Original Papers

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Identity in adolescence and emerging adulthood: relationships with emotional and educational factors

Abstract: *In the processual approach to identity, the role of the interaction between subjective and contextual factors in the process of its development is emphasized. Based on the model of Luyckx et al. (2008) relationships between identity and educational context, as well as the tendency to experience shame and guilt were analyzed.. 821 people aged from 14-25 and belonging to six educational groups: (1) lower secondary school, (2) basic vocational school, (3) technical upper secondary school, (4) general upper secondary school, (5) post-secondary school (medical rescue, massage therapy, cosmetology, occupational therapy) and (6) university, took part in the research. Two questionnaires were used: The Dimensions of Identity Development Scale (DIDS), to allow the measurement of the five dimensions of identity postulated by Luyckx et al (2008) and The Personal Feelings Questionnaire-2 (PFQ-2, Harder, Zalma, 1990) to measure of the shame and guilt proneness. The results show that general upper secondary school students in terms of the dimensions of identity are closer to lower secondary school students rather than to their peers from technical and vocational schools. Among general upper secondary school students not only was a higher intensity of an identity crisis observed, but also a strong tendency to experience shame and guilt. Among lower secondary school students and general upper secondary school students, people with diffusion and moratorium as identity statuses prevailed, while in the remaining groups the achievement and foreclosure identity were observed more frequently. A general relationship was also observed, namely, a greater tendency to experience shame was associated with a higher intensity of an identity crisis.*

Key words: *commitment, educational context, exploration, guilt, identity, shame*

Studies on the identity of people entering adulthood, adolescents and emerging adults are usually conducted on relatively homogeneous groups of subjects, as is mentioned repeatedly in the literature (among others: Galambos, Leadbeater, 2000; Kroger, 2000, Schwartz, 2005). A considerable scope of our knowledge on identity development involves general secondary-school students and university students, consequently it is based on pretty elite groups of learners. There is, of course, research on subjects belonging to the "forgotten half", as Schwartz (2005) called people out of the educational system, representing minority groups and those of lower social status (e.g., Danielsen, Lorem, Kroger, 2000; Lannegrand-Willems, Bosma, 2006; Frisen, Wängqvist, 2011; Piotrowski, 2012), however, today an urgent need for further research in heterogeneous groups is emerging.

One of the goals of this paper was an attempt to fill this gap, at least to a limited extent, but also it was to investigate the importance of the social context in identity development. A large number of studies within the psychology of identity development (e.g., Arnett, 2000, Montgomery, 2005; see Trempała, 2003) point to the age of young people as the main independent variable but, nowadays, it is a characteristic that reflects the situation of young people to a smaller and smaller degree.

Problem

Identity is a complex construct that happens to be comprehended differently by representatives of numerous disciplines, especially within the humanities and social sciences. The psychological approach to this issue highlights that experiencing (feeling, sensing) identity is associated with the existence, in the individual's memory, of a relatively fixed set of elements that a person considers to define his own being. The identity of an individual consists of the content contained in the self-concept to which the individual attaches greatest importance to. Since

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the classical approach by Marcia (1966), which aimed at operationalisation of the identity notion outlined by Erikson (1950), the goal of research has been to determine the mechanisms governing identity formation among young people. Erikson, followed by Marcia, stressed that the period of development particularly associated with identity formation is adolescence, representing the transition stage between childhood and adulthood. According to Marcia (Marcia, 1980; also: Schiedel & Marcia, 1985) the quality of identity built in adolescence influences functioning in adulthood, so the identity can be both a risk and a support factor in the process of personality development and in the course of entering into adulthood.

Marcia (1980) stated that the best way to build up a stable, well-developed identity is through making independent choices, supported by gained experience. He argued that identity formation involves two successive processes: (1) crisis (exploration), relying on exploring various alternatives and life-styles and of experimenting with roles, all of which is characteristic of early adolescence, and (2) commitment, resulting from a decision on one of the alternatives, being typical of late adolescence and early adulthood. The intersection of these two dimensions (exploration and commitment) allowed him to distinguish four different identity statuses associated with the intensity of exploration and the making of a commitment or not: identity achievement (high exploration, presence of commitments), moratorium (high exploration, lack of commitments), identity foreclosure (low exploration, presence of commitments) and identity diffusion (low exploration, lack of commitments). In studies that have been conducted over the years it has been stated, among others, that people of different identity statuses differ in characteristics such as family relations (Schwartz, Mason, Pantin, Szapocznik, 2009), personality traits (Luyckx, Soenens, Goossens, 2006), functioning in the educational (Berzonsky, Kuk, 2000) and professional environment (Luyckx, Duriez, Klimstra, De Witte, 2010), and pro-social and religious activity (Padilla-Walker, Barry, Carroll, Madsen, Nelson, 2008). Frequently it turned out that subjects with the identity achievement status were characterized by the best psychosocial functioning, and those with identity diffusion the worst. In the cases of moratorium and identity foreclosure there were the most contradictory results (van Hoof, 1999).

One of the concepts combining emotions and identity has been presented by Vleioras and Bosma (2005), according to which the modifications of identity commitments is dependent on the configuration of two factors: on the results from comparing commitments to information coming from the environment and on the type of emotion evoked by this information. A modification occurs in the case of compliance of the commitment with the coming of information which produce negative emotions, and in the case of non-compliance associated with positive emotions. Other combinations, that is, compliance of commitments with information that evokes positive emotions, as well as non-compliance associated with negative emotions, cultivate existing commitments.

Bosma and Kunnen (2001) point out that experiencing conflict (e.g. in the field of interpersonal or professional relationships) associated with negative emotions, results in a decrease in identity commitments and an increase in identity exploration.

In several studies (e.g. Saka, Gati, Kelly, 2008; Luyckx, Schwartz, Berzonsky, Soenens, Vansteenkiste, Smits, Goossens, 2008; Crocetti, Klimstra, Keijsers, Hale, Meeus, 2009), also in those conducted in Poland (Brzezińska, Piotrowski, Garbarek-Sawicka, Karowska, Muszyńska, 2010) the relationship between identity and emotions was investigated. It has been shown, for example, that the tendency to experience anxiety (Spielberger, Gorsuch, Lushen, 1970) is associated with a strong exploration and weak identity commitments, which both pose a factor impeding satisfactory coping with an identity crisis. Also, a few studies on the relationship between temperament, being an important factor determining the type of experienced emotions, and identity, lead to similar conclusions. In the area of professional activity there has been a positive relationship observed between extraversion and conscientiousness, elements of the Big Five (Costa & McCrae, 1992), and taking actions aimed at seeking information about career opportunities and an active search for work, which is a clearly exploratory behaviour (Cramer, 2000; Reed, Bruch, Haase, 2004). Luyckx, Soenens and Goossens (2006) have examined the relationship between the characteristics of the Big Five and the dimensions of identity, stating that extraversion, conscientiousness and agreeableness contributed to making identity commitments and identification with them, while neuroticism was negatively associated with commitments. It was the high extraversion and high conscientiousness and low neuroticism that were strongly linked with the identity achievement status, while in the case of the moratorium and diffusion (i.e., associated with lack of commitments) a high neuroticism, introversion and low conscientiousness were observed (Clancy, Dollinger, 1993). Taking into account the data showing the significant contribution of biological factors in shaping an individual's emotionality, one can almost predict their causal role in this process.

Identity formation is also influenced by external factors that make up the physical and social context of development, such as interactions with other people and their opinions of us (Kerpelmann, Pittman, Lamke, 1997), a social class (Brzezińska, et al., 2010) and professional activity (Danielsen, Lorem, Kroger, 2000), which also become reflected in coping with an identity crisis.

One of the important conditionings for identity formation is determined by the educational context of different types of schools that young people attend. This is not to be suggested, of course, that this is a one-way effect, i.e., that attending schools of a specific profile directly shapes the self-definition created by young people, since pupils/students begin lower-secondary, secondary or higher education as a result of lifetime experiences, however, this does not lessen the importance of the differences between schools, as has been observed in studies (eg. Roker, Banks, 1993). According to some researchers (Kalakoski, Nurmi,

1998), differences in the intensity of exploration and strength of commitment observed between individuals of different ages reflect coping with the demands posed among others by institutional transitions, primarily changes in the stage of education, which, for those young people are not only steps in the educational development, but also a source of crises, defined as new requirements, not always compatible with the current capabilities of young people. A school and a college or university (later on) are often the most important institutional environments for human development at the beginning of entering into adulthood. Educational institutions are considered to be environments largely supporting the process of exploration, in particular by giving a sense of physical and emotional safety, respect and acceptance (La Guardia, Ryan, 2002; Flum, Kaplan, 2006). In such an environment, young people have freedom to explore their proximal and distal surroundings, trying out different lifestyles without having to take far-reaching decisions, namely identity commitments.

Schools and colleges / universities, however, are not homogeneous environments and their impact on young people's identity depends on both the characteristics of pupils/students and the characteristics of the institution itself. Depending on the cross-section of the socio-economic background of the pupils/students, the atmosphere in the school/college/university, and the impact of educators you can expect differences with respect to identity to occur (e.g., Adams, Ryan, Keating, 2000).

The study by Roker and Banks (1993) found that schoolgirls (aged 15-18) from a private school, compared to their counterparts from a state-run school, have undertaken more identity commitments in such domains as politics and occupation. Lannegrand-Willems and Bosma (2006) demonstrated that the educational environment is more conducive to resolving an identity crisis for students with a high financial status. Luyckx, et al. (2008, also: Piotrowski, 2012) found that undergoing higher education is associated with lower exploration and clearer undertaking commitments than is the case in secondary school students. They found that taking up higher education is an event that allows young people to resolve their identity crisis to some extent as the decision involving the selection of a course of study is an identity commitment, which, at least to some extent determines a way of perceiving the future, together with the expected career development in some field. Therefore, the lower exploration and higher strength of commitments that they found among college / university students compared to secondary school students who experience more of a sense of uncertainty as to their future.

Hypotheses

What is missing in most previous studies on the relationship between the educational context and identity is the fact that students were compared at different stages of education, such as lower secondary school, upper secondary school, college / university and, therefore, they also differed in age. The studies presented in this paper have been designed to overcome this shortcoming.

The main aim of the study was to compare not only the people who are at different stages of education (lower secondary school, upper secondary school, post-secondary school, higher), but also to compare people who were at a similar level of education, and thus were of a similar age, but who attended different types of schools (Danielsen, Lorem, Kroger, 2000). It was hypothesized that general upper secondary school students, attending an institution that aims to prepare pupils for study and continuing education, should be distinguished by higher exploration and weaker identity commitments (a pattern similar to the status of moratorium) as compared technical upper secondary and basic vocational schools students, who are usually at the last stage of education before starting a full-time work, and, therefore, can be expected to show lower exploration and stronger commitments, suggesting a clearer solution to the crisis of identity. Previously the absence of this type of research, in the case of university students and students of post-secondary non-tertiary certificate courses, made it difficult to indicate the direction of potential relationships. Now the similarities and differences between educational groups in terms of position on the dimensions of identity and emotional functioning have been studied.

Subjects

A total number of 821 subjects aged between 14 and 25 years, belonging to one of six educational groups, took part in the study: (1) lower secondary school (polish: gimnazjum; $n = 253$), (2) general upper secondary school (polish: liceum; $n = 87$), (3) technical upper secondary school (polish: technikum; $n = 93$), (4) basic vocational school (polish: zasadnicza szkoła zawodowa; $n = 107$), (5) university (polish: studia wyższe; $n = 130$), (6) post-secondary school (polish: szkoła policealna; $n = 151$). There were significant age differences between the comparison groups [$F (5,815) = 1142.61$, $p < 0.001$], as the lower secondary school students were the youngest group ($M = 14.83$, $sd = 0.48$), the next age group was the general upper secondary school students ($M = 17.66$, $sd = 0.52$), technical school students ($M = 17.71$, $sd = 0.65$) and vocational schools students ($M = 17.79$, $sd = 0.83$) between whom there were no significant age differences, post-secondary school students were older than these groups ($M = 20.75$, $sd = 1.44$), and the oldest group was university students ($M = 21.61$, $sd = 1.43$), although the difference between the last two groups was small.

A large majority of the subjects lived with their parents (81.9%). Those who lived with their peers, such as friends or siblings, were 11.9% of the whole sample, but they were mostly students of vocational schools, university students and students of the post-secondary school, in the remaining groups they were rare. Only 6.2% of the total sample lived alone or with a partner, and they were mostly university students, and post-secondary students, and in the remaining groups such cases were marginal.

38.9% of respondents lived in villages or small towns (population of up to 5000), 34.1% in urban areas with population from 5 to 50 thousand, and 26.9% in

cities of over 50 thousand. The majority of respondents (63.8%) were women. In the groups of lower secondary school, general upper secondary school, technical school and vocational school the percentage of women and men was similar, whereas, among university students and post-secondary students women accounted for the vast majority, respectively 80.8% and 92.6%.

Among the university students and post-secondary school students the majority did casual work during the academic year or in summer (64.3%), 9.5% were employed part-time, and 8.4% were employed full time. 17.9% of respondents identified themselves as not looking for any job.

Research methods

Two questionnaires were used in the study.

The Dimensions of Identity Development Scale (DIDS). The questionnaire enables measurement of the position of an individual within the five dimensions of identity postulated by Luyckx et al. (Luyckx, Schwartz et al., 2008): (1) exploration in breadth (EB, the extent to which a person is looking for various alternatives in relation to their goals, values, and beliefs, for example: *I think actively about the direction I want to take in my life)*, (2) exploration in depth (ED, in-depth evaluation of decisions already taken and the choices already made, or commitments undertaken, in order to determine the extent to which an individual meets the personal standards, for example: *I actively think about if the future plans I strive for, correspond to what I really want)*, (3) ruminative exploration (RE; the intensity of an individual's concerns and problems faced by them while engaging in areas important for their identity development, for example: *I am doubtful about what I really want to achieve in life)*, (4) commitment making (CM; the degree to which adolescents have made choices about important identity issues, for example: *I have decided on the direction I want to follow in my life)* and (5) identification with commitment (IC, the degree to which a person identifies with the choices and commitments made, for example: *My plans for the future match with my true interests and values)*. Each position was rated on a 6-point scale ranging from "1" - "strongly disagree" to "6" - "strongly agree". The authors of the Polish adaptation are Brzezińska and Piotrowski (2010). Cronbach's alpha coefficient for each scale in the entire sample was, respectively, 0.70, 0.69, 0.82, 0.88 and 0.82.

The Personal Feelings Questionnaire - (PFQ-2). This questionnaire allows to measure the position of an individual on two dimensions: the shame proneness and guilt proneness. These are understood (Harder, Zalma, 1990; Czub 2012) as dysphoric affective states. A person experiencing shame may feel powerless, paralyzed, angry, embarrassed, or humiliated, they may also blush and all the time feels that they are the centre of attention. Experiencing shame is also associated with a sense that there is a risk of being rejected by mentally stronger "others" who are ready to ridicule or deride. Guilt, in turn, is associated with

perceiving oneself as having control over the behaviour that led to the feeling of guilt. An individual experiencing guilt feels remorse and regret for what they have done. The questionnaire consists of a list of 22 feelings and emotions (e.g. embarrassment, depression, enjoyment) to which the subject refers specifying how often they are experienced (0 - never, to 4 - continuously or almost continuously). Cronbach's alpha coefficient for each scale in the entire sample was, respectively, 0.83 and 0.76.

Results

Identity dimensions and shame / guilt proneness in different groups

The first step in conducted the analysis was to compare the different groups of subjects (a one-way MANOVA was used). The results of educational comparisons between groups (Table 1) were particularly important. The overall multivariate effect turned out to be significant for both the identity dimensions [Wilks' λ = 0.87, F (25,3014) = 4.74, p < 0.001, η^2= 0.03], and shame / guilt proneness [Wilks' λ = 0.96, F (10,1628) = 3.28, p < 0.001, η^2= 0.02]. Lower secondary school students got a higher score on the dimension of exploration in breadth than vocational school students. Other groups did not differ significantly from each other in this respect, there were also no significant differences on the dimension of exploration in depth. Compared to vocational school, university and post-secondary school students, lower secondary school students and general upper secondary school students were characterized by a higher intensity of ruminative exploration. Lower secondary school and general upper secondary school students got the lowest score on the scale of commitment making, the biggest difference occurred in comparison to university students and post-secondary students. General upper secondary school students, compared to vocational school students, university students and post-secondary students also identified themselves with the undertaken commitments to the smallest degree of all studied groups. This group also showed a significantly higher intensity of the tendency to experience shame and guilt than was the case among students of technical school, vocational school and university students, between which there were no significant differences.

Apart from the educational situation, the housing situation of the subjects turned out to be significantly associated with dimensions of identity [Wilks' λ = 0.97, F (10,1570) = 2.24, p < 0.05, η^2 = 0.01]. Subjects living on their own or with a partner got a lower score on the dimension of ruminative exploration and higher score on the dimension of commitment making than those living with their parents or with a group of peers. There were no differences between these groups on the dimensions of shame and guilt [Wilks' λ = 0.99, F (4,1576) = 1.25, p > 0.05, η^2 < 0.01]. It should be noted that people belonging to these three groups differed in age [F (2,789) = 91.71, p < 0.001, η^2 = 0.19]: living with parents M = 17.46, sd = 2.57,

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living with siblings / friends $M = 20.02$, $sd = 1.77$, living alone or with a partner $M = 21.33$, $sd = 2.09$, which may contribute to the pattern of results.
(See: Table 1 - next page)

An important factor differentiating the position on the dimensions of identity [multivariate effect: Wilks' $\lambda = 0.98$, $F(5,812) = 3.04$, $p < 0.05$, $\eta^2 = 0.02$] and the shame and guilt proneness [multivariate effect: Wilks' $\lambda = 0.99$, $F(2,815) = 3.98$, $p < 0.05$, $\eta^2 = 0.01$] was gender. Overall, women were characterized by a higher intensity of exploration in breadth and in depth, as well as a higher tendency to experience shame and guilt.

In addition to the relationships described above in several cases there were no inter-group differences. Thus, there was no significant relationship between either the dimensions of identity or the shame and guilt proneness and parents' level of education or the size of the place of residence. In the group of university students and post-secondary school students identity was also not linked with the fact of their work, regardless of whether it was part or full-time work. However, amongst those working full-time ($M = 1.47$, $sd = 0.63$), in comparison to those not working at all ($M = 1.86$, $sd = 0.66$), there was a slightly lower (at a statistical trend level) intensity in the guilt proneness [$F(2,259) = 2.40$, $p < 0.1$, $\eta^2 = 0.03$].

Relationships between identity dimensions and shame / guilt proneness

Correlations between age and identity along with shame and guilt proneness were quite weak (Table 2). Ruminative exploration, defining difficulty with commitments issue, was negatively correlated with age, while the dimensions of commitment, especially commitment making, were positively correlated with age. The shame and guilt proneness was not identified as being related to the age of the subjects.

The tendency to experience shame was positively related to the dimensions of exploration and most strongly with the ruminative exploration, among others, yet negatively correlated with both dimensions of commitment. In the case of the guilt dimension the relations were similar,

though weaker in most cases. First of all, there was no observed relationship between the tendency to experience guilt and the dimensions of commitment, although also in this case the correlation between the guilt proneness and the dimensions of exploration was positive.

The relationship between particular dimensions of identity were completely consistent with other studies conducted using the same measure (Luyckx, et al., 2008). There were positive correlations between all the dimensions of exploration as well as between (adaptive) explorations in breadth and in depth and the dimensions of commitment. Ruminative exploration was negatively related to both dimensions of commitment. Shame and guilt were quite strongly positively correlated.

Identity statuses and psychological / contextual factors

In order to capture the multivariate interactions between particular identity dimensions and to discover the diversity present in the sample a two-step procedure for cluster analysis was applied, so as to identify distinct identity statuses in the total sample (Gore, 2000, see also: Luyckx, Schwartz, Berzonsky, Soenens, Vansteenkiste, Smits, Goossens, 2008; Crocetti, Schwartz, Fermani, Klimstra, Meeus, 2012).

Prior to the main part of the procedure the outliers were removed: 3 univariate (scores above or below the third standard deviations from the mean for any of the five identity dimensions) and 22 multivariate (a large Mahalanobis distance value; $p < 0.001$).

In the first step, hierarchical cluster analysis (Ward's method, based on squared Euclidian distances) was conducted, comprising: three, four, five, six and seven clusters, which were then evaluated in terms of construct validity (Luyckx, et al., 2008), the parsimony criterion (each cluster had to be characterized by a different configuration of dimensions, and not only by their intensity) and the explanatory power: the percentage of the variance of separate dimensions explained by the cluster solution (not less than 50% of variance explained for each of the dimensions). On the basis of these criteria, it was decided that the optimum number was of four clusters. The second stage of the analysis was applying the initial centres of four clusters of hierarchical analysis as a starting points for

Tab. 2. Correlations between age, identity dimensions and shame / guilt proneness (*N*=821)

dimensions	2	3	4	5	6	7	8
1. age	-0.07	0.01	-0.23***	0.20***	0.10**	-0.04	-0.05
2. exploration in breadth	---	0.72***	0.20***	0.17***	0.36***	0.10**	0.14***
3. exploration in depth		---	0.13***	0.22***	0.35***	0.14***	0.15***
4. ruminative exploration			---	-0.71***	-0.54***	0.27***	0.15***
5. commitment making				---	0.77***	-0.22***	-0.08
6. identification with commitment					---	-0.20***	-0.05
7. shame proneness						---	0.62***
8. guilt proneness							---

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

Tab. 1. Identity dimensions and shame / guilt proneness in different educational groups

variables	educational groups						$F(\eta^2)$
	lower secondary school ($n = 253$)	general upper secondary school ($n = 87$)	technical upper secondary school ($n = 93$)	basic vocational school ($n = 107$)	university ($n = 130$)	post-secondary school ($n = 151$)	
exploration in breadth	3.24[b] (0.74)	3.10[a,b] (0.91)	3.18[a,b] (0.71)	2.94[a] (0.87)	3.12[a,b] (0.70)	3.18[a,b] (0.71)	2.62* (0.02)
exploration in depth	3.01 (0.81)	2.97 (0.87)	3.06 (0.62)	2.89 (0.80)	2.96 (0.71)	3.15 (0.62)	ns
ruminative exploration	2.79[b] (1.04)	2.78[b] (1.06)	2.47[a,b] (1.03)	2.36[a] (0.96)	2.31[a] (0.96)	2.16[a] (1.05)	10.03*** (0.06)
commitment making	2.79[a,b] (1.13)	2.63[a] (1.12)	3.13[b,c] (1.00)	3.03[b,c] (1.03)	3.18[c] (0.96)	3.41[c] (0.91)	9.88*** (0.06)
identification with commitment	3.22[b,c] (0.82)	2.78[a] (0.92)	3.35[b,c] (0.82)	3.10[b] (0.96)	3.35[b,c] (0.84)	3.43[c] (0.73)	8.08*** (0.05)
shame proneness	1.33[a,b] (0.71)	1.48[b] (0.73)	1.18[a] (0.73)	1.09[a] (0.73)	1.21[a] (0.58)	1.33[a,b] (0.71)	4.05** (0.02)
guilt proneness	1.82[a,b] (0.66)	2.03[b] (0.67)	1.74[a] (0.65)	1.63[a] (0.67)	1.81[a,b] 0.66)	1.73[a] (0.61)	4.28** (0.03)

variables	housing situation			$F(\eta^2)$
	living with parents ($n = 649$)	living with peers/siblings ($n = 94$)	living alone/with partner. spouse ($n = 49$)	
exploration in breadth	3.16 (0.77)	3.14 (0.78)	2.99 (0.80)	ns
exploration in depth	3.01 (0.75)	3.03 (0.72)	3.00 (0.81)	ns
ruminative exploration	2.55[a] (1.04)	2.47[a] (0.91)	1.86[b] (1.12)	9.81*** (0.02)
commitment making	2.99[a] (1.07)	3.02[a] (0.98)	3.52[b] (0.98)	5.74** (0.01)
identification with commitment	3.21 (0.84)	3.21 (0.95)	3.47 (0.89)	ns
shame proneness	1.28 (0.71)	1.27 (0.72)	1.19 (0.65)	ns
guilt proneness	1.81 (0.66)	1.68 (0.66)	1.75 (0.57)	ns

variables	gender		$F(\eta^2)$
	men ($n = 296$)	women ($n = 522$)	
exploration in breadth	3.04 (0.76)	3.21 (0.76)	8.05** (0.01)
exploration in depth	2.92 (0.77)	3.07 (0.73)	7.60** (0.01)
ruminative exploration	2.51 (0.97)	2.50 (1.09)	ns
commitment making	3.03 (1.06)	3.02 (1.07)	ns
identification with commitment	3.20 (0.90)	3.25 (0.83)	ns
shame proneness	1.20 (0.70)	1.32 (0.70)	6.10* (0.01)
guilt proneness	1.71 (0.68)	1.84 (0.64)	6.76** (0.01)

Note: Mean values with different indices differ significantly (*post-hoc* Tukey HSD). Standard deviation in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

the k-means cluster analysis. The resulting solution (Fig. 1) allowed for an explanation of 52% of the variance of exploration in breadth, 56% of the variance of exploration in-depth, 58% of the variance of ruminative exploration, 64% of the variance of the commitment making and 58% of the variance of identification with commitment.

The diffused diffusion cluster cluster ($n = 174$, 21.9%) was that that had got low scores on the dimensions of adaptive exploration (in breadth and in depth) and the two dimensions of commitment, but a high score on the scale of ruminative exploration. Subjects representing the ruminative moratorium cluster ($n = 228$, 28.6%) were characterized by high scores on the exploration dimensions in breadth and in depth, but average results in other dimensions. The identity foreclosure cluster ($n = 167$, 21.0%) got low scores on all dimensions of exploration and moderately high scores on the dimension of commitment making and the identification with commitment. While the group of the identity achievement ($n = 227$, 28.5%) included those with high scores on the dimensions of commitment and adaptive exploration (in breadth and in depth) and low on ruminative exploration.

Not much difference was observed in terms of mean age between subjects belonging to separate clusters ($F (3,792) = 8.32$, $p < 0.001$, $\eta^2 = 0.03$), yet those in the diffusion ($M = 17.47$, $sd = 2.53$) and moratorium ($M = 17.63$, $sd = 2.62$) clusters were younger than the foreclosed ($M = 18.44$, $sd = 2.83$) and achieved ($M = 18.55$, $sd = 2.79$) subjects.

There were also some differences in the frequency of clusters in different educational groups (X^2 (df = 15, $N = 796$) = 41.58, $p < 0.001$; Figure 2). In lower secondary school and general upper secondary school diffusion and moratorium statuses dominated, but subjects from other educational groups clearly revealed the identity achievement status and, except for students of vocational school, also the identity foreclosure status. An interesting diversity occurred among students of basic vocational school. In this group the dominant statuses were: diffusion and achievement. Among university students and post-secondary students there was also some diversity. In both groups the most common identity status was achievement, but among the university students there was a higher, than among post-secondary students, proportion of people with the identity foreclosure and in the post-secondary group there were more subjects with the moratorium status than there were among university students.

A slight difference in the incidence of clusters was observed between men and women [X^2 (df = 3, N = 793) = 8.12, $p < 0.05$]. The identity foreclosure status was slightly more often observed among men (25% vs. 18% in women) and the identity moratorium status among women (31% vs. 25% in men). For the rest of the identity statuses similarities between men and women were observed.

Some diversity occurred between clusters for the shame and guilt proneness [Wilks' $\lambda = 0.93$, $F (6,1582) = 9.20$, $p < 0.001$, $\eta^2 = 0.03$, Table 3]. In the first case, a higher score was observed in the groups of identity diffusion and moratorium and a lower score among the subjects of the identity foreclosure and achievement groups. A weaker effect occurred with respect to the dimension of guilt. The direction of the relationship was similar to that in the previous case, although there was no significant difference between the identity diffusion and achievement.

Discussion

There were two main objectives of the study. Firstly, the discovery of differences in terms of identity and emotional functioning between individuals differing in age

Figure. 1. Identity statuses
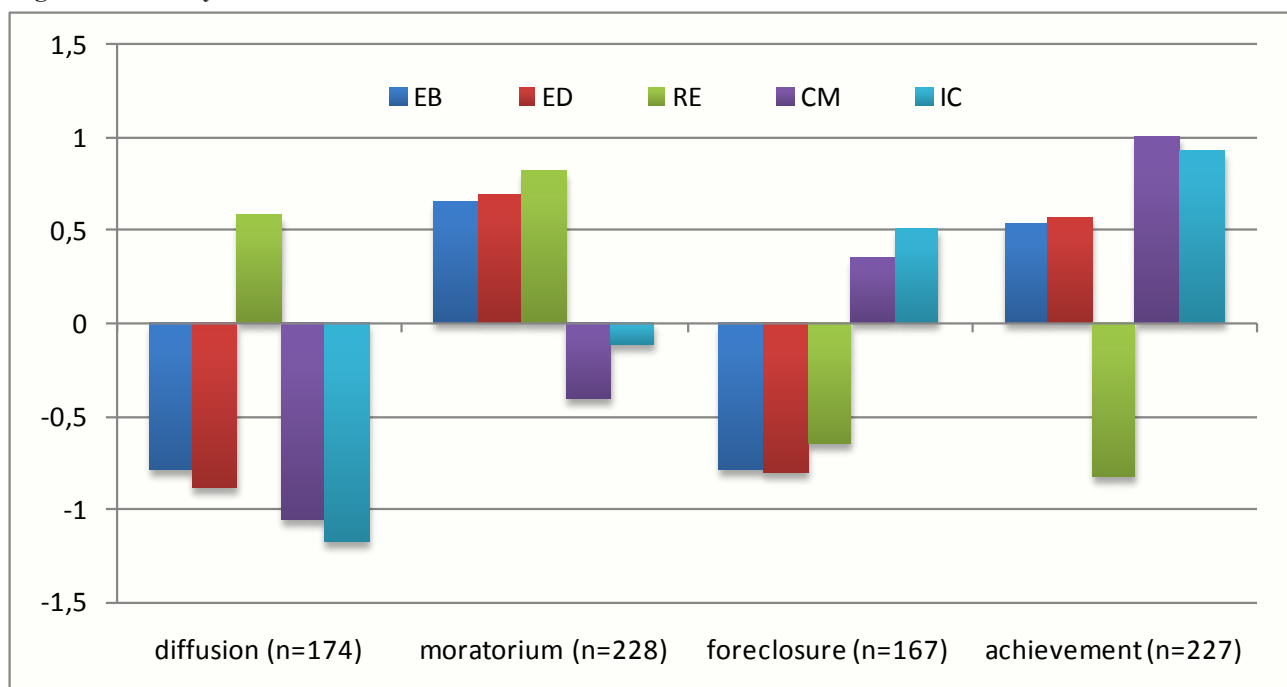
and/or educational situation, and secondly to determine the strength of the relationship between the identity dimensions and the intensity of proneness to experience shame and guilt.

To achieve this some people were examined, pupils attending lower secondary school, so being during early / middle adolescence, secondary school students (general upper secondary school, technical upper secondary school and basic vocational school), so late adolescents and university students and post-secondary students, referred to as emerging adults (Arnett, 2000). All participants of the study were still in the educational system and, therefore, a small number ran a household on their own or had a permanent job.

The comparison of secondary school students leads to the conclusion that the different paths they choose after the lower secondary stage are related to their different functioning, at least in the perspective of the two examined areas: identity and emotional functioning. Attending a general upper secondary school, which is usually associated with the prospect of a future of higher education and continuing education for several years, is linked with a more pronounced identity crisis than it is among technical and vocational school students. The explanation of this effect may be the very different time perspectives adopted by secondary, technical and basic vocational school students, with the latter probably expecting to soon enter the labour market.

Young people make their first serious steps in the adult world relying heavily on their plans for the future, creating a vision of themselves in the future and having a view of its fulfilment (Nurmi, Poole, Seginer, 1995). According to research by Czerwińska-Jasiewicz (2005), 85% of secondary school leavers (18-20 years old) in Poland have got plans covering a period of at least the next ten years, and they differ from 14 and 15-year-olds in this respect that these plans are concrete and lasting and thus provide a starting core, around which the individual's activity is shaped. Of course the content of the plans is also very significant, for example, the expected age at which young people are planning to implement specific ideas related to undertaking the social roles of adulthood. It affects their current activities, decisions, and can also affect both current and future functioning (Carroll, Willoughby, Badger, Nelson, Barry, Madsen, 2007; Katra, 2008). General upper secondary school students are aware that there are still several years of education in front of them, therefore, they are less involved in making binding decisions about their own lives. Students of technical and basic vocational schools, who after this stage often finalize their studies, are certainly aware of the fact that soon there will be the need for commitment to the roles of adulthood (e.g., getting full-time work), thus there may be more commitments and a stronger identification with them.

Overall, in terms of their identity general upper secondary school students are similar to lower secondary school students and are clearly struggling with an identity crisis, while technical and basic vocational school students are more like the somewhat older by a few years university students and post-secondary school students. Parents of technical and basic vocational school students more often, than those of general upper secondary school students, had lower (basic or vocational) education, which may be indicative of their lower social status, but also of the lesser extent of support, especially financial, that may be available from the parents. As the analyzes by Sińczuch (2002) shows this situation is associated with the earlier taking up of adult social roles, but also as it has been shown in the presented research with a clearer resolution of the identity crisis than among general upper secondary school students.

Figure. 2. The frequency of identity statuses in the educational groups

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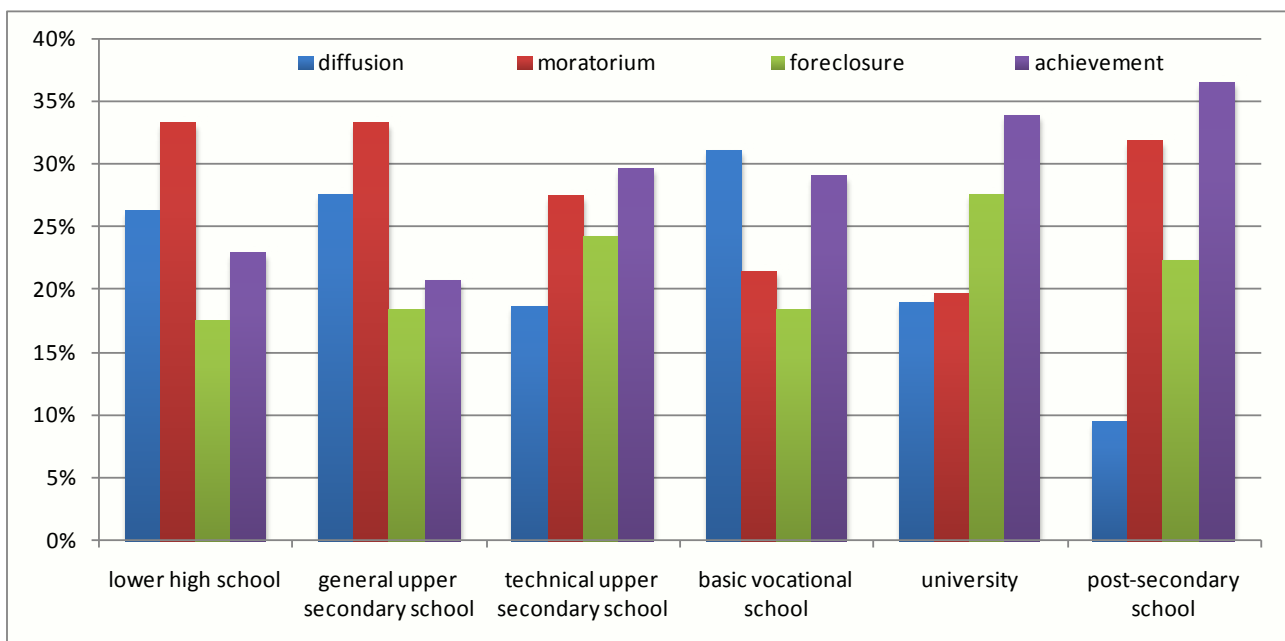
Tab. 3

Shame / guilt proneness among participants with different identity statuses (means and standard deviations)

dimension	Identity status				$F (\eta^2)$
	Difussion ($n = 174$)	Moratorium ($n = 228$)	Foreclosure ($n = 167$)	Achievement ($n = 227$)	
shame proneness	1.41 (0.77)[a]	1.43 (0.66)[a]	1.06 (0.57)[b]	1.11 (0.64)[b]	16.77* (0.06)
guilt proneness	1.81 (0.70)[b,c]	1.91 (0.63)[c]	1.64 (0.65)[a]	1.74 (0.62)[a,b]	6.31* (0.02)

Note: Mean values with different indices differ significantly (*post-hoc* Tukey HSD). Standard deviation in parentheses

* $p < 0,001$

In the case of the shame and guilt proneness the effects were weaker than in the case of the identity dimensions. However, there were also significant differences between general upper secondary school students and technical and basic vocational school students. In the first of these groups the intensity of experiencing shame got a higher score, which may suggest a generally lower overall maturity of general upper secondary school students, also in the emotional dimension.

There were no significant differences between university students and post-secondary school students in terms of identity, or the tendency to experience shame and guilt, which indicates that these forms of education may be close to each other in the social contexts of personality development.

Some of the weak correlations between age and identity dimensions had their origins, among others, in the inclusion of the technical and basic vocational school students into the research. If these groups were absent the differences between general upper secondary school students and university students would have led to a stronger correlation between these variables. However, the significant correlation of ruminative exploration and commitment making with age indicates a more and more pronounced ability to cope with an identity crisis in line with the advancement of education.

As expected the high tendency to experience shame (and to a lesser extent, the tendency to experience guilt) is associated with higher exploration, ruminative exploration in particular, clearly showing the intensity of the identity crisis and the difficulty of its resolution. However, the results obtained through cluster analysis showed that the correlation of shame and identity is rather non-specific. A strong tendency to experience shame (and to a lesser extent, the tendency to feel guilt) occurred in both the identity diffusion, connected with problems with identity crisis resolution, and moratorium, which is usually treated as normative and adaptive as it allows for the gaining of a variety of experiences and subsequent commitment making. A low level of shame, in turn, was observed among people with identity foreclosure, who are rigid and resistant to change, as well as with those with identity achievement, who are more adaptive and flexible in nature. A high level of shame is associated with a high intensity of exploration and low commitment, but does not determine whether this type of exploration takes an adaptive or maladaptive form.

The results, however, shed some light on the often revealed identity differences between men and women, suggesting that the intensity of exploration among women is higher and, as a result, that their identity could be more susceptible to change (Luyckx, Schwartz, Berzonsky, Soenens, Vansteenkiste, Smits, Goossens, 2008). Women show a higher proneness to feel shame and guilt, which may underlie these differences. Research on cross-sexual differences in temperament (Strelau, 1998) have shown that women receive higher scores on emotional reactivity, perseveration and sensory sensitivity, while men are characterized by higher activity, endurance and agility. Therefore, it is women who may be more likely to experience negative emotions, including shame and guilt, since they differ from men in the strategies of identity formation (Schwartz, Côté, Arnett, 2005). Although both sexes make commitments and identify with them at the same level, yet primarily it is still women who experience problems and concerns with greater intensity, and, secondly, they have a stronger tendency to analyze the quality of the accordance between commitments and their own expectations and standards.

The study presented in this paper sheds some light on the relationship between identity and the educational context and shows that using age as the main independent variable in a study of development is a too far-reaching simplification. Differentiation of young people due to their different social context of development is also an important or perhaps even more important factor and cannot be circumvented by reducing inter-individual differences purely to a different in age group.

One of the shortcomings of this study was the significant over-representation of women in the groups of university and post-secondary students. Given the predisposition of women to exploration this could have had a significant impact on the overall picture of the results, which should be checked in future studies. The obtained results can especially be used in the field of education, both from the point of view of practice, i.e. work, including educative work with students of different types of schools, as well as in scientific research where the context of different types of educational institutions should not be neglected.

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