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## IDENTITY CHANGE IN THE EDUCATIONAL CONTEXT: A LONGITUDINAL STUDY OF UPPER-SECONDARY SCHOOL STUDENTS

In the article we present the results of a study devoted to identity changes in late adolescence. The participants were students of three types of upper-secondary schools: basic vocational schools, technical upper-secondary schools, and general upper-secondary schools. Measurement was performed five times, in three consecutive years: 2012/2013, 2013/2014, and 2014/2015. The first measurement was carried out in the first semester of the first grade (students' mean age: 16 years;  $n = 310$ ), and the fifth measurement was performed during the first semester of the third grade (students' mean age: 18 years). The number of students who took part in all five measurements was 118 (38% of the initial sample of  $n = 310$ ). The instrument we used was the *Dimensions of Identity Development Scale* (DIDS/PL; Brzezińska & Piotrowski, 2010; Luyckx, Schwartz, Berzonsky et al., 2008). In the group of general upper-secondary school students, we observed an increase in adaptive exploration (in breadth and in depth) as well as an increase in the strength of commitments over the 2.5 years of schooling. Among students of vocational schools, especially basic vocational schools, we observed regressive changes, such as a decrease in adaptive exploration, a decrease in commitments, an increase in the experienced difficulties with identity formation (an increase in ruminative exploration). The results confirmed that different educational paths may involve differences in terms of the changes taking place in students' identity in the period of adolescence.

**Keywords:** adaptive exploration; ruminative exploration; commitment making; late adolescence; upper-secondary schools; progressive changes; regressive changes.

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## INTRODUCTION

Erikson's (1950) psychosocial *ego* development theory has become an object of research worldwide, mainly thanks to its elaboration by James Marcia (1966, 1980). Marcia distinguished two pivotal dimensions whose interaction is related to identity formation: exploration, which means experimenting and acquiring new information on the potential domains in which the individual is willing and able to engage, and commitment making, which means adopting particular values, goals, and beliefs in various domains. Crossing the two dimensions yielded four identity statuses: identity diffusion (low exploration, weak commitments), identity foreclosure (strong commitments made without prior exploration of alternatives), identity moratorium (high ongoing exploration, weak commitments), and identity achievement (strong commitments made after a stage of exploring alternatives).

One of the models elaborating Marcia's theory was proposed by Luyckx and colleagues (Luyckx, Goossens, & Soenens, 2006; Luyckx, Goossens, Soenens, & Beyers, 2006; Luyckx, Schwartz, Berzonsky et al., 2008), who distinguished two different types of adaptive exploration – exploration in breadth (the scope of the individual's search for various options relating to his or her goals, values, and beliefs) and exploration in depth (in-depth analysis of the already made decisions, choices, and commitments in order to examine the degree to which they meet personal standards) as well as two dimensions relating to commitments: commitment making (making choices and commitments regarding matters important to identity development) and identification with commitment (the degree of identification with the choices and commitments made).

In this model, known as the dual-cycle model of identity formation, it is assumed that the mechanism described by Marcia (1966, 1980), according to which commitment making takes place as a result of exploration in breadth, is just one of the stages in the identity formation process, referred to as the commitment formation cycle. The commitments made are then revised by the activation of exploration in depth, whose aim is to evaluate the degree to which they are consistent with the individual's expectations and standards. Only after this has been done is it possible for the process of identification with commitment to take place, which consists in recognizing a given commitment as important and personally significant (the commitment evaluation cycle). Researchers have also distinguished the ruminative exploration dimension, which is disadaptive and related to the experience of difficulties in making decisions, which includes difficulties in both making commitments and identifying with them. A high level of ruminative

exploration may involve persistently returning to the same patterns of behavior despite their earlier inefficiency as well as difficulties in making and identifying with commitments.

Thanks to the cyclic understanding of identity development, the model proposed by Luyckx and colleagues seems to be well suited to analyzing the course of identity formation in relation to contextual factors (Luyckx, Goossens, & Soenens, 2006). In our study, the factor of this kind was the educational context (different kinds of upper-secondary school) in late adolescence. We were interested in whether attending different types of upper-secondary schools – and, consequently, pursuing different educational paths – would be related to differences in terms of identity changes during the period of school education in grades 1-3. This issue has been the subject of a small number of studies so far, and our goal was to fill this gap.

### **Identity development in adolescence**

Adolescence is a phase of life that involves intensive formation of and changes in identity (Kröger, 2007). Even strong commitments made in this period are subsequently “put to the test” many times in connection with further changes faced by the adolescent, including changes of the educational stage (Kalakoski & Nurmi, 1998). In the stage of early adulthood, identity commitments are often maintained by the individual’s long-term decisions, concerning, for instance, career development or starting a family. In the stage of adolescence, taking on such long-term social roles is rare, and the young person engages mainly in reflection on what direction to pursue in their life, what to devote themselves to, and what path of further education to choose. Thus, on the one hand, adolescence is a time in life when there are many possibilities of choice and when acceptance for the exploration of alternatives is high; on the other hand, it is a time that marks the beginning of the construction of the system of identity commitments, which will develop and undergo modifications in subsequent years.

A characteristic pattern observed in longitudinal studies in the period of adolescence is the tendency for commitment making to become increasingly intense with age. In the case of exploration the results are less clear, though usually there is an observable increase in adaptive exploration, which supports commitment making, accompanied by a decrease in the experience of difficulties with identity formation, which take the form, for example, of ruminative exploration in Luyckx’s model (Luyckx, Schwartz, Berzonsky et al., 2008) or reconsideration of commitment in Meeus’s model (Crocetti, Rubini, & Meeus, 2008;

Karaś, Kłym, & Ciecuch, 2013). These studies show that in the course of the changes taking place in adolescence identity becomes more and more mature, which is also confirmed in the meta-analysis performed by Kröger, Martinussen, and Marcia (2010). Their analyses reveal that progressive changes in identity are twice as frequent as regressive changes, which translates into an increase in the percentage of people with the identity achievement status and a decrease in the percentage of people with identity diffusion. However, because a fairly high within-group diversity is also observed (Kröger, Martinussen, & Marcia, 2010), taking the form of individual differences in terms of the effects of identity development, the focus in seeking developmental trajectories should also be on the factors related to this diversity. The aim of our study was to analyze the extent to which the educational path chosen in the upper-secondary stage can be a differentiating factor of this kind.

### **School as a context of identity development**

In the period of adolescence, young people spend hundreds of hours a year at school engaging in a variety of social interactions and approach the next stage of their life, namely, the completion of school and the necessity of making further decisions of importance to their future life. However, the relationship between identity development and the educational context in adolescence is still a little-known area.

In the case of university students, the greatest changes in psychosocial functioning are observed towards the end of studies, when the change in their social status is very near and when they expect significant changes in their life (Pasarella & Terenzini, 2005). The same might be the case with upper-secondary school students. After finishing school, general upper-secondary school students go on to pursue university education, whereas basic vocational school students prepare to enter the labor market.

Additionally, the very fact of attending a particular type of upper-secondary school (e.g., general upper-secondary school or basic vocational school) is, after all, not accidental. Students beginning their education in different schools may differ not only in terms of demographic and social characteristics (e.g., the social status of their family) but also in psychological terms. On the one hand, these differences may occur already at the beginning of upper-secondary education (in the first grade), but on the other – identity changes in the course of education can take a particular form as a result of adaptation to the educational path that has been chosen by the individual or imposed by others (Baumeister & Muraven,

1996). The academic path (“general” – in general upper-secondary school) may be a qualitatively different context for identity formation than a strictly vocational path (in basic vocational school or, to a slightly smaller degree, in technical upper-secondary school). Roker and Banks (1993) compared British female students aged 15-18 attending private and state schools. All of them came from families with a similar, fairly high social status. The authors observed a much more frequent occurrence of the identity foreclosure status in the domains of political views and professional identity among the students of private schools. Among those attending state schools, they observed a prevalence of individuals with identity moratorium and diffusion statuses. As the authors explained, private schools can be an environment that is more homogeneous, both ideologically (in the vision of education they promote) and in terms of the social status of their students’ families, thus giving much fewer opportunities of contact with different points of view and styles of thinking, which favors taking over ready patterns of functioning.

In the study conducted by Lannegrand-Willems and Bosma (2006), the main emphasis was placed on the comparison of students from schools differing precisely in the social position or class of students’ families. They found that in schools with a prevalence of children whose parents had a low social status and tended to be oriented towards vocational education there were more frequent difficulties with the development of school identity, taking the form of “alienated” identity. Meanwhile, in schools with a predominance of students from families with a high social status, engaged in general education as an introduction to further academic education, significantly higher exploration was found. These differences, observed already at the beginning of the school year, increased towards the end of the school year. It can be supposed that in schools with a predominance of students from families with a low social status the experience of difficulties in identity development may even increase with time, posing a danger of stagnation or regressive changes.

Thus, research results indicate that the educational context, being a consequence of the choice of different paths of upper-secondary education, is a promising research area, all the more so as this is still a largely unexplored issue. At the same time, the results obtained by Lannegrand-Willems and Bosma (2006) directly suggest that progressive or regressive changes during the period of school education may be related to the kind of school teenagers attend. Of course, it is difficult to say unambiguously which factor is decisive: school type or the social status of the family.

### **Upper-secondary education in Poland: Areas of differentiation**

School education is compulsory in Poland until the age of 16, but compulsory education is a duty that rests with the student until the age of 18. After finishing middle school around the age of 16, the student has a choice of various forms of education, full-time and part-time, in school and non-school institutions. In practice, however, after taking the obligatory examination concluding the middle school, and on the basis of its result, a vast majority of students choose one of three types of public upper-secondary schools: (1) basic vocational school: a three-year school with a curriculum of general and vocational education; after finishing it, students are eligible to take a vocational examination confirming vocational qualifications; finishing this school does not make a person eligible to continue education at the university level, but graduates are free to study in various kinds of schools for adults – usually part-time; (2) technical upper-secondary school: a four-year secondary school, whose completion means obtaining vocational qualifications and, after passing the school-leaving examination (Polish: *matura*), makes the student eligible to continue education at the university level; (3) general upper-secondary school: a three-year school, whose completion involves taking a school-leaving examination (*matura*) and, after passing it, makes the student eligible to pursue further education at the university level but does not mean acquiring qualifications for any particular profession.

The path of basic vocational education is the least popular in Poland. In the school year 2013/2014, there were over 1,200,000 students in upper-secondary schools, of which only 15% attended basic vocational schools, compared to 43% attending technical upper-secondary schools and 42% attending general upper-secondary schools. Due to the relatively low position of and low interest in studying in basic vocational schools (little competition at recruitment), the individuals who become their students are mainly from families with a low social status and with parents in a relatively worse job situation (Brzezińska, Czub, Piotrowski et al., 2013; Educational Research Institute, 2012).

Among students of basic vocational schools, there are considerably more working individuals, doing different forms of work, which is hardly surprising given that they spend the three years of study mostly preparing to do a specific job. During the school year, compulsory vocational training takes place; training is provided by various employers. On the opposite extreme, there are general upper-secondary school students, whose parents tend to be better-educated and whose families are often in a better financial situation (Piotrowski & Brzezińska, 2015).

Apart from these social differences, psychological differences can also be observed between students of various types of Polish upper-secondary schools, including differences in terms of identity. Brzezińska, Czub, and Piotrowski (2014) found that general upper-secondary school students are characterized by a higher level of exploration and by weaker identity commitment than basic vocational school students. In the latter group, the identity foreclosure status was observed significantly more often. Moreover, basic vocational school students are characterized by a stronger belief that they “have already found their place in the world.” They can therefore exhibit a more clearly formed identity, whereas in general upper-secondary school students it is moratorium identity that seems to dominate (Côté, 1997).

However, all these results were obtained in analyses simply comparing the mean results of students of different types of schools. Such cross-comparisons only make it possible to identify the similarities and differences between the compared groups of students. It was therefore reasonable to ask whether identity dimensions undergo changes in the course of upper-secondary schooling, and if so, what changes (progress/regress or stagnation) they undergo.

### **Problem**

The research question that we sought to answer was: Are changes in the intensity of the five processes (identity dimensions) involved in identity formation, postulated in Luyckx’s dual-cycle model, associated with the type of upper-secondary school the student attends?

We assumed that, during successive semesters and years of study, students of all types of upper-secondary schools would, above all, exhibit increasingly strong commitment making and increasingly strong identification with commitment. The years of late adolescence, being the last stage before entering adulthood, is a time of consolidating the previously acquired competencies and acquiring new ones, not only in school settings. Above all, however, it is a time of building intimate relations (Dylak, 2002) and creating a plan of one’s own life (Kuźnik, 2002). Thus, it is still a time of intense exploration, but also a time of making commitments as well as identifying with the commitments that have been made and verified.

However, based on the results obtained by Lannegrand-Willems and Bosma (2006), we also assumed that among students of basic vocational schools, who frequently come from families with a low social status, approaching the end of upper-secondary education may involve difficulties in identity formation, possi-

bly related to the necessity of entering the labor market, which – nearly everywhere in Europe at present – is unstable, unpredictable, and marked by high unemployment especially among young adults. Also changes on the exploration dimensions may be associated with the specificity of the educational path. The high intensity of exploration in the period of upper-secondary education (Meeus, 2011) may apply to a greater degree to students of general upper-secondary schools, who still have a few years of study ahead, than to vocational school students, who pursue a path of professional development that is clearly defined by the choice of the profile of education and prepare for a particular occupation, usually in order to enter the labor market directly after finishing school. For this reason, it is mainly in general upper-secondary schools that an increase in exploration can be expected. At the same time, secondary vocational education (technical upper-secondary school) may promote the development of commitments by narrowing down the scope of potential directions of development as early as at the transition from middle to upper-secondary school, though the prospect of further education at a university may also stimulate exploratory activity in technical upper-secondary school students.

## METHOD

### Participants and procedure

The results presented here were obtained in a longitudinal study conducted among students of upper-secondary schools (six school complexes, each comprising a basic vocational school, a technical upper-secondary school, and a general upper-secondary school) in consecutive school years: 2012/2013, 2013/2014, and 2014/2015. In the course of the three-year study, we carried out six measurements. Each year we performed one measurement in the first semester (October) and the other one towards the end of the school year (April/May).

In the schools where the measurements were performed, all the students present at school on a given day were examined: both those who had taken part in the earlier measurements and those who had not been examined before. Thus, students of all grades were present at each measurement (T1-T6). Only some of the participants – those who were in the first grade at the beginning of the project – had the opportunity to take part in all six measurements. The remaining participants took part in a smaller number of measurements due to finishing school (e.g., most people who were in the third grade at the beginning of the study – at

T1 – could only take part in a maximum of two measurement, since they had graduated before T3 measurement started), leaving school during the school year, beginning or resuming school education during the school year, and absence for unforeseen reasons.

The analyses presented here are based on the results of 118 students of different types of upper-secondary schools, who took part in five out of six measurements. The sample consisted of students of three types of schools: three-year basic vocational school ( $n = 26$ ; 85% women), four-year technical upper-secondary school ( $n = 67$ ; 42% women), and three-year general upper-secondary school ( $n = 25$ ; 54% women), who had begun attending the first grade about two months before the first measurement (October 2012).

The comparison groups differed considerably in the level of parents' education. As many as 88% of mothers and 84% of fathers of basic vocational school students had elementary or basic vocational education. In technical upper-secondary school this proportion was 41% and 40%, respectively, while in the group of general upper-secondary school students parents with this kind of education constituted only 21% in the case of mothers and 29% in the case of fathers. Students of these three types of schools did not differ significantly in their subjective evaluation of the level of material needs satisfaction on a scale from 1 – *acutely low*, to 5 – *very high*.

The total number of first-grade students who took part in the first measurement was 310. A comparison of the 118 students (38% of the initial sample) who took part in all five measurements with the other students, who, for some reason, missed some of the measurements, revealed that the probability of remaining in the sample from the beginning until the end was associated neither with the type of school nor with the student's gender. No significant differences were found in the first measurement in terms of the intensity of the five identity dimensions, either, between these two groups of students (namely, the 118 participants examined five times and the 192 who, for various reasons, missed any of the subsequent four measurements).

The rather small proportion of participants (38%) who took part in all five measurements to the total number of first-grade students in 2012 was a consequence of the procedure of approaching the participants. Each measurement was performed during one day, among all the students present at school at the time. Thus, the procedure of reaching the participants did not consist in examining each of them individually. If a particular student was ill or absent from school for any other reason on the day of any of the measurements between T2 and T5, he or she was not included in the sample whose results are presented here.

### Measure

We administered the Dimensions of Identity Development Scale (Luyckx, Schwartz, Berzonsky et al., 2008) as adapted into Polish (DIDS/PL; Brzezińska & Piotrowski, 2010b), which measures the intensity of exploration and commitment connected with plans for the future. General vision of the future is the only identity domain measured by this instrument. This questionnaire is used to assess an individual's position on the five dimensions of identity postulated in the model by Luyckx et al. (Luyckx, Schwartz, Berzonsky et al., 2008): (1) commitment making (e.g., *I have decided on the direction I want to follow in my life*), (2) identification with commitment (e.g., *My plans for the future match with my true interests and values*), (3) exploration in breadth (e.g., *I think actively about the direction I want to take in my life*), (4) exploration in depth (e.g., *I actively think about if the future plans I strive for correspond to what I really want*), (5) ruminative exploration (e.g., *I am doubtful about what I really want to achieve in life*).

The instrument consists of 25 items (five per scale). Each item was rated on a scale from 1 (*strongly disagree*) to 6 (*strongly agree*); the higher the score, the higher the intensity of exploration or commitment, respectively. The value of Cronbach's  $\alpha$  in particular measurements (I-V) in the whole sample ( $n = 118$ ) is .71 to .84 for exploration in breadth, .64 to .77 for exploration in depth, .77 to .84 for ruminative exploration, .88 to .91 for commitment making, and .78 to .85 for identification with commitment.

### RESULTS

The hypothesis postulating differences between students of different types of schools in terms of changes in the intensity of identity dimensions was tested using multivariate repeated measures ANOVA. This made it possible not only to assess the changes in the intensity of identity dimensions over time but also to detect the interactions, if any, between these variables and attending different types of upper-secondary schools. We entered five identity dimensions as dependent variables in the analysis, and the variables that we treated as factors were "school type" (basic vocational, technical upper-secondary, general upper-secondary) and "time" (T1-T5) that elapsed between the beginning of the first grade and the beginning of the third grade, two years later. Thus, the "time" variable is an indicator of both the participants' age and the progress connected with promotion to higher grades. Due to the small size of the compared groups,

the results treated as statistically significant were those relationships in the case of which  $p < .10$ .

The main effect of time turned out not to be statistically significant. At the same time, we did observe a significant multivariate main effect of school type,  $\lambda = .87$ ,  $F(10, 220) = 1.64$ ,  $p = .09$ ,  $\eta^2 = .07$ . A univariate analysis revealed, however, that the difference concerned only one dimension of identity. Basic vocational school students usually scored lower on exploration in breadth than general upper-secondary school students (basic vocational school:  $M = 4.05$ , general upper-secondary school:  $M = 4.46$ ). Also interaction between school type and time turned out to be significant,  $\lambda = .60$ ,  $F(40, 190) = 1.39$ ,  $p = .07$ ,  $\eta^2 = .23$ , suggesting that changes in the intensity of identity dimensions in the course of the two-year study were different in different types of schools. Univariate analyses showed revealed significant interaction effects in the case of ruminative exploration ( $F = 3.76$ ,  $p < .001$ ,  $\eta^2 = .06$ ), commitment making ( $F = 2.47$ ,  $p < .05$ ,  $\eta^2 = .04$ ), and identification with commitment ( $F = 1.99$ ,  $p = .06$ ,  $\eta^2 = .03$ ).

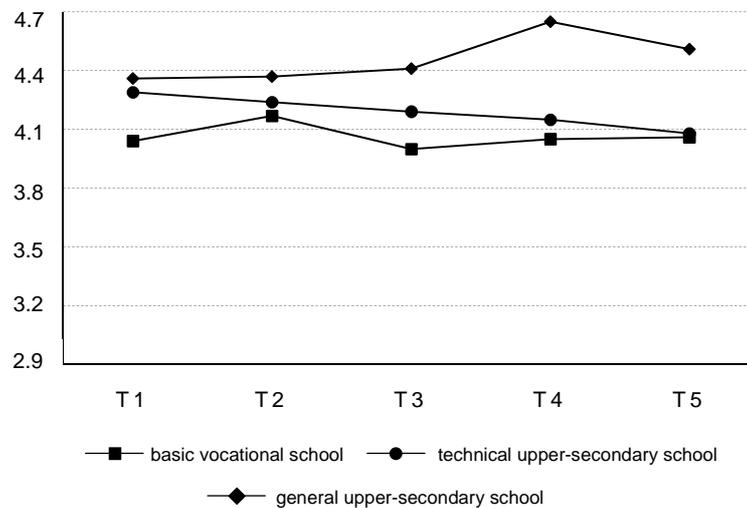


Figure 1. Exploration in breadth in different types of schools.

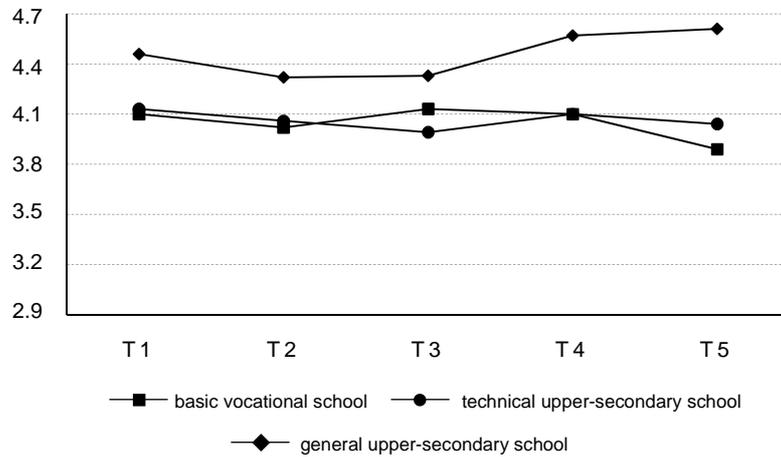


Figure 2. Exploration in depth in different types of schools.

As regards ruminative exploration (Fig. 3), we found that its intensity among basic vocational school students was similar in measurements T1-T4, whereas in measurement T5, at the beginning of the third grade, the score was significantly higher than in any of the remaining measurements. Among technical upper-secondary school students we also observed an increase in the intensity of ruminative exploration in the course of the study. In measurements T4 and T5, the scores in this group were significantly higher than in measurements T1 and T3. In general upper-secondary school, we observed the opposite tendency. In measurements between T1 and T4, the level of ruminative exploration remained similar, but in the last measurement (T5) ruminative exploration in general upper-secondary school students was significantly higher than in the previous four.

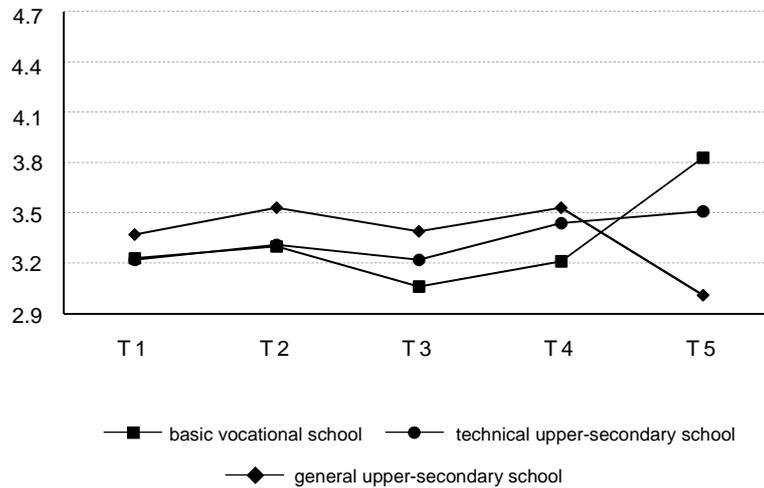


Figure 3. Ruminative exploration in different types of schools.

In basic vocational schools we also found significantly lower commitment making (Fig. 4) and identification with commitment (Fig. 5) in the last measurement (T5) than in the others. Also in the group of technical upper-secondary school students we observed a significant decrease in scores on both identity commitment dimensions. As regards general upper-secondary school, commitment making in measurement T5 was significantly higher in measurement T5 than in measurements T2 and T3. Changes on the identification with commitment dimension among general upper-secondary school students did not reach the statistical significance threshold, though also in this case there was an observable increase tendency in the last measurements.

The clearest differences between students of different types of schools occurred in the last measurement (T5). In measurements T1-T3 – that is, from the beginning of school to the beginning of the second grade – the scores were similar across school types. In measurements T4 and T5, exploration in breadth (Fig. 1) and exploration in depth (Fig. 2) were significantly higher than in students of technical upper-secondary and basic vocational schools. In measurement T5 we also observed significantly lower ruminative exploration as well as higher scores on commitment making and identification with commitment among general upper-secondary school students compared to the other two groups.

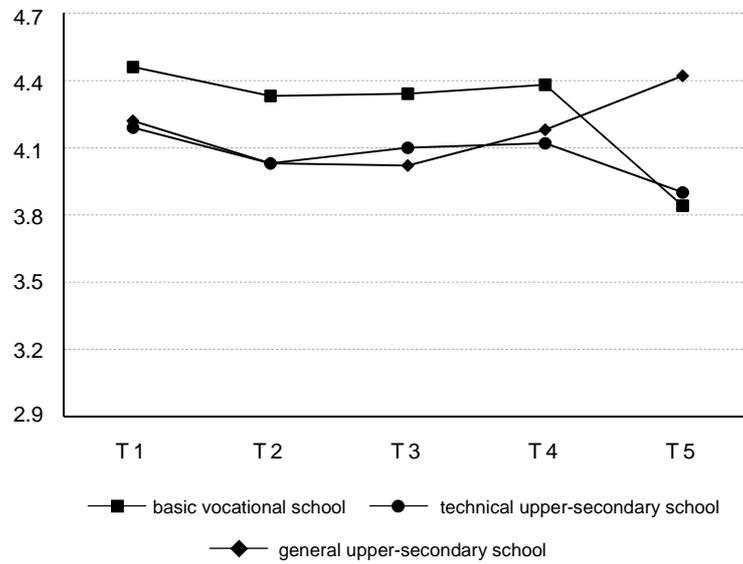


Figure 4. Commitment making in different types of schools.

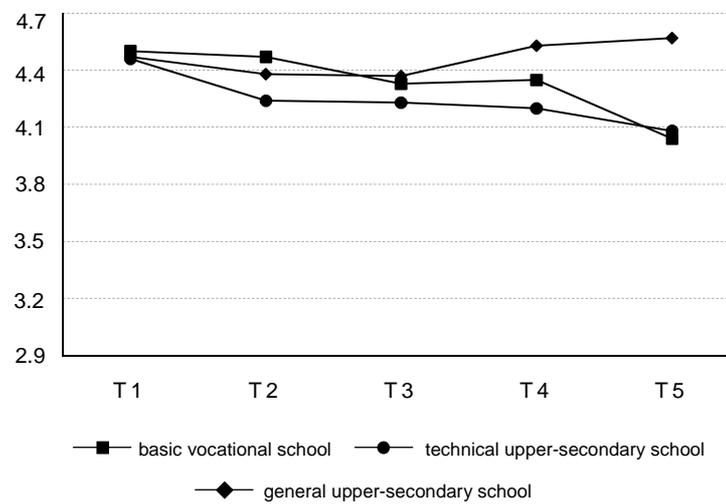


Figure 5. Identification with commitment in different types of schools.

## DISCUSSION

### **Changes in the intensity of identity processes in each type of school**

The aim of the study was to assess the differences between students of upper-secondary schools pursuing different paths of education – vocational, technical, or general – in terms of changes in identity between the beginning of upper-secondary education and the beginning of the third grade. Third grade is the last year of education for students of basic vocational and general upper-secondary schools and the last-but-one for students of technical upper-secondary schools. This means the project covered most of the period of education in each type of school. The results show that the type of school students attended was significantly associated with the changes in identity that occurred in the two years covered by the study.

In the first grade and at the beginning of the second grade, differences between students of different schools were not large, but they significantly increased after the beginning of the third grade, which suggests that the vision of the approaching end of this stage of education may be a factor contributing to identity transformations. The findings of other studies are similar (Kalakoski & Nurmi, 1998; Pascarella & Terenzini, 2005), confirming the important role of the stages of education in identity formation.

The results suggest that the nature of identity changes in students of schools with a vocational curriculum (i.e., basic vocational and technical upper-secondary schools) exhibits many similarities. In students of both these types of schools, the levels of exploration in breadth and in depth were rather low; additionally, the intensity of these dimensions decreased slightly in both groups. Moreover, with the approach of the end of education, we observed an increase in identity formation difficulties as well as a decrease in the intensity of making commitments and identifying with them. This was the case especially in basic vocational school students, who were already in their final grade during the fifth measurement. This may point to an increase in the intensity of identity crisis in basic vocational school students approaching graduation.

General upper-secondary school students exhibited a different pattern of changes. In successive measurements, we observed a still relatively high engagement in exploration in breadth and in depth and even a small increase in their level at T4 and T5, which suggests that approaching the completion of education triggers an increase in general upper-secondary school students' engagement in

the evaluation of the current direction of life and in seeking new areas of potential commitment. As it is the time when most of them probably consider the directions of further education, this observation does not seem to be surprising. In the last measurements (T4 – the end of the second grade, and T5 – the beginning of the third grade), we also observed a considerable change in general upper-secondary school students, involving an increase in the sense of commitment making, stronger identification with commitment, and a decrease in ruminative exploration.

A general conclusion that can be drawn from the obtained data is that in the period of upper-secondary education progressive developmental changes occur mainly among general upper-secondary school students. The results obtained in this group remain consistent with a majority of other observations (e.g., Meeus, 2011) and with our hypotheses. What is visible among students of vocational schools, both basic vocational and technical upper-secondary, is usually signs of increasing difficulties and a fear of the future, which may be harbingers of regressive changes. A decrease in the intensity of adaptive exploration and commitment as well as an increase in ruminative exploration are important manifestations of identity diffusion (Luyckx, Schwartz, Berzonsky et al., 2008).

At present, vocational education in Poland, especially at the level of basic vocational school but also, to a smaller degree, at the level of technical upper-secondary school, has a relatively low status and is chosen mainly by young people from low social status families, with lower school performance, whereas children from families with a higher status more often take up education in general upper-secondary schools (Szafraniec, 2011). However, this natural selection, taking place as early as around the age of 15, when middle-school graduates choose their further path of education, is not very strongly related to students' identity, which manifests itself in the small differences between them at the beginning of education. Yet, as education continues, a clear differentiation occurs, and there is a division into students of vocational schools (basic vocational and technical upper-secondary), whose identity crisis seems to grow, and students of general upper-secondary schools, who tend to exhibit progressive changes leading towards the identity achievement status.

It seems that the very necessity of choosing the path of professional development as early as is the case in Poland, where people aged 15-16 have to decide for which trade or profession to prepare, may be a risk factor in itself (Danielsen, Lorem, & Kröger, 2000), especially in the context of unclear and unpredictable labor market and the lack of job opportunities for young people. The possibility of exploring alternatives is one of the foundations of identity deve-

lopment, and in the case of vocational school students the choice of a particular path of vocational education considerably narrows down the scope of the exploration of various possibilities. In this situation, it could be expected that vocational school students will make more and more commitments – which, combined with low exploration, would lead to identity foreclosure at the threshold of adulthood. Our research shows, however, that this situation is not dominant – at least not among the participants in our study. Especially in the case of basic vocational school students it is visible that they begin education with a fairly strong belief in having made identity commitments, which considerably decreases in subsequent years of education, giving way to a growing sense of confusion and uncertainty.

As Kröger (2007) points out, for progressive changes towards identity achievement to occur in identity development, the social environment, including the educational environment, must offer not only challenges stimulating change but also support in coping with those challenges. If balance is disturbed in the “challenges – support” relationship, regressive changes are possible. Taking into account the identity changes observed in our study among students of basic vocational schools and technical upper-secondary schools, it can be supposed that the factors mentioned by Kröger may not be sufficiently balanced. Perhaps the prospect of leaving the school walls (which give a sense of security derived, for instance, from the possibility of postponing adult commitments) is a source of anxiety in students. The Polish labor market nowadays is highly unfavorable for young people, particularly for those without higher education (Central Statistical Office, 2015). In the general population aged 15-24 in Poland, the unemployment rate is about 22%. Unemployment among graduates of basic vocational schools (within a year after finishing education) reaches the level of 40%. The awareness of the difficulties involved in finding employment can be one of the sources of increasing identity crisis in vocational school students, especially in the domain measured in our study – namely, the general vision of one’s own future.

However, one should also remember that the observed changes associated with a decrease in commitment making may also be an element of the normative transformations that occur in identity in a situation of confrontation with a new task: the approaching perspective of the end of education. It cannot be excluded that the increase in anxiety about one’s own future is natural in this situation and may be only temporary. The intensity and persistence of regressive changes in the group of vocational school students certainly requires further research.

To sum up, the obtained results show that attending different kinds of upper-secondary schools may be associated with different paths of identity formation.

The pattern of changes involving commitment making and an increase in adaptive forms of exploration is observed mainly in general upper-secondary school students. Students of vocational schools, especially of basic vocational schools, are more often characterized by difficulties in identity development that increase in the course of school education as well as by the occurrence of regressive changes.

### **Limitations of the study and directions for further research**

In our study, we did not investigate factors connected with the quality and effects of school education, such as the grades received, self-evaluation of achievement, or adaptation to school conditions, including adaptation to the peer group, which may play a mediating role between school type and changes in the sense of identity (Lannegrand-Willems & Bosma, 2006). Because the educational context in our study was regarded as static and limited to “that which surrounds the individual” (Cole, 1995), a more dynamic and interactive perspective should be taken in further research (Adams & Marshall, 1996).

Secondly, the only domain we considered is the vision of one’s own future. The fact that development in different domains can be relatively independent (Grotevant, 1987) should be taken into account in future studies. Thirdly, the comparison groups in the study were small and not randomly selected, which makes it difficult to generalize the findings. Moreover, the small number of participants made it impossible to compare changes occurring in females and in males, which also considerably limits the scope of our findings. Fourthly, it is advisable to confirm the obtained observations in a study of a different group of students attending different types of schools, as well as to take into account other personality and contextual factors that may be associated with the regressive changes observed among vocational school students.

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