SD = standard deviation. df = degrees of freedom. t = t-value. p = p-value or significance level. ** Significant at .01. * Significant at .05.

Correlations

In order to examine the correlation between alcohol use and tobacco use with body dissatisfaction/body-esteem, social pressure, disordered eating, stress, and depression among female professional dancers, several correlational analyses was conducted. A summary of these aforementioned correlations is presented next.

Alcohol Use: Correlations with Other Variables. The alcohol use, alcohol dependence, alcohol-related problems, and the total AUDIT scale (Saunder et al., 1993) correlations with body-
Esteem (BE-Attribution, BE-Weight, BE-Appearance; Mendelson, et al., 2001), perceived social culture pressure (PSCP; Stice & Agras, 1998), stress (PSS; Cohen, Kamarck, & Mermelstein, 1983) and depression (CESD-R; Randloff, 1977) scales were examined. Specifically, for the alcohol use and body-esteem measures, a strong and positive correlation was found between the alcohol use and BE-Attribution, \( r = .32, p = .01 \). In other words, as alcohol use increases, there is also an increase in female professional dancers’ perceived others having a more positive view of the dancers’ appearance and body. However, no correlations were found between alcohol use and any of the other body-esteem (i.e., BE-Appearance, BE-Weight) and perceived social culture pressure measures.

For the alcohol dependence symptoms and body-esteem or social pressure, no correlation was found between alcohol dependence and each of the following body-esteem measures: BE-Attribution, BE-Appearance. In addition, no correlation was found between alcohol dependence and social pressure. However, a weak and negative correlation was found between alcohol dependence symptoms and BE-Weight, \( r = -.27, p = .04 \). In other words, as alcohol dependence symptoms increase, weight satisfaction decreases and vice versa.

No correlation was found between alcohol related problems and any of the body-esteem (i.e., BE-Attribution, BE-Appearance, BE-Weight) and the social pressure measures. However, for the entire AUDIT scale, only the BE-Attribution scale was positively and weakly correlated with the entire AUDIT scale, \( r = .28, p = .03 \). In other words, as hazardous alcohol use increases, so does participants (i.e., female professional dancers) perceive others as having a more positive view of their body appearance. None of the other body-esteem or perceived social culture pressure measures was correlated with the entire AUDIT scale.
Overall, the aforementioned results demonstrated that for alcohol, body-esteem and the social pressure measures: 1) alcohol use was positively and strongly correlated with BE-Attribution, 2) alcohol dependence was negatively and weakly correlated with BE-weight, and 3) the total AUDIT score was positively correlated with BE-Attribution (Table 5).

No correlations were found between alcohol use and each of the following variables: disordered eating, stress, and depression (Table 5)

However, alcohol dependence were positively and moderately correlated with stress, $r = .27, p = .03$ and positively and strongly correlated with depression, $r = .46, p = .00$. In other words, as alcohol dependence increase so does stress and depression or vice versa. No correlation was found between alcohol dependence and disordered eating/unhealthy weight loss strategies (Table 5).

Regarding alcohol-related problems, no correlation was found with any of the following variables: unhealthy weight loss strategies (i.e., disordered eating), stress, and depression. The AUDIT total score was positively and moderately correlated with depression, $r = .27, p = .06$, whereas disordered eating, stress, and depression were not associated with AUDIT total scores. In other words, as hazardous alcohol use increases, so does depression, and vice versa, but the same could not be said for hazardous alcohol use with disordered eating, stress, and depression (Table 5).

In summary, in this section (i.e., alcohol and its correlations with other variables), the following was found: 1) alcohol use was correlated with BE-Attribution, 2) alcohol dependence was correlated with BE-Weight, stress and depression, and 3) the entire AUDIT scale was correlated with BE-Attribution and depression.
Table 5

Alcohol Use and their Correlates including Body-Esteem, Social Pressure, Disordered Eating, Stress and Depression in Professional Dancers

<table>
<thead>
<tr>
<th>Measure</th>
<th>Alcohol use</th>
<th>Alcohol dependence</th>
<th>Alcohol related problems</th>
<th>AUDIT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$r$</td>
<td>$p$</td>
<td>$r$</td>
<td>$p$</td>
</tr>
<tr>
<td>1. Body-esteem:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BE-Attribution</td>
<td>.32</td>
<td>.01**</td>
<td>.04</td>
<td>.74</td>
</tr>
<tr>
<td>BE-Appearance</td>
<td>-.06</td>
<td>.64</td>
<td>.25</td>
<td>.06</td>
</tr>
<tr>
<td>BE-Weight</td>
<td>-.11</td>
<td>.39</td>
<td>-.27</td>
<td>.04*</td>
</tr>
<tr>
<td>2. Social pressure</td>
<td>-.02</td>
<td>.84</td>
<td>.23</td>
<td>.07</td>
</tr>
<tr>
<td>3. Disordered eating</td>
<td>.08</td>
<td>.54</td>
<td>.10</td>
<td>.43</td>
</tr>
<tr>
<td>4. Stress</td>
<td>.08</td>
<td>.54</td>
<td>.27</td>
<td>.03*</td>
</tr>
<tr>
<td>5. Depression</td>
<td>.20</td>
<td>.13</td>
<td>.46</td>
<td>.00**</td>
</tr>
</tbody>
</table>

Note. $r =$coefficient of correlation. $p =$probability level. ** Significant at .01. * Significant at .05.

Tobacco Use: Correlations with Other Variables. Tobacco use’s correlations with body-esteem, social pressure, disordered eating/unhealthy weight loss strategies, stress and depression was also examined. For tobacco use and body-esteem, a positive and strong correlation was found between tobacco use and BE-Attribution, $r = .26 p = .04$. In other words, as female professional dancers’ tobacco use increases so do their perceptions of others as having a more positive view of their body appearance increase and vice versa. Of note, no correlation was found between tobacco use and any of the other body-esteem or perceived social culture pressure measures (Table 6).
A positive and strong correlation was found between tobacco use and disordered eating (i.e., unhealthy weight loss strategies), $r = .64, p = .00$. In other words, as tobacco use increases so do disordered eating or unhealthy weight loss methods increases and vice versa. Of note, no correlation was found between tobacco use and each of the following variables: stress, and depression. In summary, for tobacco use’s correlations with various variables (i.e., body-esteem, social pressure, stress and depression), tobacco use was positively and strongly correlated with BE-Attribution, and unhealthy weight loss strategies (i.e., disordered eating; Table 6).

In summary, of all the fifty-six-alcohol type (i.e., alcohol use, alcohol dependence, alcohol-related problems, AUDIT) correlations only four (i.e., stress, depression, BE-Weight and BE-Attribution) were significant. Social pressure, disordered eating, and BE-Appearance was not correlated with alcohol. Regarding the seven tobacco use correlations, only two (i.e., disordered eating/unhealthy weight loss strategies and BE-Attribution), were significant. Social pressure, depression, BE-Weight, and BE-Appearance were not correlated with tobacco use. In other words, there was not much of a discernable pattern between substance use (i.e., alcohol and tobacco use) with body-esteem, perceived social culture pressure, stress, and depression in female professional dancers.
Table 6

*Tobacco Use and their Correlates including Body-Esteem, Social Pressure, Disordered Eating, Stress, and Depression in Professional Dancers*

<table>
<thead>
<tr>
<th>Measure</th>
<th>( r )</th>
<th>( p )</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Body-Esteem</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BE-Attribution</td>
<td>.26</td>
<td>.04*</td>
</tr>
<tr>
<td>BE-Appearance</td>
<td>.12</td>
<td>.36</td>
</tr>
<tr>
<td>BE-Weight</td>
<td>-.00</td>
<td>.96</td>
</tr>
<tr>
<td>2. Social Pressure</td>
<td>.81</td>
<td>.16</td>
</tr>
<tr>
<td>3. Stress</td>
<td>.01</td>
<td>.94</td>
</tr>
<tr>
<td>4. Depression</td>
<td>.06</td>
<td>.66</td>
</tr>
<tr>
<td>5. Unhealthy weight loss methods</td>
<td>.64</td>
<td>.00**</td>
</tr>
</tbody>
</table>

Note. \( r \) = coefficient of correlation. \( p \) = probability level. ** Significant at .01. * Significant at .05.

**Discussion**

To date, only a single international study (Holderness et al., 1993) has compared professional dancers to non-dancers in terms of substance use. In addition, even though dance studies have hypothesized that substance use (i.e., alcohol and tobacco use) is correlated with disordered eating (Holderness et al., 1993), body dissatisfaction (Sekulic, et al., 2010), stress (Sekulic, et al., 2010), and depression (Holderness et al., 1993), only non-dancing (or general population) studies have examined these aforementioned correlations (Clark et al., 2005; O’Brien, et al., 2007; Piran & Gadalla, 2009; Vogel, et al., 2003). This present study is an attempt to examine, within a Canadian context, the alcohol and tobacco use among female professional dancers and female non-dancers. Finally, this study also provides a glimpse into the
substance use correlation, specifically alcohol and tobacco use, with disordered eating, body
dissatisfaction/body-esteem, stress and depression in Canadian female professional dancers and
female non-dancers.

**Group Comparisons for Substance Use**

The present study found that whether you are a female professional dancer or female non-
dancer, influences your alcohol use, but the same could not be said for tobacco use. Some
noteworthy results in this thesis were: 1) that female professional dancers drinking made them
more susceptible to harmful alcohol consumption than female non-dancers (Babor, Higgins-
Biddle, Saunders, Monteiro, 2001) and 2) that only a small percentage of female professional
dancers (16.4%) and female non-dancers (8%) were smokers since only a few indicated that they
smoked during the past month.

Such results suggest that female professional dancers in comparison to female non-
dancers drink more excessively than female non-dancers (Barbor et al., 2001), which is
inconsistent with previous dance research (Holderness et al., 1993), which found no differences
between these two groups. A potential reason for the difference between the present study’s
finding regarding group differences in alcohol use, compared to previous research (Holderness et
al., 1993) may be related to dancers levels of stress. The present study’s dancers consisted mostly
of contemporary dancers, whereas the Holderness et al.’s (1993) dancers consisted of ballerinas.
Perhaps, contemporary dancers are more stressed than ballet dancers and non-dancers, so much so
that it was easier to detect group differences between female professional dancers and female non-
dancers in the present study. Our assumption supports, Sekulic et al. (2010), who argues that
alcohol consumption ought to be thought of as professional dancers’ means in dealing with stress
experienced in their particular dance context. In other words, the dance context for contemporary
dancers might be more stressful than the dance context for ballet dancers, which may cause them to consume more alcohol. When helping female professional dancers cope with excessive alcohol consumption, a potential question that might be useful is: “What type of dance style (e.g., contemporary or ballet) do you specialize in?” Taking such questions into consideration could assist a dancer in feeling better understood by their therapists.

Regarding smoking, previous research found that the percentage of smoking were higher for female professional dancers (Oreb et al., 2006) than for the Canadian female population (Statistics Canada, 2013). The present study’s results are consistent with the previous research, although, overall, the number of female professional dancers (16.4%) and female non-dancers (8%) in the present study, who indicated they smoked, were very low, and therefore group comparisons were difficult. Having a low number of smokers in each of the aforementioned groups was unexpected, as it was believed that our study would have a high, smoking percentage, not a low smoking percentage, especially among female professional dancers. This is because Oreb et al. (2006) found high smoking percentages (45%) among Croatian female professional dancers, whereas we found low smoking percentages (16.4%) among Canadian female professional dancers. Perhaps the difference in these smoking percentages between Croatian and Canadian female professional dancers has something to do with the cultural context. Indeed, according to previous research (e.g., Johnson, et al., 2007; Wang, 2003), a population characteristic that should be taken into consideration, when examining smoking behavior and designing smoking prevention programs is the cultural context. More specifically, in some cultural contexts, such as China, cultural norms and values endorse smoking since it is associated with “prestige and power” which explains the high percentages of smoking among this culture (p. 85). Therefore smoking prevention program may want to consider the traditional
norms and values of a culture regarding smoking when they are interested in reducing smoking percentages. When considering the smoking percentages in Canadian female professional dancers and Croatian female professional dancers the smoking seem to be less endorsed by the Canadians (16.4%) than Croatians (45%), which supports Johnson, et al. (2007) aforementioned finding regarding the impact of culture on smoking. Thus, a question to take into consideration when examining smoking in female professional dancers is: “Is smoking endorsed by your cultural norms and values?” Putting the cultural norms and values first when examining smoking in female professional dancers can help one better design smoking prevention programs for female professional dancers, who need them.

**Substance Use Correlation with Body-Esteem and Disordered Eating**

There is an impression that female professional dancers have problems with body image/body-esteem (Reel, SooHoo, Jaimieson, & Gill, 2005) and disordered eating (Anshel, 2004), which may be correlated to alcohol and tobacco use (Holderness, et al., 1993; Sekulic, et al., 2010). However, in the present study, there were very few significant correlations between substance use (i.e., alcohol and tobacco use) and the aforementioned variables (i.e., body-esteem and disordered eating).

The results of this present study suggest that for alcohol, few significant correlations emerged. More specifically, disordered eating was not significantly correlated with alcohol use and only two (BE-weight and BE-Attribution) of the four body image measures were correlated with alcohol use. Previous research findings regarding the alcohol use correlation with body image/body-esteem and disordered eating in female professional dancers are scarce. Only one of the aforementioned correlations (alcohol and disordered eating) was explored in female professional dancers, particular ballet dancers, and a significant correlation was found, unlike the
present study. Perhaps the present study’s group of dancers (e.g., mostly contemporary dancers), recruited from university dance programs, are not as heavily scrutinized (e.g., judged regarding their body weight, shape) by dance instructors or choreographers as ballet dancers recruited from ballet dance companies (e.g., National Ballet), which in turn might impact their health differently. Indeed, according to Schluger (2009) ballet dancers have on average, greater amounts of bulimic activities, eating concerns, and food preoccupations than contemporary dancers, which suggest differences in body image and eating concerns. In other words, it may be more about ballet dancers, who are seemingly under greater scrutiny, when compared to other types of dancers (e.g., contemporary dancers) that impact their disordered eating and body image concerns, which in turn may cause them to drink more. However, more research is needed to make distinctions between ballet dancers and other types of dancers (e.g., contemporary dancers) in terms of the scrutiny they experience in their dance context, prior to definite conclusions can be drawn about the alcohol use correlation with disordered eating and body image in female professional dancers.

Consistent with previous dance research (Holderness, et al., 1993), tobacco use was positively correlated with disordered eating/unhealthy weight loss methods in female professional dancers. The present study’s findings are also consistent with similar studies. Specifically, female non-dancing studies (e.g., Piran & Robinson, 2006) reported that the greater the severity of dieting and bingeing, the greater the amount of alcohol use or abuse. Such correlations could inform and assist clinicians in recognizing disordered eating co-occurring with tobacco use in female professional dancers, which in turn could lead to improved psychotherapy approaches and prevention strategies in this population.

On one of the body esteem measures (BE-Attribution) a significant correlation was found with tobacco use. More specifically, female professional dancers’ tobacco use was positively
correlated with the evaluation attributed to others regarding their appearance and body. To date, no study has examined this aforementioned correlation in female professional dancers, however the body-esteem and tobacco use variables have been examined separately in female professional dancers. Previous research has indicated that contemporary dancers have a greater appreciation of their bodies, especially when compared to non-dancers and that females’ smoking percentages were high, when compared to female non-dancers (Swami & Harris, 2012). Such results are similar to present study’s findings, which found that female professional dancers perceived others as having a more positive view of their body appearance than female non-dancers, and the percentages of smoking in female professional dancers (16.4%) were greater than female non-dancers (8%). Thus, one might assume that there might be a positive correlation between body-esteem and tobacco smoking, which is what we found in the present study. This present study’s finding suggests that there may be some self-esteem (i.e., body-esteem) benefits, to smoking for female professional dancers, which might need to be taken into consideration when designing smoking prevention programs. However, more research is needed in this area, prior to definite conclusions can be drawn regarding the aforementioned correlation in female professional dancers.

**Alcohol Use Correlations with Stress and Depression**

The present study has demonstrated that female professional dancers alcohol consumption is impacted by their stress and depression experienced. Specifically, both depression and stress was positively correlated with some alcohol consumption measures among female professional dancers.

Our results from this analysis imply that that the more depressed female professional dancers are the more alcohol they consume. Even though previous research has not examined the
aforementioned correlation in female professional dancers, studies have examined depression and alcohol use separately in female professional dancers. Specifically, Marchant-Haycox and Wilson (1992) demonstrated that the depression incidence rates among dancers were 38% (i.e., high). In addition, Sekulic et al. (2010) found that 25% of female professional dancers consumed more than 1 drink per week. Thus, it was predicted that a correlation between alcohol use and depression would be found among female professional dancers, which is what the present study found for depression and the alcohol use, specifically the total alcohol scale (i.e. AUDIT). This finding suggests that clinicians should consider screening depressed female professional dancers for excessive alcohol use and vice versa.

In the analysis of the alcohol dependence correlation with stress, a statistical significance and positive correlation was found in female professional dancers. This suggests that female professional dancers who have alcohol dependence symptoms may be at a greater risk of being stressed. Related studies, not involving professional dancers, but athletes, found that stress-related drinking as a result of poor athletic performance was greater among elite-provincial athletes than in social or club athletes. This suggests, stress-related drinking as a result of poor dance performance might be greater among more professional dancers than in recreational dancers. However, caution should be taken when drawing conclusions about the alcohol and stress correlation in female professional dancers since this correlation was not found on all the alcohol measures in terms of stress, only for the alcohol dependence and stress correlation.

Concluding Remarks

Overall, most alcohol measures found that female professional dancers alcohol use were more problematic or hazardous, when compared to female non-dancers, however only a small percentage of female professional dancers (16.4%) and non-dancers (8%) indicated that they
smoked tobacco during the past month. These findings highlight that body-esteem attribution is particularly correlated with hazardous alcohol use and that some parts of body-esteem (body—esteem attribution), may actually be protective against the development of alcohol-related harm, whereas others (body-esteem weight) increase the risk for alcohol-related harm, as well as depression. Moreover, body-esteem attribution may be protective against the development of tobacco smoking, whereas disordered eating may increases the risk of becoming a tobacco smoker. However, more research is required in order to assist dance authorities and policy makers in making more informed decisions regarding the well-being of female professional dancers.

**Limitations of Present Study**

There are some limitations worth noting in this present study. First, the data were obtained through self-administration questionnaires. Specifically, the results obtained through such measures might be different when compared to those of personal interviews. Indeed, Lessler and O’Reilly (as cited in Leavitt, 2004) found that the results obtained through various questioning styles are different. For example, the authors reported that personal interviewing allows for less privacy when answering questions compared to self-administration questionnaires, which might lead to underreporting of certain types of behaviors, especially those that are stigmatized such as substance use. However, personal interviewing allows for follow-up questions and probing of interesting answers, which self-administration questionnaires do not allow for. In other words, since self-administration questionnaires have various advantages and disadvantages compared to personal interviewing, comparing the results of the present study to other studies utilizing a different questioning format makes it less likely.

Second, the present study conducted a correlational analysis, which makes cause and effect conclusions, not likely to be determined. For example, it was not possible to determine if
disordered eating causes increased tobacco smoking or whether increased tobacco smoking determined disordered eating, or if stress and depression determined alcohol use or whether alcohol use determined stress and depression.

Third, a non-random, self-selected, and voluntary participant sample was utilized since those interested in participating contacted the researcher, after reading the online advertisements and list serve emails. The list serve emails and advertisements indicated that the study was based on the relationship between substance use and health among Canadian professional dancers and non-dancers. Thus, not necessarily those with stress, depression, body dissatisfaction, and disordered eating that chose to participate in this study, which might have made the study less biased.

**Future Research**

Future research investigating substance use with eating disorders/disordered eating, body dissatisfaction, stress and depression among Canadian female professional dancers and female non-dancers, could include Canadian men professional dancers and men non-dancers in their samples. Given that our sample sizes were too small, we excluded these two groups from our present study. Thus, it would be important to clarify the impact of gender on Canadian professional dancers in terms of the substance use correlation with these aforementioned variables. Moreover, future studies could also include illegal substances (e.g., cocaine, stimulants, heroin, and marijuana), which were not examined in this study. Finally, since the study only utilized quantitative surveys, future research, could include qualitative interviews in order to provide more than one perspective regarding the data examined and improve the shortcomings of one measure with the strengths of the other, which in turn could lead to more comparable data across studies since both measures are utilized.
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Appendix A

Study Questionnaire for Professional Dancers and Non-Dancers

Hello,

My name is Shasha Tse and I am conducting a study for my MA degree at the Department of Applied Psychology and Human Development of OISE/University of Toronto under the supervision of Dr. Niva Piran. We are looking for male and female participants (between the ages of 18 and 35) who would be interested in contributing to a study on stress, body image, smoking, and alcohol use among professional dancers and non-dancers.

What will participants do?
Participants will complete questionnaires about stress, body image, eating disorders/disordered eating, depression, smoking and alcohol use, as well as motives for use. This battery of tests takes about 35 minutes to complete. Participation is confidential.

Benefits of the Study/Compensation:
It is possible that you will find it interesting to complete the questionnaires that assess aspects of well-being. Your participation may help others, especially dancers, because the study may suggest the importance of providing dancers with support related to their professional pressures. Further, as a thank you for your participation, participants can enter a draw to win $100 gift card to Starbucks.

How to participate:
Interested participants can complete the study online.

Please visit the following website address to complete the study:
http://fluidsurveys.com

Questions, comments, concerns? Feel free to contact Shasha Tse by email: shasha.tse@mail.utoronto.ca

Thank you for your interest!

Shasha Tse

Inclusion Criteria:
- A professional dancer (i.e. an individual who gets paid to dance or is a student from a professional dance program) or a student from the University of Toronto with no dance experience
- Must be ages 18-34
- Have access to a computer

Exclusion Criteria:
• A non-professional dancer (i.e. individual who has minimal training/experience in dance, but participates in dance for health, interest and/or social reasons and who doesn’t get paid to dance)
• Anyone who has not resided in Canada for at least two-years and describes himself or herself as not being fluent in English writing and reading.
• Anyone who engages in competitive sports other than dance (i.e. sports involving long and many hours of training, maintaining a low body weight, but high strength level in order to maximize performance, and conforming to and working with a coach/trainer such as gymnastics, figure-skating, etc.)
Appendix B

Advertisement

Do you attend a professional dance program/get paid to dance professionally or have no dance experience? Are you not a professional dancer, but you are interested to contribute to a study about stress and smoking and alcohol use among dancers and non-dancers. We would value your participation! We will also enter you into a draw to win a $100 gift card from Starbucks.

I am conducting a study to investigate the relationship between substance use and health among Canadian professional dancers and non-dancers. Participants in this study will be asked to complete online surveys, which may take up to 35 minutes to complete. Online surveys can be completed in no more than one seating.

If you are interested in learning more about the study, contact Shasha Tse, Masters Student, at OISE/University of Toronto 416-986-0551
Appendix C

Suggested Counselling Resources

**College Street Women’s Centre for Counselling and Health Education**
489 College Street
Toronto, Ontario
416-929-1816

**Family Services for Individuals, Family, and Couples**
355 Church Street
Toronto, Ontario
Telephone: 416-595-9618
Services involves no (or minimal) charge
It also provides a distress line: 416-408-4357 (24 hours a day)

**OISE Psychoeducational and Counselling Clinic**
OISE/UT
252 Bloor St.
Toronto, Ontario
Telephone: 416-923-6641
Service involves no (or minimal) charge.

**Mount Sinai Hospital Psychotherapy Centre**
600 University Avenue,
Toronto, Ontario
Telephone: 416-586-4800 ext. 4568
Service is covered by OHIP. A waiting list may apply.

**University of Toronto Psychological and Counselling Centre**
214 College Street
Toronto, Ontario
Telephone: 416-978-7970
Service involves no charge for University of Toronto students.

**Women’s Psychotherapy Centre**
2 Carlton Street (18th Floor)
Toronto, Ontario
Telephone: 416-519-2000
Service involves no charge.

You may approach your general practitioner, local mental health services, or distress centers in your area of residence.
Please do not hesitate to contact ShashaTse (416-986-0551) for assistance in finding additional counselling resources.
Appendix D

Demographic Questionnaire

1. Please indicate your sex:
   ___ Male
   ___ Female

2. Please indicate your age: _______

3. Please indicate your ethnicity:
   ___ Caucasian
   ___ African American
   ___ Asian/Pacific Islander
   ___ Aboriginal
   ___ Middle-Eastern
   ___ Hispanic
   ___ Latino
   ___ Other

4. Have you resided in Canada for at least two years?
   ___ Yes
   ___ No

5. Do you describe yourself as fluent in reading and writing English?
   ___ Yes
   ___ No

6. Are you presently a part-time or full-time professional dancer (i.e. an individual who relies on dance for a salary or is a student from a professional dance program) or attend a professional dance program?

   ___ If yes, please indicate your primary dance style______________________________

   ___ No

7. Do you dance recreationally or are you a non-professional dancer (an individual who has minimal training/experience in dance, but participates in dance for health, interest and/or social reasons and who doesn’t get paid to dance)?

   ___ If yes, please specify__________________________________________________

   ___ No

8. Please indicate how long you have been dancing for?
Professionally: ______

Non-professionally: ______

9. Do you engage in competitive sports (i.e. a sport involving long and many hours of training, maintaining a low body weight, but high strength level in order to maximize performance, and conforming to and working with a coach/trainer, e.g. gymnastics, figure-skating)?

___ Yes___ No