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COMPETITIVENESS AND MOTIVATION FOR EDUCATION AMONG UNIVERSITY STUDENTS

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ABSTRACT

The main research goal was to investigate the relationship between motivation for education and competitive attitude. 409 university students filled in a battery of questionnaires, including the Academic Motivation Scale (Vallerand et al., 1992), General Need Satisfaction Scale (Gagne, 2003), Competition Motivation Questionnaire (Franken & Brown, 1995), Hypercompetitive Attitude Scale (Ryckman et al., 1990) and Personal Development Competitive Attitude Scale (Ryckman et al., 1996). Comparing males and females, the results show significant differences in motivation for education and competitive attitude. We also found some significant differences with regard to students' study fields in motivation for education and hypercompetitive attitude. The findings of our research can be useful in improving the study process by stimulating intrinsic motivation and competition in the spirit of personal development.

Key Words: Motivation for education, competitive attitude, hyper-competitiveness, university students.

INTRODUCTION

Motivation in Adolescence

Motivation stimulates and directs the behavior of an individual towards appointed goals (Pintrich & Schunk, 1996). Numerous researches (Mansfield, 2012) point out that motivation is extremely important in adolescence. In early adolescence, school apprehension and academic achievement are significant factors in planning the individual's further education, which also outlines individual's later professional career. Results of various studies show that three important factors of academic achievement are reduced after entering adolescence: school standpoints, motivation and self-concept in the area of one's capabilities (Epstein & McPartland, 1976; Harter, 1981; Marsh, 1989). Blyth, Simmons, and Carlton-Ford (1983) studied motivation in transition from elementary school to high school. They found that students who remained in the same schools kept their positive self-concept and high levels of motivation. However, students who crossed from public elementary schools to private high schools had significantly lower achievement motivation and self-concept. Authors believe that decreased motivation and self-concept are a consequence of changes in environment rather than developmental changes. But according to other theoretical and empirical data it seems that both an individual and his environment play a significant role in decreasing motivation and self-concept.

Several authors (Anderman & Maehr, 1994; Bakadorova & Raufelder, 2014) believe there are three possible reasons for motivation decline in adolescence: (i) developmental changes, (ii) changes in self-concept that act as motivators and (iii) transitions between internal and external motivation. These factors are intertwined with changes in adolescent's environment and have a common cognitive basis. Authors believe that reasons for motivation decline in adolescence can be better determined if we investigate motivation in the context of cognitive development. Developmental changes in cognitive processes enable different understanding of

concepts like ability, competence and intelligence. Authors found that during transition from childhood to adolescence children begin to comprehend these concepts as something given and permanent. With such inadequate understanding of ability and intelligence they also become less motivated for learning, because with eventual failure despite studying they also risk a decrease in self-esteem and respect from others. This means that self-esteem and self-concept act as motivators for adolescent's behavior and vice versa: adequate motivation for learning enables the development of positive and stable self-concept.

It is important to consider various types of academic motivation, which are usually described as internal and external motivation (Lee, McInerney, Liem, & Ortiga, 2010). Internal or intrinsic motivation in related to desire to learn. McMenniman (1989, p. 216) calls it 'desire to learn for the desire itself.' Berlyne (as quoted in McMenniman, 1989) thought that internal motivation is connected to innate curiosity with reference to unknown. More recent studies show that innate curiosity and consequently internal motivation decrease with growing up (Harter, 1981). McMenniman (1989) emphasizes that internal motivation stimulates conceptual learning and leads to creative thinking, whereas with external or extrinsic motivation an individual learns on the account of external causes like grades, parental pressure etc. McMeniman (1989) believes that external motivation is characteristic of many school classes.

Academic Motivation

Academic motivation is usually described by internal or intrinsic and external or extrinsic factors (Deci & Ryan, 1985). Race (1998) believes that internal or intrinsic motivation is connected to desire for education. The intensity of that desire depends on several factors:

a) Interest in particular study themes
b) Wish to succeed in various study fields
c) Individual's wish to show others and himself that he/she is capable succeeding
d) Respect to teachers and their work
e) Satisfaction with learning materials
f) Incentives from teachers or professors
g) Incentives and support from significant others during education process

External motivation is defined by the need to learn. An individual learns because of various external causes when:

a) One is not interested in a particular study theme
b) Particular themes are hard to learn but lead to more interesting and important themes
c) One has to prove successful in a certain field before he/she finds out whether he/she is actually interested in that field and if he/she wishes to learn more about it
d) One experiences pressure from others and has no or very low desire to learn
e) One has to learn to receive good grades

When the desire and the need to learn are equally strong and intertwined, academic motivation increases. But when external demands are stronger than the desire to learn, an individual can experience external incentives as pressure, which in the long term causes a decrease in academic motivation (Nicholls, Loveless, Thomas, Loetscher, & Churches, 2015).

Hidi (2000) states that motivation (including academic motivation) is based on two types of interests: situational and individual. Situational interest develops when an individual's attention is drawn to a particular occurrence in the environment, which triggers a positive or negative reaction. In the initial phase of the situational interest, an individual's attention is aroused and growing. This is called a triggering interest (Hidi, 2000) and is usually short-lived. If the attention is focused on a particular event or person for a longer period of time, the duration of the triggering interest is extended, that way forming a maintained interest. A situational interest can also evolve into an individual interest, if it occurs in a time when an individual extends his knowledge and develops positive feelings and his own values system (Hidi, 2000; Krapp, 1998). Hidi and Harackiewicz (2000) emphasize that an individual is only able to develop an intrinsically motivated behavior if he/she is capable of preserving the initial situational interest. Individual interests have proved to be an

important determinant of academic motivation and learning (Ainley, 1994; Krapp, 1998; Renninger, 2000; Schiefele & Krapp, 1996).

Recent views of academic motivation stress the meaning of goal motivation as a predictor of academic achievement (Bipp & van Dam, 2014). Goals are cognitive representations of an individual's aspirations in various situations when he or she strives for success (Yeung & Yeung, 2001). McInerney, Yeung, and McInerney (2000) state that differences in understanding goals can cause dramatic consequences for achieving success in education. McInerney et al. (1997) found that goal motivation has a multidimensional structure. The basis of goal motivation is an individual's belief that he/she is capable of achieving success in education by his/her own efforts, where learning acts as an intrinsic motivational factor (defined by desire to learn and interest in learning). Individual's relationship towards knowledge and making an effort on achieving his/her goals, along with the self-perception of his/her own capabilities for academic work (education and learning) are also very important. Successful planning and achieving goals is connected to individual's personal characteristics and his values system. This evaluation is constantly under the influence of social feedback from the environment, which is a factor of extrinsic motivation. An individual with the ego orientation towards external criteria assesses his/her achievements on the basis of feedbacks from the environment and other group members. Proving successful to the group is very important for these individuals, therefore his/her evaluations of his/her own achievements depend on external criteria – reactions and incentives from the environment and significant others. On the other hand, individuals with task orientation rely mainly on their own knowledge and capabilities when it comes to learning and problem solving. Consequently they are less dependent on social feedback and more autonomous.

Competition

Competition is a psychical entity that can be understood in different ways: as someone's value, their characteristic or their motive. Franken and Brown (1995) found that in competitive behavior, the strongest motives are the following:

a) Desire and effort to win and eliminate others
b) Testing one's own abilities – physical (e.g. running marathons), creative or cognitive
c) Doing something the best possible way and therefore improve
d) Satisfaction due to well performed task
e) Choosing difficult and pretentious tasks

The desire to test one's own abilities in a competitive situation does not always derive from the desire to win. Competition is constructed from two dimensions: (i) playing, behaving, competing against others and (ii) striving to perform a particular task better than others. The first dimension is defined by interpersonal competitiveness, demonstrated by the desire to defeat others. The second dimension is characterized by aspiring to the set goals, not only by performing better than others but performing in a best possible way (Griffin-Pierson, 1990). Franken and Brown (1995) believe that the second dimension is crucial for understanding competitive behaviour, because it represents the individual's striving to achieve criteria of excellence and is connected to goal and achievement motivation and an individual's advancement. Ryckman et al. (1996) also believe there are two types of competitive behaviour: hypercompetitive attitude and personal development competitive attitude. Hypercompetitive attitude is characterized by (i) aspirations for achieving one's goals no matter the cost, (ii) tendency to compete, win and avoid failure, (iii) caring only for one's self, (iv) appreciation of success, (v) hedonism, power, stimulation, egocentrism, superiority and (vi) competing in situations of un-competitive nature. Personal development competitive attitude, on the other hand, means that winning is not of key importance. An individual uses experience from competitive situations for personal growth. He is focused on discovering himself and his potentials and has a constant critical relationship towards his own development. His goals are set with the intention of progress, thus performing in the best possible way.

Competitive attitude is also important for individual's self-concept. Individuals who are competitive in the relationship towards themselves (striving to achieve their potentials) usually have positive and well developed self-concepts. However, individuals who test their abilities until exhaustion usually have low and fragile self-

concepts. Individuals who desire to win are similar to the latter – in the background there is often an extremely low self-esteem, which increases for a short time when an individual defeats someone else.

Objective

The aim of the research was to investigate the relationship between motivation for education, competitive attitude and different areas of self-concept.

METHOD

Participants

Participants were 409 graduate and postgraduate students of various study fields (agricultural engineering, biochemistry, biotechnology, civil engineering, communal engineering, criminal justice and security, economics, educational sciences, geodetic engineering, library and information sciences, mechanical engineering, medicine, physics, psychology, real estate law and management, Slovene language and literature, sociology, tourism studies) from eleven faculties in Slovenia. 122 participants (30%) were male and 287 (70%) were female. Participants' age range was from 18 to 55 years, with an average of 21.15 years (SD = 4.6). Their average academic achievement was 8.325 (SD = 1.01).

Instruments

To perform our research, we used the following psychological questionnaires and scales:

a) The Academic Motivation Scale (Vallerand et al., 1992)
The scale consists of 28 items and measures seven aspects of academic motivation: (i) intrinsic motivation – to know, (ii) intrinsic motivation – toward accomplishment, (iii) intrinsic motivation – to experience stimulation, (iv) extrinsic motivation – identified, (v) extrinsic motivation – introjected, (vi) extrinsic motivation – external regulation and (vii) amotivation. Participants are asked to read each statement and rate on a 7-point scale how characteristic these statements are of them (1 – not at all, 7 – completely). The subscales' reliabilities are from 0.70 to 0.86 (Cokley et al., 2001), in our research from 0.77 to 0.87.

b) General Need Satisfaction Scale (Gagne, 2003)
The GNSS measures the level of satisfaction of three basic psychological needs in life. It is a 21-item measure consisting of three subscales: autonomy, competence and relatedness. Participants are asked to read each statement and rate on a 7-point scale how characteristic these statements are of them (1 – not at all, 7 – completely). Gagne (2003) reports the following reliability coefficients: 0.69 for autonomy, 0.86 for relatedness and 0.71 for competence. In our research, reliability for autonomy was 0.69, 0.79 for relatedness and 0.61 for competence.

c) Hypercompetitive Attitude Scale (Ryckman et al., 1990)
The scale consists of 26 items. Participants are asked to read each statement and rate on a 5-point scale how often they behave according to various statements (1 – never, 5 – always). Ryckman et al. (1990) report reliability of 0.91. In our research, internal reliability was 0.77.

d) Personal Development Competitive Attitude Scale (Ryckman et al., 1996)
The scale consists of 15 items. Participants are asked to read each statement and rate on a 5-point scale how often they behave according to various statements (1 – never, 5 – always). Ryckman et al. (1996) report reliability of 0.90. In our research, internal reliability was 0.87. Ryckman et al. (1997) also confirmed the orthogonal relationship between personal development competitive attitude and hypercompetitive attitude, as measured by the aforementioned Hypercompetitive Attitude Scale (Ryckman et al., 1990).

e) Competition Motivation Questionnaire (Franken & Brown, 1995)
The scale consists of 19 items and measures five aspects of competition motivation: (i) satisfaction that comes from improving one's performance (IP), (ii) desire to win (WIN), (iii) motivation to put forth effort in competitive situations (MPFE), (iv) satisfaction that comes from performing well (PW) and (v) preference for difficult tasks (DIFF). Participants are asked to read each statement and rate on a 5-point scale how often they behave according to various statements (1 – never, 5 – always). The subscales' reliabilities are from 0.68 to 0.83 (Franken & Brown, 1995), in our research from 0.53 to 0.75.

Participants were asked to fill out a battery of abovementioned scales and questionnaires along with several additional questions about their age, gender, study field and academic achievement.

Procedure

Participants filled out the questionnaires in printed or electronic form. To collect data from participants who used the printed form, we first presented them with basic information about the research goals and proceeded with instructions for each part of the questionnaire. Participants then filled in the questionnaires, which lasted approximately 20 minutes. To collect data from participants who used the electronic version, we sent the link to survey page to various student associations, representatives and mailing lists. Students who decided to participate filled in the questionnaires individually via internet. The data were then analysed with SPSS for Windows programme.

RESULTS AND DISCUSSION

Gender Differences

Table 1: Average achievements of male and female students with results of the ANOVA for both samples.

Scale	gender	*N*	*M*	*SD*	*df*	*F*	*p*	*Eta*^{2}
Academic motivation								
IM – to know	male	121	18.88	5.12	1	17.124	0.000**	0.068
	female	121	21.36	4.39				
IM – toward accomplishment	male	122	15.15	5.33	1	13.370	0.000**	0.054
	female	121	17.40	4.66				
IM – to experience stimulation	male	121	14.49	5.41	1	8.087	0.005**	0.034
	female	122	16.07	5.14				
EM – identified	male	121	19.49	4.46	1	20.117	0.000**	0.079
	female	122	22.10	4.49				
EM – introjected	male	122	15.83	5.48	1	8.910	0.003**	0.037
	female	122	17.75	5.47				
EM – external regulation	male	122	19.77	5.16	1	2.822	0.094	0.012
	female	121	21.42	9.96				
Amotivation	male	122	8.39	4.62	1	14.681	0.000**	0.059
	female	122	6.37	3.51				
General psychological needs								
Autonomy	male	122	34.15	5.52	1	3.300	0.071	0.014
	female	122	35.58	5.71				
Competence	male	122	29.22	5.21	1	1.454	0.229	0.006
	female	122	29.94	4.94				
Relatedness	male	122	41.86	6.84	1	13.738	0.000**	0.056
	female	122	45.25	6.85				
Hypercompetitive attitude	male	121	65.86	12.97	1	2.865	0.092	0.012
	female	122	63.05	11.27				
Personal development competitive attitude	male	122	50.24	9.40	1	0.042	0.839	0.000
	female	122	50.06	10.29				
Competition motivation								
WIN	male	121	13.97	3.92	1	5.987	0.015*	0.025
	female	122	12.64	3.81				
IP	male	122	15.09	2.96	1	29.595	0.000**	0.113
	female	122	16.79	2.23				
MPFE	male	122	9.34	2.59	1	0.026	0.872	0.000
	female	122	9.24	2.49				

PW	male	121	15.12	2.53	1	27.457	0.000**	0.105
	female	122	16.58	1.95				
DIFF	male	122	9.28	2.15	1	0.004	0.948	0.000
	female	122	9.22	2.40				
	female	122	10.73	2.93				
	female	122	26.07	7.45				

Note. * $p < 0.05$, ** $p < 0.01$. IM = intrinsic motivation, EM = extrinsic motivation, IP = satisfaction that comes from improving one's performance, WIN = desire to win, MPFE = motivation to put forth effort in competitive situations, PW = satisfaction that comes from performing well, DIFF = preference for difficult tasks. To analyze data with regard to gender we equalized the number of male and female students.

Table 1 shows statistically significant differences between males and females in all the areas of intrinsic motivation (motivation to know, toward accomplishment and to experience stimulation) and in two areas of extrinsic motivation (identified and introjected motivation), where females have significantly higher scores than males. Differences were also found in amotivation, where males have significantly higher scores than females.

These results show that females are more intrinsically motivated for studying than males. Murphy and Roopchand (2003) got similar results with a sample of English college students where females had higher intrinsic motivation scores, especially in the group of mature students (aged 21 or more). Our results also show that females' chosen study fields or professions are more congruent with their interests and wishes. On the other hand, females depend more on external criteria (in choosing their study fields, evaluating their academic achievements etc.), but they also identify with them or have introjected them in the process of development and growing-up. Males' higher scores in the area of amotivation show that their education goals are poorly defined. Among males, there are more students who do not actually know why they study and what the reasons for choosing a certain study field or profession were. Males' amotivation could also be a consequence of maladaptive motivational tendencies. Chaplain (2000) found that significantly more males believe that a person needs to be clever to do well in school. Such students believe that success requires ability (being clever) but are unsure of their own abilities, which could result in poorly defined education goals, lack of motivation and low self-worth.

We also found some gender-related differences in the satisfaction of general psychological needs. The need for connectedness is significantly better satisfied with females as opposed to males, which means that females have a greater feeling of connectedness with significant others. We believe that differences in this area derive from general differences in interpersonal relations. Studies show that in adolescence males and females form different friendships and enter interpersonal relationships in a different way (Rowsell, , Ciarrochi, Heaven, & Deane, 2014). During transition from adolescence to adulthood and later in adulthood itself there are also various changes in social roles, which, along with career development and starting family life, shape interpersonal relations and consequently feelings of connectedness with significant others (Martin, Blozis, Boeninger, Masarik, & Conger, 2014). Differences between males and females were also observed in the area of competition motivation. Males express significantly higher levels of desire to win, whereas females experience more satisfaction when improving their performance and performing well. Males therefore strive more after defeating others and thus proving themselves, whereas females are more oriented towards their own advancement and personal growth.

Study Field Differences

To investigate differences among participants with regard to their study field we divided them into two groups: (a) social sciences and arts (N = 312) and (b) natural and technical sciences (N = 93; with four participants we had no information about study field). In the first group were students of criminal justice and security, economics, educational sciences, library and information sciences, real estate law and management, psychology, Slovene language and literature, sociology, and tourism studies. In the second group were students of agricultural engineering, biochemistry, biotechnology, civil engineering, communal engineering, geodetic engineering, mechanical engineering, medicine, and physics.

Table 2: Average achievements of students from various study fields with results of the ANOVA for both samples.

Scale	field	*N*	*M*	*SD*	*df*	*F*	*p*	*Eta*^{2}
Academic motivation								
IM – to know	SA	89	21.93	4.09	1	44.079	0.000**	0.198
	NT	92	17.62	4.63				
IM – toward accomplishment	SA	89	17.06	5.00	1	13.004	0.000**	0.068
	NT	92	14.45	4.74				
IM – to experience stimulation	SA	89	16.26	5.10	1	11.322	0.001**	0.059
	NT	92	13.75	4.93				
EM – identified	SA	89	22.56	3.65	1	29.793	0.000**	0.143
	NT	92	19.28	4.37				
EM – introjected	SA	89	17.61	5.24	1	2.829	0.094	0.016
	NT	92	16.28	5.34				
EM – external regulation	SA	89	21.19	4.74	1	2.684	0.103	0.015
	NT	92	20.07	4.51				
Amotivation	SA	89	6.36	3.30	1	20.658	0.000**	0.103
	NT	92	9.01	4.44				
General psychological needs								
Autonomy	SA	89	36.74	5.87	1	21.037	0.000**	0.105
	NT	92	32.99	5.12				
Competence	SA	89	30.80	4.95	1	16.444	0.000**	0.084
	NT	92	27.86	4.80				
Relatedness	SA	89	45.89	6.38	1	16.666	0.000**	0.085
	NT	92	41.77	7.15				
Hypercompetitive attitude	SA	89	60.84	12.61	1	17.357	0.000**	0.088
	NT	92	68.24	11.25				
Personal development competitive attitude	SA	89	50.29	11.03	1	0.213	0.645	0.001
	NT	92	49.60	9.16				
Competition motivation								
WIN	SA	89	12.71	3.44	1	5.095	0.025*	0.028
	NT	92	13.95	3.91				
IP	SA	89	16.62	2.19	1	24.035	0.000**	0.118
	NT	92	14.66	3.06				
MPFE	SA	89	9.13	2.65	1	0.005	0.942	0.000
	NT	92	9.16	2.53				
PW	SA	89	16.36	2.54	1	19.211	0.000**	0.097
	NT	92	14.77	2.33				
DIFF	SA	89	9.36	2.32				
	NT	92	9.08	2.17	1	0.719	0.398	0.004
	NT	92	25.80	5.98				

Note. * $p < 0.05$, ** $p < 0.01$. SA = social sciences and arts, NT = natural and technical sciences, IM = intrinsic motivation, EM = extrinsic motivation, IP = satisfaction that comes from improving one's performance, WIN = desire to win, MPFE = motivation to put forth effort in competitive situations, PW = satisfaction that comes from performing well, DIFF = preference for difficult tasks. To analyze data with regard to study field we equalized the number of students in both groups.

Table 2 shows that students from both groups differ significantly in education motivation, especially in the level of intrinsic motivation. Students of social sciences and arts are significantly more intrinsically motivated than students of natural and technical sciences. We also found significant differences in the area of extrinsic motivation, where students of social sciences and arts expressed higher levels of identified regulation. With amotivation the results were opposite: students of natural and technical sciences expressed significantly higher levels of amotivation than students of social sciences and arts.

These results show that students of social sciences and arts have a greater (internal) wish for education than students of natural and technical sciences. Among the former there are more students who are genuinely interested in their study field and gain satisfaction from it. But among the latter, there are more students whose educational goals are poorly defined, who are unsure about the reasons for choosing a specific field and who cannot see themselves in the chosen profession.

Results also show that all three general psychological needs are better satisfied with students of social sciences and arts which means that they have a better sense of control over their own actions, feel more successful at work and are more connected to other people. Study field can contribute to connectedness in a certain extent, because social sciences and arts are more directed to team work or work with people, while activities in natural and technical sciences are often individual (work in laboratories etc.).

Within competitive behavior we found that students of natural and technical sciences express significantly higher levels of hypercompetitive attitude. Their competition motivation in a greater extent derives from desire to win, whereas students of social sciences and arts strive more after improving their performance and performing various tasks well.

We believe that among students of natural and technical sciences there are more individuals who have chosen their field on the basis of external criteria rather than internal factors. Common belief is that it is easier to find employment in natural or technical science because the number of graduates per year is lower than in social sciences and arts, which also lowers the competition in the work market. Another important factor is that in Slovene universities social science and arts programmes usually have more severe enrolment limitations due to greater public interest. These two factors are often crucial when choosing study fields and can result in a choice of profession that an individual does not find interesting and is not congruent with his or her wishes. Consequently the motivation for education is also different: instead of being driven by intrinsic motives (interest in study themes, satisfaction coming from academic achievements), an individual acts according to extrinsic motives (pressure from authorities, expectations related to future employment etc.). In this case the demands are greater than desire to learn, which in the long term leads to decreased motivation for education (Race, 1998). This also explains the results within amotivation, where students of natural and technical sciences have significantly higher results than students of social sciences and arts. Amotivation refers to lack of goals or motives. An individual does not know why he studies or why he chose a certain field, which shows that he cannot identify himself with the chosen field and cannot see himself in this profession. Involuntary or less voluntary choice of study field could also be related to satisfaction of general psychological needs. If a choice is dictated by external criteria, we can expect lower sense of autonomy and weaker belief in one's abilities as opposed to situations where students choose fields they are interested in and which give them pleasure. Dissatisfaction of general psychological needs also shows in higher levels of negative affect, lower intrinsic motivation and lower efficiency of an individual (Deci & Ryan, 2000). Intrinsic motivation for a certain activity is higher when an individual freely chooses the activity, when he or she performs it well and when he or she feels connected to significant others while performing it.

CONCLUSIONS

The aim of the research was to investigate the relationship between motivation for education and competitive attitude. Results show some significant differences according to students' gender and study field. According to these results we can say that intrinsic motivation plays the key role within academic motivation. Intrinsic motivation is also connected with positive experience and students' academic achievements. In terms of

competitive behaviour, intrinsic motivation is linked more with personal development competitive attitude, whereas extrinsic motivation is connected more with hypercompetitive attitude. On average, students are the most motivated to improve their overall performance and performing certain tasks well, whereas desire to win is not such a strong motive.

The findings of our research can be useful as guidelines in shaping the study process, which should be oriented towards stimulating intrinsic motivation and personal development competitive attitude. This kind of learning process enables higher academic achievements and students' content, and thus optimal start of students' career path.

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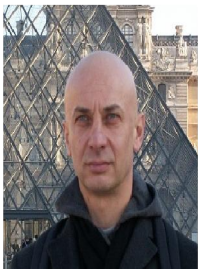

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