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MAKING DANCE RESEARCH VISIBLE

A Project Proposal of Applying Sports Psychology to the Dance Field

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Abstract

This study investigates the integration of sports psychology into the dance field, introducing a research project plan emphasizing self-criticism and self-compassion as factors of mental health among dance conservatory students in the Czech Republic. The human body, as a medium of expression and experience, plays a pivotal role in both psychology and dance, yet remains underexplored in psychological research. By examining correlations, moderations and multiple regression between self-criticism, self-compassion, and well-being, alongside variables such as fear of self-compassion, fear of performance failure, and social physique anxiety, the study proposes to bridge this interdisciplinary gap. The author further advocates for greater visibility and accessibility of scientific knowledge to both the academic community and the general public, emphasizing the ethical obligation of researchers to communicate the significance and societal relevance of their work. Ultimately, this project proposal seeks to enhance mental health support within dance education and professional practice, laying the groundwork for future interventions aimed at fostering self-compassion among dancers.

Keywords

dance, psychology, self-criticism, self-compassion, mental health, conservatory

Zpřístupnění tanečního výzkumu. Návrh projektu aplikace sportovní psychologie v tanečním oboru

Abstrakt

Tato studie se zabývá integrací sportovní psychologie do tanečního oboru a představuje plán výzkumného projektu, který klade důraz na sebekritiku a laskavost k sobě samé*mu jako faktory duševního zdraví mezi studentkami*studenty tanečních konzervatoří v České republice. Lidské tělo jako komunikační a prožitkové médium hraje zásadní roli jak v psychologii, tak v tanci, avšak v psychologickém výzkumu tělu dosud nebyla věnována dostatečná pozornost. Předkládaný projekt si klade za cíl překlenout tuto interdisciplinární mezeru pomocí výzkumu korelace, moderace a vícenásobné regresní analýzy mezi různými proměnnými: sebekritikou, laskavostí k sobě samé*mu, obavou z přílišné laskavosti, strachem z výkonového neúspěchu, úzkostí z hodnocení postavy jinými lidmi a duševní pohodou. Autor poukazuje na důležitost viditelnosti a přístupnosti vědeckých poznatků jak pro akademickou obec, tak pro širokou veřejnost, a zdůrazňuje etickou odpovědnost vědkyň*vědců komunikovat význam a společenskou relevanci své práce. Cílem návrhu projektu je v konečném důsledku zlepšit podporu duševního zdraví v tanečním vzdělávání i profesionální praxi a položit základy pro budoucí intervence zaměřené na rozvoj laskavosti k sobě samé*mu u populace tanečnic*tanečníků.

Klíčová slova

tanec, psychologie, sebekritika, laskavost k sobě, duševní zdraví, konzervatoř

Introduction

The call for papers to this special issue posed a provocative question: "How much of the body does a human being still need today?" It will come as no surprise that, as a dance researcher, I consider the human body an integral part of our existence, reflecting the entirety of our lives. The body is our personal archive of experiences, inscribed in a distinctly physical form. These range from developmental changes, such as the growth of bodily tissues, to intentional modifications like tattoos, piercings, and the grooming of nails or hair, as well as unintended transformations due to injuries, such as abrasions, scars, or even amputations. In this sense, the body becomes a medium through which we communicate ourselves, both intentionally and unintentionally.

However, this is not limited to highly visible and distinctive physical characteristics. Our bodies also reflect our experiences, specifically their perceived significance and emotional valence. For instance, individuals with depression often assume a slouched posture with a lowered head, which correlates with deviations in spinal curvature, notably an increase in kyphosis (Dehcheshmeh et al. 2023). This process of inscribing into the body, however, can occur at a more fundamental level, invisible to the human eye. This pertains to the concept of neuroplasticity – the brain's ability to undergo adaptive changes, which include not only morphological alterations but also functional transformations, such as the creation of new connections between neurons (Fuchs – Flügge 2014). Even depression, as mentioned earlier, has a proven impact on the structure and functionality of our brains, although the exact mechanisms remain unclear (Palmer et al. 2015; Fitzgerald et al. 2008). For many dance researchers, it may not be surprising – though only confirmed through advancements in functional imaging methods and other sophisticated research technologies – that dance has been shown to have a positive impact on brain activity, including neuroplasticity (Teixeira-Machado et al. 2019).

If I were to answer the initial question, I would respond with unwavering certainty that we need the body – we cannot get by without it. Our existence is so closely intertwined with the body that it is impossible to consider these entities separately, even though similar ideas have periodically emerged throughout history (Dika 2020). In light of current advancements, I would reformulate the original question as follows: "How much of a body do AI models need to acquire experiences comparable to ours?" However, that is a topic for another debate.

Nevertheless, I do not view body/dance solely through the lens of dance studies, as might already be evident from the examples mentioned above. My second discipline is psychology, which necessarily intersects with all human activities and scientific fields, dance included. It is therefore relevant for me to inquire about the presence of the body (and dance) in psychology. It is evident that it still takes a backseat in psychological research, despite numerous advancements made, especially in the last decades. This could be attributed to the cognitive paradigm dominance in mainstream psychology, as evidenced by the fact that foundational textbooks for general psychology courses remain authored by prominent cognitive psychologists (Eysenck – Keane 2015; Nolen-Hoeksema 2014; Sternberg 1996).

Nevertheless, reflection of the body-mind link in psychological texts dates back to the second half of the 19th century. The intersection is reflected already in early texts such as Dunn's (2010) *Essay on Physiological Psychology* first published in

1858, Jardine's (2023) critical seminal work *The Elements of the Psychology of Cognition* originally published in 1874 or Sherrington's (1900) article *Experimentation on Emotion* originally published in 1900. This interest continues throughout the 20th century as well. Among many examples, one could refer to Bowlby's attachment theory from the late 1960 s and early 1970 s, which demonstrates that physical contact and bodily presence are crucial in forming secure interpersonal attachment between a child and a caregiver (Holmes 2014). Similarly, most emotion theories include their bodily manifestations (de Gelder et al. 2015), and the development of affective neuroscience has further emphasized their rootedness in physicality, particularly the human brain (Dalgleish et al. 2009; Davidson – Sutton 1995). Affective neuroscience receives a prominent position especially in the late 20th and 21st centuries thanks to many methodological advancements. For example, the outstanding work by Antonio Damasio is exemplified by the somatic marker hypothesis, which highlights the importance of the body in decision-making processes (Damasio 1996; Poppa – Bechara 2018). Additionally, the existence of mirror neurons that unconsciously reflect another being's movements in our bodies (Rizzolatti – Craighero 2004), or kinesthetic/somatic empathy, which suggests an understanding of and experiencing others' emotional states through the process of mirroring (Bekkali et al. 2021). Also embodied cognition theory, or 4E cognition, offers an alternative to classical cognitivism, asserting that cognitive processes involve not just the brain but the entire body (Shapiro 2019).

Practical and applied areas of psychology are no exception. Dance and Movement Therapy exemplifies the integration of these two fields, with one of its central ideas being that experiences are stored not only in the mind but also in the body (Gray 2001; MacDonald 2006). Similar assumptions underpin Biosynthesis Therapy (Boadella 2015), and other body-oriented therapeutic approaches. This category also includes relaxation techniques, such as Jacobson's Progressive Muscle Relaxation (Jacobson 1974), and newer approaches like Mindfulness, which emphasize being present in the moment and, in doing so, draw attention to the body itself (Creswell 2017). Another area is Sports and Exercise Psychology, which focuses on optimizing athletic performance through psychological methods, where the body naturally plays a significant role (Weinberg – Gould 2023).

Despite the long-standing tradition mentioned above, it cannot be claimed that the body is universally perceived as an integral component of psychology. I encounter this issue almost daily. Questions about my specialization often meet with misunderstanding, as the others frequently cannot envision what psychological research in dance – or vice versa – might look like. This was evident even at the conference of the European Federation of Sport Psychology (FEPSAC), which bore the title *Performance under Pressure in Sports, Military/Police, Performing Arts, Medicine, Business, and Daily Life* and featured a poster prominently displaying a photograph of a dancer. Yet, among the nearly one thousand participants, only about a dozen focused on dance as a specific art form. My professional goal is therefore to continually bring the human body back into focus in all its forms and expressions, including dance as an art form. In the following text, I will present a research project I have authored, which examines the protective and risk factors for mental health among dance conservatory students, as part of my efforts to reintroduce dance and movement into the psychological discourse.

A Proposal of a Study

Mental health represents a fundamental cornerstone of well-being and overall human health. However, the *World Mental Health Report* published by the World Health Organization (2022a) presents concerning findings. According to this document, approximately one in eight people worldwide (a total of 970,000,000 individuals) live with a mental disorder, most commonly depressive disorders (31%) and anxiety disorders (28.9%). It should be noted that this report, released in 2022, is based on surveys conducted in 2019, prior to the coronavirus pandemic. The updated *Mental Health and COVID-19: Early evidence of the pandemic's impact* (World Health Organization 2022b) reveals a 27,6% increase in depression and 25,6% increase in anxiety. Although the data vary, younger individuals, women, and those with pre-existing health conditions are frequently identified as being at higher risk.

Addressing mental health during the period when the personality develops appears to be an essential prerequisite not only for individuals but also for society. The aforementioned WHO reports highlights the significant economic consequences of mental disorders, as productivity losses and other indirect costs often far exceed healthcare expenses. Due to the stigma surrounding mental illness, people often choose to suffer from mental health problems without relief rather than risking the discrimination and ostracization associated with accessing psychological services.

If we are to improve the future situation, it is necessary to focus on preventive measures and on the period of adolescence when various disorders most commonly develop (Patalay – Fitzsimons 2018). In this regard, a unique project, *the National Monitoring of Children's Mental Health*, was created in the Czech Republic by the National Institute of Mental Health in collaboration with the Czech School Inspectorate (*Duševní zdraví dětí a adolescentů* n.d.). This survey reveals that more than 50% of ninth-grade primary school students exhibit signs of impaired mental well-being, 40% struggle with symptoms of moderate to severe depression, and 30% display symptoms of moderate to severe anxiety. Moreover, depressive and anxiety symptomatology is twice as prevalent among girls as boys.

Based on the aforementioned data, it is therefore desirable to investigate the risk and protective factors of mental health. Research conducted demonstrates that excessive self-criticism is often among the risk factors for mental health not only among adolescent populations (Gadassi Polack et al. 2021; McIntyre et al. 2018). Many theoretical approaches to this phenomenon exist, explaining its underlying functional processes in various ways (Zaccari et al. 2024). A general and comprehensible explanation is provided by Kannan and Levitt (2013: 166), who describe self-criticism as "a conscious evaluation of oneself that can be a healthy and reflexive behavior, but also can have harmful effects and consequences for an individual". Earlier approaches viewed self-criticism as a unified process (Beck et al. 1979), but more recent ones emphasize its multidimensionality; for instance, Gilbert et al. (2004) divide the construct into self-correction, referring to the tendency to amend one's behavior, and self-persecution, which denotes the desire to persecute or harm oneself due to failure. Self-criticism is also a risk factor in the psychotherapeutic process. Higher self-criticism at the onset of therapy may negatively influence its outcomes, particularly in the treatment of eating disorders (Löw et al. 2020; Paranjothy – Wade 2024; Zelkowitz – Cole 2019). Self-criticism can also be understood in connection with perfectionism, specifically the concept of self-critical perfectionism, a maladaptive form of perfectionism (Dunkley et al. 2003) within the two-factor model, which Stoeber and Otto (2006) in their conceptualization call perfectionistic concerns.

On the contrary, self-compassion is often discussed as one of the primary protective factors of mental health (Cormier et al. 2023; MacBeth – Gumley 2012; Röthlin 2019), even among adolescents (Tingaz –Çakmak 2023; Eke et al. 2020). Moreover, self-compassion interventions significantly reduce self-critical tendencies (Wakelin et al. 2022). "Self-compassion refers to how we relate to ourselves in instances of perceived failure, inadequacy, or personal suffering. (...) Self-compassion can take a tender, nurturing form, especially when it is aimed at self-acceptance or soothing distressing emotions. However, it can also take a fierce, powerful, agentic form, especially when it is aimed at self-protection, meeting our important needs, or motivating change" (Neff 2023: 194–195). Self-compassion comprises three fundamental components: 1) Self-kindness, which refers to an accepting and loving attitude toward oneself. 2) Common humanity, which acknowledges that what happens to an individual is not an isolated event but a common human experience. 3) Mindfulness, which helps individuals balance negative emotions and experiences without being overwhelmed by them (Neff 2003a). It should be noted that Neff's conception of mindfulness emphasizes different aspects of this phenomenon than its current, more commonly accepted definition, which focuses on being present with curiosity, openness, and acceptance of what is happening in one's life (Bishop et al. 2004).

Self-compassion has demonstrated connections with numerous other positive psychological phenomena, such as well-being (Zessin et al. 2015), adaptive coping (Ewert et al. 2021), self-efficacy (Liao et al. 2021), sleep quality (Brown et al. 2021), and life satisfaction across both individualistic and collectivistic societies (Wang – Lou 2022). It is also associated with physical health and health-related behaviors (Phillips – Hine 2021) and physical activity (Wong et al. 2021). In contrast, self-compassion has a negative relationship with psychological distress (Marsh et al. 2018), depression (Lou et al. 2022), suicidal thoughts and behaviors (Suh – Jeong 2021), and eating disorders (Paranjothy – Wade 2024). Furthermore, overall child maltreatment, emotional abuse, and neglect are moderately negatively correlated with self-compassion (Zhang et al. 2023), highlighting the importance of fostering self-compassion as a protective factor, particularly in children and adolescent groups.

In connection with self-compassion, another concept has emerged, gaining significant attention in Sport and Exercise Psychology: fear of self-compassion, which refers to psychological resistance or even an aversion to self-compassion (Gilbert – Mascaro 2017). This phenomenon represents an avoidance or fear response (Kirby et al. 2019) in individuals who "expressed concern that extending compassion towards the self may lead to complacency and settling for 'good enough' in sport" (Mosewich et al. 2019: 5). Although fear of self-compassion is associated with mental health difficulties (Kirby et al. 2019), the belief that a self-critical approach is necessary for achieving success continues to dominate among athletes (Ferguson et al. 2014, 2015; Sutherland et al. 2014).

The fear of self-compassion is not the only fear experienced by elite performers. Fear of performance failure can also have significant impacts on an individual's mind and has a dual nature: "Successful performers often describe fear of failure (FF) as a factor that can motivate them to reach a high level of performance or prevent them from actualizing their potential" (Conroy et al. 2002: 76). Considering that only a small percentage of individuals in elite sports and professional dance achieve the highest possible level in their fields, these environments can serve as significant catalysts for such fears. Furthermore, as Conroy et al. (2001) point out, these fears often shape during childhood, a period when training for professional dancers and elite athletes typically begins.

Given the highly evaluative environment of dance education at all levels, which is inherently tied to the dancers' physical bodies from early steps to professional performance, it is also relevant to consider anxiety stemming from evaluations of one's body by others. Social physique anxiety is defined as "the anxiety that people experience in response to others' evaluation of their physiques" (Hart et al. 1989: 94). This perception is closely related to one's body image, particularly its negative forms, which are associated with numerous adverse outcomes, such as disordered eating (Menzel et al. 2010). In contrast, body image flexibility, characterized by accepting both one's own and others' thoughts about it without feeling compelled to change one's body (Sandoz et al. 2013), has been linked to positive psychological outcomes (Linardon et al. 2021).

Considering that conservatory students are continuously exposed to criticism from their teachers, often targeting their self-image and body image (Tarasoff et al. 2017), it can be assumed that internalized self-criticism is a risk factor in this environment as well. However, it is striking that this hypothesis has received only limited attention in research (Goodwin – Arcelus – Geach et al. 2014; Goodwin – Arcelus – Marshall et al. 2014). Similarly, research on self-compassion in this context is sparse (Tarasoff et al. 2017). This lack of attention is surprising, especially given that these topics are extensively studied in elite sports (Oliveira et al. 2022, 2023; Killham et al. 2018; Newman et al. 2016; Keegan et al. 2014; Korim – Strnádelová 2023). The interplay of these factors has so far been explored primarily in sports (Ferguson et al. 2022; Frentz et al. 2020), while the world of dance remains unaddressed. A similar situation applies to the other three variables discussed (fear of self-compassion, social physique anxiety, and fear of performance failure), whose research in professional dance either entirely lacks or is underdeveloped or methodologically insufficient.

Based on the above, the research project will examine the following hypotheses: a negative correlation between self-criticism and self-compassion (H1) and self-criticism and well-being (H2), and a positive correlation between self-compassion and well-being (H3). Fear of self-compassion (H4), fear of performance failure (H5), and social physique anxiety (H6) will weaken the relationship between self-criticism and self-compassion (moderation hypotheses). Data analysis will also include multiple linear regression, where self-criticism will serve as the main independent variable and self-compassion as the dependent variable. Predictors such as fear of self-compassion, fear of performance failure, and social physique anxiety will be incorporated into the model. The model will test whether these factors moderate the relationship between self-criticism and self-compassion (H7).

Methodology

Self-compassion interventions are widely utilized in elite sports to reduce self-critical attitudes toward oneself (Wakelin et al. 2022). However, to implement similar programs within such a specific group as professional dancers, it is necessary to test the hypothesis that this mechanism operates in the same way. Dance as an art form shares many characteristics with elite sports. These include intensive training beginning at an early age, reliance on the body as the primary work tool, a strong focus on physical performance, and a similar dual impact on overall health – where recreational dance can enhance it (Chen et al. 2024), while extreme performance levels may weaken it (Dwarika – Haraldsen 2023). Nevertheless, the two disciplines differ in significant ways too. Perhaps the most striking difference is that dance belongs to the realm of

the arts, whereas sports do not. While some sport disciplines, such as figure skating or artistic gymnastics, have an aesthetic dimension, this constitutes only a minor part of the overall evaluation. Moreover, dance lacks quantifiable and objective outcome measurements and, with few exceptions, does not include a structured system of local, national, and international competitions, leading to a different media portrayal and significantly lower financial support. Sports also produce definite winners, with performance as the dominant characteristic, whereas dance performances are always evaluated alongside a prevailing aesthetic component. There are numerous other similarities and differences, though they are not the focus of this study. Their brief mention serves to highlight that dancers and athletes are two closely related yet distinct groups, for which hypotheses about the discussed variables must be tested separately.

The first part of the proposed project will focus on examining the prevalence of self-criticism, self-compassion, fear of self-compassion, fear of performance failure, social physique anxiety, and well-being among students of Czech dance conservatories (usually aged 10–21). Inclusion criteria will be as follows: enrolment in a dance conservatory study program and native Czech speakers. Participants will be excluded if they have a history of diagnosed mental disorders that may interfere with the study results or if they do not complete all tests within the testing battery. Participants will also have the option to withdraw from the study at any time.

Conducting research with a student population has both advantages and disadvantages. The main advantage is the ability to obtain a sufficiently large sample, ensuring the relevance of results. However, the drawback is that conservatory students are not yet professional dancers, which may affect the magnitude of observed effects compared to professional dancers. For the latter group, longitudinal research designs or international collaboration with researchers from other countries would be required, as the number of professional dancers in the Czech Republic is limited (Návratová 2017; Vašek 2017). Consequently, the research will take place directly at conservatories, with students given the option to participate after an introductory presentation and signing an informed consent form. For students under 18 years of age, parental consent will also be required under applicable Czech law. As the data are sensitive in nature, all test results will be thoroughly anonymized, and participation will not be financially or otherwise rewarded.

The study employs a correlational or cross-sectional survey design with moderation analyses using questionnaires with statistically probable samples (Montero – León 2002). While direct manipulation of variables and causal inference will not be possible, moderation analysis will still be applied to explore potential interactions (the limitations of this approach are discussed in the respective section). Furthermore, statistical probability helps us understand how likely an event is to occur by quantifying uncertainty. It provides a means to measure the likelihood of various outcomes in uncertain situations, allowing for predictions or informed decisions based on those probabilities. In this case, probability does not determine exact outcomes but helps estimate the likelihood of different relationships between variables.

Each variable will be measured using existing self-reporting tests. The order of questionnaires in the test battery will be randomized to minimize order effects in the data. Selected tools will be translated into Czech using the backward translation method. Although this will not constitute full adaptation of the measurement method, the study will adhere as closely as possible to the *ITC Guidelines for Translating and Adapting Tests* (2017). To ensure thematic relevance and higher ecological validity, selected items will be slightly modified to reflect professional dance education contexts,

following the approach of Mosewich et al. (2013). Since all measures, except for the SCS-Youth (see below), were originally developed for an adult population rather than for children, focus groups with the target age population (10–14 years) will be conducted to ensure comprehensibility for younger participants.

Self-criticism will be measured using two instruments: the State Self-criticism Measure – Athlete Version (SSM–AV, Mosewich et al. 2013) and the Forms of Self--criticism/Self-reassuring Scale – Short Form (FSCSRS–SF, Sommers-Spijkerman et al. 2018). The first is based on the clinical questionnaire by Gilbert and Procter (2006) and adapted for sports contexts. Participants reflect on a recent negative sport experience and respond to 7 items on a 10-point scale. For example: "How intrusive were your self-critical thoughts about a recent negative sport event?" (1 = Not at all, 10 = Very intrusive). The second questionnaire contains 14 statements rated on a 5-point scale (0 = Not at all like me, 1 = A little bit like me, 2 = Moderately like me, 3 = Quite a bit like me, 4 = Extremely like me). Participants are asked to evaluate each statement in a situation when things go wrong for them. For example: "There is a part of me that feels I am not good enough." This instrument also includes positive statements, such as: "I am able to remind myself of positive things about myself."

Self-compassion will be measured using the Self-compassion Scale (SCS, Neff 2003b), with the Czech version by Benda and Reichová (SCS–CZ, 2016). This 26-item inventory uses a 5-point scale (1 = Almost never, 5 = Almost always), for example: "I'm disapproving and judgmental about my own flaws and inadequacies." For participants aged 10–14, the Self-Compassion Scale – Youth Version (SCS–Youth, Neff et al. 2021) will be used. This 17-item version is simplified for younger adolescents, for example: "I try to be kind and supportive to myself when I'm having a hard time." The responses are given on the same 5-point scale, but each point on the scale is labeled (1 = Almost never, 2 = Not very often, 3 = Sometimes, 4 = Very often, 5 = Almost always).

The Social Physique Anxiety Scale (SPAS, Hart et al. 1989) measures the construct of the same name using a 12-item questionnaire. For the purposes of this study, a shortened 7-item version developed by Sáenz-Alvarez et al. (SPAS–7, 2013) will be employed. This version uses a 5-point scale ranging from "never" (1) to "always" (5). An example item is: "It would make me uncomfortable to know others were evaluating my physique or figure."

Fear of performance failure will be measured by Performance Failure Appraisal Inventory – Short Form (PFAI–SF, Conroy et al. 2002) using 5 items evaluated with 5-point Likert scale (-2 = Do not believe at all, 0 = Believe 50% of the time, 2 = Believe 100% of the time). An example item is: "When I am failing, I am afraid that I might not have enough talent."

Fear of self-compassion will be measured by Scale 3: Expressing kindness and compassion towards yourself from Fears of Compassion Scales (FCS–3, Gilbert et al. 2011). It uses 5-point Likert scale from 0 (Don't agree at all) to 4 (Completely agree). An example item is: "Getting on in life is about being tough rather than compassionate."

To explore the relationships between all the measured variables and mental health, as well as general well-being, participants will also complete the WHO-5 Well-being Index (WHO–5, Kvorning n.d.), a 5-item instrument designed to measure an individual's mental well-being.

The test battery will comprise seven instruments with two versions: one for participants over 15 years (79 items) and another for participants aged 10–14 (70 items). The use of shortened versions of specific questionnaires (e.g., FSCRS-SF, SPAS-7, and PFAI-SF) and the inclusion of selected subscales (e.g., FCS–3) aim to

reduce administration time while maintaining research complexity. The estimated completion time for the test battery is no more than 40 minutes, aligning with typical Czech dance conservatory schedules where two 45-minute classes are combined into a 90-minute block with a break.

Given the length of classes in Czech dance conservatories, fatigue should not theoretically pose a significant issue during the administration of the 40-minute test battery. However, the demanding nature of the conservatory schedule, including the possibility of test administration occurring immediately following a dance lesson or after a lunch break (depending on external scheduling decisions by the school directors), warrants consideration. To ensure data quality, particularly for the younger participant group (ages 10–14), all participants will be informed that they may take breaks if needed.

Table 1
Summary of Test Instruments

Test Instrument	Authors	Number of Items for Age Group 10–14	Number of Items for Age Group 15 and More
State Self-criticism Measure – Athlete Version (SSM–AV)	Mosewich et al. 2013	7 items	7 items
Forms of Self-criticism/Self-reassuring Scale – Short Form (FSCSRS–SF)	Sommers-Spijkerman et al. 2018	14 items	14 items
Self-compassion Scale (SCS)	Neff 2003 b	–	26 items
Self-compassion Scale – Youth Version (SCS–Youth)	Neff et al. 2021	17 items	–
Social Physique Anxiety Scale – Short Form (SPAS–7)	Sáenz-Alvarez et al. 2013	7 items	7 items
Performance Failure Appraisal Inventory – Short Form (PFAI–SF)	Conroy et al. 2002	5 items	5 items
Fears of Compassion Scales – Scale 3: Expressing kindness and compassion towards yourself (FCS–3)	Gilbert et al. 2011	15 items	15 items
WHO-5 Well-being Index (WHO–5)	Kvorning n.d.	5 items	5 items

Future Directions for the Project

The proposed project outlined above will establish a solid foundation for the implementation of an intervention program aimed at fostering self-compassion. The effectiveness of such a program can be evaluated through a waitlisted Randomized Controlled Trial (RCT), a methodological gold standard for assessing the efficacy of a program or treatment. A key advantage of this approach lies in its ability to determine causal relationships between the variables under study (Siepmann et al. 2016). Given the lower sample size requirements necessary to demonstrate effectiveness, this design would allow a targeted focus on professional dancers. However, conservatory students, who face similar psychological demands in their training, could also benefit from such a program.

In waitlisted RCT, the research sample is divided into two groups. One group receives the intervention program, while the other group, the control, does not. However, the control group is eventually provided the intervention after the research is completed and all data are collected. Data can be collected at multiple time points: prior to the intervention, immediately after its conclusion, and at various intervals thereafter – most commonly one, three, six, and twelve months post-intervention. This approach allows for the assessment of the intervention's impact and the variability of the observed variables over time.

Numerous intervention programs targeting the enhancement of self-compassion exist, but no single approach is considered universally optimal. In sports contexts, the design of such programs varies significantly, ranging from one-time interventions (Reis et al. 2015) to programs lasting several weeks (Mohebi et al. 2021), typically delivered weekly for sessions lasting 40 to 120 minutes. Similarly, the content of these programs differs, ranging from active tasks such as writing assignments or motivational self-talk to entirely passive psychoeducational activities, where participants engage in lectures about the core principles of psychological phenomena and even to purely control groups with no activities at all. According to a meta-analysis by Waklin et al. (2022), even the activities of control groups can positively impact self-compassion levels, which may contribute to lower reported efficacy of intervention programs.

The content of these intervention programs is often associated with two approaches within the third-wave cognitive-behavioral therapies: Acceptance and Commitment Therapy (ACT) and Mindfulness. These are frequently referred to as acceptance-based or mindfulness-based interventions (Haller et al. 2021). In sports, several examples of such interventions include the Mindfulness-Based Soccer Program (Carraça et al. 2018), the Mindfulness–Acceptance–Commitment Program (Mohebi et al., 2021), Bodies in Motion (Voelker et al. 2019), and Return to ACTion (Shortway et al. 2018), which was developed for injured athletes. The selection or adaptation of a specific program – or the integration of various approaches – to best suit the needs of professional dancers will depend on the outcomes of the initial phase of the proposed project.

Limits

Although similar studies have numerous advantages, they also have their limitations. If the following waitlisted RCT is conducted on professional dancers only, the proposed research design faces a key challenge regarding participants: the first phase is designed to target pre-professional dancers, specifically students of dance conservatories, to achieve a large sample size, whereas the subsequent phase focuses on professional dancers. For purely practical reasons, this leads to a flawed logical inference – assuming that the first phase confirms the hypothesis of high levels of self-criticism and low levels of self-compassion, enabling the subsequent phase to apply an intervention aimed at increasing self-compassion and reducing self-criticism. Similarly, defining who qualifies as a professional dancer can also be problematic. In my dissertation (Bartoš 2023), I proposed an operational definition of being a professional dancer; however, during the qualitative part of the study, 8 out of 32 participants hesitated or even disagreed when asked if they considered themselves professional dancers, despite initially responding affirmatively in the demographic section. This discrepancy highlights the complexity of the issue, which exceeds the scope of this research project but deserves thorough attention within the field of dance studies.

From the perspective of the methods employed, a limitation arises from their self-assessment nature, as no objective measurement tools are included. While subjective evaluation is desirable for instruments like the WHO-5 Well-Being Index, given that well-being is inherently defined as a subjective psychological phenomenon (Diener et al. 2002, 2018), self-assessment of behaviour may not necessarily reflect or predict reality (Shortway et al. 2018). Moreover, the selected methods are used in shortened versions (e.g., FSCSRS-SF, PFAI-SF, and SPAS-7) or only partially (e.g., FCS-3), which can be an optimal solution in complex research designs as it reduces the testing time. However, the use of shortened versions may impact reliability and validity (Kruyen et al. 2013; Sitarenios 2022), potentially rendering their application problematic if certain rules are not followed. Additionally, the translation process of the selected tests is problematic too. While the proposed research adheres to the *ITC Guidelines for Translating and Adapting Tests* (2017) as much as possible, it does not constitute a full-scale adaptation to another language. This introduces significant limitations to the validity of the collected data compared to data obtained using methods validated in the Czech context, such as the Czech version of the Self-compassion Scale (SCS-CZ, Benda – Reichová 2016). Regarding the WHO-5 Well-Being Index (Kvorning n.d.), the origin of the Czech translation raises concerns. Although it is available on the Danish Mental Health Centre's website alongside other language versions, the translation process is not clearly documented. Its use in Czech research is also relatively sparse (Mikulecká 2011; Pourová et al. 2020).

From the perspective of statistical analyses, a broader issue arises in that the first phase of the study is correlational, rather than causal, in nature. Consequently, it cannot be assumed that high levels of self-criticism cause low levels of self-compassion within the research sample. Instead, the results indicate a co-occurrence of these variables at a single point in time (Anderson – Geras 2022). Among the proposed statistical methods is moderation analysis, which is classified as a causal model (Stone-Romero – Rosopa 2008). This results in flawed circular reasoning (affirming the consequent) because data from such studies, even if consistent with the proposed model, cannot provide sufficient evidence of a causal relationship between variables. At best, it can be stated that the proposed model is one possible explanation of the observed relationships, but it is not necessarily the only one. A related issue is the omitted variable problem (Wilms et al. 2021), when both independent and dependent variables are influenced by factors not accounted for in the research design.

Conclusion – Making Dance Research Visible

The outlined research project highlights the critical connection between the human body and mind. Psychology cannot exist without the body, and the body cannot exist without psychology; therefore, it is essential to begin addressing the psychological dimensions of dance as an art form. Such interdisciplinary intersections hold great potential for uncovering aspects of dance studies that have previously gone unnoticed.

In order to bring the body-mind perspective to the focus, an important issue is the accessibility of knowledge in dance studies. After all, the perception of science and its usefulness by both the general public and the academic community is closely tied to how visible its results are. Sharing knowledge within university environments is governed by a system of publications in peer-reviewed journals. Although this system is far from perfect and has significant shortcomings – such as publication bias known as the "file drawer problem" (Easterbrook et al. 1991; Van Aert et al. 2019) – it nonetheless

provides a clear and organized framework for disseminating scientific knowledge. However, if the results of our work are incomprehensible due to academic language and the specific structure of argumentation or even completely inaccessible (e.g., major journals like *Dance Research*, *Dance Research Journal*, or *Dance Chronicle* are still not part of the open-access system), the general public will not understand why scientific endeavors should continue to be supported.

Two solutions to this problem present themselves. First, grant proposals could require the inclusion of outputs aimed at popularization. Alternatively, research projects could be designed to have a direct impact on the lives of everyday people, particularly the target groups – in our case, dancers, educators, choreographers, or audiences of dance and movement performances. In either case, it is necessary to disseminate our knowledge to the broader public affected by our research.

For dance studies, challenges arise not only from the field's youth (O'Shea 2010) but also from the small number of researchers engaged in it. Czech dance researchers rarely focus on popularizing the field, despite its relatively long tradition in the country, albeit not as pronounced as in others. There is no single regulation requiring researchers to communicate the results of their work beyond academia. How, then, do we relate to the general public? How does someone who does not read academic journals perceive our field?

I am not suggesting that researchers must write popular science texts themselves. However, it is worth considering whether research teams should automatically allocate a percentage of their budget to popularization or whether new grant programs specifically aimed at popularization should be established. I find this particularly important in today's world, where we witness a questioning of scientific knowledge across various domains. It is more important than ever to help people understand why we do what we do. After all, we owe it to the public. Scientific research is funded by public resources, which come from taxpayers' pockets.

It is also crucial to prevent the privatization of scientific knowledge, as seen in fields like artificial intelligence, where technological development has moved beyond the financial reach of major universities. This shift significantly undermines the ethical principles of scientific work. Private companies like OpenAI or META are not bound by ethical guidelines beyond the legal frameworks of the countries in which they operate. This opens the door to highly problematic experiments, such as the real-time experiment by META, which induced negative, anxious, and depressive moods in nearly three-quarters of a million people (Kramer et al. 2014). The lack of informed consent, inability to opt out (which would require deleting one's social media account), unethical saturation of negative emotional states without follow-up care, and the subsequent dismissal of responsibility as merely an internal corporate matter ("When the authors prepared their paper for publication in PNAS, they stated that: ‚Because this experiment was conducted by Facebook, Inc. for internal purposes, the Cornell University IRB [Institutional Review Board] determined that the project did not fall under Cornell's Human Research Protection Program.' This statement has since been confirmed by Cornell University." /Verma 2014: 10779/) reflect practices that have no place in 21st century research

For these reasons, I believe it is critical to improve how we communicate our work. I do not think every study must have an immediate societal impact. Some research lines may require decades of further exploration by multiple generations – just consider the discoveries in theoretical physics, which often outpace technological advancements necessary to test them. Psychology faces similar challenges; existing functional imaging methods cannot yet capture the complexity of certain phenomena, such as kinesthetic/

somatic empathy, which are closely tied to dance as an art form (Bekkali et al. 2021). However, this should not deter us from explaining why science matters and what it can offer to the average person. Requiring popular science articles and publishing them in widely accessible media could be the first step toward achieving this goal.

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