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Nursing students' well-being using the job-demand-control model: A longitudinal study

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ABSTRACT

Background: Students' well-being is very important both for students and institutions. However, this field lacks longitudinal research, which focuses on the change of nursing students' well-being during their study. In order to asses such changes the four study types according to Job-Demand-Control-Support-model were used: passive, high-strain, low-strain, and active.
Design: A longitudinal design was employed: participants were recruited in 2010/2011 (phase I) and at the end of their study in 2012 (phase II).
Settings: The study was performed in one school of health care in a university of applied sciences in Finland.
Participants: The final sample consisted of 135 nursing students (BSc) who started their study either in September 2008 or January 2009, and finished in December 2011 or May 2012.
Methods: The participants responded to the same close-ended questionnaire in both phases.
Results: The majority of the participants experienced the study type as low-strain (phase I: 61.5%; phase II: 48.2%). The distribution according to their study type did not change substantially between both phases, although 42.2% of the participants changed their study type. The major changes of study types were from low-strain to others (21.4%), and from other study types to the active one (12.6%).
Conclusions: The results indicate that the majority of students do not change their study type and consequentially their well-being during their study, which is in contrast with previous research. Special attention should be put to the identification of students who change their study type to high-strain or remain in it.

1. Introduction

Research demonstrates that study stress among students is continuously increasing (Bayran and Bilgel 2008; Bewick et al., 2010), also among nursing students (Gibbons et al., 2008, 2009a; Edwards et al., 2010; Chernomas and Shapiro, 2013), and thus is becoming a global problem. The degree of a person's individual well-being while being a student, might also be considered as an indicator of the study programme's attractiveness, which directly influences the outcomes of the education (Espeland and Indrehus, 2003; Wu and Norman, 2006; Gibbons et al., 2009b, 2010; Karagözoğlu, 2009; El Ansari and Moseley, 2011; Por et al., 2011; Ratanasiripong and Wang, 2011), similarly as job well-being in a professional career. However, this analogy must be carefully considered as the theoretical foundations of university students' well-being are closely related to the satisfaction of the students and the ability and willingness to study (Espeland and Indrehus, 2003; Wu and Norman, 2006; Gibbons et al., 2009b, 2010; Karagözoğlu, 2009; El Ansari and Moseley, 2011; Por et al., 2011; Ratanasiripong and Wang, 2011). Eventually, the degrees of the previous terms during a student's educational period can impact job ability and job satisfaction later in life, and therefore both were already frequently applied to students (Espeland and Indrehus, 2003; Wu and Norman, 2006; Gibbons et al., 2009b, 2010; Karagözoğlu, 2009; El Ansari and Moseley, 2011; Por et al., 2011; Ratanasiripong and Wang, 2011). Interesting for the field of health promotion is the students' well-being (Gibbons et al., 2010), as it seems to emerge as a term that unifies different indicators of the study programme's attractiveness and the psychological well-being of the person attending the education. Hence, the purpose of this research was to assess, promote and improve nursing students' well-being.

2. Background

During the recent decades Karasek and Theorell's (1990) Job-Demand-Control-Support (JDCS)-model became one of the most used models to assess job well-being (Van der Doef and Maes, 1999; Taris and Kompier, 2005). In the field of nursing it has been widely used as well (Laschinger et al., 2001; Bojtor, 2003; Letvak, 2005; Lu et al., 2005; Escribà-Agüir and Pérez-Hoyos, 2007; Sundin et al., 2007; Chiu

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et al., 2009), while the model has been applied to assess work satisfaction among nurse educators (Gallagher, 2005). Furthermore, the JDCS-model has been applied previously to estimate students' well-being (Cotton et al., 2002; Chambel and Curral, 2005; Flynn and James, 2009), but only two were in the field of nursing education (Tuomi and Äimälä, 2010; Tuomi et al., 2013).

Furthermore, the use of the JDCS-model allows to review the degrees of the structures that might influence learning in general. The students' course evaluation surveys can identify these structures, and the results can help the higher educational intuitions to understand and improve students' well-being (Tuomi et al., 2013). By considering the JDCS-model, students' well-being can be defined as a relationship between student's experiences of demands of learning and control over one's studies. This relationship called decision latitude (after Karasek and Theorell, 1990) is graphically illustrated in Fig. 1.

The JDCS-model and its applications to students are founded on two hypotheses. The strain hypothesis in which it is stated that stress inhibits learning: as too much stress is considered as a "distress", and can result in anguish, and thus might inhibit interests in learning. In this case students during their study move in the direction of arrow A in Fig. 1. The second, the active learning hypothesis, considers that learning inhibits stress. Overall the JDCS model inspires and improves both activities and coping. Hence, the students move in the direction of arrow B (Fig.1).

The results of Cotton et al. (2002) and Chambel and Curral (2005) support the active learning hypothesis, but according to Flynn and James (2009) high demands can have a deleterious effect on students' subjective and performance outcomes. However, no significant evidence of effects of control was found in previous researches. Tuomi et al. (2013) confirmed the appropriateness of the JDCS-model for both the evaluation of nursing students' well-being and for the identification of high-strain students, who were proposed to be the most susceptible candidates for having serious problems during their study.

Previous studies (Cotton et al., 2002; Chambel and Curral, 2005; Flynn and James, 2009; Tuomi et al., 2013) demonstrate a common result: the negative correlation between decision latitude and perceived demands, i.e. the decrease of decision latitude results as higher perceived demand, which is in contrast with the original JDCS-model assumption. Flynn and James (2009) argue that the orthogonality of the constructs demand and decision latitude should be carefully reconsidered, especially when measured among students.

Using the educational application of the JDCS-model, it is possible to categorize the relationship between perceived demand and perceived control in four different kinds of students' study types (Fig. 1). The first study type, i.e. active, represents the students who experience that university will activate them to learn. They experience that education is demanding and at the same time that their decision latitude is good. The students of this type perceive education and learning as a challenge and an opportunity. The second type comprises those students who perceive that their decision latitude is rather good and their education is not very demanding, resulting in an education experience that is low-strain. For them education is mostly easy going within the limits of their comfort zone. Students of the third, passive study type are those, who experience that education will passivate them: their decision latitude is low, while on the other hand their education is everything but demanding. Learning is perceived as an instrument for the implementation of teachers' regulations. Finally, the fourth, high-strain study type represents those students, who perceive their study demands as high and their decision latitude as low. For this group, the education is an accentuated survival from day to day.

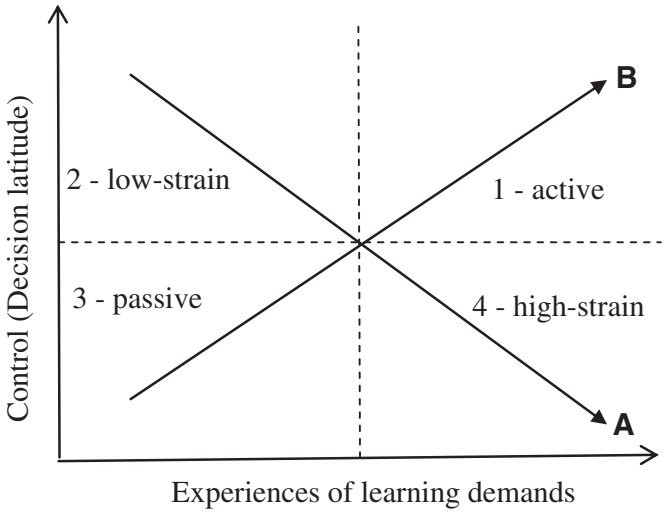

Fig. 1. Graphical presentation of students' well-being using the application of the JDCS-model by Karasek and Theorell's (1990).

The four students' study types were previously used only confined in nursing education (Tuomi and Äimälä, 2010; Tuomi et al., 2013), where data were collected from nursing students just before their graduation. The results were slightly unexpected as the majority of students responded that their study type was low-strain. This is in contrast with the results of previous research of stress among nursing students, where cohort studies showed that nursing education was stressful (Evans and Kelly, 2004), and that stress increases with the training progress (Deary et al., 2003; Edwards et al., 2010). On the other hand, the results of a series of cross-sectional surveys by Burnard et al. (2008) indicated the opposite: that stress decreased with training.

Accordingly, the field of nursing students' well-being lacks properly executed longitudinal research especially those that follow the same cohort of students over time. Therefore the aim of this research was to investigate nursing students' well-being among a fixed group of students. Besides, we were further interested in the potential changes of their well-being over time. The main research questions were: Does the distribution of nursing students according to the JDCS-model study types, change substantially during their BSc study? And are there any changes in study types that are significant and can be noted as being general?

3. Methods

3.1. Design

A longitudinal survey was employed. A cohort of nursing students was followed, and the data were collected in two phases: half way during the nursing studies 2010/2011 (phase I) and at the end of the study in 2011/2012, 2 weeks before the graduation (phase II).

3.2. Settings and Participants

The study was performed in one university of applied sciences in Finland. The participants were all nursing students (BSc) of the same study programme who started their study either in September 2008 or January 2009, and finished in December 2011 and May 2012, respectively. In Finland, it is possible to start the academic year in nursing study either in August or in January. As students who started their study in September 2008 had the same conditions (same study year, study programme, courses, lecturers, nursing wards, even same classrooms) as those who started in January 2009 they are considered as one cohort of students.

In this research participated all of the aforementioned students who were at the school when the data was collected and whose questionnaires were adequately solved and appropriate for pairing between both phases. In Fig. 2, exclusion and pairing of completed questionnaires is presented. Some completed questionnaires were not possible to pair as the participants were not present either in phase I or II, due to maternity leave, military service, clinical practice, job, illness, change of the university, or drop out.