

Perceptions of peers as socialization agents and adjustment in upper secondary school

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Running headline: Perceptions of Peers and School adjustment

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Abstract

The purpose of present study was to explore the perceptions of peers as socialization agents in school adjustment among upper secondary school students. The associations were studied in a sample of 564 Norwegian students. Results showed that perceptions of friends and classmates as socialization agents accounted for unique variances in various measures of school adjustment, when controlled for academic achievement, family financial situation, year of schooling, gender and course of study. The unique effect of peer socialization factors on variances in intentions to quit school, truancy, class absence, school alienation and improved motivation for continued education was 7.9%, 7.2%, 6.8%, 6.5% and 5.3% respectively, indicating that late adolescent's school adjustment are statistically significant, but relatively moderately associated with different aspects of peer socialization. School-obstructive regulation was the variable that accounted for most variances in school adjustment, followed by classmate support and school-supportive regulation.

Keywords: peer relationships; socialization; school adjustment; adolescence

Introduction

Friendship experiences of children and adolescents have consistently been shown to be related to different aspects of individual adjustment (Vèronneau and Vitaro 2007; Berndt and Murphy 2002; Wentzel, Barry, and Caldwell 2004). However, the role of friends and classmates in the school adjustment process has been given less attention than the role of parents and teachers (Risi, Gerhardstein, and Kisner 2003; Rubin, Bukowski, and Parker 1998; Ryan, Stiller, and Lynch 1994; Ryan 2000). Few researchers have investigated peer relations between adolescence and adulthood (Berndt and Murphy 2002). Therefore, the purpose of this study was to explore associations between school adjustment and experiences of students' relationships with friends and classmates in upper secondary school.

It is important to identify the factors that promote school adjustment during the upper secondary school years (Gregory and Weinstein 2004). School adjustment is in this context defined as a concept that includes: (a) changes in motivational orientation towards further schooling, (b) alienation from school, (c) intentions to quit school, (d) truancy, and (e) absence from school, all of which seem to be of great significance in late adolescence. Lack of adjustment or failure at school is of concern to educators, educational and school psychologists, social workers as well as parents (Gilligan 1998; Anderson, Hamilton, and Hattie 2004). In many countries a number of students experience adjustment problems in upper secondary school in particular (Caraway & Tucker, 2003; Hægeland, Raaum, & Kirkebøen, 2006; Rumberger & Thomas, 2000). Findings indicate that late adolescent students withdraw from school, e.g. extant research point to problems with absence, truancy, alienation, and decreased motivation as well as drop out (Markussen et al. 2008; Attwood and Croll 2006; Otis, Grouzet, and Pelletier 2005), but more research is needed (Gilman and Anderman 2006; Spencer 1999). Research indicate that female students, more than male students are more successful at school, e.g. earn better grads, score higher on school-related

intrinsic motivation, and have lower probably of drop out (Freudenthaler, Spinath, and Neubauer 2008; Markussen et al. 2008; Ekstrom et al. 1986; Markussen and Sandberg 2005). Identifying socialization dimensions in which male and female students differ and determine their relative importance for school adjustment is therefore necessary in order to further understand possible gender differences.

The present study aims to bridge the research gap by exploring the relative and unique influence of experienced classmate support and behavioural control from friends on several critical aspects of late adolescent students' school adjustment, as well as the degree to which these associations were moderated by the students gender.

Aspects of peer socialization and possible associations with school adjustment

Research and theory in the field of child socialization and educational psychology have shown that positive emotional connection with significant others and fair and consistent behavioural regulation are aspects of socialization that are central for the development of children and adolescents (Barber, 1997a, 1997b; Deci & Ryan, 2000; Eccles et al., 1997; Eccles et al., 1993). Usually the relevance of these aspects of socialization have been most frequently documented in the family context (e.g. Herman et al. 1997; Baumrind 1991; Steinberg 2001), but Barber (1997) argues that these aspects of socialization presumably are relevant in a variety of social relationships. Together as well as independently, are these aspects functionally significant for individuals in that they meet socio-affective needs (Eccles et al. 1997; Barber 1997). Previous research on peer relations have focused on characteristics of interactions that are unique, rather than similar to those of adults (Wentzel 1999). Thus more work is needed to explore the relevance of these dimensions in non-family environments (Barber 1997; Barber and Olsen 2004).

Supportive peer relationships promote internalization of values, feelings of affective ties, relatedness or belongingness in students and enhance the well-being of all involved (Ryan and Powelson 1991), thus support are an important dimension of socialization. In a school context, relationships with classmates are especially important part of their learning environment. Relationships with peers at school probably are important in promoting feelings of relatedness and belongingness to school. Support from classmates might be important in promoting a feeling of school-motivation, relatedness or belongingness (Ryan and Powelson 1991). On the other hand, lack of support from classmates could cause drop out intentions, school alienation or truancy. For that reason, students' perceptions of *classmates support* will be explored.

However, present research findings of associations with classmate support have been inconsistent. Research have indicated that close and harmonious relationships with classmates are related to school adjustment, such as higher probability of involvement, engagement, motivation, school liking, and lower probability of alienation, grade retention and behavioral problems (Anderson et al., 2004; Birch & Ladd, 1996; Furrer & Skinner, 2003; Kupersmidt & Coie, 1990; Ladd, 1990; Ladd et al., 1997; Liu & Chen, 2003; Lubbers, Werf, Snijders, Creemers, & Kuyper, 2006; Nichols & White, 2001; Wentzel & Caldwell, 1997). However, no significant associations between classmate support (and similar approximations) and school functioning outcomes, including academic alienation, and problem behavior have also been reported (Burk and Laursen 2005; Ryan, Stiller, and Lynch 1994; Eccles et al. 1997).

A recent thorough research review of gender differences in peer relationship, indicate that females are more likely than males to receive several types of provisions in their friendships, including higher levels of closeness, affection, nurturance, trust and acceptance, and the largest effect emerge in studies that included adolescents (Rose and Rudolph 2006).

For present purposes *behavioural regulation* from friends are also understood as a socialization dimension, since it has to do with actions, norms and attitudes that regulate or structure behaviour. The social norms of friends, in particular, are likely to function regulative, since the norms will influence how the adolescent's behaviour will be interpreted and responded to (Cillessen and Mayeux 2004). Building on social learning theory, we assume that people's learn and model behavior by observe and imitate role models (Bandura 1977). For this reason, we assume that friends' behaviour, norms and attitudes probably influence students own attitude and behaviour. Friends provide suggestions and options of ways to think about, and engage in school, and their reactions and evaluations serve to affirm, sustain, or change adolescents' motivation or engagement (Ryan 2000). Mutual influences of group members promote similarity among peer groups (Brown, Mounts, Lamborn, & Steinberg, 1993; Liu & Chen, 2003; A. M. Ryan, 2000). Moreover, for positive development to take place, adolescents need to be exposed to positive regulating forces (Barber 1997). The norms and values of peer groups vary widely, and teenage subcultures can support and obstruct school adjustment (Brown 1990). Thus, rather than being largely negative, the direction of friends influence is usually to make adolescents characteristics more similar to their friends characteristics (Berndt and Murphy 2002). Having friends that ascribe to conventional norms could move adolescents further in the direction of normative behaviour (Berndt & Keefe, 1996; Hartup, 1996; Mounts & Steinberg, 1995). If the values and actions of peers don't support conventional norms, they may cause norm breaking behaviour or lead to less school engagement (Gifford-Smith, Dodge, Dishion, & McCord, 2005; Goldstein et al., 2005). For this reason, writers recommend that future research should examine separate and combined effects of both positive and negative friendship features (Berndt and Murphy 2002). Thus present study included measures of school-supportive regulation from friends as well as school-obstructive regulations from friends.

The literature of delinquency suggest that the social norms of a delinquent best friend seems to play an larger role in the development of boys, than of girls, and that girls in general, seems less inclined to reinforce delinquent behaviour as much as boys (Selfhout, Branje, and Meeus 2008). The review above indicated that there might be gender differences in perceptions of friends, but it is unclear whether these differences are associated with differences in school adjustment. Thus this study controlled for gender differences, as well as explored interaction effects of gender and socialization practises on school adjustment.

Method

Sample

The total sample comprised 564 students (272 boys, 288 girls and four students who did not indicate their gender), from one upper-secondary school in South-West Norway. The students were 15 to 18 years old, and in their 11th to 13th year of schooling. The response rate was 75.4 % of the student population. The questionnaire was given to the students three months after the start of the 2004-2005 school year. All data was based on adolescent reports, except for attendance data, which was provided by the school. Absence was measured at the end of the school year.

Measures

School adjustment

The measurement model for school adjustment are previously presented by Studsrød and Bru (2009) and included assessments of 1) improved motivation for continued education, 2) school alienation, 3) intentions to quit school, 4) truancy, and e) single class-absence. *The improved motivation for continued education scale* (5 items, $\alpha = 0.90$) assessed students' perceptions of whether their school experiences this year had a positive influence on their

motivation to continue their schooling. A typical example of question is: “During this school year I have become more motivated for school”. *The school alienation scale* (3 items, $\alpha = 0.89$) measured students’ perception of whether their school experiences this year had a negative impact of their desire to continue their schooling, example of question is: “This school year made me realize that I don’t fit in at school”. A typical item on *intention to quit school scale* (3 items, $\alpha = 0.73$) is “If I could, I would have dropped out of school”. All these scales had a four-step scoring format with response alternatives: “disagree strongly”, “disagree a little”, “agree a little”, and “strongly agree”. *Truancy* was assessed by one question regarding how often the student was truant. The answer possibilities were: ‘never’, ‘seldom’, ‘sometimes’ and ‘often’. Information about *single-class absence* last school year was given by the school administration. This assessment recorded the number of classes students had been absent beyond whole school days. The single-class absence was included instead of whole day absence because whole day absence are likely to mainly represent absence due to illness, whereas single-class absence was believed to be a better indicator of school adjustment.

Peer socialization

The measurement model for peer socialization included three dimensions: 1) Support from classmates, 2) School-supportive regulation from friends and 3) School- obstructive regulation from friends. Attachment, mutual care and support from *classmates* was assessed using the ‘Friends in class’ scale developed by Bru, Boyesen and Roland (1998), and documented in several studies (Thuen and Bru 2000; Thuen, Bru, and Ogden 2007). The scale includes four items, e.g.: ‘My classmates help me’. Inspired by the work of Barber and colleagues (Barber 1997; Barber and Olsen 1997) items were developed to measure two dimensions of friend regulation. *School-supportive regulation* reflected the amounts positive

school-, or high achievement norms and attitudes hold by friends. Secondly, *school obstructive-regulation* reflected the amounts of school related problem behaviour among friends. A four-step scoring format with response alternatives: “disagree strongly”, “disagree a little”, “agree a little”, and “strongly agree” was applied. Exploratory factor analysis was used to establish the measurement model for the peer socialization variables. The model was tested by factor analysis, implementing principal axis factoring. Please refer to table 1 for more information about the measure model for peer socialization, the wordings of items included in the different scales, as well as the result of the factor analysis.

Control and grouping variables

Gender, course of study, year of schooling, Norwegian grade, academic achievement and family financial situation were included as control variables since these variables may influence both the dependent and the independent variables and whose effect on the dependent variable was needed to be nullified. Gender is “the most fundamental of human categories” (Banaji & Prentice 1994, p.315, reported by Harris 1995, 470), and there have been reports of gender differences in perceptions and attitudes toward school, as well as gender differences in friendship relationships (Rose and Rudolph 2006; Van Houtte 2004; Freudenthaler, Spinath, and Neubauer 2008; Markussen et al. 2008; Markussen and Sandberg 2005). In present study males were given the value 1, females the value 2. Age might also colour school adjustments as well as perceptions of personal relationships (Furman and Buhrmester 1992; Anderson, Hamilton, and Hattie 2004; Attwood and Croll 2006), thus year of schooling was included. Course of study was also included as a control variable since, in Norway, there has been reported differences of drop out probabilities as well as student composition differences of the two courses (Hægeland, Raaum, and Kirkebøen 2006). General educational course was given the value 1, and vocational course of study was given

the value 2. Norwegian statistics reveal sizeable more drop-out among students that have low educational grades (Markussen and Sandberg 2005). Academic achievement was measured by self-reported grade in Norwegian (first language). Finally, research indicate associations between social economical background of students and a range of school related outcomes (e.g. Hægeland et al. 2004; Rumberger 1987; Ekstrom et al. 1986), and it may interact with friendship processes as well. The family financial situation measure was based on one item measuring the student's perception of his/her family economic situation in relation to that of other Norwegian families. The adolescents indicated the degree of agreement with item using a four-point scale, scored in such a way that higher scores indicated a better family economic situation.

Statistical tools

The selected statistical tools were parametric and non parametric correlations, exploratory factor analysis, regression and multivariate GLM analysis. All statistical analyses were conducted using SPSS (Norusis 2002). GLM analysis was chosen because this approach allows for conducting analyses for several dependent variables simultaneously, and thus the estimation of multivariate associations between the independent and all the dependent variables.

Procedures and ethical considerations

Approval for the study was obtained from the Norwegian Social Science Data Services (2004). Each home was informed about the study to allow parents to stop their child (if under the age of 16) from participation. The students themselves could refuse to participate. Informed consent was obtained from all participating students and they were assured anonymity. The procedures for anonymity were as follows: The questionnaire was delivered

to the students by the teachers, and the teachers were instructed to minimise their influence on the answering. Moreover, the teachers could not view the answers given by the students. After fulfilling the questionnaire the students placed it in an envelope to which they sealed, before delivered. Each class and student was given a code number by the school. These code lists were available to the school administration and not the researchers. The school administration did not have access to the data files. The student code number made it possible to link class absence data to each student, since the students entered the class code and a student code on the questionnaires. To avoid students influencing each other's responses, the questionnaires were administered, to the greatest extent possible, at the same time for each class in the school. However, some exceptions were made in order to maximize class participation.

Missing data was handled by assigning the mean score to a missing item for the other items in each sub-scale completed by the individual. Percentages of missing data were low, on the average 1.8% for included items and less than 4% for any one item. Respondents with more than 30% for one or more of the scales employed were excluded from the sample.

Results

Dimensionality of items measuring perceived peer socialization

Insert Table 1 about here

For the item pool on perceived socialization dimensions variables, the solution of the factor analyses was in accordance with the theoretical expected dimensionality (Barber and Olsen 1997). A principal axis factoring analysis with oblimin rotation and an eigenvalue-greater-

than-one-rule yielded a three factor solution accounting for 68% of the total variance in these items. The first factor comprised three items related to friends holding positive school related-, or high achievement norms and attitudes and was named “School-supportive regulation”. Factor two contained four items regarding attachment, mutual care and support among classmates and was called “Classmate support”. The last factor contained three items concerning school related problem behaviour among friends and was labelled “School-obstructive regulation” scale. The Cronbach’s α of the different scales indicated acceptable internal consistency (see table 1). Moreover content validation is basically judgemental, i.e. each item has to be judged for its presumed relevance to the subject being measured (Kerlinger and Lee 2000). As shown above, the items in classmate support, school- supportive regulation and school-obstructive regulation from friends were chosen on a theoretical basis so as to capture content validity. Items in “Classmate support scale” are believed to assess levels of support from classmates, whereas items assessing friend’s supportive and obstructive school related norms and behaviour was believed to be a good indicator of friend regulation. Taken together it is assumed that these scales measure what they are supposed to measure, namely three different forms of peer socialization practices.

Descriptive information

The descriptive information of the school adjustment variables are as following. On the items measuring improved motivation for continued education, tended the majority (61.1%) of the students to use the two most positive response alternatives, whereas 10.5% tended to check off the most negative response alternative (Improved motivation: $M= 2.66$, $SD=0.73$, scoring range). Corresponding percentages for items on school alienation were 84.5%, and 5.2% respectively, tended to indicate the most negative response alternative (School alienation: $M= 1.72$, $SD= 0.76$, scoring range). A majority of the students (63%) tended to use the most

positive response alternatives for items assessing intentions to quit school, and only 4.6 % tended to use the most negative response alternative (Intentions to quit school: $M= 1.70$, $SD=0.77$, scoring range). Close to 42% reported that they never played truant. Of those reporting truancy (58.2%), close to 34% reported truancy as a seldom occurrence, 21% reported sometimes, and 3.6% reported weekly occurrence (Truancy: $M= 0.86$, $SD= 0.87$, scoring range). Finally, most students (80,2%) had between 0-5% single class absence from school in addition to whole days absences, 4,9% had none, 12,6% had between 5-10% and 2.2% had more than 10% (Single-class absence: $M= 19.66$, $SD 31.29$, scoring range).

 Insert Table 2 about here

Table 2 gives descriptive information for perceived peer socialization variable. Most students had a tendency to report positively concerning peer socialization. However, about 15% of students reported poor classmate support, tended to disagree on items assessing school-supportive regulation from friends, and a similar percentages tended to agree to items on school-obstructive regulations from friends.

Associations between independent variables

 Insert Table 3 about here

The results of the correlational analysis for bivariate associations between independent variables, including control variables are shown in table 3. Results showed a tendency for female students to report more school supportive regulation, whereas males tended to report more school obstructive regulation. Moreover, students in vocational courses tended to report

higher amounts of classmate support, whereas older students tended to report more school-obstructive regulation.

The associations between the school adjustment measures were also computed but are not shown in the table. All of them were significantly correlated to each other. Pearson Product-moment correlations ranged from $r=0.50$ (between class absence and truancy, and intentions to quit school and school alienation) to $r= -0.18$ (between improved motivation and absence lessons).

The measurement of truancy was at the ordinal level and the inclusion of such a variable could, in parametric analyses, create erroneous results. Parametric analyses for this variable were therefore followed up by non-parametric correlations (Spearman's rho). The Spearman rho coefficients were very similar to the Pearson product moment coefficients with the difference in coefficients not exceeding 0.04. Thus, there were no indications that the parametric approach would yield erroneous results for truancy.

 Insert Table 4 about here

Table 4 shows the multivariate associations between dependent and independent variables. All in all, perceived peer socialization accounted for unique and significant amounts of variances in all school adjustment variables, ranging from 5.3% (for improved motivation for continued education) to 7.9% for intention to quit school.

Perceived school-obstructive regulation and classmate support (but not school-supportive regulation) showed significant multivariate associations even after nullifying the effect of gender, course of study, year of schooling, grade and family financial situation. The multivariate association with school-obstructive regulation was significant and relatively strong ($r=0.36$, $p<0.001$). The association was due to a tendency for students reporting high

amounts of school-obstructive regulation to also report higher amounts of class absence, truancy, intention to quit school and school alienation and a lower tendency to report improved motivation for continued education. The findings revealed also a significant, but relatively modest multivariate association of classmate support with school adjustment. This association was due to a slightly higher tendency for students reporting high classmate support to also report higher scores on improved motivation for continued education, and lower scores on school alienation, intention to quit school and truancy. The findings also showed a tendency for students reporting high amounts of school-supportive regulation to also report improved motivation for continued education.

It is also worth noting that most control variables revealed multivariate associations with the school adjustment measures. Different interaction effects of peer variables and gender were also explored, but revealed no significant associations.

Discussion

The main aim of this study was to bridge the research gap by exploring the relative and unique influence of perceived classmate support and behavioural control (measured as perceptions of school-supportive friends and school-obstructive friends) on several critical aspects of late adolescent students' school adjustment. This study also explored interaction effects of gender and socialization practises on school adjustment.

The results showed that perceived peer socialization variables accounted for significant and unique amounts of variances in different aspects of school adjustment, even though relatively modest. After controlling for course of study, year of schooling, achievement grade and family financial situation, the unique variance accounted for by peer socialization in intention to quit school, truancy, class absence, school alienation and

improved motivation for continued education was 7.9 %, 7.2 %, 6.8% , 6.5% and 5.3 %, respectively. Thus the findings support previous research documenting relationships between peer relations and school related measures (Lubbers et al. 2006; Vèronneau and Vitaro 2007; Demir and Urberg 2004), and the understanding of school adjustment not as a purely individual, intrapsychic state, but embedded in a complex web of social and personal relationships (Goodenow and Grady 1993).

The descriptive findings showed that most students reported school-supportive peers, as well as high levels of emotional supportive classmates and few students reported school-obstructive peers, all in all indicating that peer influence is most likely to be positive. However, about fifteen percent of the sample indicated that their friends had dropped out of school, skipped classes regularly and didn't work or study and the multivariate GLM showed that the strongest overall relationship was between school-obstructive regulation and school adjustment. This was due to a relatively strong positive association between school-obstructive friends and class absence, truancy, intentions to quit school and school alienation, and a relatively weak and negatively link with improved motivation for continued education. School supportive regulation on the other hand, showed only one significant multivariate association with the school adjustment variables (improved motivation for continued education). Thus the results could imply that the positive impact of school supportive friends, are less influential than the negative impact of school obstructive friends among this age group. Among younger students indicate research findings that the impact of high-achieving friends seems to be as great as the negative influence of low achieving friends (Epstein (1983), reported by Berndt and Murphy 2002). However, the results may indicate some kind of measurement-or methodological challenges due to the way friend regulation is operationalized. For this reason, further research with more powerful designs using other

scales assessing friend regulation is needed to investigate the associations, as well as possible age differences associated with socialization practice of friends and classmates.

The descriptive findings showed that most students indicated good classmate support. Classmate support was also significantly associated with the outcome variables, and even though the association was relatively modest, it is in accordance with previous research suggesting that relationships with classmates are related with school adjustment (Anderson, Hamilton, and Hattie 2004; Kupersmidt and Coie 1990; Liu and Chen 2003; Nichols and White 2001; Lubbers et al. 2006; Wentzel and Caldwell 1997; Furrer and Skinner 2003; Ladd, Kochenderfer, and Coleman 1997). The results indicated a moderately, but statistical significant tendency for students who perceive high classmate support to have improved their motivation for continued education during the school year. Moreover, the results also revealed that high amount of classmate support were moderately associated with less school alienation, intentions to quit school and truancy, all in all supporting the importance of supportive classmates. Even though most students indicated good classmate support, it could be room for some improvement. By improving the relationship between classmates one may also improve school adjustment.

Finally, the multivariate interaction effects that was explored of peer variables x gender did not reveal any significant associations.

Methodological considerations

In addition to the methodological considerations mentioned above, some further limitations must be made about the study. The present sample is a convenience sample of pupils from one school only, and cannot be considered to be a representative sample of Norwegian upper-secondary school students. Still between-school differences in student performance tends to be low in the Scandinavian countries (Marks 2006), and recent studies suggest that students'

perceptions of learning environment as well as behaviour vary more within school than between schools (Anderman 2002; Bru, Stephens, and Torsheim 2002). Even though we have no indications that this sample differ in any significant way from other Norwegian upper secondary schools, generalization of results should be made with caution. The data were collected at a single point in time, thus we cannot infer that perceived peer-socialization preceded and thus might be causally related to differences in school adjustment. Finally, questionnaires have its limitations, but descriptive designs are helpful for developing profiles of peer socialization practices that are related to school adjustment, and they seem central to the study of interpersonal relationships, since perceptions of relationships are fundamental determinants of what kind of relationships that exist (Furman 1996).

Conclusions, directions for further research and practical implications

The purpose of the present study was to explore the relevance of socialization dimensions in peer environments in school adjustment among upper secondary school students. Findings showed that perceived peer socialization explained a relatively moderate amount of variances in school adjustment and the associations was (as a rule) relatively modest. Thus even though peer socialization seems relevant in understanding school adjustment, the findings may suggest the necessity of additional approaches. Moreover, even though not completely dismissed gender differences, perceptions of friends and classmates as socializing agents did not explain different scores of school adjustment for the two genders. However, with methodological considerations in mind, the findings call for further research with more powerful designs in order to address the questions.

School-obstructive regulation was the variable that accounted for most variance in school adjustment, followed by classmate support. These findings indicate needs for further research with other methodological approaches. These findings also indicate school

interventions exploring and testing out how schools can meet the challenges of possible negative effect of peer socialization practise. The findings indicate that it is important for school and teachers to pay attention to how school-obstructive friend influence may affect school adjustment among students in upper secondary school and to implement measures that could counteract such negative peer influence. One approach could be to take effort to make students more aware of how peers might influence them and how they could resist school-obstructive influence. Such a consciousness-raising approach might also promote students to take more responsibility of how they influence each other. Another approach could be to build strong positive relations between classmates and between teachers and students, so that this bonding becomes a strong school supportive regulator. Finally, Norwegian upper secondary school has special professionals that are responsible for follow up students who are at risk of dropping out of school. The findings imply that this staff should pay special attention to students who have friends that have dropped out of school. More research is required to assess possible effects of such measures.

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Table 1 Results from factor analysis for items assessing peers' socialization practices, and Chronbach's alphas for the different subscales

	Factor 1	Factor 2	Factor 3
School-supportive regulation			
My friends think that it is important to achieve high grades	0.89		
My friends think that it is important to do well in school	0.85		
My friends think that a good education is important	0.85		
Classmates support			
My classmates like to be with me		0.82	
I like to be with my classmates		0.81	
Most students in my class are good friends of mine		0.80	
My classmates help me		0.79	
School-obstructive regulation			
Several of my friend have dropped out of school			0.85
Several of my friends don't work or study			0.82
Several of my friends skip classes regularly			0.76
<i>Eigenvalues</i>	2.979	2.237	1.608
% of variance explained (total 68%)	29.8	22.4	16.1
Cronbach's α	0.83	0.82	0.74

Table 2 Descriptive information for perceived peer-socialization practice

	<i>Disagree strongly</i>	<i>Disagree a little</i>	<i>Agree a little</i>	<i>Strongly agree</i>	<i>M</i>	<i>SD</i>	<i>Scoring range</i>
Classmate support	1.8%	13.0%	54.9%	30.3%	3.14	0.70	1-4
School-obstructive regulation	58.3%	26.6%	10.5%	4.6%	3.19	0.72	1-4
School-supportive regulation	2.5%	10.7%	51.7%	35.1%	1.62	0.85	1-4

Note. Disagree strongly: Index score in low 1/4 of scoring range.

Disagree a little: Index score in middle low 1/4 of scoring range.

Agree a little: Index score in middle high 1/4 of scoring range.

Strongly agree: Index score in high 1/4 of scoring range.

Table 3 Pearson product moment coefficients for associations between independent variables included in the study

	1	2	3	4	5	6	7
1 Gender							
2 Course of study	-0.03						
3 Year of schooling	0.05	-0.20**					
4 Grade in Norwegian	0.17**	-0.09*	-0.06				
5 Family financial situation	0.01	-0.06	-0.03	0.21			
6 Classmate support	0.06	0.20**	-0.05	0.04	0.13**		
7 School-obstructive regulation	-0.09*	0.04	0.11*	-0.22**	-0.14**	-0.06	
8 School-supportive regulation	0.17**	0.04	-0.04	0.08	0.03	0.14**	-0.23**

Note ** Correlation is significant at the 0.01 level (two tailed); * Correlation is significant at the 0.05 level (two tailed).

Table 4 Results of GLM analyses for effects of control and peer socialization variables on variance in school adjustment variables

	<i>Multivariate</i>	<i>Improved motivation for continued education</i>	<i>School alienation</i>	<i>Intention to quit school</i>	<i>Truancy</i>	<i>Class absence</i>
<i>Control variables</i>	Partial Eta	Partial Eta	Partial Eta	Partial Eta	Partial Eta	Partial Eta
Gender	0.11	-0.02	-0.04	0.01	0.09	0.07
Course of study	0.31**	0.23**	0.02	0.07	-0.11*	-0.09
Year of schooling	0.26**	-0.21**	0.12**	0.05	0.15**	-0.01
Grade in Norwegian	0.25**	-0.06	-0.12	-0.07	-0.16**	-0.23**
Family financial situation	0.09	0.07	-0.02	-0.05	-0.06	-0.05
<i>Peer-socialization variables</i>						
Classmate support	0.22**	0.14**	-0.17**	-0.11**	-0.13**	-0.01
School-obstructive regulation	0.35**	-0.10*	0.20**	0.24**	0.24**	0.27**
School-supportive regulation	0.18	0.14**	0.04	0.03	0.01	0.01
<i>Variance accounted for in dependent variables</i>						
R² of all independent variables		0.199	0.126	0.115	0.183	0.154
Unique R² for peer-socialization variables		0.053	0.065	0.079	0.072	0.068

Note ** p<0.01; * p< 0.05