Paper to the CSP Conference
Oslo, June 17-19 2004
Marianne Dæhlen
Centre for the Study of Professions, Oslo University College, Norway
marianne.dahlen@adm.hio.no

Change in job values during education

(Preliminary draft)

Data obtained from the Database for Studies of Recruitment and Qualification in the Professions (StudData) show that education is important in explaining job values, but primarily to select students with different preferences for work to different educational programs. Results from previous studies show conflicting results indicating on the one hand that preferences for work are stable and deep-rooted in a person, but on the other hand that these kind of values are changeable during the transition to adulthood. This study examines the impact of educational programs and gender on job values. Any influence of class-room environment is also addressed. The results show that job values change less during education and indicate that choice of education is the first step in realising one's preferences for work.

Introduction

Work-related references are a central topic in research on work and segregation and it has been suggested in several studies that preferences for work are important in explaining occupational positions. However, values should not be interpreted as externally given, but rather as the result of socialisation processes throughout important stages in a person's life. The question is; when does internalisation of work-related values take place? Is this kind of values deeply rooted in a person's early socialisation, which Hakim (1998, 2000) claims women's so-called lifestyle preferences to be? Or do job values emerge during education while the students are preparing them selves for future careers and adjust to opportunities likely to be open to them? The latter point of view has roots in a functionalistic approach and the institutionalisation of the educational system as suggested by among others Parsons (1959). A third possibility is that job values and the work-related preferences are more likely to be influenced by adult experiences in and out of the labour market as asserted by, e.g. Crompton & Harris (1998) and Tolbert & Moen (1998).

This study seeks to examine the influence of education on students' job values. Is education important in shaping students' job values, or are the students' job values already highly developed when entering an educational program? In other words, do job values change during education indicating that education has an important role beyond teaching the students theoretical and practical skills as implied by a Parsonian view of education, or are job values more stable indicating these kind of values to be more deep-rooted in a person as suggested by Hakim?

Women and men hold different occupational positions and women's income and working careers differ from men's, and a large body of recent research shows that men and women seek different rewards from working (Beutel & Marini, 1995; Marini, Fan, Finley & Beutel, 1996; Birkelund, Gooderham & Nordhaug, 2000). Most empirical research on job values has examined the influence of gender in particular, but also the influence of age, social class origin, and race has been addressed. However, research on gender and job values has given little attention to influence of education. There is a long tradition in studying the impact of colleges on students (Feldman, 1969; Pascarella & Terenzini, 1991; Pascarella, Wolniak & Pierson, 2003; Beekhoven, De Jong & Van Hout, 2003). This research addresses, however, mainly how colleges impact on career plans, study progress etc. The influence of education on change in job values has rarely been examined. This is surprising because in many ways it is assumed that students during education are being taught attitudes and ethics relevant for their future occupations. Findings from previous studies indicate also that "…education emerges as the most important predictor (…) of job preferences, even after controlling for occupation" (Tolbert & Moen, 1998: 181). Still, any systematic examination of education's influence on job values is not addressed.

One exception, however, is Johnson & Elder's (2002) study about change and stability in job values among people who have obtained post-secondary education and among those who have not. The findings show that change in job values depends on level of education and that more educated workers place greater emphasis on extrinsic rewards at work than do less educated workers. However, more detailed distinctions between types of education seem necessary in.

Central educational groups in this study are typically welfare state educations like e.g. Teacher Education, Social Work, and Nurse. Characteristically for these educational programs is their orientation towards pupils, clients, or patients. The large share of female students on these programs is somewhat different from other educational programs, and makes it an advantageous position in examining the influence of gender on preferences for work.

However, programs less oriented towards e.g. clients such as Journalism, Business and Public administration, are represented as well. Contrasting educational programs with different job values involved and to some extent different share of men and women make it feasible to do an assessment of education's impact on job values. If education is important in explaining job values, the question is what in education is decisive? I address this issue with examining any impact of educational training, the share of male and female students, and possible differences between classes within the same educational program. The results show that education is important in explaining job values but primarily as a way to select students with different preferences for work to different educational program.

One reason for the lack of empirical studies of change in job values during education may be that most studies are either cross-sectional or panel data from cohorts by birth (e.g. Shu & Marini, 1998; Johnson, 2001a; Tolbert & Moen 1998) and not by school class. In examining change in job values during education longitudinal data on different groups of students are needed. This study uses panel data from students at university colleges of professional education, and information about job values in first and final year of schooling makes it possible to do an assessment of the influence of education on job values. I address this issue using multilevel modelling techniques which is advantageous in treating data with an inherent structure and still remain a hierarchical structure.

Assumed job values among the students

Past research on job values has distinguished between extrinsic and intrinsic rewards from working. While high income, job security, and opportunities for advancement are considered as extrinsic rewards, meaningful work tasks, altruistic and social rewards of work, are characterised as intrinsic rewards. Much of recent research on gender-related job values shows that men place greater emphasis on extrinsic rewards while women place greater emphasis on intrinsic rewards. Additionally, due to traditional division of labour within the family, studies have shown that women are more likely to value the possibility of part-time work and flexible working hours (see, e.g., Tolbert & Moen, 1998, and the studies cited therein). These dimensions have been central in both cross-sectional studies of job values and in longitudinal studies of change in job values. In this article, I focus on the following types of rewards; altruistic rewards include helping other people and being useful to society; extrinsic rewards reflect the possibilities for high income and promotion; leisure values are flexible working hours and a lot of leisure time; intrinsic rewards such as an interesting job; social

values include contact with other people; security against unemployment; and finally, a job were you could work independently.

The students in this study are on programs that lead to professional diplomas at the undergraduate level, and quite a few of them lead to a position in the public sector of the economy. Care for children, elderly and the sick are to a high degree left to these professionals, and these occupations are connected to altruistic and social rewards of work. The high degree of flexible working hours and possibilities for part-time work is a common feature as well. Additionally, these professions recruit more women than men. On the other hand, other professions in this study have a more balanced share of men and women. Than again, these professions are more characterised by extrinsic rewards at work. In some way, the higher the level related to altruistic and social rewards from working as a professional, the lesser the share of men.

Change or stability in job values

Recent research has shown a considerable change in job values from adolescence during the transition to adulthood. Based on data from a panel study of young people in the United States the conclusion is that in the transition from being a student to and adult worker"…there is a good deal of instability in job values" (Johnson, 2001a: 315). Furthermore, young people seem to have unrealistically high occupational aspirations and there is a decline with age due to experiences of constraints and available opportunities in the labour force. Additionally, this decline seems to be relatively larger for women's values than for men and, consequently, gender differences in job values narrow. Based on the same empirical material, other studies by the same author have shown comparable tendencies in relation to social origins and age (Johnson, 2001b; Johnson, 2002). These three studies show that job values change, and Johnson concludes that job values are adapted to the rewards received at work and get more realistic with age. Additionally, when it comes to job values and level of education the findings show that job values change with continued schooling, but also influence any investment in education (Johnson & Elder, 2002). Consequently, recently empirical work indicates a change in job values from the age of 15-16 to the age of 31-32. However, if change in job values appears first and foremost in the early adulthood or later on is less examined, even if these studies indicate the latter.

The findings in Tolbert & Moen's study (1998) support the latter point of view. They suggest preferences for job attributes to be shaped by work conditions. Their study shows that men and women seek different rewards at work, i.e. men are more oriented toward extrinsic

rewards and women are more oriented toward intrinsic rewards. Furthermore, the findings indicate that this gender gap is more likely to be widest among younger workers and students and that it narrows with age. In other words, they assert that job values change.

Hakim (1998, 2000), however, claims that women's preferences for work, domestic life and leisure, so-called lifestyle preferences, are more stable and developed by early adulthood. Furthermore, she disagrees with the concept of treating women as a homogeneous group and focuses on the heterogeneity of women rather than differences between men and women and suggests women's occupational choice to be based on their commitment to either career or family.

So far, studies of change in job values or work commitment show rather conflicting results indicating that preferences for work emerge in different stage of life. When Hakim suggest women's lifestyle preferences to be deeply rooted in early adulthood and less likely to change, she indirectly points out the importance of institutions like the family, in the process of socialisation and internalisation of lifestyle preferences. Others, that emphasise the influence of rewards received at work on job values change, somehow seem to stress the importance of the labour market in the process of internalisation important job values.

Then again, according to arguments raised by Parsons one of the primary functions of the school class is as an agency of socialisation "…which individual personalities are trained to be motivationally and technically adequate to the performance of adult roles" (Parsons, 1959: 297). Socialisation of the students' commitment to and identification with the future occupation is also assumed to be of vital importance in the professional schooling (Freidson, 2001).

So far, three outcomes seem possible. Preferences for work are stable, the change during education or they change as a result of experiences in the labour market. The question in this study is; does the system of higher professional education influence the students to emphasise central job values and prepare them to be motivationally adequate for their future roles as professionals? In other words, do students' job values change during education?

Change or stability by gender and education

According to Hakim there is no reason to expect a change in the students' job values due to the assumption that these kinds of values are to be more dependent of experiences and socialisation prior to the choice of education. In that case, preferences for work or job values are mechanisms that direct people into different occupations and consequently similarities in job values among men and women holding the same kinds of jobs seem likely to expect.

Recent empirical work on work attitudes confirms this similarity in attitudes between the sexes (e.g. Marsden, Kalleberg & Cook, 1993; Rowe & Snizek, 1995). In other words, while men and women on typically client-oriented programs are expected to emphasise altruistic and social values when recruited, students on e.g. Public administration and Business have likely extrinsic preferences for work.

However, it may be the case that any similarity among professionals at work is a result of influences during education or work implying that these kinds of values change and not being as deep-rooted as claimed by Hakim. If education influences job preferences two outcomes seem possible. Firstly, among men and women on the same program it seems reasonable to expect that any originally differences lessen during education as a result of being exposed to the same influence. Thus, gender-related differences decrease and men and women on the same program become more alike. Secondly, if the students' initially job values differ and subsequently select different educational pathways, it seems reasonable to assume that differences in job values between educational programs to widen during education. For instance, Public administration and Business students become more extrinsic oriented, while Nurse students become more oriented towards altruistic values.

So far, the aim has been to consider any impact of typically characteristics connected to educational programs on professionals' job values and consequently, educational programs with assumable similar values are expected to have more or less the same impact on students' job values. However, previous research has shown that men's and women's job values differ and consistent with the highly segregated labour market in Norway the share of female students differs between the programs in this study. The next question to address is if the share of females is a suitable approach to explain job values. Have students who are qualifying them selves for occupations typically held by women changed their job values to emphasise altruistic and social rewards in addition to flexible working hours at the expense of extrinsic job values? In other words, to what extent explain the differentiated labour market between the sexes the students' job values and any change in these during education?

Data, measures, and methods of analysis

The data are obtained from the Database for Studies of Recruitment and Qualification in the Professions (StudData) in Norway. StudData contains responses to questions covering a wide range of issues asked in the first and final year of schooling.[1] Most of the educational programs the students are attending require three years of full-time study, including work placement periods. The programs lead to professional diplomas at the undergraduate level.

The surveys were conducted autumn 2000 (wave 1) and spring 2002/03 (wave 2). For the most part panel data is available, but due to panel attrition and new participants in wave 2 some data are cross-sectional and thus information is only available either from wave 1 or wave 2. In the following analyses both panel and cross-sectional data are used. However, the analyses are also carried out with only panel data. These analyses show more or less identical results.

About 2 500 students on different educational programs and university colleges were asked to participate in the first survey and approximately 74 percent of them did join. In wave 2 a few more educational programs were invited to participate and roughly 75% of almost 3 700 invited did. However, the panel retention is somewhat different due to dropouts, absence in wave 1 or wave 2, and missing responses on one or more of the statements. This may involve a bias. However, attrition due to missing responses on one or more of the statements is likely unsystematic and has unlikely any substantial effect on the results on change in job values. Apparently, panel attrition either this is caused by absence or probably more vital, leaving college, seems to be more complex and ought to be looked into in another context.

The students are members of 32 different school-classes, but due to the size of the school-classes and assumed similarities in job values among some of the programs I operate with only eight different educational programs in the analyses. As mentioned, for some students we have information about job values from two points of time. This nested membership between wave 1 and 2, the students and the classes calls for a multilevel modelling. While Ordinary Least Square regression models do not take into account any variance at different levels but only at the individual level, multilevel techniques make it possible to examine contextual effects of for instance belonging to the same school class. Additionally, if panel attrition is independent of any other variables, multilevel structures make it possible to obtain efficient estimates even with different number of measurement occasions (Goldstein, 2003). In this article I use a three-level random intercept model where the two points of time (wave 1 and 2) is at level one, students at level two, and finally the 32 different school-classes at level 3. The model can be written as:

$$Y_{ijk} = \beta_{0ijk} + \beta_1 X_{1ijk} + \beta_2 X_{2jk} + \beta_3 X_{3k} + \ldots + \beta_p X_{pk} + v_{0k} + u_{0jk} + e_{0ijk,}$$

where Y_{ijk} is the emphasis on the actual job value in wave i for person j in school class k. In both waves the students were asked to grade the importance of ten statements about different conditions when considering a job offer. Following previous studies of job values seven job

values domains were distinguished. Altruistic, leisure, and extrinsic job values are measured by the mean score of two different statements while 'an interesting job', 'a job that establishes contact with other people', 'security against unemployment', and 'a job were you can work independently' are measured by a single statement. Value 1 indicates *not important* and value 4 indicates *very important.*[2] β_{0ijk} is the fixed part and represents the intercept with random effects ($v_{0k} + u_{0jk} + e_{0ijk}$). $\beta_1 X_{1ijk}$, $\beta_2 X_{2jk}$, $\beta_3 X_{3k}$, and $\beta_p X_{pk}$ are fixed effects of the relationship between the independent variables and job values. Independent variables in the analyses are job values in wave 2, gender and eight different educational programs. The data set is restructured so each occasion (wave 1 and 2) produce separate records, i.e. two records have been produced per student. Descriptive statistics for all variables are given in Table 1.

I begin by describing any change in job values during education in simple tabular analysis followed by examining the correlations between values at wave 1 and 2. Then, any change in job values during education by gender and educational program is explored in predicting multilevel regression estimates.

RESULTS

Table 1

Change in job values

Regardless of gender students find a wide range of job rewards rather desirable. The average emphasis on job values is highest regarding the intrinsic job value an interesting job. Additionally, the average emphasis is relatively high on altruistic and social values and the job feature security against employment. With few exceptions, women's average emphasis on job values is generally higher than men's.

The results indicate a downgrading of the importance of job values, but indicate also small changes from wave 1 to wave 2. Any difference between men's and women's job values seems to continue during education. Additionally, changes in job values seem to go in the same direction for men and women and any difference in how male and female students change their job values are small and not significant at the 0,05 level. Consequently, the results indicate that gender-related differences in job values are maintained during education. Examining the correlations in table 2 between job values in the first and final year of schooling indicate also positively and rather strongly correlation between how students

emphasise different job values as first and final year students. To some extent the result indicates that job values are rather stable during education. However, the degree of stability is less in the job features like an interesting job, a job with flexible working hours, and security against unemployment.

Table 2

The next step is to examine if the stability between men and women's job values is a result of deep-rooted differences between men and women prior to the choice of education and consequently a result of early socialisation or a result of different choice of education and subsequently different influence during education.

Effects of gender and education on job values change

Table 3 shows multilevel regression estimates of the relationship between job values, gender and educational programs. The intercepts express the importance ratings for the different types of rewards among female students on Teacher Educational program in the first year.

Table 3

The results indicate that the students adjust the importance of job values downwards and to some extent this seems to be more common among women than among men. However, the overall picture of the students' job values and changes in these values is rather unsystematic.

In the beginning of an educational career there is a slightly difference in how male and female students emphasise different job values even when controlling for any impact of different choice of education. However, these differences seem not to be a result of traditionally gender-related differences in job values. Even if men, compared with women, place less emphasis on altruistic job values they also place less emphasis on interesting job and security. In additon, the estimated effect of gender on leisure and extrinsic rewards is small and not significantly different from zero. The results indicate, however, that women generally place greater emphasis on job rewards than men do, which is consistent with previous research (Johnson 2001a). This trend seems to continue during education. In sum, when considering the importance of educational choice on job values, the results indicate that the relationship between gender and job values is more complex.

The Nurse students' emphasis on extrinsic job values seems somewhat surprising. Still, the general impression is that students are selected by their job values. The chi-square test indicates also that differences in job values can be explained as differences between educational programs with the exception of having an interesting job. Even if students on Journalism find this more desirable than Teacher students do the estimates for the students on the remaining programs are small and not significant different from zero at the 0.05 and the chi-square test is not being significant different from zero. In other words, the results indicate that this is a desirable job feature for students on different educational programs. Additionally, the random effect of school class-variance is small and not statistically significant except in the case of extrinsic values and security against unemployment. Consequently, there are few differences between classes within the same program.

Teacher students adjust their job values downwards with the exception of contact to other people and work independently. Even if some programs produce estimates that are statistically significant from the omitted category, the chi-square test support the assumption of marginally effect of education on change in job values. The trend of a downwards adjustment is also to be found among Social work students except in the case of leisure values. This job feature has been more important for these students during education. Early Childhood Education students have more or less maintained their emphasis on this job value in addition to their emphasis on extrinsic job values. However, there seem to be an increase in the emphasis on the job feature work independently. An adjustment of job values downwards has also happened among Nurse students except in the case of leisure and extrinsic job values which are more or less maintained.

Summing up, among students on so-called welfare state educational programs there are rather few and unsystematically changes in job values. Job features like interesting job, contact with other people, security, and altruistic is still important. Students on so-called Therapeutically programs have more or less the same job values and changes during education as students on so-called welfare state programs.

There are few changes among students on the remaining programs, but inspecting their job values at wave 1 the results show that these students' emphasis differs. As expected, they are less oriented towards altruistic values and 'contact with other people' and more oriented towards extrinsic values. They also have greater emphasis on 'work independently' or have changed their emphasis on this job feature like in the case of students on so-called Technical studies.

So far, when examining job values among students on different educational programs the results show that students are selected by their preferences for work and that differences between programs more or less maintain during education. Even if men and women do differ in some aspects of job values their change is more or less in the same direction. In other words, students – both men and women - seem to be highly selected by their job values and these job values seem to continue during education.[3] In other words, job values seem to be stable as suggested by Hakim.

A detailed distinction between types of education seems to be important in explaining students' job values. Students are selected by their preferences for work and these preferences mainly maintain during education. Typically characteristics seem to be important in explaining job values. The next step is to examine if job values and any change in these may be explained by the share of male and female students.

Table 4

Table 4 shows multilevel regression estimates of main effects and interactions of gender and share of female students on the seven different job values and changes in these job values. The variable share of females goes from 0 to 1 and represents the portion of females in the classroom.

The overall picture is rather small and not statistically significant changes in job values. Regarding extrinsic job values and the job feature work independently the results show a downward adjustment in students ranking. However, this takes place only in classes with a more balanced share for male and female students. The emphasis is maintained or even strengthened in class-rooms with a high share for women.

To some extent the portion of male and females explains the students' job values. Particularly this seems to be the case in altruistic job values, security against unemployment, and work independently. The random effect shows, however, a variance between school-classes indicating differences which are not explained by share for males and females.

Conclusion

Education is important in explaining job values, but primarily as selection to different educational programs. In studying job values among students on professional educational programs the results imply that education is an arena that directs people with similarly job values into the same programs. Choice of education seems to be the first step in realising

one's preferences for work. If preferences for work are important in explaining inequality in returns, education is less the arena where these different orientations are being taught and more an arena that select people with essentially the same values.

Job values change less during education and any change seems not to be caused by gender. Differences in job values and any change in job values are more explained by different educational programs than by gender. However, some differences between the sexes is revealed but these are not primarily gender-related in the way that men seek extrinsic rewards and women seek intrinsic. The results indicate, however, that women place greater emphasis on job rewards than men do, which is also confirmed in previous research (Johnson 2001a). Both male and female students seem to be highly selected by their job values and these job values seem to continue during education. Any estimated change in job values is rather small and indicates more or less the same effect on men and women's change in job values. However, the differences between programs are rather distinct. These results support Hakim's assertion of the need for examining differences within the sexes and not only between men and women.

Additionally, the results indicate that sex segregation in labour market is to be explained elsewhere than as a result of higher education's impact on students' preferences for work. Students seem to be highly selected by their job values which indicates the importance of socialisation and experiences prior to choice of education as Hakim claims women's life-style preferences to be. However, we should not shut out any possibilities of gender-related change in job values when they obtain experiences in the labour market.

Table 1: Descriptive Statistics

Educational programs, Wave 2	Women	Men	Share of women	N
Social work, including Child Care and Social education	15.09	11.50	85.27	224
Early childhood Education	10.90	2.09	95.83	144
Teacher Education	19.91	35.89	70.99	355
Nurse	21.48	6.97	93.15	292
Therapeutical, including Physiotherapy and Prosthetics & Orthotics	10.35	8.71	83.97	156
Technical, including Biomedical Lab. Science, Radiography, and Dental Technology	11.14	8.71	84.94	166
Journalism, Library and Information Science	6.16	12.54	68.42	114
Business and Public Administration	4.98	13.59	61.76	102
Total	1 266	287	81.52	1 553

How do you value different conditions when considering a job offer (1=not important…4=very important)						
	Women			Men		
	Wave 1	Wave 2	Change	Wave 1	Wave 2	Change
Altruistic values						
A job were you can help other people	3.42	3.31	-0.11	3.16	3.06	-0.10
A job that is useful to society	3.24	3.14	-0.09	3.08	2.99	-0.09
Leisure						
A job with flexible working hours	2.64	2.68	0.05	2.49	2.61	0.11
A job with a lot of leisure time	2.58	2.61	0.03	2.74	2.60	-0.14
Extrinsic values						
High income	2.65	2.56	-0.09	2.61	2.41	-0.20
Good prospects for promotion	2.82	2.74	-0.08	2.72	2.55	-0.17
An interesting job	3.83	3.70	-0.14	3.76	3.62	-0.13
						0.00
A job that establishes contact with other people	3.61	3.48	-0.13	3.43	3.32	-0.11
Security against unemployment	3.53	3.27	-0.25	3.23	2.91	-0.32
A job were you can work independently	2.79	2.88	0.09	2.73	2.89	0.16

Table 2: Correlations (Pearson's r) between job values at Wave 1 and Wave 2

	r	N
Altruistic values		
A job were you can help other people	0,462	1 119
A job that is useful to society	0,404	1 106
Leisure		
A job with flexible working hours	0,352	1 100
A job with a lot of leisure time	0,414	1 088
Extrinsic values		
High income	0,439	1 131
Good prospects for promotion	0,466	1 031
An interesting job	0,225	1 105
A job that establishes contact with other people	0,413	1 120
Security against unemployment	0,318	1 123
A job were you can work independently	0,412	1 104

Table 3: Multilevel regression estimates predicting job values at wave 1 and wave 2 by educational programs (two records per student)

	Altruistic	Leisure	Extrinsic	Interesting job	Contact with other	Security	Work independently
Fixed effects:							
Intercept	3.424**	2.626**	2.611**	3.803**	3.695**	3.619**	2.674**
Wave 2	-0.128**	-0.105*	-0.144**	-0.090*	-0.075	-0.277**	0.008
Gender (omitted: women)	-0.155**	-0.006	-0.045	-0.068	-0.152**	-0.253**	-0.091
Educational programs (omitted: Teacher Education)							
Social work	0.118	-0.099	0.106	0.047	0.005	-0.126	0.089
Early Childhood Education	-0.089	-0.101	0.100	0.017	0.055	-0.049	-0.034
Nurse	-0.016	0.021	0.197*	0.024	-0.036	-0.084	0.122
Therapeutical	-0.062	-0.023	0.126	0.081	0.070	-0.099	0.241*
Technical	-0.405**	-0.074	0.261**	0.003	-0.446**	0.030	0.097
Journalism and Library & info. science	-0.439**	0.126	-0.023	0.131*	-0.425**	-0.487**	0.493**
Public adm. and Business	-0.596**	0.024	0.395**	-0.056	-0.311**	-0.271*	0.293*
Gender * wave 2	0.027	-0.036	-0.077	-0.017	0.016	-0.067	0.108
Educational programs * wave 2							
Social work * wave 2	0.030	0.228**	0.039	-0.035	-0.005	0.017	0.056
Early Childhood Edu. * wave 2	0.067	0.194*	0.195**	-0.040	-0.123	0.021	0.254**
Nurse * wave 2	0.029	0.174**	0.117*	-0.063	-0.029	0.023	0.120
Therapeutical * wave 2	0.011	0.118	0.040	-0.061	-0.121	0.094	0.015
Technical * wave 2	0.078	0.181*	0.059	-0.101	-0.153*	-0.007	0.248**
Jour. and Library & info. *wave 2	0.077	0.125	-0.078	-0.005	-0.033	0.051	-0.043
Public adm.and Business * wave 2	-0.027	0.239*	0.042	-0.029	-0.130	0.053	-0.097
Random Effects:							
School class-variance	0.003	0.001	0.007*	0.000	0.003	0.007*	0.009
Individual-variance	0.164**	0.201**	0.171**	0.046**	0.123**	0.112**	0.226**
Wave- variance	0.219**	0.268**	0.198**	0.165**	0.230**	0.320**	0.346**
Chi-square test of Educational programs (df)							
Chi-square test of Educational programs * wave 2 (df)							
-2 loglikelihood	4817.357	5333.023	4692.737	3338.777	4653.080	5275.167	5864.105
N	2 679	2 671	2 686	2 643	2 666	2 670	2 645

Note: **p < .01, *p < .05

Table 4: Multilevel regression estimates predicting job values at wave 1 and wave 2 by share of women (two records per student)

	Altruistic	Leisure	Extrinsic	Interesting job	Contact with other	Security	Work independently
Fixed effects:							
Intercept	2.753**	2.884**	2.800**	3.878**	3.207**	3.081**	3.340**
Wave 2	-0.156	-0.188	-0.359**	-0.083	-0.099	-0.129	-0.352*
Gender (omitted: women)	-0.144**	-0.014	-0.055	-0.080*	-0.146**	-0.232**	-0.116
Share of women	0.665*	-0.340	-0.076	-0.056	0.441	0.538*	-0.660*
Gender * wave 2	-0.211	-0.133	-0.030	0.082	0.189	-0.197	-0.156
Share of women * wave 2	0.070	0.274	0.330*	-0.059	-0.041	-0.148	0.531*
Gender * wave 2* share of women	0.321	0.130	-0.068	-0.122	-0.229	0.152	0.363
Random effects:							
School class-variance	0,044**	0,006*	0,027**	0,001	0,053**	0,021*	0,025*
Individual-variance	0,163**	0,199**	0,170**	0,047**	0,120**	0,112**	0,223**
Wave-variance	0,220**	0,271**	0,199**	0,166**	0,232**	0,320**	0,350**
-2 loglikelihood	4868,747	5356,830	4727,784	3362,625	4717,692	5299,099	5891,553
N	2 679	2 671	2 686	2 643	2 666	2 670	2 645

Note: **p < .01, *p < .05

REFERENCES

Beekhoven, S., De Jong, U., & Van Hout, H. (2003). Different courses, different students, same results? An examination of differences in study progress of students in different courses. *Higher Education, 46*, 37-59.

Beutel, A. M., & Marini, M. M. (1995). Gender and Values. *American Sociological Review, 60*, 436-448.

Birkelund, G. E., Gooderham, P., & Nordhaug, O. (2000). Fremtidige nærings-livsledere: Kjønn, jobbverdier og karrierepreferanser. *Tidsskrift for samfunns-forskning*(4), 594-619.

Crompton, R., & Harris, F. (1998). Explaining women's employment patterns: 'orientations to work' revisited. *British Journal of Sociology, 49*(1), 118-136.

Feldman, K. A. (1969). Studying the Impacts of Colleges on Students. *Sociolgy of Education, 42*(3), 207-237.

Freidson, E. (2001). *Professionalism. The third logic*. Cambridge: Polity Press.

Goldstein, H. (2003). *Multilevel Statistical Models*. London: Arnold.

Hakim, C. (1998). Developing a sociology for the twenty-first century: Preference Theory. *British Journal of Sociology, 49*(1), 137-143.

Hakim, C. (2000). *Work-lifestyle choices in the 21st century: Preference Theory*. Oxford: Oxford University Press.

Johnson, M. K. (2001a). Change in Job Values During the Transition to Adulthood. *Work and Occupations, 28*, 315-345.

Johnson, M. K. (2001b). Job Values in the Young Adult Transition: Change and Stability with Age. *Social Psychology Quarterly, 64*(4), 297-317.

Johnson, M. K. (2002). Social Origins, Adolescent Experiences, and Work Value Trajectories during the Transition to Adulthood. *Social Forces, 80*(4), 1307-1341.

Johnson, M. K., & Elder, G. H. (2002). Educational pathways and work value trajectories. *Sociological Perspectives, 45*(2), 113-138.

Marini, M. M., Fan, P.-L., Finley, E., & Beutel, A. M. (1996). Gender and Job Values. *Sociolgy of Education*.

Marsden, P. V., Kalleberg, A. L., & Cook, C. R. (1993). Gender Differences in Organizational Commitment. Influences of work positions and family roles. *Work and Occupations, 20*(3), 368-390.

Pascarella, E. T., & Terenzini, P. T. (1991). *How College affects Students. Findings and Insights from Twenty Years of Research*. San Francisco: Jossey-Bass Publishers.

Pascarella, E. T., Wolniak, G. C., & Pierson, C. T. (2003). Influences on community college students' educational plans. *Research in Higher Education, 44*(3), 301-314.

Parsons, T. (1959). The School Class as a Social System: Some of its Functions in American Society. *Harvard Educational Review, 29*(4), 297-318.

Rowe, R., & Snizek, W. E. (1995). Gender differences in work values: Perpetuating the myth. *Work and Occupations, 22*, 215-229.

Shu, X., & Marini, M. M. (1998). Gender-Related Change in Occupational Aspirations. *Sociolgy of Education, 71*, 44-68.

Tolbert, P. S., & Moen, P. (1998). Men's and Women's Definitions of "Good" Jobs. Similarities and Differences by Age and Across Time. *Work and Occupations, 25*(2), 168-194.

Notes

[1] Additionally the database is designed for further two samples. The next data collection (wave 3) is in progress, about two years after graduating, and the second (wave 4) is planned five years after graduating. In addition the database includes answers from a second panel. In this panel the individuals were invited to participate in the survey upon finishing their studies (spring 2001). The database is designed for further two samples, two and five years after graduating.

[2] In wave 2 the students were asked to grade the importance of the statements on a scale from 1 indicating *not important at all* to 5 indicating *very important*. Responses to value 1 and 2 are treated together and consequently the scale is from 1 *not important* to 4 *very important* in the second wave as well.

[3] As mentioned in the beginning, previous research has shown an impact of social class origin and age in addition to gender in explaining job values. Due to the fact that some students have previous experiences from paid work, this may be important to consider as well. I have estimated regression models that include parents' education, age, and experiences from paid work. Few parameters were found to be significantly different from zero at the 0,05 level and only minor changes in the models.