

review of psychology¹⁹



Aims and scope

Review of Psychology publishes semiannually original articles concerning all topics in scientific and applied psychology. The emphasis is on empirically based articles but theoretical, methodological and review papers, critical surveys, as well as open-peers commentaries will also be included. The articles have to be of interest to the entire community of psychologists, and especially to the Alps Adria psychologists' community. Therefore historical papers, approaches or schools of thought and cross-cultural studies within the Alps Adria Region will be welcome.

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Preface to the Special Issue

Dear colleagues,

Twenty-six years ago the first edition of the Alps Adria Psychology Conference took place at the University of Klagenfurt, Austria. It was the starting point of a challenge issued by our colleague Herbet Janig who had a dream, the dream to have a permanent network of Alps Adria psychologists and a recurrent occasion in which they could meet. Today, the Alps Adria Psychology Conference has become a classical appointment for the psychologists of the Alps Adria Euro Region and a lively and engaging meeting place for scientists coming from all over the world.

The 10th Alps Adria Conference, which took place on September 27th-29th, 2012 in Lignano Sabbiadoro, Italy, attracted over 250 participants and included over 200 scientific contributions by speakers coming from over 10 countries. Works have been presented as oral presentations, poster presentations, thematic symposia, and workshops and they covered topics from nearly all disciplines of psychology.

Contributions were all peer reviewed by two experts chosen among the members of the Scientific Committee and other international experts from the Alps Adria countries.

In continuity with the past editions, this year young scientists have also been supported both by economic incentives (reduced registration fees and fellowship awards) and through the allocation of a junior award (young scientists under the age of 35 – no tenure track – were invited to submit a full scientific paper to be considered for publication in the *Review of Psychology*). The submitted papers were peer reviewed by international experts.

This special issue of the *Review of Psychology* includes the abstracts of the scientific works presented at the 10th edition of the Conference and the awarded papers presented by four young scientists. The first authors of the awarded papers were: Sebastiano Costa, Mauro Murgia, Raffaella Pellegrini, and Maša Tonković.

Costa and Oliva examined the relationship between personality traits, based on the five factor model characteristics, and exercise dependence symptomatology. They found that extraversion, neuroticism, and agreeableness may

potentially be underlying factors in exercise dependence symptomatology.

Murgia et al. proposed a protocol of intervention based on the stimulation with an auditory track whose intensity varies in correspondence with the physical effort of each phase of a bench press exercise. Participants performed three bench press lifts, both in experimental condition (with the auditory stimulus) and in control condition (without any stimulation). Results show that athletes can take advantage of the provided acoustic stimulus, evidencing a higher average exertion of power in the experimental condition, compared to the control condition.

Pellegrini and Ciceri explored if breathing sounds convey information about the activity being performed. Participants listened to ecological tracks of breathing sounds related to six activities different in degree of mental and physical effort in two conditions: listening vs. imitation. They found that most demanding activities were identified the most and that imitation significantly improved identification accuracy.

Tonković investigated the role of applicants' personality facets in predicting the amount of faking on a noncognitive questionnaire. Results confirmed significant contribution of Conscientiousness and Neuroticism facets in explaining the variance of faking. However, the most efficient predictors seem to be the facets of Openness. The obtained results provide support for personality traits having the important role in predicting applicants' faking behavior on noncognitive measures in personnel selection.

To conclude this short preface, I would like to thank all the persons of my staff who devoted a lot of time and energy to help me to organize the Conference. They have been very precious. A special thanks goes to Fabrizio Sors who carried most of the heaviest work on his shoulders.

Tiziano Agostini

*Chair of the Organizing and Scientific
Committee of the 10th AAPC*

Correlation between academic motivation and innovative activity of students

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The article presents the empirical exploration of correlation between academic motivation and innovative activity of students. The purpose was to clarify the essence of academic motivation and innovative activity of students and the correlation between them. Innovative activity and academic motivation were measured using questionnaires. Descriptive statistics, correlations, t-test, and factor and regression analyses were calculated. The sample includes 1507 bachelor students, 627 male and 880 female. The students' innovative activity is at a satisfactory level of development—students at the middle level of innovative activity prevail. The students' academic motivation is also at a satisfactory level of development—again students at the middle level of academic motivation prevail. There are statistically significant differences between female and male students in the innovative activity and in the academic motivation. The relation between the students' innovative activity and academic motivation will be presented.

Children's and students' memory hooks

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It is a well-known phenomenon that we can retain contents better when we use learning strategies like chaining or rhyming. Furthermore, students with higher interest and higher intrinsic motivation use higher elaborated learning strategies and retain contents better in their memories (e.g., Blickle, 1996; Cordova & Lepper, 1996). We suppose that in this case the higher interest is the reason for using deeper learning strategies, and not vice versa. In our study, we want to focus on the variability of memory hooks and under what circumstances children are able to create their own hooks. Moreover, we want to investigate if funny memory hooks foster interest in learning per se. The project started with a collection of children's self-made memory hooks during an event called "children's university" that took place at the University of Klagenfurt. In the poster we want to present first findings of this event and further ideas we want to implement.

How competent is the supervision of master-theses at Alps-Adria University, Klagenfurt, Austria?

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This research deals with the competences in the supervision in the curricular area at the University. Initially the term *competence* or *competency* was introduced in the educational area in 1973 by Mertens. Competence is the ability of a person to do a job properly. Some scholars see this definition as a combination of skills, knowledge, and behavior. In this research personal, methodical, social, and technical competences are taken into consideration. A quantitative design and inferential statistics have been used. The validity of the competences items has been proved by reliability test. The result of the exploratory factor analyses showed two factors. The Friedman test shows the ranking of the competences. As a conclusion, the data are in positive area, which means the competences in supervising of master-theses are very high. The study should be repeated in economics and education because the participation of the students of these fields was very low. The definition of competence has its origins in business education.

Reading and writing errors in lexical development of children from 8 to 12 years old

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This research is focused on writing and reading errors in lexical development of children from 8 to 12 years old, such as tautology, grapho-phoneme constraints, consecutive effects, image value, and dominant meaning/frequency of use. The objective of this research is to show empirical data about these preceding processes. In the first phase of the research the participants were 100 males and females in each grade level, ranging from third to fifth grade. In the second phase, the participants were 472 in third, 495 in fourth, and 521 in fifth grade. In the first phase the participants were asked to define a list of words (belonging to all grammatical categories and with high image value and dominant meaning/frequency of use) taken from short readings of primary textbooks. The passages used were those reflecting a popularity rating above 80%. The Flesch index of readability (with a value between 64 and 73, higher than mean value of 50) was applied to the readings. The participants were asked to answer the questions which they thought fit best in the time it took to give a written answer. In the second phase, we proceeded to elaborate the test with four multiple

choice questions which were subject to item analysis. The results seem to show that these preceding processes are not isolated, casual phenomena, but systematic errors in lexical development.

PSYCHOMETRICS AND METHODOLOGY

Varying response formats and item positions: Psychometrically equivalent?

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In practical applications, subscales from a test are used separately without reestablishing its psychometric properties. Such a separation leads to new item positions, possibly causing position effects and invalidating the dimensionality assumption. Moreover, a change of item parameter estimates would in turn lead to different person parameter estimates. The present study analyzes the change of psychometric properties when rearranging the items of an instrument and changing their response format. The chosen instrument was the Big-Five-Inventory, Kurzfassung (BFI-K; Rammstedt & John, 2005) with four to five items per subscale and five response categories per item (strongly agree to strongly disagree). Four versions were compiled, the first one containing the items in the originally published manner, the second with rearranging the items according to the five subscales, and the same two versions, providing dichotomous response format (applies/not). For analysis, the Rasch model and the partial credit model were applied. A direct comparison of the versions shows significant differences with respect to item positions. Concerning the response format, the likelihood ratio test (Andersen, 1973) exhibits slightly better results for the dichotomous versions of the instrument. Hence, both item arrangement and response format clearly influence model fit and item difficulty. The conclusions of the study are twofold: response format has to be chosen carefully and subscales cannot easily be cut out from larger scales.

Psychometric analysis of a mathematical skills test for children aged 8 years

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In order to identify symptoms of dyscalculia, nine items intended to fit the triple code model according to Dehaene

(1992) were developed. Seven of these items were designed in two ways, either following traditional concepts or in a child-oriented fashion (e.g., with bees and elephants representing the content). The items were given to a sample of 134 children of the third form of elementary schools in two Carinthian districts, allowing about the half of the children to choose which kind to work with. Two of the nine items did not show any significant deviations from the Rasch model and 32 items were conspicuous of showing differential item functioning. Several selections allowed retaining the model for six items, representing two of the three codes (analog magnitude representation and the auditory verbal word frame) of the Dehaene model. For the visual Arabic number form and the recoding processes it seems to be far more difficult to construct adequate items. Under certain conditions, the test's design affected the children's performance. It needs to be considered that with a sample of 134 observations, the likelihood ratio test has limited power to detect model deviations. However, the present analyses are promising, which is to be confirmed in further studies.

Application of SEM to discern the dimensionality of implicit associations

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The Implicit Association Test (IAT) is an instrument for measuring associations among various concepts and attributes. Usually, IAT effects are computed using the so-called improved scoring algorithm which is based on *D*, the standardized mean response time difference between IAT's compatible and incompatible conditions. A measurement model based on structural equation modeling (SEM), as suggested by Nosek and Sriram (2007), allows a more elaborate evaluation of IAT's psychometric properties and defines the implicit association of interest as a single latent variable that determines the response time differences between conditions. In the present study, we examined whether applying a measurement model provides more insights concerning the nature of the latent constructs underlying the IAT effects. Pupils from Austria and Russia ($N = 104$) completed an IAT as well as instruments measuring attitudes towards mathematics and literature in an explicit manner. Several SEM models were tested and varied considerably depending on whether it was computed for correct response times or for the improved measure *D*. The best fitting model involved the differences between the compatible and the incompatible condition for each of the four categories, one single latent attitude factor, and correct response times ($N = 104$, $\chi^2 = 1.22$, $p = .54$, GFI = 0.99, RMSEA < 0.001). It will be discussed how the manifest response time differences between