Don’t stress out! The stress lab: A learning tool for prospective physical education teachers in the context of studying at university

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Keywords: stress, stress management, laboratory, teaching, education, physical education

Abstract

Physical education teachers face high demands while teaching (e.g., loud noise, inadequate facilities, low status of physical education teachers in the body of teachers). These demands result in stressful teaching situations and subsequent psychological and physiological stress responses. As a consequence, prospective teachers need to start dealing with stressful teaching situations early in their studies and the stress lab gives prospective teachers this opportunity. In the stress lab, interactive videos of stressful physical education teaching situations serve as inputs and group discussions to identify and apply different coping options. They prepare themselves for acting appropriately in upcoming stressful teaching situations. The theory-based and practice-oriented approach of the stress lab is characterized by physiological and psychological measuring methods (e.g., heart rate monitoring, questionnaires) in order to simulate prospective teachers for symptoms of stress. Future studies are planned to evaluate the effectiveness of the stress lab.

Zusammenfassung


1 Introduction

Comparisons between occupations show that the teaching profession in general is one of the most stressful occupations (Johnson, 2005; Kytäjävuori, 2011). Physical education (PE) teachers face particularly high demands given the nature of their subject such as disciplinary problems of the student body and the low status of their profession (Miettihang 2007, Miettihang & Brand, 2004, Sanz-López, Almagro, & Íñiguez, 2011). As a consequence, PE teachers often experience high levels of stress (Kastrup, Dornberner, & Kleindienst-Cachay, 2008). Pre-service PE teachers in particular show increased perceived stress compared to PE teachers and PE students (Schäfer, Pels, von Haaren-Mack, & Kleinert, 2019). Therefore, it is very important to prepare prospective PE teachers to deal with stressful teaching situations. The purpose of this manuscript is to describe the stress lab as an interactive learning tool for preparing prospective PE teachers for stressful teaching situations.

Stress occurs through appraisals in the transaction between a person and the environment (Lazarus & Folkman, 1984). In the primary appraisal, the person evaluates a situation as positive, irrelevant or stressful. Stressful appraisals come along with thoughts of harm/luck, threat or challenge. In the secondary appraisal, the person evaluates their available coping options. If their coping options in a stressful situation are low, the person experiences stress. For example, a teacher feels overwhelmed by the loud noise of children during a PE class (primary appraisal) and does not know how to handle the enduring noise (secondary appraisal).

In PE teaching, stressful situations often occur due to a unique set of stressors specific to their job. According to a recent systematic review (von Haaren-Mack, Schäfer, Pels, & Kleinert, 2019), the three most important stressors in PE teachers are (1) the facilities and equipment, (2) the curriculum (i.e., the content of teaching during a school year) and (3) the low status of both PE as a subject and of PE teachers. For younger teachers, being a PE teacher already entails stress potential (Miettihang & Brand, 2004). If a situation is experienced as stressful, coping mechanisms will take place (Lazarus & Folkman, 1984). Coping is described as a “cognitive and behavioural effort to manage external and/or internal demands that are appraised as taxing or exceeding the resources of the person” (Lazarus & Folkman, 1984, p.141). These efforts can be conceptualized in different ways for example, when a PE teacher plans the class with the use of the whole gymnasium but can only use half of it during the class. Distinctions in coping can be made between strategies such as focus on something positive (e.g., positive refocusing: the PE teacher tries to see the situation from a positive point of view such as “Less space means more time for group work fostering social skills.”), support coping (e.g., seeking for instrumental support: the PE teacher asks a fellow PE teacher how to deal with these situations), active coping (e.g., planning active steps: the PE teacher edits his plan and plans more students at one working station with additional tasks while waiting for their turn), and evasive coping (e.g., denial: the PE teacher makes no adaptations to the planned class; Knoll, Riethermann, & Schwarz, 2005). Research shows that the use of coping strategies is more frequent in PE pre-service teachers compared to PE teachers and PE students (Schäfer, Pels, von Haaren-Mack, & Kleinert, 2019). In pre-service PE teachers, but also in pre-service PE teachers, evasive coping strategies are associated with higher stress, while active coping strategies are associated with less stress and seem to be more beneficial to reduce stress (Schafer, Pels, von Haaren-Mack, & Kleinert, 2019). Furthermore, it has been shown that knowledge about coping strategies whilst studying at university might be beneficial to reduce stress (Schäfer, Pels, von Haaren-Mack, & Kleinert, 2019). To date, the approach to stress management for teachers is characterized by imparting informati on about stress without the use of digital material or didactic material. For example, the program AGIL is a stress prevention program and is generally aimed at coping with stress and promoting health in teachers (Lehr, Koch, & Hillert, 2013). This and other conventional programs would benefit from the inclusion of ‘real-life’ video material and immediate reflection on this material, as we propose here in the stress lab.

Overall, the preparation of prospective PE teachers for stressful teaching situations is of utmost importance. More specifically, prospectively PE teachers should learn (1) how to prepare for stressful situations during teaching, (2) how to deal with a stressful situation during teaching once it has occurred, and (3) how to reflect on past stressful teaching situations in order to prepare for future situations. The PE teacher study program represents an adequate opportunity to inform students about the potential sources of stress in schools and give them a glimpse into their work at schools beforehand. In the context of becoming a PE teacher, the use of realistic scenarios can be an option (Rieckmann, & Schwarzer, 2005). Research shows that the use of coping strategies is more frequent in PE pre-service teachers compared to PE teachers and PE students (Schäfer, Pels, von Haaren-Mack, & Kleinert, 2019). In pre-service PE teachers, but also in pre-service PE teachers, evasive coping strategies are associated with higher stress, while active coping strategies are associated with less stress and seem to be more beneficial to reduce stress (Schafer, Pels, von Haaren-Mack, & Kleinert, 2019). Furthermore, it has been shown that knowledge about coping strategies whilst studying at university might be beneficial to reduce stress (Schäfer, Pels, von Haaren-Mack, & Kleinert, 2019). To date, the approach to stress management for teachers is characterized by imparting information about stress without the use of digital material or didactic material. For example, the program AGIL is a stress prevention program and is generally aimed at coping with stress and promoting health in teachers (Lehr, Koch, & Hillert, 2013). This and other conventional programs would benefit from the inclusion of ‘real-life’ video material and immediate reflection on this material, as we propose here in the stress lab.

1 In Germany, the system of becoming a teacher consists of three parts. First, students enrol in university classes to become a teacher (here: PE students). After successfully completing their degree, they have to complete ‘Referendariat’ (here: Pre-service PE teachers). ‘Referendariat’ means two years teaching at schools while being monitored by a skilled teacher. After theoretical and practical exams during the ‘Referendariat’, they are fully trained teachers (here: PE teachers).

Action phases (Nitsch, 2004)

<table>
<thead>
<tr>
<th>Sections</th>
<th>Preparation phase</th>
<th>Symptom recognition</th>
<th>Psychological symptom control</th>
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</thead>
<tbody>
<tr>
<td>(1)</td>
<td>How to prepare for upcoming challenging situations in the teaching context.</td>
<td>How to experience, recollect and understand the spectrum of stress symptoms during challenging situations.</td>
<td>How to reflect, experience and apply exemplary strategies of psychological symptom control during challenging situations.</td>
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<tr>
<td>(2a)</td>
<td>Exemplary task</td>
<td>One participant of each group should reflect on which symptoms of the physical reaction he/she perceived during the video.</td>
<td>One participant of each group should apply the strategy focus on the positive potential in the videos and reflect afterwards how he/she dealt with occurring symptoms.</td>
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<tr>
<td>(2c)</td>
<td>How to prepare for upcoming challenging situations in the teaching context.</td>
<td>How to reflect, experience and apply exemplary strategies of psychological symptom control during challenging situations.</td>
<td>How to reflect on the previous phases (i.e., on the preparation for stress potentials (preparation) and on the dealing with challenging situation (symptom recognition, physiological symptom control)).</td>
</tr>
</tbody>
</table>

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2 Concept

Structure and educational objectives

The stress lab is a tool for training prospective PE teachers for stressful teaching situations. The core of the stress lab is the immediate con-

The aim of the stress lab is to support prospective PE teachers by addressing stressful teaching situations and help prospective PE teachers how to manage these and similar situations. The unique theory-based and practice-oriented approach of the stress lab is characterized by the inclusion of ‘real-life’ video material and immediate reflection on this material. First evaluations of the stress lab showed great result. The first step in testing the stress lab was to test its feasibility and acceptance with one small group of voluntary PE students. Both the lecturer and prospective PE teachers perceived the seminar unit as feasible and rich in content. The evaluation of the use of interactive videos and the technical realization was very well perceived. A revised concept with minor adjustments, such as shorter ‘real-life’ video segments to allow more time for reflections, will be implemented prior to further evaluations: (1) the evaluation in a laboratory setting and (2) the evaluation in a regular university seminar with 30 participants. (1) The stress lab will be evaluated under consistent conditions via cortisol levels, heart rate variability and perceived stress in participants. Information on the subjective perception of and objective stress levels during the challenging situations will be obtained. This information will be implemented in the stress lab before it will be tested with 30 participants of a regular university seminar. (2) There, the lecturer and the prospective teachers fill out a feedback questionnaire after the 90 minutes session in order to evaluate the entirety of the concept. In the long run, the stress lab is intended to be implemented in the curriculum of the study program of prospective PE teachers at university. It is planned to be part of a seminar that directly prepares participants for their mandatory placement at schools.

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Literatur


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