

Health-related determinants of perceived quality of life: A comparison between first-year university students and their working peers

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Abstract. This study compares aspects of the health-related behaviors and working life of first-year university students with those of their working counterparts and assesses the roles of these aspects as predictors of each groups' perceived quality of life (QoL). Subjects were taken from two cross-sectional data sets (a student survey and a population survey) from the Swedish central-western region of Östergötland. Male and female respondents aged 20–35 years were extracted and comparison were made considering in turn socio-demographic characteristics, health-related behaviors, exposure to abusive events at work and perceived QoL. University students smoked and used oral snuff in smaller proportions, they were not as frequent drinkers as their working counterparts, but they tended to drink more when they did drink. Threats and violence were less prevalent among students, but sexual harassment, were almost as common. The strongest predictors of perceived QoL for both groups are expected and former perceived QoL, followed by current self-rated health.

Keywords: Abusive events, health-related behavior, alcohol consumption

1. Introduction

In recent years, Sweden has witnessed a rapid expansion in the number of students enrolling in higher education. The university-student population now constitutes a major part of the young-adult population. Since the early nineties, the provisions of the country's Work Environment Act cover higher-education students, just as compulsory-school and high school students, in ex-

actly the same way as adult workers. Pursuant to the first section of the Act, its purposes are to prevent ill-health and injuries at work and to achieve a healthy work environment.

The university in Sweden can be regarded as an institution where most people attend for relatively short periods of their lives. Because they are often regarded as a transitional and select group [1], little attention has been paid to university students' health status and quality of life [2–9]. By contrast, their health behaviors, and in particular drinking, has drawn attention [10–15].

Comparisons between university students and their working peers are uncommon [16,17]. In an earlier study, we observed that male and female first-year university students rated their current, former and expected

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quality of life (QoL) lower than their working peers did and they rated their health as average or low in significantly higher proportions than expected by chance [17]. This result can be better understood in the light of ecological transition theory [18], which poses that the years at college/university mark an important “rite of passage” for young people. Possible explanations, likely to be interrelated, may lie in transitional issues, including adjustment to being away from home, shifting between different circles of social networks and being subjected to demands for academic performance [19]. In particular the first year at university can be a critical period for many students – usually involving transition from family to dormitories and shifting between different circles of companions and social networks. The daily reality of university-student life has been described in various contexts in terms of low degree of control over personal situation, heavy workload, and limited appreciation and feedback [20–23]. Beyond the expectation of good academic performance and satisfactory interpersonal relationships, it is difficult to obtain agreement on criteria for what constitutes poor quality of life.

Among other aspects to be considered about university student’s life is the occurrence of abusive events, in forms such as assault, threat of assault, bullying, and sexual assault or sexual harassment. Working peers’ exposure to events have received increasing attention in recent years, especially in North America [24,25] and northern Europe [26–29]. Abusive events at work have consequences for both the organisation and the individual. The point has been made that work environments where abusive events take place are at disadvantage in a variety of respects, e.g. states of stress among employees, low productivity, lost work time [30], and reduced quality of work and/or care [28]. For individual victims, when not fatal, abusive events very likely lead to a reduction in health status and quality of life, e.g. through sickness absenteeism [27] or psychological disturbance.

Against this background, and building on the earlier comparative studies, the aim of the current study is to document aspects of the health behaviors and working life stressors of these two groups of young people, first-year university students and their working counterparts. The roles of selected parameters as predictors of their respective perceived quality of life are also assessed.

2. Materials and methods

2.1. Subjects

Subjects and materials were taken from two cross-sectional data sets, both set up during the spring 1999

and designed to capture the health status and perceived QoL of two segments of the population of the Swedish central-western region of Östergötland. Both surveys were based on a self-administered questionnaire [17]. One was exclusively concerned with all first-year university students registered full-time at one of the study programs offered at Linköping University ($N = 3,229$, response rate 70%). The other concerned the entire Östergötland population, and was based on representative sampling of the age group 20–74 years ($N = 10,000$; 4% of the region’s population, response rate 67%). For the current study, the focus was on male and female respondents aged 20–35. From the population survey, only subjects in paid employment were included. In total 2149 students and 697 in paid employment meet the including criteria.

2.2. Questionnaires

For the university student survey, the questionnaire comprised 44 items, and covered aspects such as individual and family background, place of residence, financial situation, previous education, life style, leisure activities, health, and perceived quality of life. Most items consisted in forced-response, multiple-choices questions [31].

The population survey was the second in a series of data collections carried out by the Center for Public Health Science at Östergötland County Council [32]. The questionnaire for the survey encompassed 171 items, covering demographic and social characteristics, place of residence, work conditions and job satisfaction, life-style, health status, and perceived quality of life.

2.3. Health behaviors

Tobacco consumption. Tobacco use was measured, in both questionnaires, by asking whether the respondents smoked or used snuff (the moist oral tobacco that is commonly used in Sweden). Smoking and snuff use were determined on the basis of two questions for each “agent”. We merge the seven-point scales in the population survey so as to match the ones in the student survey for each “agent”, i.e. smoking – or using snuff – “yes” (daily or sometimes) or “no” [9,31].

Alcohol consumption. Both surveys adopted a frequency-quantity approach to alcohol consumption, asking respondents about 1) the frequency of their drinking (“never”, “once a month”, “2–4 times a month”, “2–3 times a week”, and “4 times a week or

more”) and 2) the usual amount of alcohol they consume on each occasion (“1–2 glasses”, “3–4 glasses”, “5–6 glasses”, “7–9 glasses” and “10 glasses or more”). There was an illustration to show what one glass means, i.e. 45 cl medium-strength beer, 33 cl beer (beer strengths as defined by Swedish authorities), 15 cl wine, 8 cl fortified wine, 4 cl spirits. Whereas there was a measure of frequency of alcohol consumption in the population survey for each type of alcohol (beer, wine, spirits), the measure for students was “all types of alcohol aggregated”. In order to make comparisons feasible, we estimated the consumption of the respondents to the population survey on the basis of their most frequent consumption across types of alcohol.

2.3.1. Abusive events

The abusive events considered in both surveys were threats, violence and sexual harassment. The question reads as follows: “During the last year have you been exposed to a) threats b) violence or c) sexual harassment at work?” (1 = yes, often; 2 = yes, occasionally; 3 = no).

2.3.2. Health status

Health status was studied in both surveys with self-rated health (SRH). Over the past decades, it has become more widely accepted that SRH provides a suitable approximation of actual individual health status. In particular, it provides a multifaceted summary of all the information the individual has about her or his own health [33–35].

SRH was measured in the student survey by a single question (on a five-level scale) concerned with how students rated their health in general. The scale ran from “very good” to “very poor”. In the population survey, subjects had been asked to state whether they would describe their health in general (SF-36) as “excellent”, “very good”, “good”, “fair” or “poor”.

Although the measures of SRH in the two studies were similar, the scale in the student survey ran from “very good” (instead of “excellent”) to very poor (instead of “poor”). For comparative purposes, a common three-level scale (“high”, “average”, and “low”) was constructed from the five-point scales originally employed for each group [17]. The category “high” included the original category “very good” in the student survey and “excellent” and “very good” for their working peers; the category “average” included the original categories “good” and “neither good nor bad” for the students and “good” and “fair” for their working peers. The category “low” included the original cat-

egories “poor” and “very poor” in the student survey and “poor” for their working peers. The measure of self-rated health used herein consists in a three-point scale (“high”, “average” and “low”), derived from the original five-point scales of each survey after a validation study by a prospective test-retest (see more details [17]).

2.3.3. Quality of life – current, former and expected

From among the various measures of quality of life (QoL) available [36,37] both surveys employ the so-called “Ladder Scale”, now a globally recognized measure that has shown good validity [36]. Respondents were asked to position themselves on a ladder with reference to three points in time: “now”, “one year ago” and “in one year from now”. The introduction to the ladder question was as follows. “Here is a picture of a ladder (there was an illustration of a ladder). At the bottom of the ladder (‘1’) is the worst life you might reasonably expect to have. At the top (‘10’) is the best life you might expect to have. The three questions read as follows: 1. Where on the ladder is your life right now? 2. Where on the ladder was your life one year ago? 3. Where do you expect your life to be next year?”

2.4. Data analyses

Chi-square test (Fisher’s exact tests, when the expected values are small) was performed to analyze the differences in sociodemographic characteristics, smoking, use of snuff, frequency of alcohol consumption, and the prevalence of abusive events at work between groups of student and their working peers. Tests for trend in proportion of drinkers over increasing frequency of consumption were performed so as to assess whether there were noticeable changes. This was performed one group at a time and for each single category of quantity (i.e. 1–2 glasses, 3–4, 5–6, 7–9, 10 glasses or more).

Finally, for each study group, a multiple linear regression analysis examined the predictive effect of each group of variables on current perceived QoL. Regression diagnostic (with focus on methods for analysing residuals) was completed to check the assumption for a multiple regression. We incorporated each block into the model in the following order: socio-demographic, health-related behavior, abusive event, self-rated health, and former and expected perceived QoL.

Table 1
Demographic characteristics and health status of respondents in the two study populations

	Students		Employees	
	n	%	n	%
<i>Sociodemographic characteristics</i>				
<i>Age</i>				
20–24 years	1557	72.5	80	11.5
25–35 years	592	27.5	617	88.5
<i>Gender</i>				
Male	959	44.6	456	65.4
Female	1190	55.4	241	34.6
<i>Country of birth</i>				
Sweden	2023	94.4	657	94.3
Nordic country	22	1.0	12	1.7
Other country	97	4.5	28	4.0
<i>Marital status</i>				
Married	616	28.7	483	69.3
Single	1020	47.5	188	27.0
Other	513	23.9	26	3.7
<i>Health status</i>				
<i>Self-rated health</i>				
Good	723	33.7	462	66.4
Fair	1374	64.0	231	33.2
Poor	50	2.3	3	0.4

3. Results

3.1. Demographics and SRH

Table 1 shows the distribution of the two groups of respondents according to age, gender, country of birth, marital status and health status. The age distributions of two groups diverge. Students are concentrated in the age category 20–24 years, whereas the employed fall more heavily into the category 25–35 years $\chi^2(1, N = 2,846) = 800.4, p < 0.0001$. Whereas the proportion of females is significantly higher in the student population $\chi^2(1, N = 2,846) = 91.06, p < 0.0001$, there is a greater proportion of married people in the group of paid employees $\chi^2(2, N = 2,846) = 389.8, p < 0.0001$. The vast majority of respondents in both groups are born in Sweden $\chi^2(2, N = 2,839) = 2.43, p = 0.29$. The distribution of SRH assessment differs according to occupation (students vs. employees). More employees rated their health as “good” (66.4% compared with 33.7%), whereas more students reported theirs as “fair” (33.2% compared with 64%) or, to some degree, as “poor” (0.4% compared with 2.3%).

3.2. Perceived QoL

Figure 1(a, b and c) shows the distributions of the university students and their working peers with regard

to their perceived QoL – current (“now”), former (“one year ago”), expected (“one year from now”).

Regarding current perceived QoL (Fig. 1a), it can be seen that fewer students are found at the very top end of the ladder (levels 8, 9 and 10), more in the middle (levels 4–7), and fewer at the very bottom (levels 1 and 2). As for perceived QoL “one year ago” (Fig. 1b), there are still fewer students at the top end of the ladder (levels 8, 9 and 10), quite similar proportions in the middle (levels 4–7), and a few more at the very bottom (levels 2 and 3). On comparing groups’ profiles “one year ago” (Fig. 1b) with “now” (Fig. 1a), a noticeable improvement is observed for both groups in the proportion of people found at the top of the ladder. Regarding expected QoL “one year from now” (Fig. 1c), the most remarkable feature is the relative paucity of students at the very top of the ladder (levels 9 and 10). As was the case when moving from “one year ago” to “now”, moving from “now” (Fig. 1a) to “in one year from now” (Fig. 1c) shows an increase in the proportion of respondents at the top of the ladder in both groups. The increase is much greater among workers (50% of respondents) than among students (28.3%).

3.3. Health behaviors

Table 2 shows the distribution of the two groups of respondents by category of health behavior. There is a strong association between working and smoking $\chi^2(1, N = 2787) = 18.78, p < 0.001$, with more

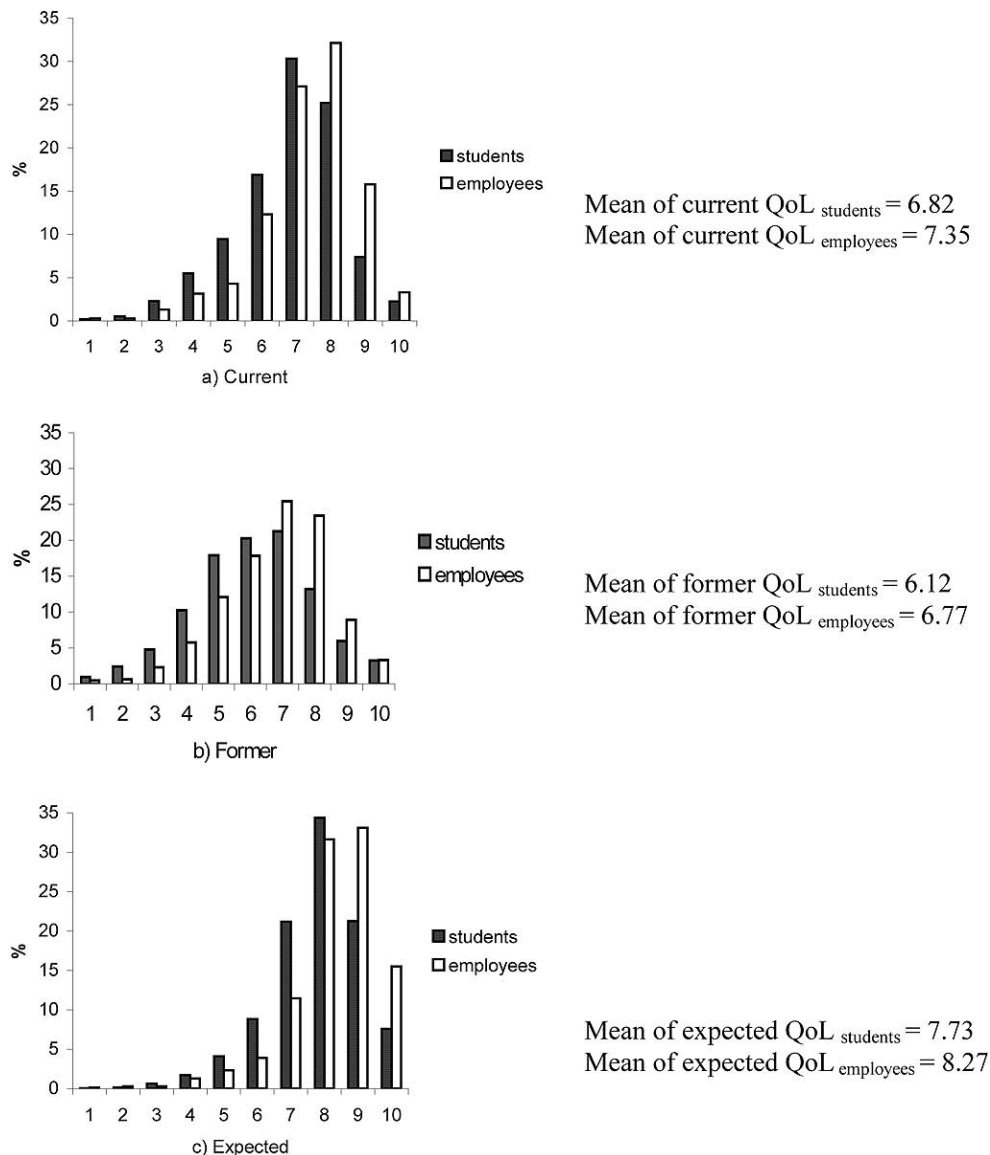


Fig. 1. Distributions of perceived quality of life on the “Ladder Scale” in the two groups: (1) “the worst life you might reasonably expect to have”; (10) “the best life you might expect to have”.

smokers (and also users of snuff) than expected among the young employed. Further, there are more frequent drinkers (2–3 times a week, 4 times a week or more) than expected among the young employed, and more occasional ones (once a month, or 2–4 times a month) among university students.

Figure 2(a–e) illustrates for each category of quantity of consumption taken separately, how the percentage of drinkers in each group progresses with increasing frequency of consumption. For all consumption levels but the first one, the proportion of university students

exceeds that of their working peers for all frequency alternatives. Also, for all consumption levels but the last one, there is a downward trend in the proportion of students with increasing frequency (from once a month to 2–4 times a week). In other words, for a given level of consumption, the proportion of university students consuming alcohol decreases as the frequency of consumption increases. This is most remarkable for the first two consumption levels (Fig. 2a, b), where differences in trends between groups are significant. Still, as shown in Fig. 2(a), the proportion of young employed

Table 2
Distribution of health-related behaviors of young adults according to student/employee status

	Students		Employees		Total (N)
	O	E	O	E	O
Smoking					
Yes	384	422.3	165	126.7	549
No	1760	1721.7	478	516.3	2238
Total, $\chi^2(1, N = 2787) = 18.78$; $p < 0.001$	2144		643		2787
Use of snuff					
Yes	197	277.6	167	86.4	364
No	1950	1869.4	501	581.6	2451
Total, $\chi^2(1, N = 2815) = 113.31$; $p < 0.0001$	2147		668		2815
Alcohol consumption					
Never	123	123.9	41	40.1	164
Once a month	573	555.2	162	179.8	735
2–4 times a month	1301	1278.8	392	414.2	1693
2–3 times a week	143	174.5	88	56.5	231
4 times a week or more	6	13.6	12	4.4	18
Total, $\chi^2(4, N = 2841) = 44.5$; $p < 0.001$	2146		695		2841

Note: O = observed frequency; E = expected frequency.

drinking 1 to 2 glasses, 2 to 4 times a week exceeds that of university students.

3.4. Abusive events at work

Table 3 also shows the prevalence among young adults of threats, violence and sexual harassment at work, all of which are more common among the employed than among university students. Differences between the groups are significant in the cases of threats and violence.

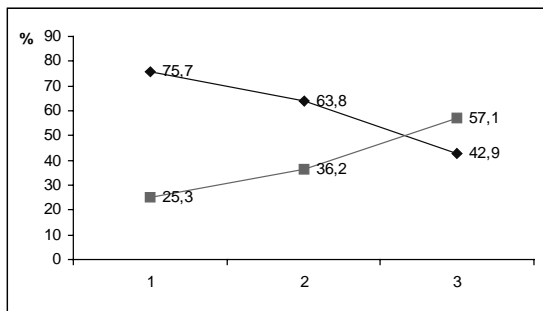
3.5. Quality of life prediction

Table 4 presents the results of the regression analyses, conducted for each group separately, which aim to assess the extent to which various individual and work-related characteristics contribute to the explanation of current perceived QoL. The socio-demographic characteristics explain only 2% of the adjusted variance (Model 1) among students, and 5% among the employed. Being born in a country other than Sweden is the strongest significant predictor of -negative- current perceived QoL among students and being married, followed by being born in a Nordic country, among the employed. Neither age nor gender has a significant effect. The picture remains virtually unchanged when considering both socio-demographic characteristics and health-related behaviors (Model 2). Also, the overall R^2 s are low/weak. Smoking, use of snuff, alcohol consumption 2–4 times a month and 2–3 times a

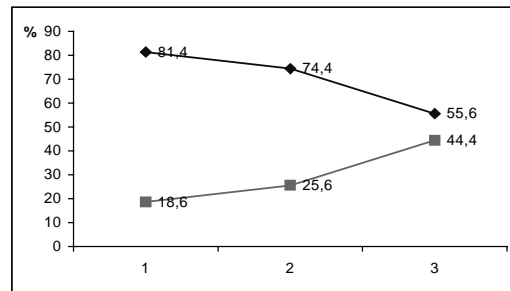
week are significant predictors of students' QoL. Smoking is the only health-behavior variable that makes a significant explanatory contribution with regard to the employed.

The introduction of abusive events at work (Model 3) does not substantially modify the results from Model 2. However it removes the significant effect of being born in a Nordic country for the employed and that of drinking 2–3 times a week, for students. It can also be noted that being female and being married become significant predictors of positive perceived QoL, among students (when abusive events are included, i.e. Model 3). None of the abusive events considered impact significantly on the adjusted variance in current QoL assessment in either group.

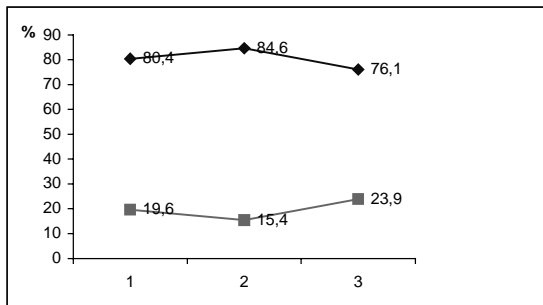
Model 4, which introduces self-assessments of health status, and also former and expected perceived QoL, increases the explained adjusted variance (58% among students and 64% among the employed). Also, gender, smoking, consumption of alcohol (2–4 times a month or 2–3 times a week), violence, SRH and QoL (former and expected) are all significant predictors of current perceived QoL for students. For the employed, the health status and QoL variables, followed by country of birth and age, are the best predictors of current perceived QoL. The strongest predictors for both groups are expected perceived QoL, followed by former perceived QoL (one year previously), and current SRH.



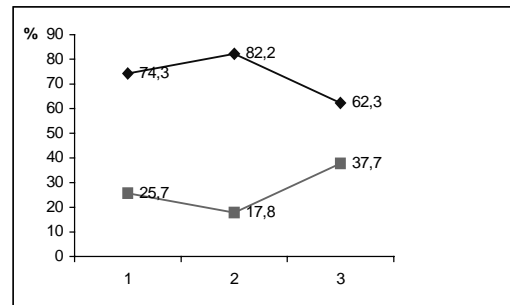
a) 1-2 glasses; $P_{\text{students}} = 66\%$; $P_{\text{employees}} = 34\%$
Test for trend $p < 0.0001$



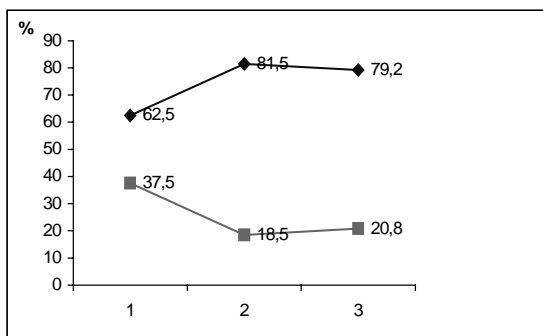
b) 3-4 glasses; $P_{\text{students}} = 75\%$; $P_{\text{employees}} = 25\%$
Test for trend $p < 0.0001$



c) 5-6 glasses; $P_{\text{students}} = 79\%$; $P_{\text{employees}} = 21\%$
Test for trend $p = 0.72$ n.s.



d) 7-9 glasses; $P_{\text{students}} = 83\%$; $P_{\text{employees}} = 17\%$
Test for trend $p = 0.33$ n.s.



e) 10 glasses or more; $P_{\text{students}} = 79\%$; $P_{\text{employees}} = 21\%$
Test for trend $p = 0.29$ n.s.

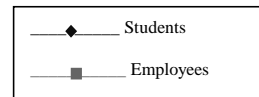


Fig. 2. Proportion of drinkers with increasing frequency of consumption by quantity of consumption: (1) "once a month"; (2) "2-4 times a month"; (3) "2-4 times a week".

4. Discussion

4.1. Main findings

The study shows that first-year university students' health behaviors differ considerably from those of their working peers. They smoked and used oral snuff in smaller proportions; students were not as frequent

drinkers as their working counterparts, but they tended to drink more when they did drink. Moreover, these profiles in health behaviors effect QoL assessments among students, but not among their working peers. Among students, the effect of smoking and using snuff and drinking either 2 or 3 times a week or 2-4 times a month on QoL is combined with that of being born in a non-Nordic country.

Table 3
Distribution of reported threat, violence and sexual harassment at workplace or at university by students and their working counterparts

	Students		Employees		Total (N)
	O	E	O	E	
Threat					
Yes	8	55.3	65	17.7	73
No	2133	2085.7	618	665.3	2751
Total, $\chi^2(1, N = 2824) = 171.9$; $p < 0.0001$		2141		683	2824
Violence					
Yes	3	22.8	27	7.2	30
No	2138	2118.2	652	671.8	2790
Fisher's exact test, $p < 0.0001$		2141		679	2820
Sexual harassment					
Yes	22	24.3	10	7.7	32
No	2114	2111.7	662	664.3	2776
Total, $\chi^2(1, N = 2808) = 0.952$; $p = 0.329$		2136		672	2808

Our finding that students health behavior differ from their full-time working peers is in line with earlier research showing that heavy drinking and related problems may be on the increase during the transition period and much more prevalent among university students than others of the same age group [38,39]. It is also known that over the academic years, a variety of social events take place in which drinking has a central role to play. These events are a major contributor to high consumption, and the high proportion of students who classify themselves as binge drinkers. In the case of use of tobacco, national statistics indicate that smoking and use of moist oral snuff is not highly prevalent among Swedish university students, or even in the Swedish population in general (with a proportion of daily smokers of around 19% in 2001). We know also from other studies that pre-university students who smoke are less likely to study at university [39,40]. However studies, particularly from USA, indicate that although fewer college students smoke than their non-college peers, the cigarette smoking has increased in recent years among students. Smoking should be a matter of concern, however, because it may be a habit on the increase among Swedish students, as is the case in other student populations [41,42]. Use of tobacco, more than alcohol, is linked to stress management/relief [43].

Further, threats and violence are significantly less prevalent among university students than among their working peers. Sexual harassment, the most prevalent type of abuse among university students but less prevalent among their working peers, occurs in similar proportions in both groups. In the case of students, it is only when combined with all other selected blocks of variables that abusive events have a predictive effect

on QoL assessments (but only in the case of violence among students). Our earlier study based on people in paid employment aged 20–34 years indicate that threats or acts of violence are more common than sexual harassment among young working people [40], whereas the occurrence of sexual and gender-related harassment appears to be in education in all level [44].

Finally, as expected [3,17,33] the strongest predictors of QoL assessments are the assessments of expected and former QoL, and also current self-rated health, which applies to both students and their working counterparts. Among students, this is accompanied by significant effects of a number of other parameters, such as gender (female), country of birth (from outside the Nordic countries), (not) smoking, being an occasional drinker, and having been exposed to violence at work. Among their working counterparts, only the effects of age and being born in a Nordic country emerge as significant. As it is mentioned above, comparisons between students' health and QoL with their working peers are uncommon and the few existing comparative studies that we find do not shed light on the health-related QoL determinant.

4.2. Limitations

Extrapolation of our results to other 20–35 year-old populations of university students and working adults is not easy. The large differences between the students and worker samples in terms of age, gender and marital status make it difficult to attribute the differences in health behaviors and abusive events to whether the individuals are students or workers. From another viewpoint we are interested comparing these groups as they

Table 4

Associations of independent variables with current perceived quality of life in the four regression models. Standardized regression coefficients (β) and adjusted R squares (R^2)

Block of variables	Model 1		Model 2		Model 3		Model 4	
	β		β		β		β	
	Student	Employee	Student	Employee	Student	Employee	Student	Employee
<i>Socio-demographic</i>								
Age	−0.018	0.028	−0.007	0.037	−0.007	0.045	0.016	0.076**
Sex (female = 1)	0.048	0.033	0.048	0.033	0.048*	0.038	0.048**	−0.019
Country of birth								
Nordic country	0.036	−0.086*	0.035	−0.090*	0.036	−0.064	0.015	0.084**
Other country	−0.113****	0.036	−0.107****	0.044	−0.103****	0.049	−0.041**	0.027
Marital status								
Married/cohabiting	0.013	0.214***	0.020	0.201***	0.022**	0.199****	0.014	0.043
Other	−0.008	0.043	−0.008	0.048	−0.007	0.067	−0.012	−0.046
<i>Health behaviors</i>								
Smoking (yes = 1)			−0.079****	−0.114**	−0.077***	−0.101*	−0.045**	−0.048
Use of snuff (yes = 1)			−0.047*	−0.071	−0.048*	−0.080	0.010	−0.020
Alcohol consumption								
2–4 times a month			0.079***	−0.002	0.082***	−0.007	0.032*	−0.031
2–3 times a week			0.092****	0.040	0.094	0.031	0.050**	0.027
4 times a week or more			0.004	0.021	0.004	0.024	0.008	0.007
<i>Abusive events at work</i>								
Threat (yes = 1)					0.001	−0.062	−0.007	0.002
Violence (yes = 1)					−0.041	−0.043	−0.044**	−0.065
Sexual harassment (yes = 1)					−0.022	0.026	−0.016	0.022
<i>Health status and Quality of life</i>								
Current Self-rated health								
Average							−0.156****	−0.134****
Low							−0.158****	−0.154****
Former quality of life							0.161****	0.281****
Expected quality of life							0.595****	0.525****
R^2	0.02	0.05	0.03	0.07	0.03	0.07	0.58	0.64

The country of birth, marital status, frequency of alcohol consumption and self-rated health dummy variables are coded 1 for the relevant category and 0 for others. Born in Sweden, single, never drink, and “high” perceived health are the reference categories. Age, and former/expected perceived QoL are continuous variables.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$, **** $p < 0.0001$.

are in spite of large differences in sociodemographic characteristics. The student population considered includes persons on a variety of study programs, and is not restricted to any particular group; further, their working counterparts occupy a large variety of occupations, and have various working and living conditions [32]. Losses of information regarding individuals or groups of individuals in less good physical, emotional or social shape in both populations are likely. Indeed, we know this to be the case among our group of 20–35 year-old workers, where there were under-representations of individuals with relatively low education and people living alone – two factors that negatively affect perceived QoL [46]. By contrast, in the case of students, living-alone is a characteristic of nearly one out of two respondents (48.3%). We do not know whether excluding students on single-subject courses means that we have removed members of the sub-population in better or worse shape. However, even under the assumption that selection mechanisms – though different in kind

within each group – do operate in the same direction in the two groups, it is uncertain whether they affect each group to the same extent.

From another viewpoint, our data on QoL constitute a single measure from a single global item rather than any global or specific scale. The inherent advantage of parsimony possessed by single measures is counterbalanced by possible positive bias, implying that respondents may wish to present themselves as socially desirable. But there are no reasons to believe that any such bias is greater among members of the one group than among members of the other. Another disadvantage of this approach, though of greater importance for predictive value in longitudinal studies, is that brief items tend to lack sensitivity [37].

An additional concern regarding our comparative findings on QoL lies in the positioning of the item in the questionnaire. Both questionnaires pose the QoL question last, but they differ in length and content. As an illustration of the problem, it is worth mentioning

that one study finds more positive answers concerning QoL when the item in question comes immediately after items related to marital satisfaction [37].

Finally, our estimates of alcohol consumption may be too low, not only because of the so-called “desirability effect”, but also because of potential loss of subjects with substantial alcohol problem. But this is not likely to affect the differences between the groups. Most important in that aspect may be the divergent ways of posing the question to each group (see the Materials section), leading to a possible underestimation of the frequency of alcohol consumption in the group of employed [47].

5. Conclusion

First-year university students' health behaviors differ considerably from those of their working peers. They smoke and use snuff in smaller proportions than expected by chance, and they are not frequent drinkers of small quantities of alcohol. Students, however, when they drink, drink much more than their working counterparts. Their health behaviors effect current QoL assessments among students, but not among their working peers. In particular, the effect of smoking and using snuff and drinking either 2 or 3 times a week or 2–4 times a month is combined with that of being born outside the Nordic countries.

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