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Social participation, identity style and identity dimensions in late adolescence among students of three types of vocational schools

Abstract: Departing from the model suggested by Luyckx, Schwarz, Berzonsky et al. (2008), the relationships between identity and educational context, social participation, and identity information processing style were investigated. Participants were 972 students from six vocational schools in Poznań. The students, within these six schools, attended Grades I-III of three types of vocational schools: basic vocational schools (n=271), technical upper secondary schools (n=448), and specialized upper secondary schools (n=253). Three questionnaires were used: The Dimensions of Identity Development Scale (DIDS/PL), which measures five identity dimensions according to the concept of Luyckx, Schwarz, Berzonsky et al. (2008), Social Participation Questionnaire, developed by Brzezińska, Rękosiewicz and Hejmanowski (see Rękosiewicz, 2013b), enabling identification of the type of social participation, and the Polish adaptation of M. Berzonsky's Identity Style Inventory 4 (ISI-4) authored by A. Senejko (2010), to examine identity styles. The results showed that the students from basic vocational schools and technical upper secondary schools were more often characterized by the normative identity style, whereas the students from specialized upper secondary schools manifested a greater tendency to engage themselves in exploration, both adaptive and ruminative.

Key words: commitment, educational context, exploration, identity dimensions, identity style, social participation, vocational school

The aim of this paper is to present the results of studies in which identity features were analyzed in the context of styles of processing identity problems and types of social participation of young individuals in the phase of transition from early to late adolescence, i.e. students of basic vocational schools, technical upper secondary schools and specialized upper secondary schools. Young people, after finishing their education in junior secondary schools, who choose one of these educational paths have seldom before been of interest to psychologists (see demands for greater heterogeneity of investigated groups in the publications of: Danielsen Lorem, Kroger, 2000; Galambos, Leadbeater, 2000; Schwartz, 2005).

The period of transition from early to late adolescence, during which a large majority of young people choose their further educational path and/or work, is also, or perhaps above all, a time of important life choices, which should be preceded by numerous probes and quests for the

subjectively most suitable alternatives. It can also be the time of undertaking risky behavior. Thus, the question about the resources, that young people who are building their identity during the period of adolescence and transition to adulthood, have at their disposal and how that depends on the character of their family and school environments seems legitimate.

Problem

The effects of the process of identity formation in the form of a particular identity status with which a young person enters adulthood have significant meaning for the undertaking of new social roles by an individual. These roles are connected with such developmental tasks as finishing obligatory education, starting to work, leaving the parental household, establishing one's own household, building a stable relationship, and having children (e.g. Frisen, Wängqvist, 2010).

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Identity is a construct that integrates both the effects of the process of identity formation in the life cycle, and its determinants, arising from personal characteristics and the quality of social context (Erikson, 1968). Since the Age of Enlightenment, the start of industrial development and complication of social structures, human identity has been gaining increasing importance in deliberations on the determinants of life accomplishments. Particularly significant in Erikson's notion of identity seems to be the integration in to it of the aspects of "for myself" and "for others", i.e. developing both a sense of identity and the structures of identity that enables one to adapt to their environment. Very popular interpretations and operationalizations of Erikson's concept, suggested by Marcia (1966) and Waterman (1990), have been criticized for placing too much emphasis on the individualized process of identity formation and for locating identity in the psychological rather than the psychosocial sphere, thereby not taking into consideration its dependency on social phenomena (Côté, Levine, 1988, 2002).

In the literature one can more and more frequently encounter reflections on the alarming quality of the adjustment of young people's identity to the social conditions in which they develop in the contemporary world of liquid (post) modernity (Bauman, 2006). On the other hand, it has been pointed out that in the rapidly changing postmodern reality identity has become an object of free interpretation (Gee, 2000), entirely dependent in its content and construction on the social context. Hence, in contemporary societies, contrary to those of "modernity societies", there is a lack of "correct", "prototypical" patterns of identity that would enable young people to refer their own quests to a particular social pattern. This "identity freedom" has become the source of a question about the degree to which identity itself can be still perceived as a "psychosocial" phenomenon in Erikson's understanding, i.e. experienced at the same time at the personal level and confirmed in a particular social order by significant others in relations important to the adolescent (see Smykowski, 2012).

In response to theses postulated by some researchers (e.g. Grotevant, 1987; Schwartz, 2005), according to which contemporary models of identity formation should to a greater extent than before enable its dynamic description, there have emerged processual models of identity development, including the dual-cycle model of identity formation (Luyckx, Soenens, Vansteenkiste, Goossens, Berzonsky, 2007, see also Fig. 1 in: Brzezińska, Piotrowski, 2010).

Marcia's (1966) classic distinction between two types of processes, i.e. exploration and commitment on the basis of which identity statuses can be distinguished, has been augmented by exploration in breadth (the extent to which an individual seeks for alternatives for his or her goals, values and beliefs), exploration in depth (deepened evaluation of choices and decisions already made, i.e. undertaken commitments, in order to assess the level to which they comply with personal standards) and ruminative exploration (indicative of the level of fear and problems experienced by the person with engagement in areas that

are important from the developmental point of view), and two types of commitments: commitment making (the degree to which the person has already made choices and commitments in respect of issues important for identity development) and identification with commitment (the degree to which the person identifies with his or her choices and undertaken commitments, after: Piotrowski, 2013 – this issue, see also: Luyckx, Schwartz, Berzonsky et al., 2008; Rękosiewicz, 2013a – this issue). This developed model enables the distinguishing of two new forms of identity that can be achieved in the period of adolescence and early adulthood as a result of different configurations of types and levels of exploration and commitments (see Tab.5 in: Brzezińska, Piotrowski, 2010). On the basis of this model, Koen Luyckx's team developed a tool (The Dimensions of Identity Development Scale, DIDS, Luyckx, Schwartz, Berzonsky, Soenens, Vansteenkiste, Smits, Goossens, 2008; Polish adaptation – DIDS/PL: Brzezińska, Piotrowski, 2011a, 2011b) that has become the basis for our studies. This model, to a greater extent than earlier proposals, allows for the psychosocial aspect of identity development, i.e. its formation in the context of the mutual transactions of different quality between a person and their environment (Bosma, Kunnen, 2001). Studies conducted so far indicate that exploration decreases and commitments increase with age and the undertaking of tasks characteristic of adulthood (Luyckx, Schwartz, Goossens et al., 2008; Brzezińska, Piotrowski, 2010).

Exploration and commitment, as fundamental processes of identity formation in adolescence, are also connected, in the opinion of Grotevant (1987, p. 204), with acquisition of information about oneself and the world that is targeted at making specific choices in the future and with developing behaviors that aid identity problem solving. Flum and Kaplan (2006, p. 100) discuss exploration directly in terms of a set of external and internal activities that enable a person to acquire and process information about themselves and about the external world in order to possess knowledge that is necessary for identity formation.

In our analysis, the internal activities that serve as a means of identity identification and formation are the processes of self-relevant information processing described by Michael Berzonsky (1989, 1992). The cognitive styles of self-relevant information processing distinguished by this author, known as identity styles (informational, normative and diffuse/avoidant style), pertain to strategies of engaging in or avoiding tasks (information) associated with identity formation.

Identity styles are interpreted as stable and durable characteristics that accompany differentiation of the level and quality of exploration and commitment (Berzonsky, 1990; Schwartz, 2001), hence in our model they were treated as an explaining variable mediating the process of identity formation and its changeability during the period of adolescence. The aim of the studies presented in this paper was to obtain information about the relationships between the process of identity formation (identity dimensions) and ways of information processing (identity styles) in young people.

Hitherto research results indicate that the procedures of information processing are an important factor in the mechanism of commitment making and formation of the sense of identity (Berzonsky, 2003). The normative style was most frequently observed in individuals with identity foreclosure (low level of exploration and high level of commitment) and with identity achievement (high levels of both exploration and commitment), the informational style – in people with identity achievement and moratorium (high level of exploration, low level of commitment), whereas the diffuse/avoidant style – in individuals with identity diffusion (low levels of both exploration and commitment) (see Berzonsky, Neimeier, 1994, Bermann et al. 2001, Krettenauer, 2005, Adams et al. 2006, Berzonsky, 1989, 1990; Berzonsky, Kuk, 2000; Schwartz, Mullis, Waterman, Dunham, 2000; Streitmatter, 1993). The normative style also more frequently proved to correlate with commitment (Berzonsky, 2003). Moreover, the results indicate that the normative style correlates with exploration in depth, which can be attributed to a deepened recognition of ideas taken from significant others (Eryigit, Kerpelmann, 2011).

In turn, as external activities (see Flum, Kaplan 2006), which serve as a means of constructing an identity that is congruent with social context and personally adequate, we treat actions undertaken by adolescents in the process of exploration. This is because building an identity, understood as a developmental task, is strongly connected with an integration of the individual experiences and capacities of a person with the socially expected perspective of the future, which requires mastering the so-called temporal competence, i.e. an ability to apply the abstract notion of time, thus surpassing the currently available conception of one's own activity. A readiness to understand time as an individual space that contains current and future events develops with operational, deductive thinking. First, it enables a child to orientate themselves in current experiences (see the effects of the crisis at age 7 – Wygotski 2002a; development of concrete operations – Piaget, 2006), and later, in early adolescence, it enables orientation in time that is inaccessible to current experience, but which is, however, potentially available to determine according to one's own interests (Wygotski, 2002b).

The emergence and utilization of a prolonged time perspective becomes a fundamental attribute of the process of identity formation, which enables a person to progress from a hedonistically-oriented diffusion state (see Erikson, 1997; Boniwell, Zimbardo, 2007) to exploration and decision making based on commitment that yields satisfaction in the planned future that is congruent with personal objectives. Temporal orientation also forms the basis of self-regulation, both at the behavioral and emotional level (Oleś, 2011, p. 60). Social participation understood in such a way (to a greater or lesser extent future-oriented) underlies in our model the manner of information processing (identity style) understood as a process of a certain cognitive balancing between information coming to the person and their readiness to use this information in the process of self-determination. Cognitive availability of the future perspective determines in our model identity style

and its dimensions.

Departing from the model of Reinders and Butz (2001), we distinguished in our experimental model two types of social participation connected with two dimensions of temporal orientation. Transitive orientation (see Rękosiewicz, 2013a) refers to actions targeted at goals deferred in time, whereas in the case of moratorium orientation these actions pertain to short-term objectives, associated with the current state of the person. The transition from present to future orientation has been investigated in the context of young people's professional identity development (Yeager, Bundick, Johnson, 2012), and also in the context of the quality of objectives formulated by youngsters (Duriez, Luyckx, 2012). Temporal orientation with reference to young people's identity was also analyzed in the light of the time perspective model proposed by Zimbardo and Boyd (1999). In the analyzes of, for example, Dunkel and Sefcek (2009) strong dependencies between the quality of identity and future time perspective were found.

Of crucial importance in this area is the development of formal thinking, based on generalized and abstract concepts, that enables a more systematic reference of one's own motives and needs to the proposed by your environment current and future social roles (Piaget, 2006; Wygotski, 2002). The development of conceptual, formal thinking also makes the evolution of the ways of processing information about the world possible as well as the strategies of relating the information content to one's personal order and individual experiences (Berzonsky, 1989).

The readiness of young people for a particular type of social commitment is connected, on the one hand, with the process of identity formation (Luyckx, Schwartz, 2011; Mianowska, 2008) and, on the other hand, with the level of the challenge and support from significant others as well as access to those significant others (Rich, Schachter, 2011; Sinai, Kaplan, Flum, 2012). At this point the transactional character of the relationship between the development of identity and undertaken social roles ought to be stressed. As it has been pointed out by Piotrowski (2012), the direction of influence of these two constructs suggests both that commitment to an "adult" role has an effect on the quality of identity and that the type of identity order influences the level of the subjective sense of adulthood and the readiness to undertake social roles (see Benson, Furstenberg, 2007).

In the light of these considerations, school type seems to be a significant factor determining both the manner of defining life objectives by young people and the type of social participation, i.e. commitment to roles and activities that help the fulfillment of the current and future tasks. The results of the research conducted in Poland by Rękosiewicz (2013a) demonstrate that age differentiates the type of social participation– early adolescence is dominated by moratorium-oriented activities, and late adolescence by transition-oriented activities. This research also indicates that in schools targeted at forming a particular professional identity, a higher percentage of young people are characterized by transition orientation.

School type also differentiates identity dimensions as suggest Kaczan, Brzezińska, Wojciechowska, (2013 –

in preparation). Their analyses shows that the highest percentage of young individuals with identity achievement can be found in post-secondary schools, which is consistent with the theoretical assumptions. While secondary schools and junior secondary schools are characterized by a high percentage of students with identity moratorium, and vocational schools have the highest percentage of students with identity foreclosure. Similar characteristic differences can be found in the case of identity dimensions. Secondary school students got the highest scores at the dimension of ruminative exploration, and students from post-secondary schools had the highest levels of commitment making and identification with commitments. These results point to a need for some more profound investigation of the interactions between educational environment and identity development path, based both on an analysis of the manner of information processing and social commitment, also shaped in the context of the type of school education.

Hypothesis

With reference to the theory of identity statuses proposed by James Marcia (1966), re-conceptualized by Koen Lyckx et al. (2007), we searched for an answer to the question about the way in which educational environment differentiates the way of processing information about the world and the type of social engagement (social participation) that jointly serve, via observation, comparison, confrontation and reflection, as a means of achieving identity.

We suspect that the informational identity style will correlate positively with the two dimensions of commitment (commitment making and identification with commitment) and with exploration in breadth and in depth and, at the same time, negatively with ruminative exploration. The normative identity style, according to our predictions, will be connected positively with commitments, and negatively with ruminative exploration. We also expect that the diffuse/avoidant style will correlate positively with ruminative exploration and negatively with commitment making and identification with commitment.

Moreover, we assume that the type of social participation will be connected with identity styles and, indirectly through identity styles, with identity dimensions: (1) moratorium orientation will be positively connected with diffuse/avoidant style and ruminative exploration, and (2) transitive orientation will correlate positively with the informational and normative style, as well as with the two dimensions of commitment.

Subjects

In the studies conducted in 2012 the participants were 972 students in Grades I-III attending three types of schools: basic vocational schools ($n = 271$), technical upper secondary schools ($n = 448$) and specialized upper

secondary schools ($n = 253$). Mean age in the investigated sample was 17.23 years ($SD = 0.94$). Age differences between students from particular types of schools were statistically significant [$F(2,950) = 38.86$; $p < 0.001$]. The students from technical upper secondary schools ($M = 16.95$; $SD = 0.89$) were significantly younger in comparison to the students from basic vocational schools and specialized upper secondary schools (respectively: $M = 17.5$; $SD = 0.98$ and $M = 17.4$; $SD = 0.84$). In the whole sample, there were 495 females (51.1%). In basic vocational schools females constituted approximately 82% of the subjects. In technical upper secondary schools males dominated (70%), whereas in specialized upper secondary schools the percentage of males and females was comparable. The table number one presents the level of education of the parents of the tested students.

Table 1. Education of parents of tested students

Student's educational status		Parent's education		
		Elementary or basic vocational education	Upper secondary education	Higher education
Basic vocational school	mother	59.30%	34.20%	6.50%
	father	71.00%	23.50%	5.50%
Technical upper secondary school	mother	36.50%	40.20%	23.30%
	father	45.20%	33.20%	21.60%
Specialized upper secondary school	mother	33.90%	40.70%	25.40%
	father	44.70%	32.30%	23.00%

In the next step, the professional activity of the parents of the investigated students was checked. At the time of the study, 79% of mothers and almost 90% of fathers worked. The highest percentage of professionally inactive fathers (16.5%) could be observed among the students from basic vocational schools [$\chi^2(2, n = 897) = 17.77$; $p < 0.001$; Cramer's $V = 0.14$; $p < 0.001$]. In all the investigated types of schools, students who lived with their families dominated: basic vocational school students – 92.8%, technical upper secondary school students – 88.8%, and specialized upper secondary school students – 92.4%. In the whole sample, 33.3% of the students did not have any work experience, 55.7% had little work experience (e.g. in a family business or odd jobs during holidays) and 11% of the subjects undertook regular professional activity (for example obligatory professional training programs offered by entrepreneurs and schools).

Research methods

DIDS/PL: Dimensions of Identity Development Scale.

This scale was developed by a team under the supervision of Luyckx (Luyckx, Schwarz, Berzonsky et al., 2008), and its Polish adaptation was prepared, with the consent of the authors, by Brzezińska and Piotrowski (2011a, 2011b)¹. The authors of DIDS treat the basic mechanisms of identity formation, i.e. exploration and commitment (Marcia, 1966) as complex processes engaged in two cycles: (1) building a

¹ The adaptation was prepared with the consent of the authors of the original version, under the systemic project EFS / PFRON, undertaken at the University of Social Sciences and Humanities in Warsaw – project no. WND-POKL-01.03.06-00-041/08 pt.: *Nationwide survey on the situation, needs and opportunities of people with disabilities* (project leader: Professor Anna I. Brzezińska; head of the research unit responsible for the adaptation of DIDS and preparation of the Polish version of DIDS/PL: Konrad Piotrowski, PhD).

system of identity commitments (exploration in breadth as a basis for commitment making), and (2) evaluation of the system of commitments (exploration in depth as a basis for identification with commitment). Luyckx and his colleagues postulated also the dimension of ruminative exploration, which allows for a “dark side” of the exploration process in research on identity, that is connected with uncertainty, disorientation and anxiety. The questionnaire is composed of five scales: exploration in breadth, exploration in depth, ruminative exploration, commitment making, and identification with commitment (for the theoretical basis of the tool and description of the five dimensions of identity, see Brzezińska, Piotrowski, 2010, 2011a, 2011b). It is comprised of 25 items, however, due to a low discriminating power (correlation with an overall result of the scale <0.45) in the investigated sample, one item was removed from the ruminative exploration scale. Each item can be evaluated from 1 (strongly disagree) to 6 (strongly agree). The obtained structure coefficients [CFA results: χ^2 (df = 242; N = 943) = 1404.53; AGFI = 0.85; CFI = 0.90; RMSEA = 0.07] are satisfactory. The reliability of particular scales are the following: Exploration in breadth (EB) $\alpha = 0.72$; Exploration in depth (ED) $\alpha = 0.67$; Ruminative exploration (RE) $\alpha = 0.82$; Commitment making (CM) $\alpha = 0.9$; Identification with commitment (IC) $\alpha = 0.82$.

ISI-4/PL: Identity Style Inventory-4. This tool was developed by Berzonsky, Soenens, Smith and Luyckx (see Berzonsky et al., 2011). The Polish adaptation was prepared by Senejko and Okręglicka-Forysiak (Senejko, 2010). For the purpose of our studies, with the consent of the authors of the original version and the authors of its Polish adaptation, additional changes were introduced (i.e. correction of the translation from English to Polish and shortening of the scales). This tool measures three socio-cognitive orientations, connected with processing identity problems, called identity styles: informational, normative, and diffuse/avoidant style. The informational style is characteristic of individuals who are introspective, explore the environment, want to know themselves better and actively seek for information pertaining to the self. The normative style characterizes people who adopt expectations, values and rules from significant others. Their main objective is to protect the life views developed in such a way. The diffuse/avoidant style pertains to individuals who procrastinate, postpone commitment making, avoid confrontations, and accept and cope with unpleasant situations, personal problems and identity conflicts. Beside scores for identity styles, there is also a possibility of obtaining a score for the dimension of commitment. Commitment provides a sense of purpose and direction, it can serve as a basis for the processes associated with behavior monitoring and feedback generation, supporting the mechanisms of evaluation and regulation of behavior. Respondents' answers can range from 1 (It doesn't concern me at all) to 5 (It concerns me a lot). In the shortened version applied in our studies, 20 items from the original tool, characterized

by the highest parameters (5 items for each scale of the questionnaire) were used, however, in the next steps, due to their low psychometric value, three of them were removed. The results presented here were obtained with the use of a 17-item questionnaire (5 items for the informational style and 4 for each of the three remaining dimensions). The obtained structure coefficients [CFA results: χ^2 (df = 113; N = 943) = 480.93; AGFI = 0.92; CFI = 0.90; RMSEA = 0.06] are satisfactory. Reliability of particular scales was the following: Normative style (NS): $\alpha = 0.63$; Diffuse/avoidant style (DS): $\alpha = 0.57$; Informational style (IS): $\alpha = 0.74$; Commitment (C): $\alpha = 0.78$.

SPQ-S: Social Participation Questionnaire (short).

Construction of the SPQ questionnaire was based on the theoretical concept of social participation proposed by German psychologists – Merkens, Bergs-Winkels, Reinders and Butz (Reinders et al., 2001; Reinders, Butz, 2001). According to this theory, participation of young people in social life (social participation) expresses itself in two dimensions: transitive orientation and moratorium orientation. The authors of this tool are Brzezińska, Hejmanowski and Rękosiewicz (see Rękosiewicz, 2013b). The tool enables calculation of subject's results in respect of two orientations that are indicative of different types of social participation. Transitive orientation is expressed in actions the results of which will be visible later – in adulthood. Through such actions a young individual develops the skills necessary for the fulfillment of developmental tasks in early adolescence. Characteristic here is a disposition to pursue goals located in the future – in adulthood. Moratorium orientation finds its reflection in actions the goals of which are not deferred in time. As valuable (and thus undertaken) behaviors within this orientation, are treated those actions that give immediate gratification. Respondents' answers can range from 1 (definitely no) to 5 (definitely yes). The obtained structure coefficients [CFA results: χ^2 (df = 89; N = 940) = 565.34; AGFI = 0.88; CFI = 0.91; RMSEA = 0.08] are satisfactory. Reliability of particular scales was the following: Transitive orientation (TO): $\alpha = 0.85$; Moratorium orientation (MO): $\alpha = 0.80$.

Results

(1) Identity dimensions

First, the results regarding identity dimensions were tested. One-way multivariate analysis of variance (MANOVA) with educational groups as a factor and identity dimensions as dependent variables was conducted. A significant effect of school type [Wilks' $\lambda = 0.93$; F (10, 1928) = 7.01; $p < 0.001$; $\eta^2 = 0.03$] was observed. The results of univariate analyses of variance, enabling determination of significant differences in respect of each identity dimension between particular types of schools, are presented in Table. 2.

Table 2. Analysis of variance and post hoc comparisons (Tukey's HSD)

Identity dimensions	Educational groups			F (η^2)
	Basic vocational school	Technical upper secondary school	Specialized upper secondary school	
exploration in breadth (EB)	$M = 4.18^a$ $SD=0.77$	$M = 4.24^a$ $SD=0.86$	$M = 4.44^b$ $SD=0.78$	7.37** (0.01)
exploration in depth (ED)	$M = 4.07^a$ $SD=0.78$	$M = 4.08^a$ $SD=0.84$	$M = 4.26^b$ $SD=0.83$	4.53* (0.01)
ruminative exploration (RE)	$M = 3.11^a$ $SD=1$	$M = 3.17^a$ $SD=1.07$	$M = 3.67^b$ $SD=1.15$	22.09*** (0.04)
commitment making (CM)	$M = 4.4^a$ $SD=0.98$	$M = 4.19^b$ $SD=1.05$	$M = 3.8^c$ $SD=1.15$	21.28*** (0.04)
identification with commitment (IC)	$M = 4.54^a$ $SD=0.81$	$M = 4.43^a$ $SD=0.85$	$M = 4.22^b$ $SD=0.87$	9.65*** (0.02)

Note. Different indexes next to the mean values indicate significant differences between the clusters (*post-hoc* Tukey HSD)

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

The differences in the levels of the five identity dimensions between the students from the three investigated types of vocational schools were statistically significant, however, small: effect size (η^2) in the case of particular identity dimensions ranged from 0.01 (exploration in depth) to 0.04 (ruminative exploration and commitment making). The students from basic vocational schools were quite similar in respect of the five identity dimensions to the students from technical upper secondary schools, and both of these groups differed significantly from the individuals from specialized upper secondary schools. The group of students from specialized upper secondary schools was characterized by higher levels of the three types of exploration and, at the same time, lower levels of commitment making and identification with commitments, which may mean that in the case of these individuals the identity crisis was more intensified.

In turn, the greatest in-group difference (t tests for dependent variables were run) between the lowest level of ruminative exploration and the two dimensions of commitment in each of the investigated groups was found in the group of students from basic vocational schools, and it was statistically significant in both cases (for the pair RE – CM: $t = 2.53$; $n = 271$; $p < 0.05$; and the pair RE – IC: $t = 5.08$; $n = 271$; $p < 0.001$).

The differences between the investigated students in respect of gender were rather small, however, they were in line with the results of previous studies (Luyckx, Schwartz, Berzonsky et al., 2008; Brzezińska et al., 2010)

and they pertained to all dimensions of exploration, which among females turned out to be slightly higher [η^2 in the case of each dimension of exploration was 0.01; Wilks' $\lambda = 0.99$; $F(5, 961) = 2.30$; $p < 0.05$; $\eta^2 = 0.01$]. The levels of commitment making and identification with commitment were comparable in males and females.

(2) Identity style

In order to analyze differences in respect of identity styles between students from different types of schools, one-way multivariate analysis of variance (MANOVA), with educational groups as a factor and identity styles as dependent variables, was conducted. A significant effect of school type was observed [Wilks' $\lambda = 0.94$; $F(6, 1932) = 8.92$; $p < 0.001$; $\eta^2 = 0.02$].

Significant differences between the students from different types of schools pertained to the normative style [$F(2, 968) = 19.72$; $p < 0.001$; $\eta^2 = 0.04$] and the diffuse/avoidant style [$F(2, 968) = 5.18$; $p < 0.01$; $\eta^2 = 0.01$]. The students from specialized upper secondary schools to a lesser extent utilized the normative style than the students from basic vocational schools and technical upper secondary schools. When it comes to the diffuse/avoidant style a difference was only found between the students from basic vocational schools (higher scores) and the students from technical upper secondary schools (lower scores) (see Table 3). No significant differences were observed between males and females with regard to identity styles.

Table 3. Analysis of variance and post hoc comparisons (Tukey's HSD)

Identity style	Educational groups			F (η^2)
	Basic vocational school	Technical upper secondary school	Specialized upper secondary school	
Normative style (NS)	$M = 3.24^a$ $SD=0.77$	$M = 3.10^a$ $SD=0.75$	$M = 2.83^b$ $SD=0.75$	19.71** (0.04)
Diffuse/avoidant style (DS)	$M = 2.39^b$ $SD=0.89$	$M = 2.20^a$ $SD=0.74$	$M = 2.33^{a,b}$ $SD=0.76$	3.27* (0.01)
Informational style (IS)	$M = 4.29$ $SD=0.62$	$M = 4.22$ $SD=0.65$	$M = 4.24$ $SD=0.62$	ns

Note. Different indexes next to the mean values indicate significant differences between the clusters (*post-hoc* Tukey HSD)

* $p < 0.01$, ** $p < 0.001$

Table 4. Analysis of variance and post hoc comparisons (Tukey's HSD)

Social Participation Style	Educational groups			F (η^2)
	Basic vocational school	Technical upper secondary school	Specialized upper secondary school	
Transitive orientation (TO)	$M = 3.75^a$ $SD = 0.71$	$M = 3.57^b$ $SD = 0.70$	$M = 3.51^b$ $SD = 0.74$	8.22* (0.01)
Moratorium orientation (MO)	$M = 3.07$ $SD = 0.79$	$M = 3.06$ $SD = 0.76$	$M = 3.13$ $SD = 0.84$	ns

Note. Different indexes next to the mean values indicate significant differences between the clusters (*post-hoc* Tukey HSD)

* $p < 0.001$

(3) Social participation

In the next step, one-way multivariate analysis of variance (MANOVA), with educational groups as a factor and types of social participation as dependent variables, was conducted. A significant effect of school type [Wilks' $\lambda = 0.98$; $F(4, 1934) = 5.03$; $p < 0.001$; $\eta^2 = 0.01$] was observed. The results of univariate analyses of variance, enabling determination of significant differences in respect of each participation style between the students from particular types of schools, are presented in Table 4.

The differences between students from different types of schools in respect of social orientation, which determines, according to the theory of Merckens, Bergs-Winkels, Reinders and Butz (Reinders et al., 2001; Reinders, Butz, 2001; see Mianowska, 2008), the differences in types of social participation, were rather small. They pertained

only to the transitive orientation [$F(2, 968) = 8.22$; $p < 0.001$; $\eta^2 = 0.02$]. This orientation proved to be significantly stronger in the students from basic vocational schools in comparison to the other educational groups. No statistically significant differences in respect of dimensions of social orientation were observed between males and females.

(4) Relationships between identity style, social participation and identity dimensions: correlation analysis

In order to trace the mutual relationships between identity style, type of social participation and identity dimensions, Pearson's r correlation analysis was conducted (see Table 5.).

Table 5. Correlations between identity style, social participation and identity dimensions (n=970, Pearson's r coefficient).

	Normative style NS	Diffuse/avoidant style DS	Informational style IS	Transitive orientation TO	Moratorium orientation MO	Exploration in breadth EB	Exploration in depth ED	Ruminative exploration RE	Commitment making CM
NS	--								
DS	-0.01	--							
IS	0.19**	-0.20**	--						
TO	0.32**	-0.34**	0.38**	--					
MO	-0.14**	0.39**	-0.24**	-0.45**	--				
EB	0.16**	-0.01	0.33**	0.29**	-0.09**	--			
ED	0.21**	-0.01	0.33**	0.31**	-0.09**	0.70**	--		
RE	-0.14**	0.48**	-0.07*	-0.34**	0.28**	0.24**	0.22**	--	
CM	0.25**	-0.45**	0.20**	0.54**	-0.29**	0.05	0.06	-0.76**	--
IC	0.29**	-0.44**	0.28**	0.56**	-0.27**	0.16**	0.18**	-0.64**	0.79**

** $p < 0.01$ * $p < 0.05$

The results of correlation analysis revealed numerous relationships between identity styles and types of social participation, and identity dimensions. The normative identity style (NS) was positively correlated with transitive orientation (TO) ($r = 0.32$) and commitment making (CM) ($r = 0.25$) and identification with commitment (IC) ($r = 0.29$). The diffuse/avoidant style (DS) proved to be positively correlated with moratorium orientation (MO) ($r = 0.39$) and ruminative exploration (RE) ($r = 0.48$), and negatively with transitive orientation (TO) ($r = -0.33$), commitment making (CM) ($r = -0.45$) and identification with commitment (IC) ($r = -0.45$). The informational style (IS), in turn, correlated positively with transitive orientation (TO) ($r = 0.38$) and exploration in breadth (EB) ($r = 0.33$) and in depth (ED) ($r = 0.33$).

The style of social participation expressed in transitive orientation (TO) correlated strongly (positively) with commitment making (CM) ($r = 0.54$) and identification with commitment (IC) ($r = 0.56$), whereas moratorium orientation (MO) correlated negatively with the two types of commitment (CM $r = -0.29$ and IC $r = -0.27$).

(5) Relationships between identity style, social participation and identity dimensions: SEM analysis

In order to reveal relationships between all of the examined variables, describing identity styles and types of social participation, and identity dimensions, the technique of structural equation modeling (SEM) was used. The authors tested various models that allowed for different configurations of the analyzed variables. The model provided in the present paper proved to be the best fit for the data. Assuming, on the basis of previous studies (Eryigit, Kerpelmann, 2011) that identity style would be a predictor of identity dimensions, the authors checked what was the character of the relationship between these two variables and social participation style. The model was augmented by adding a dichotomous variable describing school type attended by the investigated students: 0 – stands for basic vocational school and technical upper secondary school, and 1 – for specialized upper secondary school. The analyses regarding identity dimensions and identity styles presented above indicate that the students from basic vocational schools and technical upper secondary schools were more similar to each other in this respect and, at the same time, differed from specialized upper secondary school students. Hence, the authors decided to construct a dichotomous variable, denoting membership to the particular school type, in the manner described above.

As a consequence of conducted analyzes, the best fit for the data was provided by a model of partial mediation in which styles of social participation were predictors of identity styles, and also directly influenced identity dimensions.

Due to a strong correlation of two identity dimensions describing two types of exploration, in breadth and in depth, a latent variable, being an indication of “adaptive exploration”, was created. A similar procedure was conducted with reference to the two types of

commitment: commitment making and identification with commitment. On the basis of these two dimensions, another latent variable – “commitment” – was added to the model (see Piotrowski, 2012).

The model prepared in such a way proved to have satisfactory parameters: AGFI = 0.94, CFI = 0.972, CMIN/DF = 4.29 and RMSEA = 0.06. The chi-square statistic was significant [χ^2 (df = 34, N = 972) = 146.01 $p < 0.001$], nevertheless, taking into consideration the fact that this measure strongly depends on the number of subjects in the sample, it is very unlikely to obtain in such a larger group a model fit that would be reflected in an insignificant result of the chi2 test. The model developed by the authors has been presented in Figure 1.

After analyzing the obtained relationships between the variables of the study, it is necessary to note that social participation, expressed by the two types of social orientation, was connected both with identity styles and with identity dimensions.

Moratorium orientation proved to be a predictor only of diffuse/avoidant style, and besides that it was not connected with any other variable. Transitive orientation, on the other hand, had many links with the other variables. The strongest positive relationships were observed between this orientation and the informational and normative styles. Maintaining the relevance of the previously described relationships, transitive orientation influenced positively in a direct way also adaptive exploration and commitment, and negatively ruminative exploration. We can, thus, establish a path leading from transitive orientation via informational style to adaptive exploration.

Transitive orientation was also negatively connected with ruminative exploration. Therefore, the students who manifested more prospective behaviors and who were more future-oriented, were less liable to ruminative behaviors. In turn, in the case of moratorium orientation one can observe a path that leads through the diffuse/avoidant style to ruminative exploration. The students who are present-oriented and expect immediate gratification of their needs are more likely to experience identity diffusion, which can be also connected with them possessing a strong tendency to engage in ruminative exploration.

School type was connected directly in the model only with the normative style and two identity dimensions – adaptive exploration and ruminative exploration. Attending basic vocational schools and technical upper secondary schools proved to be conducive to the development of the normative style, however, as it can be inferred from the data, these relationships are not strong. In turn, attending specialized upper secondary schools was connected with a greater tendency to explore, both in an adaptive and ruminative manner. The students from this type of school were more quest-oriented and would pose more identity questions and deepen them in comparison to the students from basic vocational schools and technical upper secondary schools.

Discussion

Young people who attend different types of vocational schools differ only slightly from one another in terms of the investigated psychological characteristics, which seems to contradict in a way their image mentioned at the beginning of this paper. Initially, this image appeared to be markedly diversified and different for students from basic vocational schools in comparison to technical upper secondary school students or specialized upper secondary school students. Needless to say, analyzes conducted on students from schools only from one city, chosen in a non-random manner, weaken our inferring capacities. Nevertheless, this track appears to be quite marked, and it will definitely be the subject of our further studies.

It is worth stressing, naturally keeping in mind both the scale of differences and strength of the relationships, that the students from basic vocational schools were characterized by higher scores in respect of transitive orientation and the normative identity problems processing style. The image of this group that emerges from our studies suggests that these students to a greater extent focus on the construction of their identity by adopting a future-oriented perspective and by searching for information that can aid in self-definition and in coping with identity confusion. The expectation of completing their education at this level and the need to clearly define their own professional involvement determine the likely short duration of exploration and the necessity to make commitments based on unequivocal information (Berzonsky, 2003; Danielsen Lorem, Kroger, 2000).

The students from specialized upper secondary schools, whose educational path is similar to that of regular upper secondary school students, manifested a greater tendency to engage themselves both in adaptive exploration (in breadth and in depth) and ruminative exploration. Their educational path along with the observed processes of identity formation characteristic of this group point to a stronger tendency to enter new exploration areas, postpone decisions and, at the same time, a weaker tendency to engage in activities that are supposed to lead to the development of a mature identity. Therefore, differentiation of life paths is associated with educational choices and concurrent developmental processes, both within identity and type of social participation (Danielsen, Lorem, Kroger, 2000).

These results show compliance with the theoretical assumptions of Erikson's concept that are associated with the concept of psychosocial moratorium - the shorter the prospect of a moratorium the faster the process of preparing for the role commitment (Erikson, 1968). There is, of course, the question of whether this process is linked to the achievement of a mature identity, or rather to a risk of identity foreclosure - clearly represented among students of vocational schools (see Kaczan, Brzezińska, Wojciechowska, 2013, in preparation). In longitudinal studies planned by our team it will be possible to analyze trends in the process of identity formation and their relationships with other psychological characteristics over consecutive years of students' lives. It will be also possible

to describe the effects associated with, on the one hand, developmental processes and, on the other hand, with cohort differences and, finally, with differences resulting from attending a particular school type and class. The last of these topics seems to be particularly interesting, because it may enable answering the question about the degree to which educational environment, i.e. grade or school type, is conducive to the emergence of differences between students of similar age in respect of various psychological characteristics. The initial measurement, especially among first grade students, offered an opportunity to diagnose the inceptive state. Successive evaluations will enable observation of changes, and they will make it possible to infer about the degree to which these changes are connected with individual characteristics of the students themselves, and to what degree they result from attending a particular school type and grade, or to what degree they are an effect of universal developmental changes (see Bee, 2005; Brzezińska, 2007).

We realize that the tested and analyzed factors remain in mutual relationships with one another. Perhaps some students chose their particular educational path not only due to socio-demographic conditionings and their own or their parents' educational aspirations, but also as a result of their specific psychological predispositions. In the next measurements, we will monitor whether, and to what extent, the differences between the students from different types of schools and grades increase or decrease. It will be also possible to assess whether the structure of relationships between the tested variables, described by us in the present article, remains comparable, i.e. stable over time, or whether it transforms, and if it does, to what extent these possible transformations stem from developmental processes, and to what extent they take place in the context of influences and pressures from the educational environment.

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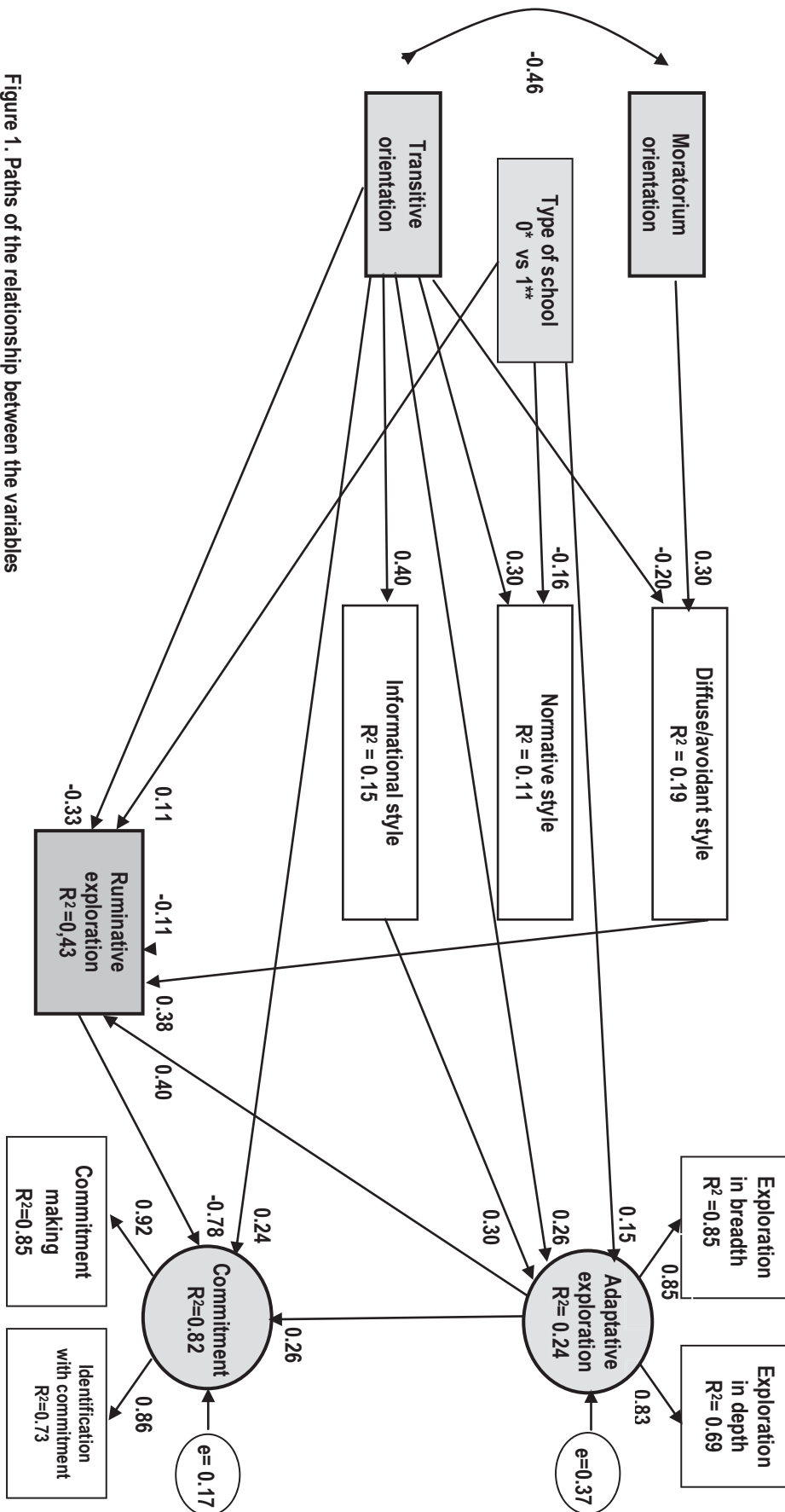


Figure 1. Paths of the relationship between the variables
 * basic vocational school and technical upper secondary school
 ** specialized upper secondary school