I. Study Burnout and Study Engagement in Higher Education

A school burnout inventory has recently been introduced (Salmela-Aro, Kiuru, Leskinen & Nurmi, 2009). Burnout is also useful in the higher education context. Higher education is a context in which students work with the aim of achieving a degree: they attend courses, do assignments in order to pass exams, and strive to meet deadlines (Robotham, 2008; Schaufeli, Martinez, Pinto, Salanova, & Bakker, 2002). In addition to burnout, the concepts of school (Salmela-Aro et al., 2009) and study engagement (Schaufeli, Bakker & Salanova, 2006) have recently been introduced. The present study, using a large and representative sample of higher education students during their full term in universities and polytechnics in Finland, examines differences by gender, study sector (university vs. polytechnics), and study subject in both study burnout and study engagement among students in higher education.

Burnout in the school context is defined as a syndrome of emotional exhaustion, cynicism and reduced efficacy (Salmela-Aro et al., 2009). Exhaustion refers to feelings of strain, particularly chronic fatigue resulting from overtaxing school work. Cynicism consists of an indifferent or a distal attitude towards school in general, losing interest in one’s school work and not seeing school as meaningful. Inadequacy refers to diminished feelings of competence, successful achievement, and accomplishment at school. In line with this, we define study burnout in higher education as exhaustion due to study demands, cynical and detached attitude towards one’s studying, and feelings of inadequacy as a higher education student.

Higher education provides an important developmental context for young people (Salmela-Aro, 2009a). The life-span model of motivation (Salmela-Aro, 2009a) proposes that the demands, challenges and opportunities students encounter at this stage of their lives channel the kinds of personal goals they construct (Little, Salmela-Aro & Phillips, 2007), and these personal goals play an important role in the ways in which they make choices and direct their own development (Baltes, 1997) and co-regulate and compensate for possible failure experiences by adjusting their personal goals on the basis of previous developmental transitions and life-events (Baltes, 1997; Heckhausen, Wrosch & Fleeson, 2001), and that such adjustment has consequences for their study engagement and burnout (Salmela-Aro, 2009b).

The third decade of life is a period during which individuals are faced with more transitions and life-decisions than at any other stage of life (Caspí, 2002; Grob, Krings & Bangert, 2001). The transition to adulthood is marked by series of developmental tasks, such as making career decisions, achieving further education and attaining financial independence (Caspí, 2002; Erikson, 1968; Lefkowitz, 2005; Masten, Hubbard, Gest, Tellegen, Garmezy, & Ramirez, 1999; Schulenberg, Maggs & O’Malley, 2003; Shanahan, 2000). Higher education, particularly graduation has become postponed in recent decades (Arnett, 2000; Salmela-Aro & Helve, 2007).
Previous research has shown that young people’s perceptions and experiences of higher education are associated with various adjustment outcomes. Dislike of studies is related to internal and external problem behaviours, and to reduced quality of life (e.g., Kasen, Johnson, & Cohen, 1990). Although many concepts, such as low academic achievement and motivation, poor self-esteem, stress and tiredness, and internal and external problem behaviour (e.g., Byrne, Davenport & Mazanov, 2007; Robotham, 2008; Rudolph, Lambert, Clark, & Kurlakowsky, 2001; Wentzel, Barry, & Caldwell, 2004) have been used to describe maladjustment in education, little research has been carried out, in particular, on higher education-related burnout. Higher education-related exhaustion can be defined as study-related feelings of strain, particularly chronic fatigue resulting from an overtaxing study load. Higher education-related cynicism, in turn, is manifested in an indifferent or a distal attitude towards studying in general, a loss of interest in one’s academic work and not seeing higher education as meaningful. Lack of studying-related efficacy refers to diminished feelings of competence, successful achievement, and accomplishment. Burnout in higher education overlaps with some earlier concepts. For example, exhaustion, measured in terms of feeling overwhelmed, having difficulty sleeping due to worrying and ruminating, resembles the concepts of stress, tiredness and anxiety (Bagley, 1993; Bush, Thompson & Van Tuvergen, 1985; Byrne et al., 2007; McNamara, 2000; Robotham, 2008). In turn, cynicism and reduced accomplishment, measured in terms of loss of interest, apathy, feeling disappointed and inadequate (Spruijt-Metz & Spruijt, 1997), resemble depressive symptoms (Andrews & Wilding, 2004). However, while stress, tiredness, anxiety and depressive symptoms do not refer to a specific context, burnout in higher education is a context-specific measure, measured strictly in the context of higher education. Burnout is a serious problem, as studies have found that it can lead to depression (Salmela-Aro, Savolainen & Holopainen, 2009).

In turn, there has been a shift in research focus recently to the opposite of burnout, engagement in the school (Salmela-Aro et al., 2009) and university (Schaufeli et al., 2002) contexts. Study engagement can be defined as vigor, dedication and absorption (Schaufeli et al., 2002) in relation to studying in higher education: It is a positive, fulfilling state of mind. Vigor is characterized by high levels of energy and mental resilience while studying and the willingness to invest effort in studying. Dedication is characterized by the sense of significance attributed to and inspiration felt towards studying. Finally, the last dimension of engagement, absorption, is characterized by being fully concentrated and happily engrossed to one’s academic work.

2. Gender and Tracking Effects

Previous research has shown gender differences in academic achievement and adjustment. For example, girls and women tend to perform better than boys and men (e.g., Pomerantz, Altermatt, & Saxon, 2002) and to attribute greater importance to academic achievement compared to boys and men (Berndt & Miller, 1990). However, girls and women also experience higher levels of stress (e.g., Ge, Lorenz, Conger, Elder, & Simons, 1994; Reiseberg, 2000), school burnout (Kiuru, Aunola, Nurmi, Leskinen & Salmela-Aro, 2008) and internalized symptoms (e.g., Pomerantz et al., 2002) compared to boys and men. As young people make the transition to higher education, they might perceive their new educational context as more competitive. There is evidence to suggest that girls and women respond more negatively to competitive learning conditions and attribute greater importance to academic achievement. In line with this, research shows that girls and women are not only more exposed to stressful life events, but are more vulnerable to their negative effects (Ge et al., 1994; Kessler & McLeod, 1984; Turner, Wheaton & Lloyd, 1995). In turn, girls and women have also been found to experience more school and study engagement (Vasalampi, Salmela-Aro & Nurmi, in press) than boys and men. Consequently, we assumed women in higher education would experience a higher level both of study burnout, in particular burnout and inadequacy, and study engagement compared to men.

Some studies have examined burnout among students on different educational tracks and disciplines. Most of the earlier studies on burnout and stress have, however, been conducted within a narrow band of subject areas, typically those that have a vocational element (see Robotham, 2008), such as students in psychology (Schaufeli et al., 2002), nursing (Deary, Watson, & Hogston, 2003), law (Clark & Rieker, 1986) or medicine (Dahlén, Joneborg & Runesøn, 2005; Daly & Willcock, 2002; Dunn, Iglewicz & Moutier, 2008; Guthrie, Black, Bagalkote, Shaw, Campbell & Creed, 1998). Some studies among medical students have found that a small group of medical students repeatedly experienced psychological distress during their education (Firth-Cozens, 1989), while others have found no support for this (e.g., Helmers, Danoff, Steinert, Leyton & Young, 1997). In addition, some studies conducted among adolescents have found those interested in humanistic studies to report more school burnout, while those interested in mathematics and technology to report less school burnout (Salmela-Aro, Vuori & Koivisto, 2007). However, studies examining both study burnout and study engagement using representative samples of both university and polytechnic students across a broad range of subject areas are lacking. It is possible that certain subjects generate more engagement and/or more stress in their completion than others. For example, entrance to medical school is very difficult and thus success in the entrance examination might show in a high level of study engagement and low level of burnout. This is particularly important given the increasingly diverse nature of higher education students. The aim of the present study was to fill this gap. Moreover, the earlier studies have not compared either students at university to those in polytechnics or students from different disciplines.

In Finland, adolescents on an academic track have been compared to those on a vocational track in school burnout (Salmela-Aro, Kiuru & Nurmi, 2008). These results showed that those on an academic track experienced more inadequacy at school than those on a vocational track. Moreover, among adolescents on an academic track, feelings of inadequacy at school increased over time, while those on a vocational track there was an increase in cynicism (Salmela-Aro et al., 2008). We assumed that the nature of the
academic and vocational education environments themselves, rather than the transition per se, would play an important role in the changes in how adolescents think and feel in higher education (see Entwistle, 1990; Wigfield et al., 1996). For example, Eccles and Midgley (1989) proposed that negative developmental changes may result if the educational context does not provide developmentally appropriate educational environments for young people and that negative developmental fit may lead to alienation and cynicism. For young people in Finland, making the transition to university is very demanding. This may lead to poor fit between the demands of the academic environment and their level of competence, at least for some students. The demands and norms of the Finnish universities can be challenging and stressful: young people often face unfamiliar academic expectations, changes in sources of social support, and rigorous social norms and thus lead to a feeling of inadequacy. Based on this, we assumed that university students would experience greater inadequacy than polytechnic students, while the latter would experience more cynicism. It is possible that students who opt for courses with a vocational element (polytechnics) may be of a particular type and that more stress is generated in completing university than polytechnic studies.

3. The Present Study

This study describes study burnout and engagement in higher education and examines differences in study burnout and engagement in higher education according to 1) gender, 2) study sector: university vs. polytechnic, and 3) study subject or discipline. We expected that women would report both study burnout and engagement more frequently than men (Hypothesis 1), university students would report more study burnout and study engagement than polytechnic students (Hypothesis 2), and medical students would report the highest engagement and the lowest study burnout (Hypothesis 3).

4. Method

Finnish tertiary education. The tertiary education system in Finland, the so-called higher education system, is binary, comprising universities and polytechnics. When recruiting new students, the national matriculation examination and the institution's own entrance examinations are used as selection criteria. All the Finnish universities have selection procedures, and competition for study places is fierce. For example, in 2005 only 37.7% of applicants succeeded in gaining a place at a university or polytechnic during their first year after upper secondary school (Statistics Finland, 2007). Finland has 21 universities and 31 polytechnics. All the Finnish universities are state run. There are no tuition fees. Students also receive maintenance grants towards the costs of living from the government. All universities engage in both education and research and have the right to award doctorates. A bachelor's degree takes about three-four years, and master's degree about five to seven years. A polytechnic degree, on the other hand, takes about 3.5-4.5 years. The polytechnics are multi-field institutions of professional higher education. They specialize the teaching of practical skills and in applied research and development.

4.1 Participants

The target group of the present study consisted of all the Finnish students under the age of 35 years in higher education. The sample was collected using stratified randomized sampling by the Finnish Student Health Service. The sample comprised 9967 students of whom 45% were men (see Table 1). A total of 4984 (46% men) of them were studying at polytechnics and 4983 (45% men) at universities. The survey was implemented as a postal questionnaire during spring 2008, but it was also possible to complete the questionnaire via the Internet. The questionnaire was re-sent three times, once on paper and twice electronically. Finally 5020 students participated to the study and the response rate was 51% (polytechnics 47%, universities 55%); for men 42% (polytechnics 38%, universities 45%) and for women 59% (polytechnics 55%, universities 63%). However, the respondents were representative of the target population for all background variables. The mean age of the respondents was 24.5 (SD = 3.46), and 37% were men. Men ($M = 24.7$, $SD = 3.39$) were older than women ($M = 24.0$, $SD = 3.48$). Those in the university were older ($F(1, 5090) = 130.82$, $p < .001$; $M = 24.73$, $SD = 3.89$) than those in the polytechnics ($M = 23.67$, $SD = 3.25$). However they did not differ by gender. The students represented all the university subjects and disciplines (see Table 1). Among the university students the disciplines were coded into the following eight categories based on official recording: Arts, Social Science, Law, Biological and Environmental Sciences, Economics, Technology, Medicine, Behavioural Sciences and Fine Arts. Among the polytechnic students they were similarly coded in the following six categories: Cultural Studies, Environmental Studies, Tourism, Social Services, Engineering and Business. Of the respondents 9% had children and 3% were expecting a child. Of the respondents 42% lived single in their own households, 36% lived together with their spouse but without children, and 7% lived in a commune or a shared household. There was no difference between the university and polytechnic students in having a partner or number of children.

The study protocol was approved by the Medical Ethics Committee of the Hospital District of South West Finland, and the voluntarily participating students gave their informed consent by responding to the questionnaire.
Tab. 1: Number and Percentages of Participants

<table>
<thead>
<tr>
<th>Study Subject</th>
<th>Business</th>
<th>Engineering</th>
<th>Social Sciences</th>
<th>Cultural Studies</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>131152</td>
<td>15110.7</td>
<td>1731.118</td>
<td>17511.9</td>
<td>27225.1</td>
</tr>
<tr>
<td>N (%)</td>
<td>51.58%</td>
<td>59.69%</td>
<td>59.44%</td>
<td>56.65%</td>
<td></td>
</tr>
<tr>
<td>N (%)</td>
<td>7.9%</td>
<td>6.9%</td>
<td>5.9%</td>
<td>6.6%</td>
<td></td>
</tr>
</tbody>
</table>

Notes:
- Study Subject: University
- N: Number of Participants
- %: Percentage of Total

42 Measures

42
Tab. 2: Study Burnout and Study Engagement according to Study Sector (university vs. polytechnic) and Study Subject

<table>
<thead>
<tr>
<th>Study Subject</th>
<th>University</th>
<th>Polytechnic</th>
<th>Study Burnout</th>
<th>Study Engagement</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M (SD)</td>
<td>M (SD)</td>
<td>M (SD)</td>
<td>M (SD)</td>
</tr>
<tr>
<td>All</td>
<td>24.22 (8.21)</td>
<td>24.42 (8.95)</td>
<td>20.99 (10.1)</td>
<td>29.59 (8.31)</td>
</tr>
<tr>
<td>Study subject</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Engineering</td>
<td>24.18 (8.69)</td>
<td>24.69 (8.61)</td>
<td>20.88 (13.13)</td>
<td>31.24 (7.39)</td>
</tr>
<tr>
<td>Social Services</td>
<td>21.99 (8.70)</td>
<td>24.78 (8.91)</td>
<td>31.24 (7.39)</td>
<td>29.59 (8.31)</td>
</tr>
<tr>
<td>Environmental Studies</td>
<td>24.26 (8.66)</td>
<td>24.29 (8.53)</td>
<td>30.81 (7.97)</td>
<td>29.10 (8.69)</td>
</tr>
<tr>
<td>Tourism</td>
<td>24.69 (8.61)</td>
<td>24.59 (8.53)</td>
<td>30.81 (7.97)</td>
<td>29.10 (8.69)</td>
</tr>
<tr>
<td>Cultural Studies</td>
<td>24.29 (8.53)</td>
<td>24.59 (8.53)</td>
<td>30.81 (7.97)</td>
<td>29.10 (8.69)</td>
</tr>
<tr>
<td>Study Burnout</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All</td>
<td>24.42 (8.95)</td>
<td>24.69 (8.61)</td>
<td>20.88 (13.13)</td>
<td>31.24 (7.39)</td>
</tr>
<tr>
<td>Study subject</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fine Arts</td>
<td>22.51 (8.39)</td>
<td>24.97 (8.53)</td>
<td>30.64 (7.90)</td>
<td>30.79 (7.90)</td>
</tr>
<tr>
<td>Behavioural Sciences</td>
<td>22.51 (8.39)</td>
<td>24.97 (8.53)</td>
<td>30.64 (7.90)</td>
<td>30.79 (7.90)</td>
</tr>
<tr>
<td>Technology</td>
<td>22.73 (8.01)</td>
<td>24.23 (8.70)</td>
<td>30.64 (7.90)</td>
<td>30.79 (7.90)</td>
</tr>
<tr>
<td>Economics</td>
<td>22.73 (8.01)</td>
<td>24.23 (8.70)</td>
<td>30.64 (7.90)</td>
<td>30.79 (7.90)</td>
</tr>
<tr>
<td>Law</td>
<td>22.51 (8.39)</td>
<td>24.97 (8.53)</td>
<td>30.64 (7.90)</td>
<td>30.79 (7.90)</td>
</tr>
<tr>
<td>Arts</td>
<td>22.51 (8.39)</td>
<td>24.97 (8.53)</td>
<td>30.64 (7.90)</td>
<td>30.79 (7.90)</td>
</tr>
<tr>
<td>Study Engagement</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All</td>
<td>24.22 (8.21)</td>
<td>24.42 (8.95)</td>
<td>20.99 (10.1)</td>
<td>29.59 (8.31)</td>
</tr>
<tr>
<td>Study subject</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Engineering</td>
<td>24.18 (8.69)</td>
<td>24.69 (8.61)</td>
<td>20.88 (13.13)</td>
<td>31.24 (7.39)</td>
</tr>
<tr>
<td>Social Services</td>
<td>21.99 (8.70)</td>
<td>24.78 (8.91)</td>
<td>31.24 (7.39)</td>
<td>29.59 (8.31)</td>
</tr>
<tr>
<td>Environmental Studies</td>
<td>24.26 (8.66)</td>
<td>24.29 (8.53)</td>
<td>30.81 (7.97)</td>
<td>29.10 (8.69)</td>
</tr>
<tr>
<td>Tourism</td>
<td>24.69 (8.61)</td>
<td>24.59 (8.53)</td>
<td>30.81 (7.97)</td>
<td>29.10 (8.69)</td>
</tr>
<tr>
<td>Cultural Studies</td>
<td>24.29 (8.53)</td>
<td>24.59 (8.53)</td>
<td>30.81 (7.97)</td>
<td>29.10 (8.69)</td>
</tr>
</tbody>
</table>

Note: If the letter in the row is the same, they are not statistically significant; different letters indicate statistically significant differences.

Social workers expressed the highest levels of engagement, followed by psychology and economics, which had significantly higher levels of engagement than the other study subjects. The highest levels of burnout were expressed by those in cultural studies and environmental studies. The lowest levels of burnout were expressed by those in fine arts and technology. The lowest levels of engagement were expressed by those in fine arts and technology.

Overall, the results showed that polytechnic students expressed higher levels of engagement and lower levels of burnout compared to university students. This suggests that polytechnic students might be more engaged in their studies and have a lower risk of burnout.

However, overall, study burnout and study engagement were not significantly different in study burnout and study engagement between the study subjects and sectors.
6. Discussion

The aim was to compare study burnout and engagement by gender, study sector (university vs. polytechnic) and subject field. The results supported our first Hypothesis and the findings of earlier studies (Ge et al., 1994; Kivuru et al., 2008), and showed that women in higher education experienced both more study burnout and more study engagement than men. Of the components of study burnout, women experienced more exhaustion and inadequacy than men, while no differences in cynicism were found between women and men in higher education. As young people make the transition to higher education they may perceive their educational context as more competitive. The results of the present study suggest that women respond more negatively to such competitive learning conditions. In line with this, research shows that women are not only more exposed to stressful life events, but are also more vulnerable to their negative effects (Ge et al., 1994; Kessler & McLeod, 1984; Turner et al., 1995). In turn, our results supported those found previously among girls (Vasalampi et al., in press): women also experienced more study engagement than men. Consequently, women are engaged towards their study at higher education but they burn out.

There were differences between students according to the higher-education sector. As we posited in Hypothesis 2, the university students experienced higher levels of engagement than the polytechnic students. This is an important finding as no previous study has examined this issue. However, contrary to our hypothesis there were no differences in overall study burnout. As we hypothesized, cynicism towards studying was higher among the polytechnic students and feelings of inadequacy were stronger among the university students. There were no differences with regard to feelings of exhaustion. These findings are significant, again because no previous study has compared students from universities and polytechnics using representative samples. They nevertheless support earlier findings suggesting that students on an academic track experience stronger feelings of inadequacy, which intensify over time, whereas those on a vocational track experience more cynicism (Salmela-Aro et al., 2008). These results support those reported by Eccles and Midgley (1989) suggesting that negative developmental changes may result if the educational context does not provide developmentally appropriate educational environments for young people, and that a negative developmental fit may lead to alienation and cynicism. On this basis, we assumed that students at universities would experience stronger feelings of inadequacy than to those at polytechnics, whereas the latter would experience more cynicism.

Moreover, studies examining both study burnout and engagement using representative samples of both university and polytechnic students across a broad range of subject areas are lacking. It is possible that certain subjects generate more engagement and/or more stress in their completion than others. For example, we assumed (Hypothesis 3) that as the entrance to medical school is very difficult, success in the selection procedure might show in a high level of study engagement and low level of burnout. In support of our hypothesis, medical students experienced the lowest level of study burnout and the highest level of study engagement. The students in the arts, on the other hand, experienced the highest levels of burnout and those in economics and technology the lowest levels of study engagement, supporting earlier findings among young people (Salmela-Aro et al., 2007). Among the polytechnic students, those from the cultural and tourism experienced the highest levels of burnout, and those in the cultural and social studies experienced the highest levels of engagement. Students in the arts and cultural studies reported engagement but also burnout. Consequently, there is a need of intensive studies in different disciplines.

6.1 Implications

Women experienced both more study burnout and more study engagement than men. University students experienced more engagement but also inadequacy than polytechnic students, while cynicism was higher among the latter. Our study has at least the following implications. First, educators need to be aware of the prevalence of study burnout, which may relate to feelings of distress among students. Secondly, programmes need to develop support systems to help students address these challenges, including the resources to provide confidential treatment for burnout. Thirdly, students should be made aware of the early signs of study burnout and of how to access available resources. There are programmes in existence that could serve as models (Ball & Bax, 2002; Vuori et al., 2008). Intervention conducted by Salmela-Aro et al. (2010) succeeded in crystallizing of future career goal, promoted a positive motivation towards the future and reduced burnout. The effects of curricular factors known to contribute to student distress should also be addressed. Higher education should equip students with the necessary skills to recognize personal distress, determine its effects, know when they need assistance and develop strategies to promote their own well-being. These skills are essential if students are to maintain perspective and resilience throughout their study careers. Curricula should be designed to foster their acquisition and thus enhance student success and retention. Finally, the scale would be useful in university-student healthcare and consulting services. In particular, it would be suitable as a screening instrument for identifying students at risk of burnout. The exhaustion component seems to be more of an indicator of current study stress, whereas cynicism and inadequacy could be a sign of a longer-term burnout problem. Thus, a profile in which the exhaustion component is high, and the other two components are low could be taken as the first sign of burnout, and at this stage it would therefore be useful to focus on prevention in terms of developing study strategies and negotiating the work load. In contrast, if all three components are high it should be taken very seriously as a situation in which intervention is necessary. This suggests that efforts to address burnout must begin at an early stage and permanent screening should be continued in the middle of the studies. Consequently, the study-burnout inventory could be a very useful tool for identifying students at risk and thus developing the necessary support services.
6.2 Limitations

The following limitations should be taken into account in any attempt to generalize the results of this study. First, the study was cross-sectional and there is an evident need for a longitudinal study in the higher education context. There is a need to investigate how students’ burnout fluctuates during their course of study for a degree. Second, the present study was carried out in Finland and thus one has to be cautious in generalizing the results to higher education contexts in other countries. Several features of Finnish universities, such as a higher age at entry to university, no tuition fees, and the difficulty in gaining admission to university, may mean that some of the results would have been different in countries with a different education system. Clearly, there is a need to replicate some of the results among other groups. Third, we need to develop a greater understanding of students’ capacity to cope with stress changes during their studies. Gathering such data should have importance for higher education institutions. Fourth, the present sample consisted of students in higher education and thus was not representative of young adults. Although previous studies have shown no differences in psychological well-being between non-university and university respondents (Hankin, Abramson, Moffitt, Silva, McGee & Angell, 1998), the results should be interpreted as a follow-up of this population only. Young adults in vocational schools might show a different pattern.

References


Adress:

Katarina Salmela-Aro, Helsinki University Collegium for Advanced Studies, P.O. Box 4, 10014 Helsinki, Finland. Phone: +358-50-3574765. Electronic mail may be sent to katarina.salmelaaro@helsinki.fi

Beitrag eingegangen: 09.04.10; revidiert: 28.06.10, angenommen: 14.07.10