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Student adjustment to higher education: the role of alternative educational pathways in coping with the demands of student life

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Abstract The present longitudinal study measured student adjustment to higher education, comparing 50 participants from alternative schools (Steiner, Montessori, New Schools) with 80 students from the traditional school system. We hypothesized that students from alternative schools adapt better, because of greater perceived social support, academic self-efficacy, and task-oriented coping styles. Measures were taken during the last school year (baseline characteristics), and at the beginning of the first and last terms of the first year in higher education. The quality of adjustment was assessed through academic results, and physical and psychological well-being. The following instruments were used: the State-Trait Anxiety Inventory by Spielberger (1983), the 13-items Depression Inventory by Beck et al. (1961), the Coping Inventory for Stressful Situations by Endler and Parker (1990), and semi-directed interviews. Results show that students from alternative schools adjust better to higher education: they report less anxiety and depression symptoms, and show greater life satisfaction and academic achievement.

Keywords Adjustment · Alternative schools · Anxiety · Coping styles · Depression · Higher education

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Introduction

Currently France has 1,788,500 students (French Ministry of Youth, Education and Research, 2006), but 40.0% entering higher education fail courses or drop-out during the first college years, and do not obtain their diploma (Organization for Economic Cooperation and Development, OECD 2006). The initial period of entry appears to be the most difficult time in higher education, and can lead to high levels of anxiety (Abouserie 1994; Clifton 1987; Compas et al. 1986; Endler et al. 1990; Farnill and Robertson 1990; Folkman and Lazarus 1985; Gerdes and Mallinckrodt 1994; Langevin 1996; Zeidner 1994). Jones and Frydenberg (1999) showed that the levels of anxiety are even higher at the beginning of the first year in post-secondary education than during the examinations. Indeed, the transition to higher education is a time of many life changes, during which students face new environments, different frames of reference, and, for many, moving away from friends and families (Boyer et al. 2001; Coulon 1997; Tinto 1993; Vollrath 2000).

The quality of adjustment can be measured by the characteristics of Lazarus (1966): physical and psychological well-being, and satisfactory academic results. According to numerous studies, perceived social support appears to be positively correlated with the quality of adjustment of first year students (Feenstra et al. 2001; Hays and Oxley, 1986; Holmbek and Wandrei 1993; Wang et al. 2006; Zea et al. 1995). Perceived social support is defined as the fact of having a social network able to help when needed, as well as the satisfaction linked to the quality of help received (Sarason, Levine, Basham and Sarason, 1983). Autonomy in study and academic self-efficacy is positively correlated to the quality of student adjustment (Catheline, 2003; Chemers, Hu and Garcia, 2001; Hampton and Mason, 2003; Langevin, 1996; Voelkl Finn and Frone, 2001). Coping strategies, considered as cognitive and behavioural responses to a stressful situation (Lazarus and Folkman, 1984), have also been proved to influence adjustment (Giacobbi et al. 2004; Pierceall and Keim, 2007; Pritchard et al. 2007; Tao et al. 2000). A number of studies have shown that problem-focused coping strategies are more effective in facing controllable situations, like coping with the demands of student life, while the emotion-focused strategies are more effective in facing unmanageable events (Aldwin, 1994; Endler and Parker, 1990; Jones and Frydenberg, 1999; Lazarus and Folkman, 1984; Mikulincer and Solomon, 1989; Miller, 1992; Parkes, 1984; Schmidt, 1988). Furthermore, some researchers underline that problem-focused coping strategies are more effective when it concerns a situation which lasts more than 2 weeks (Paulhan, 1994), the latter being the case for student adjustment.

Previous studies have revealed that specific teaching methods can enhance autonomy, self-efficacy, and the use of problem-focused coping strategies (De Anda et al. 2000; Garmezy and Rutter 1983; Pfohl 1980; Spivack and Shure 1974; Stone et al. 1975), and this appears to be the case in alternative schools (Boehnlein 1997; Kendall 1992; Lillard and Else-Quest 2006; Ogletree 1996; Shankland et al. 2009). According to the model proposed by Henry (1991), alternative schools differ from traditional schools in their philosophy as well as in their educational methods. Various studies have highlighted the specificities of alternative schools in what concerns the development of competences, particularly autonomy, creative thinking and problem-solving skills (Boehnlein 1997; Kendall1992; Lillard and Else-Quest 2006; Ogletree 1996). Concerning first year in higher education, a few recent studies have also revealed a high quality of adjustment in former alternative school students: low levels of anxiety, and satisfactory levels of social and academic integration (Barz and Randoll, 2007; Dahlin, Langmann and Anderson, 2004; Mitchell and Gerwin, 2007). However, these studies have a number of methodological limitations such as the lack of comparison with traditional school students

(control group) and the lack of use of standardised tools to assess the level of psychological well-being.

We thus designed a longitudinal study to compare adjustment to first year in higher education of former alternative school students compared with other students, using validated tools as well as semi-directed interviews. In keeping with prior findings on alternative schools (Barz and Randoll 2007; Dahlin et al. 2004; Mitchell and Gerwin 2007), we hypothesized that former alternative students adapt better to higher education for a number of reasons: greater academic self-efficacy and autonomy (Kendall 1992), higher levels of perceived social support (Boehnlein 1997; Lillard and Else-Quest 2006), and preferential use of problem-focused coping strategies (Shankland et al. 2009). The hypothesized results were that alternative school students would report (1) less anxiety, (2) less depression symptoms, (3) less physical symptoms, (4) greater satisfaction with current life, (5) greater academic achievement. Among the explanatory factors for better quality of adjustment, we measured 3 variables which were assumed to be affected by the type of school pathway (alternative or traditional): (1) perceived social support, (2) academic self-efficacy, and (3) problem-focused coping styles.

Method

Participants

We followed up a convenience sample of 130 students, from traditional schools and alternative schools (selected among the three most developed alternative types of schools in France: Steiner, Montessori and New Schools). Traditional school participants were recruited in three schools—located in the same regions as the alternative schools—after presentation of the project in their class: 80 students out of 270 accepted to take part and met criteria. Alternative school participants were contacted through the seven selected schools' mailing lists: among the 59 pupils contacted who were attending their baccalaureate year, 50 met inclusion criteria (having attended an alternative school for at least 5 years, planning to enter higher education, succeeding in passing the baccalaureate, having signed the informed consent). The alternative schools group was also divided into two categories for exploratory analyses on their potential differences as their teaching methods differ: Steiner schools (22 subjects) use more formal teaching and Montessori and New Schools (28 subjects) more informal teaching.

In their last secondary school year, the participants from alternative schools were significantly older than the others (18.5 compared with 17.5, $p < 0.001$), mainly because the curriculum is 1 year longer in Steiner schools. There were also significantly fewer females in that sample: 50.0% compared with 77.5% in the traditional school population ($p < 0.01$). There were no significant differences in their region of residence ($p > 0.05$), nor in the socio-economic status of both parents: 62.4% of the fathers' status being managerial staff, 33.0% employee, and 4.3% inactive ($p > 0.05$); and 33.8% of the mothers' status being managerial staff, 50.0% employee, and 15.4% inactive ($p > 0.05$).

Procedure

For this longitudinal study, measures were taken at three time points. The first assessment was carried out during the final high school year in order to obtain baseline variables. The second measures were taken at the beginning of first year in higher education (university or

other institutions) in order to analyse how students adapt. And the third evaluation was carried out at the beginning of the last term of this first year in order to consider potential changes in adjustment after a few months, and after having obtained the examination results of the first semester. At the three time points, the participants completed the tests individually in the research team's office, and handed them in to the examiner before participating to the interview. The interviews were all carried out by the same researcher at the three time points. The average interview duration was 20 min. An informed consent was signed by the participants and the parents of students under 18. The records of each participant were anonymous, as each one was given a code which represented them.

Measures

The selected measuring instruments aimed at testing the hypothesis according to which former alternative school students adapt better to first year in higher education. The quality of adjustment was measured following the criteria of Lazarus (1966): (1) psychological well-being, which includes low levels of anxiety and depression, as well as a high satisfaction with current life, (2) absence of physical symptoms expressing psychological discomfort such as headaches, gastric disorders, and sleeping difficulties, (3) satisfactory academic results. Academic achievement was measured by the results obtained at the end of the first semester.

The levels of anxiety were recorded by using the French-Canadian version of the State-Trait Anxiety Inventory (adapted by Gauthier and Bouchard, 1993). The STAI is composed of two distinct parts—state and trait anxiety—of 20 items each, which must be scored from 1 to 4 (maximum total for each scale = 80). The state anxiety scale evaluates the current emotional state of the participant, and the trait anxiety scale evaluates the dispositional level of anxiety. The clinically significant levels of anxiety are those superior to 50, and extreme levels are situated above 66. A score under 34 is considered as a very low level of anxiety. As in the original validation, the internal consistency of the State-Trait Anxiety Inventory was satisfactory at the three times of our study: Cronbach's alpha of 0.90 for the Trait Anxiety Scale and 0.91 in the first test, 0.92 in the second one, and 0.93 in the last one for the State Anxiety Scale.

The presence and the intensity of depression symptoms was assessed by the French version of the Beck Depression Inventory (Bourque and Beaudette 1982; Pichot and Lemperière 1964), with 13 items which must be scored from 0 to 3 (maximum total = 39). A Beck score superior to eight indicates moderate depression, and a score superior to 16 indicates severe depression. The psychometric qualities of this tool were satisfactory in our study: Cronbach's alpha ranges from 0.72 to 0.84 according to the time point considered.

Satisfaction with student life, and absence of physical symptoms, were assessed through semi-directed interviews using the same 13 questions at the three stages of the study to establish consistency. The interviews were audio-recorded and the studied variables were rated by two independent judges. Inter-ratter reliability for these questions was satisfactory (Cohen's Kappa >0.80). The students' answers concerning life satisfaction were classified into two categories: satisfied or not satisfied with current life. The common physical symptoms recorded for the purpose of the study were: headaches, gastric disorders, and sleeping difficulties. Other physical problems mentioned were not taken into account (diseases, allergies, fatigue). In these semi-directed interviews we also assessed two variables which could explain the quality of adjustment: social support quality and academic self-efficacy. The questions were: (1) "Do you consider you have the necessary

social support to meet your needs?" coded into "Yes" and "No"; (2) "Do you think you will succeed academically?", coded into "Sure to succeed" and "Not sure".

A further scale was used to study a third potential explanatory factor: coping styles. They were assessed by the French version (adaptation by Rolland 1998) of the Coping Inventory for Stressful Situations (Endler and Parker 1990). The questionnaire is composed of 48 items, including 16 items of each coping style (Problem-focused or "Task", Emotion-focused or "Emotion" and Avoidant coping or "Avoidance"). The French validation of the questionnaire carried out on students and adult all-comers, revealed satisfactory internal consistency for the 3 factors (Cronbach's alpha: 0.88 for Task, 0.87 for Emotion and 0.86 for Avoidance). In our study, Cronbach's alpha for the 3 scales also showed satisfactory internal consistency: 0.90 for Task, 0.86 for Emotion, and 0.81 for Avoidance. Through this measure, we studied the proportion of students for whom the "Task" score was higher than the other two scores, "Emotion" and "Avoidance". As coping styles are assumed to be stable in time (Rolland 1998), this variable was only measured at one time point.

Results

We hypothesized that students from alternative schools adapt better to higher education than other students. Five dimensions were assessed separately: state anxiety, depression, student life satisfaction, physical symptoms, and academic achievement. Each of these variables was adjusted on baseline and demographic variables. The statistical analyses were performed using the R statistical programming language, version 2.5.0. (R Development Core Team 2006). Fisher's tests were performed to assess the significance of the differences observed. We also used multivariate regression models to adjust for the effect of initial school pathways on the potential confounding variables as the choice of a particular school was not randomized and some baseline characteristics were unbalanced between our two groups (gender, age). Two outcomes were measured at only one time point: coping styles and academic achievement (end of first semester results). Problem-focused coping styles were evaluated before entering higher education (T0). As this variable is binary, the effect of the type of school was assessed using a logistic regression model. First semester academic results were collected during the last term of first year (T2). A linear multivariate regression model was used for this variable. Other outcomes were measured at two time points: beginning of first year (T1) and last term (T2), secondary school being considered as baseline (T0). Repeated measures models, also called Generalized Estimating Equation Models (Zeger et al. 1988) appear to be suitable for these analyses as they allow for the explicit modelling of the correlation structure of the observations between the individuals. This correlation is then treated as a nuisance parameter, the coefficients of the model having the same interpretation as a standard regression model.

Initial characteristics

The initial characteristics were measured before entering higher education (T0). They include state and trait anxiety, depression symptoms, current life satisfaction, physical symptoms, perceived social support, self-efficacy, and coping styles. The levels of state anxiety and depression are significantly higher in the traditional schools group ($p < 0.01$),

Table 1 Evolution of state anxiety, depression, student life satisfaction, social support satisfaction, and academic self-efficacy at the three times of the study

Type of school	Before entering higher education (T0)	Beginning of first year (T1)	Second semester of first year (T2)
State anxiety (mean scores)			
Traditional schools	42.38	40.29	40.86
Alternative schools	36.64	34.74	35.14
p value	<0.01	<0.01	<0.01
Depression (mean scores)			
Traditional schools	5.31	4.36	5.05
Alternative schools	3.46	2.66	2.58
p value	<0.01	<0.01	<0.001
Life satisfaction (% of students)			
Traditional schools	65.00	60.00	56.25
Alternative schools	70.00	68.00	66.00
p value	>0.05	>0.05	>0.05
Social support satisfaction (% of students)			
Traditional schools	76.25	63.75	61.25
Alternative schools	76.00	68.00	78.00
p value	>0.05	>0.05	>0.05
Academic self-efficacy (% of students)			
Traditional schools	43.75	25.00	42.50
Alternative schools	62.00	58.00	60.00
p-value	>0.05	>0.05	>0.05

while no differences appear in trait anxiety ($p > 0.05$). Furthermore, levels of academic self-efficacy and perceived social support at T0 are comparable ($p > 0.05$): a great majority of the students are satisfied with their social network before entering higher education (76.0%) and a majority of them are satisfied with current life (66.0%). In our sample, no significant differences appear in the choice of study, but some are observed in the type of institution attended (advanced preparation classes, technical and vocational training, and university): a greater number of former traditional school students attend university (65.0% against 38.0%), whereas more alternative school students chose technical and vocational studies (15.0% against 38.0%). Table 1 presents the evolution of state anxiety, depression symptoms, student life satisfaction, social support satisfaction, and academic self-efficacy at the three measure times.

Hypothesis 1: state anxiety

In considering the quality of adjustment to higher education, the first psychological variable evaluating well-being is the level of state anxiety. This variable was assessed at three time points. Its evolution during the first year of higher education was modelled using a repeated measures multiple linear regression, adjusting for type of school, trait and state anxiety before entering higher education, and type of institution (other baseline and demographic variables were not included in the model as they were non significant). The results of the statistical analyses show a significant effect of the type of school ($p = 0.01$,

Table 2 Variables associated with state anxiety at the beginning of the first and last terms, identified by linear regression with repeated measures

Variable	Coefficient	*p*-value
Intercept	19.38	<0.0001
Alternative schools vs. traditional schools	−3.68	<0.01
Trait anxiety	0.37	<0.0001
State anxiety T0	0.18	<0.05
Type of institution attended (ref.: Advanced preparation classes)		
Technical and vocational training	−2.99	>0.05
University	−3.73	<0.05

Wald test): the average score of state anxiety in alternative schools participants is 3.68 points less than other participants in post-secondary education, within comparable types of institutions, and comparable levels of state and trait anxiety at T0 (see Table 2).

Hypothesis 2: depression

This variable was also assessed at three time points. Its evolution during the first year of higher education was modelled using repeated measures multiple linear regression, adjusting for type of school, depression score before entering higher education, and type of institution attended (other baseline and demographic variables were not included in the model as they were non significant). The students from alternative schools report significantly lower levels of depression than those from traditional schools during their first higher education year ($p = 0.01$, Wald test, see Table 3). They present an average depression score of 1.33 points less than the students from traditional schools, when considering an equal initial level of depression at T0 and comparable types of higher education institutions. In addition, the results show a higher level of depression in advanced preparation classes (1.5 points more, Table 3).

Hypothesis 3: student life satisfaction

This variable was measured at three time points. Its evolution during the first year of higher education was modelled using repeated measures multiple logistic regression, adjusting for type of school, life satisfaction before entering higher education, age, type

Table 3 Variables associated with depression scores at the beginning of first and last terms, identified by linear regression with repeated measures

Variable	Coefficient	*p*-value
Intercept	3.6	<0.0001
Alternative schools vs. Traditional schools	−1.33	<0.01
Depression at T0	0.43	<0.0001
Type of institution attended (ref. = Advanced preparation classes)		
Technical and vocational training	−1.54	<0.05
University	−1.49	<0.01

Table 4 Variables associated with student life satisfaction at the beginning of first and last terms, identified by logistic regression with repeated measures

Variable	Odds ratios	*p*-value
Alternative schools vs. Traditional schools	2.29	<0.05
Satisfied vs. nonsatisfied at T0	2.30	<0.05
Age	0.63	>0.05
Type of institution attended (ref. = Advanced preparation classes)		
Technical and vocational training	2.40	>0.05
University	2.30	<0.05
Mother socio-economic status (ref. = Inactive)		
Employee	0.93	>0.05
Managerial staff or professions	0.54	>0.05

of institution attended, and mother's socio-economic status (other baseline and demographic variables were not included in the model as they were non significant). The participants of this study show a reduction of current life satisfaction after entering higher education (see Table 2), with a significant effect of the type of school ($p < 0.05$, Wald test, see Table 4). The Odds Ratio of 2.28 indicates that the students from alternative schools have more chances to declare themselves satisfied than those from traditional schools.

Hypothesis 4: physical symptoms

Few subjects declared having common physical symptoms such as headaches, gastric disorders or sleeping difficulties. Thus, we decided not to test this assumption, given the restricted number of participants concerned (5/130). However, an important element must be highlighted: many students in our research report levels of fatigue (T0 = 55.5%; T1 = 24.5%; T2 = 45.0%).

Hypothesis 5: academic achievement

This variable was measured at the end of the first semester of higher education. The impact of the type of education on academic results was tested using multiple linear regressions, adjusting for gender and type of institution. Statistical analyses indicate a significant difference between our two groups ($p < 0.05$, see Table 5): the students from alternative

Table 5 Variables associated with academic results at the end of the first semester

Variable	Coefficient	*p*-value
Intercept	10.38	<0.0001
Alternative schools vs. Traditional schools	0.76	<0.05
Female vs. Male	−0.92	<0.01
Type of institution attended (ref. = Advanced preparatory classes)		
Technical and vocational training	1.09	<0.05
University	0.85	<0.05

schools have an average 0.76 points more than the other subjects. However, the selected model explains only 16% of the variance obtained when taking into account type of initial school pathway, gender, and type of higher education institution attended. Thus, other factors which have not been assessed in our study may have an important impact on academic achievement.

It should be noted that females have on average 1 point less than males, all other things being equal, and that advanced college preparation students have 1 point less than the other students (Table 5). In addition, the results show a significant variation between the different alternative schools. While adjusting on age, gender and type of higher education institution attended, the students from Steiner obtain an average of 2.22 points more than the subjects from traditional schools ($p = 0.0001$, Wald test), and 1.88 points more than the students from Montessori and New Schools ($p < 0.01$, Wald test). For Steiner students the average is 12.00/20, for those from the New Schools/Montessori group it is 10.89/20 and 10.38/20 for the students from traditional schools.

Additional analyses

In order to explain the better adjustment observed in alternative school students, we compared coping styles, perceived social support and academic self-efficacy in both samples. As hypothesized, a greater number of alternative school students report using problem-focused coping strategies preferentially (78.0% compared with 54.0%). According to our results, only the type of initial school pathway and state anxiety are associated with the distribution of coping styles. The results reveal that students from alternative schools are more likely than those from the traditional system to have a maximum score of problem-focused coping style (OR = 3.33, $p = 0.01$).

The evolution during first year in higher education (T1 and T2) of perceived social support and academic self-efficacy were studied using a repeated measures model. Table 2 shows the mean scores of both variables at the three times of the study. Perceived social support was adjusted on age, as it was the only variable showing a significant impact, older students having less chance of reporting satisfaction with their relationships. The probability of perceiving good social support is not linked to the fact of having a positive perception before entering higher education (T0), but is linked to the type of initial educational pathway ($p < 0.05$). The associated Odds Ratio is 2.06 indicating that, in this study, an alternative school student has more chances of reporting a positive perception of social support during first year.

Discussion

The present study reports the quality of adjustment to higher education in 130 students followed up during a year and a half. Contrary to the data usually reported about the difficulties of adjustment and the numerous failures during the first year in higher education in France (Gruel 2002; OECD 2006), most subjects of our study adapted well overall. This could be due to the fact that the students who presented themselves for the three tests showed great commitment during this investigation. This motivation is also found in the satisfaction of our population with their first year in higher education, as in the quality of their adaptation. It is possible that this motivation and engagement could explain

their greater quality of adjustment and higher academic results compared with the general student population.

However, concerning the comparison of student adjustment to higher education between alternative school students and traditional school students, the results confirm 4 hypotheses out of 5. In our study, the alumni from alternative schools adapt better to higher education than the participants from the traditional school system as they show greater academic results and higher levels of psychological well-being: lower levels of anxiety and depression, and higher levels of satisfaction of current life than the other subjects of the study. These results are in keeping with prior research on alternative schools which had revealed satisfactory adjustment of alternative school students to higher education using self-report questionnaires (Barz and Randoll 2007; Dahlin et al. 2004; Mitchell and Gerwin 2007). In our research, we studied three variables which were assumed to be more developed in alternative students (Boehnlein 1997; Kendall 1992; Lillard and Else-Quest 2006; Ogletree 1996; Shankland et al. 2009), and which could participate in explaining their greater quality of adjustment. The statistical analyses revealed significant differences in favour of the subjects from alternative schools concerning these three variables: perceived social support, academic self-efficacy, and preferential use of problem-focused coping strategies.

Few significant differences appeared between the alternative school groups, leaving aside the higher academic results for the participants from Steiner schools and the greater levels of perceived social support in Montessori and New Schools students. Further studies with a greater number of alternative school students may obtain more significant differences.

The greater level of perceived social support in alternative students could be due to effective greater social support for two main reasons: (1) a higher implication of alternative school parents in their children's education; (2) greater number of well-established relationships with long-known friends as alternative students stay in the same class all along their pathway in alternative schools. The difference between Steiner students and Montessori and New Schools students could be explained by a greater focus on social relationships in Montessori education (Montessori 1932/1958). This observation should be studied in more detail to understand the role of different types of alternative education. To conclude on social support, the results of our research are consistent with numerous studies which underline the positive impact of perceived social support on student adjustment to higher education (Feenstra et al. 2001; Holmbek and Wandrei 1993; Wang et al. 2006; Zea et al. 1995).

The importance of self-efficacy in helping to deal with new situations and environments has been greatly studied since the beginning of Bandura's work (1977). As in previous studies (Chemers et al. 2001; Hampton and Mason 2003; Voelkl Finn and Frone 2001), our research underlines that the greater quality of alternative student adjustment could also be explained by their higher levels of academic self-efficacy.

Our results on coping styles are also consistent with research showing a positive correlation between the use of problem-focused coping styles and the positive adjustment to a controllable situation (Aldwin 1994; Endler and Parker 1990; Jones and Frydenberg 1999; Lazarus and Folkman 1984; Mikulincer and Solomon 1989; Miller 1992; Parkes 1984; Schmidt 1988). This underlines the possible influence of alternative school pathways on the development of specific coping strategies. Further studies could include children before they enter elementary school in order to analyze the development of coping styles during their stay in alternative schools.

Limitations

As in numerous studies assessing the effect of school on child development (for a review see Rutter et al. 1979), the main limitation of our research is the population selection bias, as it was not possible to randomize the choice of school pathway. Thus, the differences observed in this research could be related to other factors not measured in this study, especially the type of family relationships (social support) and parent educational styles (Shankland et al. 2009). Indeed, family education has been shown to affect coping styles (Cianciolo 1965; Busjahn et al. 1999). In addition, the voluntary based recruitment constitutes a further bias, an explanation of which was proposed in the section above.

Because of the limited number of alternative schools in France, the present study could not include many participants and their representativity can be questioned. It must be highlighted, for example, that the category "workman" is missing from our population whereas it represents 11.0% in the general population of freshmen's parents (Ministry of Youth, Education and Research, 2006). Conversely, the category "managerial staff and professions" is more represented among the fathers of our participants (62.0%) compared with those of the French freshmen population (about 50.0%). Perhaps this over-representation indicates a greater attention paid to education in these families. Thus, further studies must be conducted in order to confirm our results.

Given the lack of studies in the field of alternative educational pathways, our exploratory research led us to carry out a certain number of statistical tests, which leads to "α-inflation", an increase in the risk of finding significant results due to simple chance (type I error). We have chosen to use a significance threshold of 5%, but in order to reduce the likelihood of type I errors, a threshold of 1% might be preferred. In this case, student life satisfaction and academic results would not come out to be significantly different in the populations of our study.

In order to avoid multiplying the number of scales in the present study, some of the measures were made through semi-directed interviews. In order to study more extensively the phenomena observed, further research should use standardised tools to assess physical symptoms, life satisfaction and perceived social support.

Conclusion

This research indicates that the alternative school participants appear to have a significant advantage in adjusting to the demands student life: they report less anxiety and depression symptoms, and show greater life satisfaction and academic achievement. As addressing a domain which has been little studied using quantitative methods, it encourages more extensive efforts in this field. It would be interesting, for example, to look further into the competencies and qualities enabling this adaptation, which seem to be more developed among the pupils from alternative schools (Barz and Randoll 2007; Mitchell and Gerwin 2007). Additionally to perceived social support, self-efficacy, and the use problem-focused coping strategies, self-confidence and optimism towards the future, self-awareness, ability to express oneself, creative thinking, are many characteristics which could be interesting to compare between these populations. To generalize the quality of adjustment it would be necessary to study other situations such as adjustment to work, as well as the coping strategies used in other crisis situations (death of a relative, unemployment), or other transitions (becoming parent, retiring).

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