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*ABSTRACTS FROM THE 9th ALPS ADRIA PSYCHOLOGY CONFERENCE*

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## INVITED LECTURES

**Current Developments in Psychological Wisdom Research**

Judith Glück

University of Klagenfurt, Austria  
judith.glueck@uni-klu.ac.at

The construct of wisdom has long been avoided by psychological researchers – probably because it is a complex, multi-faceted construct that is difficult even to define. Since the 1980s, however, it has become a topic of psychological inquiry, which may reflect a growing general interest in positive aspects of aging. This presentation gives an overview (with a certain focus on our own work) of past and current wisdom research, centering on three questions: What is wisdom? Can wisdom be measured – and if yes, how? How does wisdom develop?

Concerning the question what wisdom is, much research has focused on so-called implicit theories, i.e., laypeople's definitions of wisdom. Three components typical of these definitions are a cognitive component comprising knowledge, life experience, and an in-depth understanding of complex issues, a reflective component defined as the motivation to take different perspectives on everything, including oneself, and an affective component involving concern for others and altruism as well as emotion regulation skills. While the cognitive and reflective component are rather ubiquitous in Western samples, the affective component is endorsed more often by older than by younger people. Psychologists' definitions of wisdom also differ in the degree to which they include affective aspects. Cognition-focused theories such as the Berlin Wisdom Paradigm, which has long dominated the field, or Sternberg's Balance Theory define wisdom as a specific kind of expertise. More integrative theories such as Ardel's Three-Dimensional Model and Staudinger's recent theory of Personal Wisdom include affect as equally central as knowledge and experience.

How researchers define wisdom has direct implications on how they attempt to measure it. Approaches, that view wisdom as a kind of personality trait, such as Ardel's model, imply self-report questionnaires for assessing wisdom. However, some general shortcomings of self-report measurement may be particularly challenging with wisdom. In particular, if one assumes that wisdom includes a high level of self-criticism, then individuals with little wisdom but high self-esteem may describe themselves much more favorably in a self-report questionnaire than wise individuals do. I will use examples of wisdom questionnaires to illustrate this point. More cognition-oriented models of wisdom, on the other hand, measure wisdom by presenting participants with descriptions of difficult life problems and

asking them for their solutions; responses are then coded for wisdom. While this approach avoids the problems of conscious or unconscious self-enhancement, it may make a big difference whether participants are presented with a theoretical problem of a fictitious person or with a real problem in their own life. Only the latter case, with its demands on emotion regulation as well as on theoretical wisdom, may truly reflect an individual's wisdom. An approach trying to bring "real life" into the assessment of wisdom, that we are currently evaluating, will be introduced.

The question how wisdom develops has been discussed theoretically by proponents of wisdom research, but little research, and virtually no longitudinal work, has really investigated ontogenetic trajectories of wisdom. Based on the wisdom literature as well as work on growth from negative experiences, we have proposed the MORE wisdom model, which assumes four resources to be central for the development of wisdom through learning from life challenges: Openness to experience, a Reflective attitude, Emotion regulation skills, and a Sense of mastery. The model and the empirical evidence on which it is built will be discussed, and our current main project will be presented, in which we study retrospective accounts of wisdom nominees' and control participants' most difficult and best life experiences. The presentation closes with a discussion of current issues and open questions in psychological wisdom research.

**The Role of Psychological Factors in Pain Modulation**

Dragutin Ivanec

University of Zagreb, Croatia  
divanec@ffzg.hr

"Never again, after 1965, could anyone try to explain pain exclusively in term of peripheral factors". Namely, this year R. Melzack and P. Wall have published their gate control theory. The gate control theory's most important contribution to understanding pain was its emphasis on central neural mechanism in pain modulation. Until then, pain was almost completely considered as a process of "pure nociception", i.e. the amount of central representation was directly influenced only by the amount of peripheral activities. It should be mentioned that in every sensation system, central representation of impulses from periphery can be significantly modified by numerous contextual factors (like, for example, in the case of perceptual illusions). However, in the case of pain, the role of these factors is evidently more emphasized. Central nervous system processes can significantly change expected outcomes, regarding the intensity and pain quality. For example (if pathological cases are excluded) there is no evidence that a person perceived

red colour as blue just because he/she had taken a „magic potion“. However, it has been proven that the ingestion of an „inactive pill“ (placebo) can significantly change pain sensation. In fact, placebo is the most obvious example of the influence of psychological processes on pain sensation. In that context the central question of this presentation is which psychological processes could contribute in changing pain experience. Attention, expectation, learning, stress, emotional state, conditions of changed consciousness, are some of psychological factors that have been known to have an effect on modulation of pain characteristics, as intensity or unpleasantness. Modern pain studies which are presented here are also focused on biological processes and mechanisms that could explain relatively large potential effect of mentioned psychological processes in central nervous system on pain modulation. The most important question for further research and practical work regarding pain relief is to understand the complex interaction of the factors which contribute in pain perception, including psychological ones.

### **In Search of the Soul**

Riccardo Luccio

University of Trieste, Italy  
ruccio@units.it

The usage of the term “soul” was banned from the psychological dictionaries at least from Angell’s famous interdiction (1911). However, in the last few years a renewed interest for it has risen, from two independent sources: 1. the folk psychology, for the “naive” concept of soul owned by laymen; 2. the developmental psychology, for the concepts of afterlife and (im) mortality in children. In particular, most interesting in this respect is a debate initiated by Bering (2006), which proposes three cognitive mechanisms, producing “illusions of personal immortality, of teleological authorship in the design of individual souls and of natural events as having a symbolic meaning”. All this forms “an organized ‘system’” in the human evolution under selective pressures. In my opinion, what is missing is an adequate consideration of what the soul is in the different human cultures. In many cultures it doesn’t exist, or nothing similar to our concept of the soul; many cultures deny any idea of afterlife existence; in others (Indian, ancient Egyptian, Sumeric, Greek before V century b.c, etc.) there is a dual conception of the soul, like the one described first by Wundt (1916). Often, the concept of the soul is quite independent of the concept of deity, or of immortality, or of the afterlife. How one can then speak about an evolutionary mechanism? It is true that after 150 years the Seelenfrage posed by Fechner (1861) is still unsolved, but I don’t believe that this is the right way to solve it.

### **The Big One (GFP) and a New Structural Paradigm of Personality**

Janek Musek

University of Ljubljana, Slovenia  
janek.musek@ff.uni-lj.si

Structural models are in the focus of personality psychology already for decades. Several structural models were proposed, suggesting a definite number of the basic personality dimensions: 16 (Cattell), 5 (Five Factor or Big Five Model), 3 (Eysenck) or 2 (Digman). Yet only recently, the empirical psychological research yielded the results that convincingly show the existence and importance of the General Factor of Personality (GFP or the Big One; Musek, 2007). In the domain of Five Factor Model, GFP is characterized by high versus low Emotional Stability, Conscientiousness, Agreeableness, Extraversion, and Openness, and by high versus low higher-order factors of personality, Stability (Alpha factor), and Plasticity (Beta factor). Numerous exploratory and confirmatory multivariate analyses, using different personality measures across different national and cultural samples, confirmed the existence of GFP. Consequently, the existent hierarchical models of personality structure should be modified to the essential extent. A comprehensive theoretical model of personality structure was therefore proposed, considering the position of GFP at the highest level of the structural hierarchy. Thus, the structural hierarchy of personality contains several levels of generality and ends with the GFP at the apex (the pyramidal model of personality structure). This presentation also reviews the research results, which demonstrate the nature, psychological content and the cultural and bioevolutionary roots of GFP, the correlations between GFP and other significant psychological variables and the role and importance of GFP in the structural hierarchy of the entire universe of non-cognitive psychological variables. On the basis of the accumulated empirical evidence, GFP could be interpreted as a basic personality disposition, that integrates the most important and general non-cognitive dimensions of personality. It is associated with the major dimensions of social desirability, emotionality, motivation, coping, values, well-being, satisfaction with life, self-esteem and other non-cognitive psychological domains. To some less extent, it correlates also with some cognitive abilities, including (crystallized) intelligence and others. Subjective emotional well-being as well as psychological well-being are among the variables that are most closely connected to the GFP. Rich empirical evidence has been accumulated demonstrating substantial correlations between dimensions of personality, emotionality (positive and negative affect) and well-being. Recently, new structural hierarchical models have been proposed both in personality and well-being domain (Musek, 2007;

2008). Consequently, it might be hypothesized that dimensional hierarchies in both domains share a vast amount of the variance. In our research, a common structural space of basic dimensions of personality and well-being has been investigated by means of different multivariate methods. The analyses resulted in a clear hierarchical structure of personality and well-being with three higher-order primary factors and a strong general factor at the apex of the hierarchy. Thus, the results of the study could improve our understanding of the relationship between personality and well-being and also contribute to further clarification of the nature of GFP. While the cross-cultural aspects of the Big Five and other basic personality dimensions have been investigated in a number of studies, the question of intercultural stability of higher-order factors of personality remained unresolved. Yet, the recent research results confirmed the existence of stable higher-order factors of personality (including GFP) and demonstrated stable dimensional structure of personality across different cultures. The higher-order personality factors showed transculturally consistent patterns of saturations with the personality dimensions on the subsequent levels of generality. In our own and in other studies, GFP proved to be as universal as the Big Two and the Big Five. Finally, this presentation addresses the question of the biological basis of GFP. So far, the research data clearly confirmed the cross-cultural stability and heritability of GFP thus supporting the hypothesis that the Big One has deep evolutionary roots that shaped its genetic and neurophysiological basis.

### **From Face Recognition to Contemporary Physiognomic Theories**

György Révész

University of Pecs, Hungary  
revesz@btk.jpte.hu

The human face provides a rich source of information: how to identify persons, experience emotions in social contacts, in having chats and in judging sex and age. Many individuals believe that the face itself is an important source of character or personality judgement too. It is important for us, because the basic social question is: to approach or to avoid? Revealing the connection between human face and other psychological characteristics can be traced back to Aristoteles's Physiognomica. Most of the physiognomical examinations of the face examine the global impression on different scales, for example the connection between the face's general shape (proportion, symmetry etc.) and health, fitness, attractiveness or ugliness. This was an honoured field of earlier experimental psychology and is still in the focus of nowadays evolutionary psychology. In this lecture

I review these theories and summarize our experiments on the pictures of the Szondi test: the psychometric investigations on average sympatetic and antipatetic groups, and the possible connections between caricatures made on photos - as the exaggerated images - and the description of factors.

### *SYMPOSIA*

#### **Validation of Trait and Ability Measures of Emotional Intelligence**

Vladimir Takšić, Sanja Bradić,  
Valnea Žauhar & Andreja Avsec  
University of Rijeka, Croatia  
vtaksic@ffri.hr

The aim of the Symposium is to discuss about some validation studies of trait and ability approaches in measuring of emotional intelligence (EI). The communications are about cross-cultural comparison on Emotional Skills and Competence Questionnaire (ESQ), and a role of EI in some criteria (decision making and debate ability). ESCQ is a self-reported measure of EI, and it consists of 45 items divided into three subscales: a) perception and understanding emotion, b) expression and labeling emotion, and c) managing and regulating emotion. Originally it is developed in Croatian settings using the theoretical model of EI established by Mayer & Salovey (1997). At first, it was translated into English, and after that into several languages. A factor structure of ESCQ is compared in 12 countries from four Continents and will be present, together with analyses of gender differences across the countries.

#### **Personality and Trait Emotional Intelligence as Predictors of Decision-making Styles**

Vladimir Takšić & Andreja Avsec  
University of Rijeka, Croatia  
vtaksic@ffri.hr

Decision-making style is a learned, habitual response pattern and one can assume that some personality characteristics and abilities could influence using these patterns. The tendency to rely on feelings is characteristic for an intuitive decision-making style so we could predict that emotionally intelligent individuals use this style more frequently since they have a rich emotional knowledge and probably experience positive outcomes relying on this knowledge. Dependant and avoidant decision-making styles are considered as dysfunctional decision-making styles; since emotional

intelligence has an adaptive role in individual's functioning we could predict, that these two decision-making styles should be negatively related to emotional intelligence. The effect of personality on these relations was also controlled. Two hundred and sixty students rated themselves on measures of personality (ZKPQ), trait emotional intelligence (ESCQ), and decision-making styles (DMSQ). The results partly confirmed our expectations. After controlling for personality traits, emotional intelligence accounts for 2 to 18% of the variance in using a particular decision-making style. Emotionally intelligent individuals use more frequently intuitive, rational and spontaneous decision-making styles and less frequently avoidant and dependant decision-making styles. Emotionally intelligent individuals possess rich emotional knowledge and it seems, that they frequently use it in their decision making.

**Self-esteem and Emotional Intelligence as predictors of Individual Accomplishment at a Regional Competition on Debate**

Sanja Bradić, Valnea Žauhar & Vladimir Takšić  
Gimnazija Eugena Kumičića Opatija, Croatia  
sbradic@ffri.hr

Emotional intelligence is defined as a set of abilities including recognition, expression and regulation of emotions, and the use of emotional information in everyday life. Speech self-esteem consists of individual's perception of competence in situations of formal speech, discussion or presentation in a front of an auditorium. The aim of this study was to examine speech self-esteem and emotional intelligence as predictors of individual accomplishment at a regional competition on debate. The study was conducted on 112 pupils of elementary and grammar schools from Primorsko-Goranska County during the regional competition on debate. The procedure included self-reports of Vocabulary of Emotion Test (VET-35), Speech self-esteem Scale, Big Five Inventory (BFI) and grades of judges. Demographic data and personality traits were controlled. The hypotheses were that emotional intelligence moderates the relationship between speech self-esteem and individual accomplishment at a regional competition on debate while controlling personality traits and experience of debating. Results show a relationship between emotional intelligence and age. Speech self-esteem and debating experience are shown as significant predictors of the individual's accomplishment at a regional competition.

**Factor Structure of the Emotional Skills and Competences Questionnaire (ESCQ) in Cross-cultural University Students Sample**

Valnea Žauhar, Sanja Bradić & Vladimir Takšić  
University of Rijeka, Croatia  
vzauhar@ffri.hr

The Emotional Skills and Competence Questionnaire (ESCQ) operationalizes emotional intelligence as a personality trait and is a measure of self-reported emotional intelligence developed in the theoretical framework of the Mayer and Salovey four branches model. The ESCQ consists of 45 items measuring participants' reports in the ability of perceiving and understanding emotions, expressing and labeling emotions, and managing and regulating of emotions. The questionnaire is originally constructed for the high school population. Cross-cultural investigations showed satisfying psychometric properties in Croatian settings, and the author decided to investigate its factor structure in a sample of 4502 university students from 12 countries (Croatia, Slovenia, Serbia, Spain, Portugal, Finland, Sweden, Japan, China, India, Argentina and USA). The results showed the satisfying factor structure, and that two thirds of the items in the ESCQ in 12 countries follow the original dimensionality of the questionnaire. This investigation showed that items measuring the ability of perceiving and understanding emotions, and items measuring the ability of expressing and labeling emotions in different cultures correspond to those obtained by the author. Furthermore, the results showed a somewhat different arrangement of items measuring the ability of managing and regulating of emotions in comparison to those obtained by the author.

**Gender Differences in Emotional Competence: Cross-cultural Study**

Vladimir Takšić, Tamara Mohorić, Sanja Bradić & Valnea Žauhar  
University of Rijeka, Croatia  
vtaksic@ffri.hr

Emotional intelligence (EI) is defined as the ability to process emotionally laden information. It can be assessed via two types of conceptualizations: as a self-report, and as an ability conception. The self-reported approach to EI encompasses behavioral dispositions and self-perceived abilities, and therefore is better to call it emotional competence. The Emotional Skills and Competences Questionnaire (ESCQ) was applied to a large sample of university students in 12 countries from four continents. It is a measure of self-reported emotional intelligence and was devel-

oped in Croatian settings, on a theoretical basis from the Mayer and Salovey emotional intelligence four branches model. The ESCQ consists of 45 items divided into three subscales: Perceive and Understand emotions, Express and Label emotions, and Manage and Regulate emotions. Reliability analysis showed a satisfactory internal consistency of each subscale and a total ESCQ score in all the samples. A gender difference emerged in Perceive and Understand emotions and Express and Label emotions subscales, showing higher scores in the female sample. Significant differences are obtained among countries in all three subscales of the ESCQ and total score. The major difference was found among all the samples on one side, and the Japanese sample on the other. Significant interaction effects were found, stressing that female students perceived their own emotional competence higher only in Croatia, Slovenia, Argentina and Serbia.

#### **Medical and Psychological Care for Older People**

Herbert Janig & Olivia Kada  
University of Klagenfurt, Austria  
herbert.janig@uni-klu.ac.at

The Alps Adria region is confronted with an ongoing population aging (Rechel et al., 2009). In Austria the percentage of people aged 65+ is expected to increase from now 16% to 26% in 2030 (WHO, 2006). In Italy an increase from now 18% to 28% is predicted (WHO, 2006). In Croatia now about 16% of the population are aged 65+, by 2030 it will be 24% (WHO, 2006). In Slovenia an increase from now 15% to 26% in 2030 is expected (WHO, 2006). This development also leads to an increase in mild and chronic diseases, adequate systems of long-term care are needed (Rechel et al., 2009). The present symposium gives an overview over important aspects that have to be considered in times of an aging society: Olivia Kada, Rudolf Likar, Georg Pinter, Eva Brunner and Herbert Janig speak about "Interinstitutional relocation of nursing home residents – the Austrian perspective", Karl Cernic and Georg Pinter talk about "Implementation of evidence-based medicine in institutions providing acute geriatrics and rehabilitation", Maja Zupančič, Tina Kavčič and Blanka Colnerič report on "Knowledge about the old age in Slovene adults: effects of age, gender, education, career orientation, and special training", Ales Kogoj dedicates his presentation to „Agitated patient with dementia (what do we treat?)” and Richard Zniva discusses the topic „Searching for the holy grail of life - a multidisciplinary search for predictors of mortality and institutionalization of former geriatric patients.”

#### **Knowledge about the Old Age in Slovene Adults: Effects of Age, Gender, Education, Career Orientation, and Special Training**

Maja Zupančič, Tina Kavčič & Blanka Colnerič  
University of Ljubljana, Slovenia  
maja.zupancic@ff.uni-lj.si

Knowledge of psychological functioning of elderly persons presents a prerequisite to develop ways to preserve and improve their competence, well-being, and integration into society. Using the revised Facts on Aging Quiz (FAQR), adjusted for new findings and country demographics, the results on facts and misconceptions about the old age were obtained with a sample of Slovene adult males and females of different ages, levels of education, career orientations and from different regions of the country (N = 811). The proportion of adults' knowledge of the old age improved significantly with an increasing level of their education, the emerging adults and the elderly exhibited somewhat more misconceptions in comparison to young and middle-aged adults, gender and place of residence had no effect and adults with a career in social fields or humanities hold the least misconceptions about the old age. But in general, knowledge on psychological aging, characteristics of the elderly and their potentials to learn, change and work was estimated to be relatively poor. A vast majority of adults know the facts about physical condition, health and a few specifics in psychological functioning of the elderly. However, misconceptions about the psychosocial condition of the elderly, especially about intellectual functioning are relatively widespread. In addition, 140 psychology students filled-in the FAQR prior to a course on development in adulthood and several weeks after but before studying for the exam. The findings suggest, that providing relevant information about the old age in the context of adult education is of a special importance in our society.

#### **Searching for the Holy Grail of life - a Multidisciplinary Search for Predictors of Mortality and Institutionalization of Former Geriatric Patients**

Richard Zniva, Brigitte Jenull, Wolfgang Wiedermann  
University of Klagenfurt, Austria  
richard.zniva@uni-klu.ac.at

Aging is a heterogeneous process, longevity and autonomy in old age can depend on a couple of factors. Especially geriatric patients often suffer from multimorbidity and as a consequence they are often in need of care. Goal of the present study is to identify the significant predictors of mortality and institutionalization by means of a multidisciplinary

nary perspective. From a full sample of stationary geriatric patients from the hospital in Klagenfurt over a period of 5 months (N = 298) basis assessment data was collected. After one year it was possible to ascertain the current status of 171 of these people. A multinomial logistic regression model was built for determining the significant predictors of mortality and nursing home placement. The final effect model included age, sex, social status, the Mini Nutritional Assessment (MNA), the Instrumental Activities of Daily Living (IADL) and the Mini Mental Status Examination (MMSE). Significant predictors for criterion 1 (death) were the age (ODDS-Ratio: 1.098,  $p=0.03$ ) and the MNA (OR: 0.759,  $p=0.002$ ), for criterion 2 (institutionalization) the relevant predictors were age (OR: 1.126,  $p=0.028$ ), the MNA (OR=0.756,  $p=0.012$ ) and living alone (OR: 5.303,  $p=0.022$ ). Tendencies, but no significant relationships were identified for sex and the IADL. There was no relationship concerning the MMSE. These results clearly reflect the variability and heterogeneity of aging, morbidity and mortality. Death does not solely depend on the chronological age, as well as institutionalization is not just dependent on morbidity. Further studies should examine larger samples with this multidisciplinary perspective for generalisable findings. In addition, in future aging research, there should be a greater focus on nutrition.

### **Interinstitutional Relocation of Nursing Home Residents – the Austrian Perspective**

Olivia Kada, Rudolf Likar, Georg Pinter,  
Eva Brunner & Herbert Janig

Carinthian University of Applied Sciences Feldkirchen, Austria  
o.kada@fh-kaernten.at

Long-term care is strongly affected by the population aging (WHO, 2006) and the related increase in chronic diseases (Rechel et al., 2009). Nursing homes do not have all resources needed to provide medical care for their residents. Therefore, residents are frequently relocated to hospital (Castle, 2001). A remarkable proportion of these transfers are inappropriate (Grabowski et al., 2008; Intrator et al., 2004; Ouslander et al., 2010). Relocating elderly to the hospital involves a health risk ("relocation stress", Castle, 2001; Manion & Rantz, 1995). The present study explored the current situation regarding hospital transfers of nursing home residents in Carinthia: Retrospectively data of a regional hospital (N = 4149), a rescue service (N = 10754), and a social insurance agency (N = 7051) were analyzed. Qualitative interviews with physicians (N = 25) and nursing administrators (N = 16) were conducted. One fifth of the hospital stays lasted shorter than 24 hours; the main diagno-

ses (ICD-10) were diseases of the circulatory system, symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified and injury, poisoning and certain other consequences of external causes. In the observation period one resident had on average 3.4 transfers to ambulant or stationary hospital treatment. The interviewees regarded relocation as a stressful event for older people. Interventions for reducing inappropriate transfers are needed.

### **Implementation of Evidence-based Medicine in Institutions Providing Acute Geriatrics and Rehabilitation**

Karl Cernic & Georg Pinter

Central Hospital Klagenfurt, Austria  
karl.cernic@kabeg.at

The expansion of competition within the health care sector, specialization as well as the emergence of new information technologies and decreasing public funds, have accelerated the pressure on the management of health care institutions: Worldwide healthcare systems are challenged with the improvement of the quality of care and are confronted with major demographic changes like the population growth and the changing of the age structure of the population. The paper identifies challenges and requirements for the management and organizational development of hospitals forced to provide evidence from clinical research for the provision of optimal care. The focus of research was on institutions providing acute geriatrics and rehabilitation. Essential is, that the patients of this discipline fundamentally differ from various other target groups in other medical disciplines and therefore the implementation of EBM faces major challenges. Evidence-based behaviour is only to be expected, if general structures and internal guidelines are broken down to individual levels embedded in a comprehensive management of human resources. The paper questions whether EBM serves as a management tool for adding value to hospitals and medical services for geriatric patients. It outlines major key components for a successful project development and implementation as well as actions needed that arise from a survey carried out among Carinthian geriatric doctors. Furthermore, it outlines challenges for the implementation of: • Personnel development • Provision of infrastructure needed (concerning knowledge-transfer) • Implementation of evidence-based internal guidelines • Cooperation with selected health care providers. On the basis of a differentiated analysis, which consists of theoretical and practical aspects, an integrated implementation approach is proposed and the potential of EBM for the geriatric sector management is critically examined.



### **Agitated Patient with Dementia (What Do We Treat?)**

Aleš Kogoj

Psychiatry Clinic Ljubljana, Slovenia  
silva.potrato@psih-klinika.si

With the aging of a population, dementia is becoming an increasingly prevalent mental disorder. It is estimated that in Slovenia the number of persons with dementia will increase by 40 % in the period 2009 to 2019. Wandering and agitation are the most enduring behavioral symptoms of dementia. Agitation can be presented as non-aggressive or aggressive behavior often requiring treatment. Agitation can occur due to: 1. cognitive decline (for example when effective communication is not possible, or due to inappropriate orientation), 2. other syndromes of mental disorders (such as depression, psychosis), 3. delirium or sundowning syndrome, 4. pain, somatic diseases (dehydration, urinary retention, infections ...), 5. loss of sight or hearing, 6. medication, 7. noise and social isolation. In addition, premorbid personality has been shown to affect agitation. The reasons for the agitation must be identified in order that appropriate social, environmental, behavioral or medical intervention can be made to alleviate the symptom. This is however not always possible due to cognitive decline and ineffective communication. Sometimes we rely on our observations, but this can also be misleading. Side-effects of antipsychotics can be mistaken with psychosis, weak sight or misidentifications with hallucinations, confabulations with delusions. Neuroimaging (structural and functional) and neurotransmitter changes provide us additional, but not adequate insight into BPSD.

### **Geriatric Pain Management**

Rudolf Likar & Georg Pinter

Central Hospital Klagenfurt, Austria  
r.likar@aon.at

With age, chronic painful diseases increase continuously. Information about the occurrence of pain in persons over 65 varies between 50 and 86 percent - depending on the type of examination used. On the other hand, between 40 and 80 percent of patients in nursing homes suffer from continuous but often undiagnosed pain. Among patients in home-care the number of pain patients is considerable: Between 40 and 50 percent of patients who have mobile nursing care at home are pain patients. Of the most important causes of chronic pain in older patients are degenerative diseases of the musculoskeletal system, osteoporosis, neuropathic pain or pain in connection with tumors, pain caused by vascular disease and rheumatic disorders, phantom pain, and ischaemic strokes. Typical geriatric syndromes like immobility,

incontinence, lack of appetite, instability or decrease of intellectual abilities reflect the individual aging process and are very often connected to the topic of pain. Pain in the aged leads to limitations in activities in daily life.

### **Frailty and Pain**

Regina Roller-Wirnsberger

Medical University of Graz, Austria  
regina.roller-wirnsberger@medunigraz.at

Frailty incorporates a syndrome associated with underlying physiological and metabolic as well as age related changes, which may be interrelated to each other. Frailty is responsible for driving progressive physical and cognitive impairments through to loss of functional capacity. All these changes are often helped on their way by acute or chronic diseases or injury. Recognition of frailty may improve clinical decision making by informing the prediction of benefit or the risk of adverse effects of clinical interventions, including medications, surgical interventions and physical displacement. Pain is, by that way, a major contributor to the development of frailty. It drives the development of sarcopenia through malnutrition, but also interferes with the actual physical performance due to diminished peripheral nerve function. The vicious circle between reduced food intake due to pain and consecutive polypharmacy, as well as diminished energy balance, reduced muscle- and bone mass will be highlighted in this lecture. Major learning objectives are as follows: Pathophysiology of frailty and the impact of pain in the model of frailty and the clinical assessment models of pain in the setting of frailty.

### **Geriatric Pain Management**

Georg Pinter

Central Hospital Klagenfurt, Austria  
georg.pinter@lkh-klu.at

Besides the special issues relating to pain and cognitive deficiencies in older patients, there is a number of other special characteristics that make pain identification difficult for the physicians and care-givers. Among those are for example gestures and body language that are restricted with age and as such are not significant. Sometimes the patients do not complain of pain at all, in other cases the statements are difficult to evaluate as they are vague regarding actual pain or pain areas. The most important cause for minimal pain treatment in geriatric patients - with or without cognitive deficiencies - is the widely-spread inadequacy in collecting pain data. The goal must be to elevate pain to the fifth vital parameter for all patients in all treatment and care-giving

institutions as well as in home-care. Various causes for the often insufficient pain compilation in this group of patients can be identified: For one, the structural conditions for consistent pain compilations are often missing in institutions and hospitals. In addition to this, there are the difficulties in using the current reliable instruments for measuring pain in this group. Generally it is very important in pain compilations to form the diagnostic questions in such a way that the patients can only minimally elude an objective compilation. This is particularly important regarding the age-related characteristics of geriatric patients. Within the framework of a structured pain compilation and pain estimation, it is especially important for the physicians or care-givers to pay more attention to indirect indications of pain in geriatric patients than would otherwise be necessary.

### **Pharmacologic Pain Management**

Rudolf Likar

Central Hospital Klagenfurt, Austria  
r.likar@aon.at

Pain therapy in older and aged patients is often complicated because in many cases the patients suffer from several chronic diseases simultaneously. Multimorbidity is the most classic characteristic of older and aged patients. Due to multimorbidity, the number of therapies increases. This in turn leads to a concern about the higher risks of interactions due to multiple medications and often results in insufficient therapy. On the other hand, non-pharmacological interventions are seldom implemented, even though especially physical therapy methods as well as reflex therapies should have a high significance in pain reduction. Multimorbidity makes the diagnosis of pain difficult, limits therapeutic possibilities, reduces stress-tolerance and is a major reason for the difficulty in establishing a causal connection between pain and its trigger in older pain patients. For all these reasons, pain therapy treatments in older patients need to be individually tailored to the patient. In general, medication for this patient group should be prescribed in a lower dosage for short periods of time, if at all possible.

### **Drug Interactions in Pain Management**

Yvonne Hoffmann-Weltin

Central Hospital Hochzirl, Austria  
yvonne.hoffmann@tilak.at

Older patients suffer pain more often because of increasing degenerative processes and chronic illnesses. (50% of the over 65-year-old patients). Therefore the amount of the

taken medications grows. Polypharmacy is also the reason for the higher risk of the occurrence of ADR's and DDR's. Taking more than 5 drugs simultaneously, leads to an increase of ADR'S and often causes hospitalisation (up to 25%). Because of multimorbidity, there exist more than one cause of pain and different areas of the body are affected by pain at the same time. Pain assessment, especially when the patient is cognitively impaired, is more difficult and patients are in need of exact observation and teamwork. Prescribing for older patients is very complex, as many medications need to be used with special caution, moreover side effects and age related changes in pharmacokinetics and -dynamics need to be taken in consideration. Central adverse effects are of particular importance because cognitive deterioration might arise. Delirium and the serotonin syndrome are two of the most prominent side effects. Therefore it is important to use appropriate assessment instruments (as MAI, Beer's criterias, guidelines) prior to the actual therapy as well as a continuous analysis of the therapy's efficiency (quality control). It is unrealistic to know about all ADR'S. An extensive diagnosis as well as setting goals together with the patient and a suitable therapy for every individual person are vital.

### **Psychological Pain Management in Geriatric Patients**

Marijana Braš

University of Zagreb Medical School, Croatia  
mbras@kbc-zagreb.hr

Pain is one of the most ubiquitous problems of today's world, its impact being far-reaching. Current conceptualizations of pain medicine adopt a bio-psycho-social perspective. In this model, pain is best described as an interactive, psycho-physiological behavioral pattern that cannot be divided into independent psycho-social and physical components. Neurophysiologic substrates of the pain experience can be broken down into the pain transmission elements emanating from peripheral, spinal, and supra-spinal processes. There are many complex mechanisms involved in pain processing within the central nervous system, being influenced by genetics, interaction of neurotransmitters and their receptors, and pain-augmenting and pain-inhibiting neural circuits. The geriatric patient's emotional experiences, beliefs and expectations may determine the outcome of treatment, and are fully emphasized in the focus of treatment interventions. There are several common psychiatric disorders accompanying and complicating the experience of pain in geriatric patients that warrant clinical attention and that can be the focus of psychiatric treatment. These include depression, anxiety, dementia, sleep disorders, somatoform disorders, substance-related disorders and personality disorders. Complex and disabling pain conditions often require comprehensive pain treatment programs, involving interdis-

ciplinary and multimodal treatment approaches. There are many roles that the psychiatrist can perform in the assessment and treatment of the geriatric patients with pain individually tailored to meet the specific needs of the patient. Psychotherapy and rational poly-pharmacy is of a high importance in the treatment of geriatric patients with chronic pain, with antidepressants and anticonvulsants contributing as the important adjuvant analgesic agents.

**Towards Non-arbitrary Metrics for Evidence-based Practice: Case Studies Using the Progressive Matrices**

John Raven, Mateo Todoric,  
Anca Dobrean & Dušica Boben  
jraven@ednet.co.uk

Raven will first show that legitimate comparative evaluation of educational programmes and health care treatments requires tests having measurement properties approaching those of an interval scale – ie having an approximately linear Test Characteristic Curve. Few tests satisfy this requirement: the TCCs for most tests approximate normal ogives. This conclusion may be stated more strongly and more technically: To be acceptable, research claiming support EBT must be based on tests having non arbitrary metrics. Todoric will compare the assumptions and practices behind Item Response Theory with those commonly employed in physics. Using insights gained in the course of developing RPM items, he will also discuss the importance of understanding the nature of the psychological processes being assessed. Dobrean will use data from standardisations of the RSPM+ and RMHV tests on large, nationally representative, samples of Romanians to illustrate the processes involved in demonstrating, that a test does indeed have non-arbitrary metrics. Boben will summarise evidence showing that the item statistics and other test properties of the RPM tests are remarkably stable across a wide range of cultural, socio-economic, and ethnic groups. Overall, the symposium will illustrate just how challenging is the task of producing tests which can legitimately be used in research claiming to support Evidence Based Practice ... and especially in evidence-based remuneration schemes.

**Some Problems in the Measurement of Change and their Resolution via Item Response Theory: Illustrations from Work with the RPM.**

John Raven  
Consultant, United Kingdom  
jraven@ednet.co.uk

Research claiming to provide a basis for evidence-based policy and practice in education and health care, and espe-

cially as a tool for use in schemes designed to link payment to results, should clearly utilise tests capable of providing sound evidence of change at a group or individual level. This paper will begin by illustrating just how difficult it is to assess comparative change in response to different health care or educational treatments or to make valid statements about variance in individual responses to single treatments using most of the tests currently available. This is because the meaning of differences between scores varies with the sector of the distribution at which the measurements are made. In other words, the score distributions do not approximate those required in an interval scale. In yet other words they have what are best described as arbitrary metrics. The implications are profound. And they invalidate the majority of studies claiming to demonstrate, for example, that certain treatments differentially benefit the more vs the less able. The paper will explain, and illustrate using data from recent studies with the Raven Progressive Matrices, a number of concepts that will be used by later speakers in the symposium and which it is essential for researchers to understand and engage with if they are to develop tests having appropriate metrics.

**Slovenian RPM Data in a Cross Cultural Context: Further Support for a Claim to Offer a Non-arbitrary Metric**

Dušica Boben  
Psychodiagnostic Center Ljubljana, Slovenia  
dusica.boben@center-pds.si

If a test is to claim that it can be legitimately used, without modification, in the course of assessing the need for, and benefits of, educational and health care problems in a range of cultural groups, it is important to show that it not only has the same internal properties but also that any given score has much the same meaning in those groups. The Coloured Progressive Matrices, Standard Progressive Matrices, Standard Progressive Matrices Plus test, and Advanced Progressive Matrices have all been standardised in Slovenia. In this paper, the Slovenian norms will be presented in the context of good normative data collected in the UK, Israel, Poland, Germany, Romania, the USA, Croatia, Korea, and Lithuania. Also discussed will be comparative data from other cultures including Kuwait, China, Taiwan, and India. These data suggest that the RPM can indeed be used as a largely culture free test across at least this range of cultures.

**Cognition, Thinking and Measurement:  
Reflections Provoked by Working on the Raven  
Progressive Matrices**

Mateo Todoric

University of Zagreb, Croatia  
mtodoric@vip.hr

Physics has set a standard for quantitative measurement against which all other sciences are judged. In this paper, problems of measurement in physics and psychology will be described and compared. The approximate conformity of the Raven Progressive Matrices to the Rasch model, and the stability of its measurement properties over time, culture, and socio-economic groups, make it particularly useful in both exploring the underlying trait being measured and developing better measures of the construct. An attempt to develop Advanced Progressive Matrices items similar to existing items which scale, but do not conform to the rules, explicated by Carpenter and Just and items which are more difficult than those which can be developed on the basis of those rules (such as those constructed by Vodegel Matzen) has stimulated the emergence of new insights into the nature of the abilities being measured. These insights seem to demand a conceptual framework more in accord with Spearman's own thinking than that on which most other attempts made over the last century do, to, as Spearman urged „understand the respective natures of education and reproduction, in their trenchant contrast, in their ubiquitous cooperation, and in their genetic interlinkage“ have been built.

**Problems Encountered and Insights Gained in the  
Course of Developing and  
Standardising Tests Having non Arbitrary Metrics**

Anca Dobrean

Babes-Bolyai University of Cluj, Romania  
ancadobrean@psychology.ro

This paper will review problems encountered, and insights developed, in the course of cross-validating the item analysis of, and standardising, the Standard Progressive Matrices Plus and developing and standardising a Romanian version of the Mill Hill Vocabulary Scale. The problems include not only that of generating a sample covering the entire range of socio-economic groups, ages and ability levels of those, for whom the test was intended but also having enough respondents in the tails of the distribution to make it possible to plot reliable ICCs. Failure to attend to these issues has, in the past, led to publication of misleadingly low indices of reliability. The implications of need to be able to show that the test properties are stable across social and

economic groups will also be discussed. Also reviewed will be issues associated with developing distracters differing in distinctive ways from the correct answer and assessing the way in which the tendency to select each of these distracters varies with ability and SES. In this context, problems involved in plotting Distractor Characteristic Curves – and the benefits gained – will be discussed.

**Support for Mathematical Learning Disabilities:  
Models and Issues in Assessment and Implementation  
of Educational Programs in Alps Adria Countries**

Maria Chiara Passolunghi & Liane Kaufmann

University of Trieste, Italy  
passolu@units.it

It has been proved that over the last decades the number of students with mathematical difficulties has greatly increased (Swanson, 2000). Since mathematics is a fundamental tool in the social and natural sciences and in many other areas, difficulties in this field greatly influence the scholar career of the students and consequently their future employment opportunities. The main aim of the symposium is therefore to compare the different approaches to the mathematical learning disabilities given in the Alps Adria Countries. The symposium covers topics related to identification, assessment and treatment of children with special educational needs. Kavkler, Magajna, Košak-Babuder, and Pulec Lah present the development and implementation of a five step hierarchic model of identification and treatment for students with mathematical learning disabilities as well as a broader theoretical model of systematic help to pupils with learning difficulties in Slovenia. Pixner, Entholzer, Sandner, and Kaufmann examine the effectiveness of a novel intervention program aimed at ameliorating the performance of children attending primary school in Austria. The study of Passolunghi is focused on the assessment of emotional and cognitive factors underlying the mathematical learning difficulties in Italian children.

**Associating Colours to Numbers: First Promising  
Results in Remediation of Developmental Dyscalculia**

Silvia Pixner, Kerstin Entholzer,  
Katrin Sandner & Liane Kaufmann

Health and Life Sciences University Hall i.T., Austria  
silvia.pixner@umit.at

This study sought to examine the effectiveness of a novel intervention program that aimed at ameliorating the multiplication performance in third and fourth graders with mathematics difficulties. During the intervention, colour cues were used to establish number representations and number facts (e.g., red was associated with the digit “8”).

The rationale for this intervention approach is twofold: Firstly, the association between numbers and colours occurs quasi naturally in synaesthesia. Secondly, in the adult literature colour cues were used successfully to remediate multiplication skills in neurological patients with acquired dyscalculia. The present study aimed at extending the latter findings to developmental dyscalculia. The intervention was introduced for eight weeks and focused on the establishment of multiplication facts and concepts. The control group received unspecific intervention focusing on attention and memory. Results revealed positive intervention effects for the experimental group (but not for the control group). Beyond exhibiting a significant performance increase on multiplications, the experimental group displayed more mature problem solving strategies. Importantly, the teaching of colour-number associations was found to significantly improve the multiplication performance in math disabled children (even after a short training period). However, it remains to be tested whether these positive learning effects are stable over time.

**Support for Mathematical Learning Disabilities: Models and Issues in Assessment and Implementation in Slovenia**

Marija Kavkler, Lidija Magajna,  
Milena Košak Babuder & Suzana Pulec Lah  
University of Ljubljana, Slovenia  
marija.kavkler@guest.arnes.si

In the Slovenian school system, the presence of learning disabilities or difficulties in the area of mathematics seriously limits educational and future employment possibilities of students. Mathematics is the most frequent negatively graded subject. The mathematics grade in the last three years of a primary school has the highest prediction value for success in high school. 38% of all students with special needs manage to solve less than 50% of the tasks in mathematics at the end of primary school, compared to only 10% of their peers. The aim of the presentation is to expose the development and implementation of a five step hierarchic model of identification, support and treatment for students with mathematical learning disabilities within a broader context of a comprehensive system of systemic help to pupils with learning difficulties and disabilities of different nature. On the basis of research results a document. The concept of work with students with learning difficulties was formulated. One of the important goals of this concept is the implementation of a systemic approach into an inclusive school practice as well as the development of a five-step hierarchic model of a good inclusive practice for students with learning disabilities. In order to support school teams with the implementation of the five step model, a model of inclusion teams was also developed.

**Assessment of Cognitive and Emotional Factors Underlying Mathematical Disability**

Maria Chiara Passolunghi  
University of Trieste, Italy  
passolu@units.it

Difficulties in mathematical learning greatly influence the students' scholar career and consequently their future employment opportunities. Therefore, it is relevant to investigate and identify the factors underlying this disability in order to develop effective educational programs. Emotional and cognitive factors were examined in children with specific developmental disorders in mathematical ability (MD) compared with normally achieving children, matched for chronological age, school level and vocabulary. Working memory, short-term memory, inhibitory processes, speed of processing and level of anxiety in mathematics were assessed in the two groups. The results corroborated the hypothesis, that children with MD are impaired in working memory capacity, inhibitory ability, and speed of processing. However, no impairment was found in short-term memory tasks requiring passive storage of verbal or numerical information. Moreover, while children with MD showed higher levels of anxiety in mathematics, their levels in other school subjects were similar to those of normal achievers. Implications for early identification of the core deficits in children with MD are discussed, along with possible approaches for treatment.

*PERSONAL DEVELOPMENT AND WISDOM*

**Rethinking the Modularity Plus Language Approach in Spatial Reorientation**

Beatrix Lábadí & Diana Agnes Horvath  
University of Pecs, Hungary  
labadibea@gmail.com

Previous spatial cognition studies have shown that young children tended to rely mainly on information about the macroscopic shape of the environment to reorientate, whereas they ignored the non-spatial landmark information. In this study, disoriented 4-6 year olds searched for toys in small rectangular enclosures with one red and three white walls. This study presents a consistent picture of ability to use visual feature to support the navigation in a reorientation paradigm, when the left-right sense had been eliminated from the spatial condition. Furthermore, we found evidence that spatial language supports the performance of reorientation in non-geometric conditions. The results suggest that language production skills play a role in allowing humans to construct novel spatial representations rapidly, and chil-

dren are able to use both the feature and geometric cues to reorientate in space as young as 4 years old. The results will be explained in terms of the adaptive combination model.

### **The Main Contemporary Theories of Cognitive Development**

Szabolcs Kiss

University of Pecs, Hungary  
kiss.szabolcs@t-online.hu

The goal of the presentation is to critically discuss the main contemporary theories of cognitive development. We will characterise the following main theories: new rationalism, nativism, modularism, progressive modularism, empiricism, pragmatism, learning theory, connectionism, classical constructivism, neural constructivism, social constructivism, neo-Piagetian approach, interactionism, theory-theory, simulation theory, cultural approach, narrative theory, the socio-cultural approach of Vygotsky, neural Darwinism, dynamic systems theory, evolutionary developmental theory, natural pedagogy, the information-processing view, different hybrid approaches, the image-schema view, classical symbol-processing. The present paper does not commit itself to any of these theories, because the main aim is to list theoretical arguments and empirical data in favour of each.

### **The Development of Wisdom in the Course of One's Life**

Susanne König, Katja Naschenweng, Uwe Redzanowski,  
Lara Dorner, Irene Strasser & Judith Glück

University of Klagenfurt, Austria  
susanne.koenig@uni-klu.ac.at

Wisdom is a topic of growing scientific interest, but up to date only a few studies explored wisdom in the context of real life. How does wisdom develop? Why do only a few people gain wisdom when they walk through life? These questions are actually studied in a greater project testing the "MORE Wisdom Model", which proposes a sense of Mastery, Openness to experience, a Reflective attitude and Emotion regulation skills as relevant resources for the development of wisdom. In a first step, people from Carinthia were asked to name wise people. Wisdom nominees and young and old control participants, who agreed to participate in the study, were interviewed about their life using an autobiographical life events approach. After participants listed different life events and evaluated them concerning several criteria, the most difficult and best events were explored

more precisely in extended interview sessions. The narratives were transcribed and content-coded. Regarding the types of life-events, frequently mentioned contents were education/occupation, partnership, death, diseases and birth of children. Wise participants and control participants differed concerning the criteria ratings and MORE resources. These first results are consistent with theoretical notions suggesting that life experiences play an important role for the development of wisdom in the course of one's individual life.

### **Carinthian Views of Wisdom: Public Figures and Characteristics Associated with Wisdom**

Stefanie Rappersberger & Susanne König

University of Klagenfurt, Austria  
stefanie.rappersberger@uni-klu.ac.at

Humankind has been thinking and writing about wisdom for thousands of years. Still, wisdom is an elusive concept that does not have a universally accepted objective definition (Bluck & Glück, 2005). One way to make wisdom tangible is to examine individuals' mental representations of wisdom. In this study, we asked 528 Carinthian students from different fields, via an online survey, about typical characteristics they associate with wisdom and which public figures they perceive as wise. Furthermore, we asked how wisdom can be developed. Characteristics associated with wisdom were grouped into categories, which represent subcomponents of wisdom. The findings partly confirm previous models (c.f. Bluck & Glück, 2005) by underlining the importance of life-experience, cognitive abilities, reflection, empathy, openness and tolerance, but they also provide some interesting details. Concerning public figures perceived as wise, the three most named were the Dalai Lama, Barack Obama, and Mahatma Gandhi. All the wise nominees were sorted into groups; the majority one is that of a religious or political leader. Sex differences were found concerning the wisdom nominees as well as typical characteristics associated with wisdom. Results are discussed in the light of previous wisdom studies and offer new insights about people considered as wise.

### **Among the Wise. Wisdom Research and Ethnography**

Katja Naschenweng, Susanne König & Judith Glück

University of Klagenfurt, Austria  
katja.naschenweng@uni-klu.ac.at

Within the research project „The Development and Manifestation of Wisdom“ (Glück et al., 2008) more than 40 wisdom nominees have participated both in established in-

struments for wisdom measurement (Ardelt, 2003, Webster, 2003) and a new approach using interviews about important events and conflicts in their lives. Five particularly wise participants were reinvestigated using ethnographic methods to portray the lives of these wise people in detail. The main goal of the ethnographic research was to go beyond testing pre-specified hypotheses in the project and explore new facets in the life management of wise individuals. The first author spent two weeks with each of five wise individuals and collected various data to characterize the everyday-lives of wise people, their worldly wisdom, their philosophy of life, their handling of strokes of fate, special characteristics and important values in their lives. The results show that wise people are highly aware of their values like family and friends, honesty, gratitude, faith, and unpretentiousness. Their lives are also characterized through their housing situations which reflect specific needs and preferences and through a very deliberate use of media. Furthermore, it could be shown how they are able not only to integrate, but also to appreciate difficult life events as enrichment for their lives. In the presentation, the five wise individuals are briefly characterized and relevant commonalities and differences are highlighted.

#### **Who Knows Who is Wise? Self and Peer Ratings of Wisdom within University Departments**

Uwe Redzanowski

University of Klagenfurt, Austria  
uwe.redzanowski@uni-klu.ac.at

A fundamental question in wisdom research is: Is it possible to measure wisdom by self report? How do people, who are described as wise by others, see themselves in relation to wisdom? Assuming a self-reflective and self-critical attitude as a major aspect of wisdom, wise people should consider themselves as less wise than others. ("I know that I know nothing"). Furthermore, do we judge our own wisdom based on the same factors as we judge other peoples' wisdom with? In the current research, academic staff members of 17 departments of Alpen-Adria-University Klagenfurt rated themselves and their colleagues on wisdom. Before that, they were asked to give definitions of wise characteristics and wise behavior. In order to ensure the anonymity of the delicate process of judging colleagues, the ratings were returned separately in a voting-box. In addition, each respondent filled out Ardelts Three-Dimensional Wisdom Scale (3DWS; 2003). Results showed no significant correlations between self-ratings and peer ratings and 3DWS scores. Most people saw themselves as wiser than they were seen by others, and this was especially true for men. As expected, people who were rated high on wisdom by others, judged themselves as less wise. The implications of the findings for the valid assessment of wisdom are discussed.

#### **Subjective Perceptions and Experiences of Emerging Adulthood**

Maja Zupančič

University of Ljubljana, Slovenia  
maja.zupancic@ff.uni-lj.si

Emerging adulthood has become recognized as a rather distinct developmental period from adolescence and adulthood. It extends from late teens over the twenties and seems to appear across postindustrial societies where the role of education, professional training, individual choice, and independence among young people is emphasized. Personal views on adulthood, identity exploration, individuation from parents, living arrangements, social support, and social participation are relevant topics of emerging adulthood that are addressed in this symposium. Three presentations include findings of a cross-national study in Austria, Slovenia and the US. Two of them highlight cross-national results and discuss personal views on adulthood in university students (Puklek Levpušček, Zupančič, Friedlmeier, Sirsch, Bruckner), and identity issues, perceived future perspectives and gender differences in their experiences (Sirsch, Bruckner). The third paper presents a revised form of the Munich Individuation Test for Emerging Adults based on validity studies of the original and accounting for individuation models in emerging adulthood (Horvat, Komidar). The remaining contributions focus on Slovene emerging adults. An insight into their living arrangements in relation to available parental and peer support is provided (Svetina, Kovač) and issues on social participation of emerging adults as well as predictors of their engagement in voluntary work and political activities will be presented (Gril).

#### **Social Participation in Emerging Adulthood**

Alenka Gril

Educational Research Institute Ljubljana, Slovenia  
alenka.gril@pei.si

The individual and contextual precursors of social participation of young people in the period from adolescence to young adulthood were studied in the Slovene capital. The paper will focus on the main characteristics of social participation of the emerging adults (in the age of 19 to 25 years) in comparison to the adolescents (from 14 to 18 years old). The results showed that their active participation in the local community increases, considering the voluntary work as well as the political activities such as elections or the public expression of interests (round tables, petitions, demonstrations, etc.). They were also better informed about sociopolitical issues and favored more the young people's social participation. But the majority of emerging adults is not involved and is not even interested in the public affairs. There-

fore, we investigated the differences in personal beliefs, social knowledge, motives and social experiences among the young people at the university, who were involved in the social and political activities and those who were not. The hierarchical regression analyses were conducted for the voluntary work and political participation separately. The regression models had higher predictive value for the voluntary work than the political participation. There were some differences in the particular predictors of two kinds of social participation which will be discussed.

### **Revision of Munich Individuation Test for Emerging Adults**

Martina Horvat & Luka Komidar  
University of Ljubljana, Slovenia  
tina.horvat1@gmail.com

MITA for Emerging Adults is a modified version of the original MITA (Munich Individuation Test for Adolescence). The test assesses developmentally normative aspects of separation-individuation from parents in emerging adulthood. The validation study of original MITA showed satisfactory construct validity of all six scales. The initial aim of our study was to test the six-factor model on US (N = 225), Slovenian (N = 198), and Austrian (N = 208) students. Because the model did not have an acceptable fit to any dataset, we performed exploratory analyses of dimensionality. We obtained an explicable five-factor solution on the Slovenian sample, but we could not attain an interpretable solution for the US and Austrian sample. Next, we conducted interviews with experts and students about relevance and comprehensibility of items. The interviews revealed that several items are not adequately associated with the proposed scale content and are more suitable for adolescents. Some items are not easy to comprehend due to problems with basic intelligibility and broadness of item content. According to contemporary theories on individuation in emerging adulthood, different domains might be relevant for emerging adults, i.e. emphasis on emotional and instrumental autonomy, psychosocial maturity, self-reliance, and responsibility-taking. Based on these results we offer a revised version of MITA for Emerging Adults that reflects the individuation process in emerging adulthood better.

### **Conceptions of Adulthood in Austrian, Slovene and U.S. Emerging Adults**

Melita Puklek Levpušček, Maja Zupančič, Wolfgang Friedlmeier, Ulrike Sirsch & Johanna Bruckner  
University of Ljubljana, Slovenia  
melita.puklek@ff.uni-lj.si

Criteria of adulthood are typically assessed by a 38 item scale, the Criteria for the Transition to Adulthood (CTA)

by Arnett. It differentiates domains of independence, family capacities, norm compliance, biological, legal/chronological, and role transitions, and a few remaining items (the subscale Other). The content validity of CTA was examined by addressing the question whether the scale is exhaustive. Austrian (N = 210), Slovene (N = 201) and US university students (N = 225) responded to the CTA and to two open questions: (1) in which respects does an adult differ from a non-adult; (2) why is it desirable to become an adult. A coding system was developed to categorize the answers. The interrater agreement was satisfactory for inter- and intra-cultural cross-codings. Up to 60% of the CTA criteria were considered relevant across countries. Criteria in the independence and family capacities domain appeared the most relevant and those related to norm compliance were important for over a half of the students. Regarding the first open question, Independence received most responses across the samples, supporting a high importance of the CTA Independence subscale, while Psychosocial Maturity occurred beyond the CTA. When asked about the desirability of becoming an adult, Independence, Psychosocial Maturity and Responsibility were the most capacious categories. Subtle cross-national differences and implications of the results for studying emerging adulthood will be discussed.

### **Living Arrangements and Social Support in Emerging Adulthood**

Matija Svetina & Jasna Kovac  
University of Ljubljana, Slovenia  
m.svetina@ff.uni-lj.si

The patterns of home leaving in the western cultures were subject to numerous changes within the last twenty years which brought developmental psychologists to introduce a new developmental period of emerging adulthood. The concept of the emerging adulthood refers to the processes of developmental transition between adolescence and early adulthood marked with specific developmental tasks such as consolidation of social networks or meeting conditions of residential independence. The present study had two main purposes. The first was to gain insight into the typical fluctuations and reversals of residential statuses during the period of emerging adulthood; the second was to address the relations between residential status, social support, networking, and family relations. The 188 participants, aged 20 to 30, reported on several indicators of residential status such as financial or interpersonal relations and roles in the current living arrangement as well as perceived parental and peer availability and support. The data showed participants' tendency to live with parents despite their financial independence, indicating that the timing of home leaving in emerging adulthood was likely to be postponed for other than financial reasons. The results also suggested both gender and age interactions with social support and current living arrangement.



**Identity Exploration and Future Perspectives of Male and Female Emerging Adults in Different Countries**

Ulrike Sirsch & Johanna Bruckner

University of Vienna, Austria  
ulrike.sirsch@univie.ac.at

In modern industrial societies, globalization and modernization created a longer and more distinct transitional period between adolescence and adulthood. Arnett (2000) labeled the period from eighteen through the twenties as emerging adulthood. Young people of this age mostly see themselves as being in transition to adulthood and they use this period for identity exploration processes (Arnett, 2004, 2006). The aim of the following cross-national study was to find out whether young women and men differ regarding identity exploration processes and future perspectives. According to the defining features of emerging adulthood (Arnett, 2006) identity exploration was measured with the Inventory of the Dimensions of Emerging Adulthood (IDEA, Reifman et al., 2007). Additionally, time points for future perspectives like first full-time career, moving out, financial independence, marriage, and parenthood were investigated. The sample (N = 636) consisted of students from Austria (n = 210), Slovenia (n = 201) and the USA (n = 225) aged 18 to 27 years (M = 21.0, SD = 1.8). First results showed higher values in identity exploration for women compared to men and participants from the USA compared to Austria and Slovenia. Furthermore, results regarding future perspectives showed that women compared to men and emerging adults in the USA compared to Austria and Slovenia also plan transitions earlier in their life course. Possible reasons for findings will be discussed.

*ROUND TABLE MEETING*

**Round Table Meeting: Mobility and Partnership in the Bologna Process.  
Young Researcher Promotion**

We will discuss partnerships, joint/double degrees, Erasmus: bilateral agreements, student mobility, teaching staff mobility, internships for students, study visits, awards and grants. How to deepen a smooth and fair recognition, trust, cooperation and respect? What is going well, what is missing, what has to improve? There will be space for Alps Adria, Erasmus and Bologna process coordinators as well as other people who are active in this field. We will be supported by the Vice Rector of International Affairs and the International Office.

Michael Wieser, University of Klagenfurt, Austria  
Paul Jiménez, University of Graz, Austria  
Anja Podlesek, University of Ljubljana, Slovenia  
Anita Deák, University of Pecs, Hungary

Marco Messier, University of Klagenfurt, Austria  
Hubert Lengauer, University of Klagenfurt, Austria

*PODIUM DISCUSSION*

**Podium Discussion: Doping in Elite Sports: Preventive Measures in the Long Run – the Psychological Perspective**

For several years, doping has been a widely discussed issue in elite sports. Numerous popular and well known athletes have been disqualified, due to their use of prohibited performance enhancing substances. Worldwide efforts to ensure a drug-free sport, provide fair play, and protect the athletes' health have led to the introduction of doping laws in many European countries. The main emphasis of the majority of these laws is on specifying various rules, categorizing rule violations and standardizing doping control mechanisms. There is also an effort to tackle measures of prevention. Although responsible organizations are well aware of the importance of target specific information and education, the implementation of relevant educational programmes seems to be more difficult. One reason for this might be that these measures have to be multidimensional on several levels (athletes, parents, coaches, sport organizations), in order to be effective in the long run. The discussion will on the one hand be focusing on psychological processes that influence athletes' doping behaviour, on the other hand it will deal with the question how psychologically proofed methods of behaviour change can be integrated in preventive programmes.

Thomas Brandauer, University of Klagenfurt, Austria  
Discussants:

Tiziano Agostini, University of Trieste, Italy  
Günter Amesberger, University of Salzburg, Austria  
David Müller, National Anti-doping Agency, Austria  
Matej Tušak, University of Ljubljana, Slovenia

*PAPER SESSIONS*

ATTENTION

**Non-spatial Attention Engagement in Patients Affected by Neglect**

Simone Gori, Milena Ruffino, Milena Peverelli, Franco Molteni, Konstantinos Priftis & Andrea Facoetti  
University of Padua, Italy  
simone.gori@unipd.it

According to the most recent studies, the non-spatial, temporal attention disengagement -measured by the atten-

tional blink- is impaired in neglect patients. However, it is unclear, whether the mechanism of temporal attentional engagement is also impaired in neglect patients. In order to investigate the temporal attentional engagement, two experiments were conducted in a sample of 19 patients with right cerebrovascular lesion (9 with Neglect: N+ and 10 without Neglect: N-) and 9 healthy controls (C). We measured the backward masking as well as the para-contrast masking for centrally presented stimuli. The results showed a specific impairment of the non-spatial attentional engagement in N+. Precisely, N+ showed both a deeper backward and para-contrast masking and a sluggish backward and para-contrast masking recovery in comparison with the two control groups (N- and C). These results suggest that the non-spatial disengagement deficits -typically associated with neglect- could be explained by postulating a primary attentional engagement deficit of the "When" system, controlled by the right inferior parietal cortex.

#### **Effects of Stimuli Quality and Complexity on the Reverse Spoke Illusion**

Ilija Manenica & Ivana Dujčić

University of Zadar, Croatia  
manenica@unizd.hr

One of the well known motion illusions is phi-phenomenon, where the motion illusion is induced by successive on and off states of two lights. The reverse spoke illusion is a similar phenomenon which appears on a wheel divided by spokes into fields of different brightnesses. As the successive field brightness changes, it causes an apparent movement of spokes in the opposite direction. The aim of this study was to find out possible effects of colour, width, length and the number of spokes on the magnitude of illusion. Twenty subjects took part in this study, the task of which was to adjust the speed of real counter movement up to the point when the movement illusion disappeared. The speed of real movement necessary for the illusion to disappear was the measure of the illusion, expressed in minutes of arc length per second. The results showed that the magnitude of illusion changes as the length and number of spokes change. This was attributed the fact that more complex stimuli cause a bigger illusion. A bigger movement illusion was found when the circle was of different shades of red, than with comparative black circles. This was attributed to the differences in apparent brightness between the red and the black circle, where the red circle of the same size is perceived as bigger. Unlike in the some other studies, the spoke width had no effects on the illusion magnitude, which is most probably due to the differences in spoke widths used.

#### **Motor Pattern Recognition by Sound: A Gestalt Unit for Golf Swing?**

Mauro Murgia, Guido Bresolin, Alessandra Galmonte, Giovanni Righi & Tiziano Agostini

University of Trieste, Italy  
mauro.murgia@phd.units.it

It has been shown, that humans are able to recognize their own movement by watching light-point displays. Other studies demonstrated, that acoustic stimuli can influence relative timing (RT) as well as overall duration (OD) of voluntary motor production and it suggests, that acoustic perception can provide a temporal motor representation of movements. In this study, we examined whether golfers are able to discriminate between the sounds associated to their own movements and those associated to other golfers. We recorded the sounds produced by athletes in sixty-five meters shots and used these tracks to create five stimuli, in which overall duration and relative timing were manipulated. The task of the subjects was to say whether each sound corresponded to his/her swing. We presented to each golfer auditory tracks corresponding to their own movement, and other golfers' tracks having an equal RT and OD, an equal RT and different OD, a different RT and equal OD, or a different RT and OD. Results showed that golfers are able to recognize their own sounds. They wrongly recognize as their own sound the sound of other athletes having equal relative timing and overall duration. However, these conditions significantly differ from each other. These outcomes suggest, that temporal features are very important in sound recognition, but probably also other information is embedded in the sound. Results are consistent with a gestalt unit hypothesis for human movement.

#### **Speed and Skill as Modulating Factors of Flow while Skiing on Prepared Slopes**

Thomas Brandauer, Veit Senner & Johannes Woitschell

University of Klagenfurt, Austria  
thomas.brandauer@uni-klu.ac.at

Well groomed slopes are a good opportunity for skiers to experience flow, due to their specific situational demands. Our field-study analyses whether flow experiences while skiing on prepared slopes occur and to what extent speed and skill have a modulating effect. The random sample of the study consisted of  $n = 112$  skiers ( $f = 42$ ;  $m = 70$ ) aged from 10 to 78 years ( $M = 35.9$ ;  $SD = 14.9$ ). Velocity measurements were carried out on a well groomed slope of medium difficulty with the skiers unaware that they were being measured. Immediately after skiing down the test slope, subjects were asked to fill out the short version flow-scale. According to our expectations, skiing on a well prepared slope of medium

difficulty provides intensive flow experiences ( $M = 5.57$ ,  $SD = 0.66$ ). Speed modulates the general flow score. The faster one skis, the higher the flow intensity ( $r = .286$ ,  $p < .01$ ). Significant positive correlations ( $p < .01$ ) were found between the skiers' assessment of their skiing skills and the general flow-score ( $r = .349$ ) and also the subcategory "smoothness of action" ( $r = .524$ ). The results show that a well groomed piste of medium difficulty can provide flow-experiences for skiers of different levels. According to the situational demands and the skiers' skills an individual balance is very often accomplished via the skiers' speed.

### **Motion of the Occluding Surface Enhances Perceptual Transparency**

Rossana Actis-Grosso

University of Milano-Bicocca, Italy  
rossana.actis@unimib.it

An experiment is presented, aimed at testing the role of motion in the perception of apparent transparency, when the occluding surface (i.e. the surface perceived as transparent) is moving. Observers ( $n=30$ ) have been asked to judge, on a seven-point Likert scale, the perceptual transparency of a small rectangle (2.3 x 1.2 cm), which could either be (a) moving from left to right on a grey background with a darker area in the middle (session 1) or (b) partially overlapping the same dark area (session 2). The experimental factors were: Dynamicity (3 levels: static, moving slowly - with a speed of 3.7 cm/s - and moving fast - with a speed of 12.4 cm/s); Lightness Contrast (2 levels, high and low contrast between the figure and background); Lightness Polarity (2 levels, negative and positive); Actual Transparency (4 levels, corresponding to an alpha value from 25 to 100 with steps of 25), for a total of 48 stimuli. Each stimulus had 3 repetitions, for a total of 144 trials. Results show an effect of (a) Dynamicity: moving stimuli were judged as more transparent (better effect for slow velocity) and (b) Lightness Contrast (better effect for high contrast). The interaction between Actual Transparency and Lightness Contrast (all  $p < .01$ ) shows that stimuli with low contrast were judged as transparent also when they were totally opaque. Results are discussed in light of laws for perceptual transparency (Kanizsa, 1955) and amodal completion.

### **A Neural Model of Functional Neuroimaging Data Related to Visual Working Memory**

Dražen Domijan

University of Rijeka, Croatia  
ddomijan@ffri.hr

The purpose of this work is to develop and test a neural network model of the intraparietal sulcus (IPS). Central

component of the model are dendrites which operate as independent computational units. The model incorporates feature stores (i.e., shape, colour) in the superior IPS and separate stores for object's location in inferior IPS. The interpretation of the fMRI findings is based on the assumption, that local field potential is a major component of the BOLD signal and that processing at dendritic trees are major components of the local field potential. Computer simulations showed that the proposed model exhibits a capacity limit to about four objects that could be simultaneously stored in the working memory. A model of inferior IPS showed linear increase in activation up to the four objects, irrespective of their shape or other properties. On the other hand, model's superior IPS showed a variable capacity limit which depends on the complexity of objects. Complex objects required more active nodes to encode and represent their features. This resulted in stronger lateral inhibition among competing representations and consequently in weaker brain activation and in a lower capacity estimate for complex objects. The presented model is able to account for a different pattern of neural activation in the inferior and superior parts of the IPS as revealed by the fMRI data obtained while participants were engaged in solving change detection tasks.

### **MIND AND EMOTION**

#### **How to Measure Emotional Intelligence in Early Adolescence Age**

Ana Babić Čikeš & Vesna Buško

University of Osijek, Croatia  
anababic.os@gmail.com

There are a growing number of emotional intelligence researches in the past twenty years, but very few of them studied emotional intelligence in early adolescence age. Among the reasons is, that we lack well developed emotional intelligence tests designed for this age and measurement problems in research of emotional intelligence are still unresolved. This study aims to present preliminary findings pertaining to the development and validation of a new performance instrument intended to measure emotional management ability (following the Mayer and Salovey model). The instrument is designed especially for the early adolescence age. Participants of the study were students of higher grades of an elementary school in Croatia. We administered the new test (Emotional Management Ability Test) along with two additional performance tests of emotional intelligence abilities: Perception of Affective Content in Art designed to assess perception of emotions, and Emotional Analysis Test intended to measure understanding and analysis of emotions. Data on school achievement and the self-report data based on an instrument for the assessment of empathy were also collected. Low, but significant correlations

were found between the Emotional Management Test and the two other measures of emotional intelligence, Empathy questionnaire and school achievement, as well. Results are discussed in view of construct- and criterion-related validation of the operationalizations based on the Mayer and Salovey model.

### **Brain and Emotions: Cognitive Neuroscience of Emotions**

Anita Deák

University of Pécs, Hungary  
deakanita@btk.pte.hu

The cognitive neuroscience of emotions is a rapidly growing field. It focuses to the neural basis of emotional and social processes and strongly contributes to the better understanding of the biological basis of emotional processing. It integrates the results of neural and behavioral levels of analysis in healthy and clinical populations as well. Main topics and questions of cognitive neuroscience of emotions are the role of emotions in information processing; their neural basis for both cortical and sub-cortical levels; the perception of arousing stimuli; emotions and memory; the role of emotion in decision making; detecting emotional versus neutral faces; individual differences in emotionality and their biological background. Brain imaging techniques (e.g. functional magnetic resonance imaging – fMRI) are used both for examining functional connections between emotion and perception, attention, memory and decision making and for localizing specific psychological functions to specific brain areas. In this paper we discuss not only current research trends and methods but some important brain areas responsible for emotions (e.g. amygdala, anterior cingulate cortex, prefrontal cortex).

### **Task Instructions Differentially Modulate Emotion Processing in Hippocampus and Amygdala**

Carmen Morawetz, Evgeniya Kirilina, Hauke R. Heekeren & Juergen Baudewig

Freie Universität Berlin, Germany  
carmen.morawetz@fu-berlin.de

The amygdala plays an essential role in the processing of emotional expression in faces. Recently, it has been demonstrated that the hippocampus, primarily known for its role in declarative memory, is also involved in the formation of emotional memories and associations. It has been proposed that during emotion processing, the hippocampus and amygdala might influence one another via reciprocal projections. We addressed this issue in the present study using fMRI. 16 right-handed (3m, aged 20-37 years) were examined. The experimental design implemented an active and a passive

task condition, in which the subjects had to perform an emotion or object discrimination task in alternating blocks. The ROI-Analysis showed that the responses in the amygdala and hippocampus were significantly modulated by task instructions during the face and objects condition. The small signal changes in the amygdala during the active tasks may reflect the absence of processes that occur during neutral or passive conditions. In addition to its role in the perception of novel, emotional stimuli, in episodic memory and spatial cognition, the hippocampus has been reported to be part of the default-mode network of brain activity that predominates in the absence of a demanding external task. Our results suggest that signal changes in the amygdala and hippocampus are reduced with increasing cognitive demands.

### **The Face Reveals Trustworthiness**

Béla Birkás & Beatrix Lábadi

University of Pécs, Hungary  
birkasb@gmail.com

Daily experience suggests, that even the briefest inspection of a face may be sufficient to furnish information about the sex, age, emotional status and gaze direction of its owner. As little as 100 ms exposure to unfamiliar faces provides sufficient information for trait inferences and evolutionarily important inferences such as threat or trustworthiness can be made even after shorter exposures. Mostly, the eye-region bears salient information about someone's real intentions. Direction of gaze has considerable importance as a social cue and in communication between individuals. Several experimental results show, that an image of a pair of eyes (either human or not) or face-like stimuli appearing to observe behavior dramatically increases cooperation. The human perceptual system contains neurons that respond selectively to stimuli involving faces and eyes, and it is therefore possible, that the images exerted an automatic and unconscious effect on the participants' perception that they were being watched. We investigate people trait judgments on faces with different gaze direction. Furthermore, subjects play experimental games in which the 'faces' of their hypothetical partners were shown. Faces were previously rated on subjective trustworthiness and other traits. Partners responded in a pre-programmed fashion. The results therefore support the hypothesis, that reputational concerns may be extremely powerful in motivating cooperative behavior.

### **Is Disgust an Emotion?**

Rainer Reisenzein

University of Greifswald, Germany  
rainer.reisenzein@uni-greifswald.de

Disgust has received increasing scientific interest during the past years because of its practical importance for hygiene,

healthcare, and as a factor in clinical disorders. In most of this literature, disgust is conceptualized as an emotion, corresponding to the views of most emotion researchers. However, from a theoretical perspective, the classification of disgust as an emotion can be questioned. A main reason for skepticism is that disgust, in contrast to paradigmatic emotions (see Reisenzein, R. [2009]. Emotions as metarepresentational states of mind: Naturalizing the belief-desire theory of emotion. *Cognitive Systems Research*, 10, 6-20), seems to be directly caused by sensory representations rather than by beliefs. Because only little research has been so far devoted to a detailed exploration of this hypothesis, a series of experiments was conducted in which various sensory (e. g., color, size, form) and cognitive (e. g., context and the presumed real vs. artificial character of the disgust objects) properties of disgust objects were varied to study their effects on the intensity of experienced disgust. The results of the studies generally confirm predictions derived from the theory that disgust is a "sensory affect".

#### **The Evolution of Integrative Problem Solving in Plio-Pleistocene**

Gottfried Süßenbacher

University of Klagenfurt, Austria  
gottfried.suessenbacher@uni-klu.ac.at

Recently, the scientific endeavor of explaining mankind's beginning is accentuated by ongoing reflections - firstly, on the evolutionary transition from competitive to cooperative behavior; secondly, on the impact of the improved quality of food; thirdly, on the influence of these factors on our predecessors' brains. Against the background of certain characteristics of the relevant period (2.6 - 0.5 Mya) this poster outlines how, based on the causal elements of the combustion and run of fire, not only a sequential technical behavior (fire handling) may have been learned but also a highly specialized Prototype of Integrative Problem Solving (PIPS) may have developed - based on evolutionary selection. PIPS can be characterized by multiple and synchronic integrations of (a) coping with intensive affects, (b) adequate coordination of cognitive and behavioral processes regarding both individuals and groups, and (c) the optimization of collaboration and communication (including the development of individual and shared intentions). The conclusions drawn are, firstly, PIPS may have evolved because of primordial handling of fire for over many millennia in Plio-Pleistocene; secondly, handling of fire can be seen as an evolutionary pushing up system and, thirdly, PIPS must have been necessarily related to a reorganization of the hominine brain.

#### **CHILDHOOD AND SCHOOL**

#### **Structural Invariance of Learning Strategies – a Longitudinal Study**

Amela Mujagić & Vesna Buško

University of Bihać, Bosnia and Hercegovina  
amela\_m@bih.net.ba

The paper presents a part of validation procedures pertaining to an adapted Croatian version of LIST – an instrument designed for the assessment of learning strategies (Wild and Schiefele, 1994). So far conducted evaluation procedures of this version (Sorić & Palekčić, 2002), showed similar (but not identical) factor structures compared to those found in the original questionnaire. Furthermore, LIST proved to be useful in the assessment of general learning strategies, like the assessment of strategies employed while studying various course materials, and/or of specific strategies used over the time. The question of measurement invariance becomes critical when trying to test any prediction based on the learning approach conceptualization behind the scale construction. Following theoretical assumptions on contextual specificity of the learning process, this study tried to assess the amounts of variance in learning strategies due to stable individual differences and/or situational factors. Data on cognitive learning strategies used while preparing for a written exam were collected by LIST administered on 155 second year university students on two occasions, with a 7 weeks time lag. Internal consistency and reliability analyses of the instrument were performed within the context of classical test theory and the latent state-trait theory (Steyer et al., 1992). Measurement invariance of the scale as a function of time point was tested via longitudinal confirmatory factor procedures.

#### **Prenatal Attachment, Parenthood Motivation and the Perceived Ability to Relate to Children**

Agota Major, Tijana Grabar, Marija Zotović, Ivana Mihić, Jelica Petrović & Ivan Jerković

University of Novi Sad, Serbia  
majoragota@hotmail.com

The aim of this study is to explore the relation between maternal prenatal attachment, parenthood motivation and the perceived ability to relate to children. The sample consisted of 104 pregnant women between 3rd and 9th month of pregnancy. Instruments used were the Maternal Prenatal Attachment Appraisal Scale (Hanak, 2009), Ability to Relate to Children Questionnaire (Rholes, Simpson, Blakely, Lanigan, & Allen, 1997) and The Bell Parenthood Motivation Scale (Bell, Bancroft, & Philip, 1985). Results showed, that pregnant women with higher prenatal attachment believe, that the advantages of having children overcome the disadvantages

of parenthood. The perceived ability to relate to children is related to positive feelings in pregnancy; women who fail to perceive their ability to relate to children have difficulties in developing attachment to their unborn babies. Prenatal attachment develops during the pregnancy and is the highest in the last trimester; in this period many mothers imagine their unborn babies as human beings with a unique personality. Prenatal attachment is also higher in women expecting their first child. The results of this study suggest, that the failure to relate to the unborn baby can be due to the perceived lack to relate to children in general; elevating women's self-confidence in their ability to engage in positive relations with children can facilitate prenatal attachment.

### **Visual Attention in Preschool Children and Future Reading Ability**

Sandro Franceschini, Nicola Corradi, Milena Ruffino, Simone Gori, Tiziana Giancesini & Andrea Facchetti

University of Padua, Italy  
sandrofranceschini@gmail.com

Developmental dyslexia (DD) can be diagnosed in children only from the second grade of school. The main symptoms are fluency difficulty and poor reading accuracy. Many studies demonstrated, that a large number of visual perception and attentional deficits are associated to the phonological core deficit in DD, but their presence has been interpreted like a consequence of lack of reading strategies. Our longitudinal study demonstrates that visual perception and spatial attentional deficit were present before reading acquisition. In a sample of preschool children we measured Navon task and visual search ability. After one year we tested the reading abilities in the same sample. Poor readers showed no global stimulus interference during local processing, whereas good readers presented the typical global stimulus precedence. In the visual search task good readers performed significantly better than poor readers. Moreover, visual search ability was significantly correlated with future reading abilities. This study demonstrates that children with DD could show pre-existent atypical visual stimuli perception before learning any reading strategy and confirms the importance of visual spatial attention for reading acquisition.

### **Five Years Post-Tsunami: Correlation between Children's Post-traumatic Stress Symptoms, Behaviour and Well-being**

Silvia Exenberger & Barbara Juen

University of Innsbruck, Austria  
silvia.exenberger-vanham@uibk.ac.at

In India, the Southern state Tamil Nadu, where the study took place, was most severely affected by the tsunami on

December 26, 2004. The project "Post-tsunami" is funded by the European Commission and focuses on mental health and psychosocial support over long periods of time. The present paper aims to show the correlation of children's post-traumatic stress, their behaviour and well-being. The answers to the Parent Report on Child's Reaction to Stress were collected orally on an individual basis of 167 mothers who responded for 344 children. The same procedure was carried out with the Strengths and Difficulties Questionnaire and the List of Indicators of Children's Well-being in Tamil Nadu. The age range of the children is 8 to 17 years. 221 tsunami-affected children are single and double orphans, either living with their biological parent or in an out-of-home care organisation providing family based care, and 123 children are non-tsunami-affected (control group). The findings clearly show that post-traumatic stress symptoms of tsunami-affected children living with their biological parents are strongly related to problem behaviour ( $r = 0.55, p < .01$ ), and well-being ( $r = -0.42, p < .01$ ). No such correlations are found for children living in family based out-of-home care and control group. The results are discussed in view of the development of strategies in order to enhance well-being in children who are recovering from traumatic events in different settings.

### **Attachment Disorder and Comorbidity in Abused and Neglected Preschool Children**

Irina Sanduleac & Maria Camelia Sima

Babes-Bolyai-University of Cluj, Romania  
irina620@yahoo.com

The purpose of this study is to determine the extent to which child abuse (sexual abuse, physical abuse, and neglect) is associated with attachment disorder and other symptoms. Using the Diagnostic Interview Schedule for DSM-IV, interviews are conducted with 57 children aged 3 to 6 years referred from the Cluj Department of Social Services, Romania, after official documentation of abuse. The hypotheses of this study are: 1. certain types of abuse are more likely to be associated with the occurrence of attachment disorders; 2. the "properties of abuse" are associated with attachment disorders; 3. the attachment disorders are frequently associated with other comorbid mental disorders. The results support the hypotheses that children who are abused or neglected by their natural parents appear to exhibit more often attachment disorder and comorbid mental disorders (sleep disorders, oppositional disorder and enuresis).

PSYCHOMETRICS AND METHODOLOGY

**Word Association Strength: a Comparative Study of Traditional and Corpus-based Measures**

Jelena Lisac & Petar Milin  
University of Belgrade, Serbia  
jelena.lisac@gmail.com

The aim of this study was to validate the cognitive relevance of different measures of word association strength. Specifically, the following variables were considered: traditional measures (estimated probability of association, obtained from the free association norms) and corpus-based measures (t-value, pointwise mutual information (MI) and semantic similarity, calculated from the language corpus). The stimuli consisted of masculine noun-noun pairs, which were extracted from the Associative Dictionary of Serbian Language (Piper, Dragičević and Stefanović, 2005). For the selected pairs, both traditional and corpus-based measures were calculated. Two priming experiments were conducted: visual lexical-decision task and visual naming task. The following conclusions were reached: 1) unsubstantial, but statistically significant contribution of co-occurrence frequency of the prime-target pairs to the prediction of estimated probability of association; 2) significant facilitation effect of estimated probability of association in visual word processing; 3) absence of significant influence of t-value and semantic similarity on visual word processing; 4) significant inhibitory effect of MI, whose contribution to the prediction of subjects' RT can be reduced to the target frequency effect; 5) significant target frequency effect. In explanation of the results, it was pointed out, that there are several methodological problems which make an empirical study of word association difficult.

**Influence of Different Methods of Data Imputation on Parameter Estimation – A Monte Carlo Simulation –**

Blaž Rebernjak & Dražen Urch  
University of Zagreb, Croatia  
brebernj@ffzg.hr

In this study, we examined the influence of missing data imputation methods on OLS regression analysis parameter estimates. We used two data imputation methods: Deterministic Regression Imputation and Multiple Imputation; we also estimated parameter values using listwise deletion for comparison. Estimated parameters were compared with regard to precision and bias. Effects of several factors were examined: degree of missingness, average intercorrelation among predictors as well as proportion of missing data in a given set. R software was used to perform a series of simulations and each method was tested using the same correla-

tion matrices. Different methods are compared and practical implications are discussed.

**Croatian Psychologists' Opinion on Test and Testing**

Krunoslav Matešić  
University of Zagreb, Croatia  
kmatesic@ffzg.hr

The European Federation of Psychological Associations (EFPA) includes the Standing Committee on Tests and Testing (SCTT) which conducted a survey in seventeen member nations of psychologists' opinion on test and testing during 2009. The results of this survey will be processed and published in 2010. Project participants are free to use their national data for statistical analysis and review. The survey contained a total of 33 items. Several countries organized an electronic survey. In Croatia, 1700 survey forms were printed and mailed together with a stamped, self-addressed envelope. In accordance with the project leader, the survey was not sent to university staff, psychologists in research centres and retirees. The aim was to collect the views and data from practicing psychologists. A total of 327 surveys (19.23%) were returned. Answers were received from 85 psychologists in clinical/health psychology, 115 psychologists employed in educational institutions (kindergartens, primary and high schools), 51 psychologists in occupational psychology and 76 others. A similar survey was conducted ten years ago (Muniz et al., 2001), where Croatia was also a participant. Some questions were posed in both surveys, allowing for the comparison of views and data from the two periods.

**Nonparametric Tests for the Rasch-model in eRm: Analysis with Small Samples**

Ingrid Koller, Reinhold Hatzinger & Judith Glück  
University of Klagenfurt, Austria  
ingrid.koller@uni-klu.ac.at

The dichotomous Rasch-model (Rasch, 1960) is an Item Response model, where the validation is commonly related to the use of big sample sizes. But, in the phase of design of a psychological test, the examination of items by means of a large sample of persons is not always efficient, e.g., reanalyzing the items by means of a new sample is associated with high costs. It would be preferable to test the items stepwise with small samples but based on few subjects, as the estimation of the parameters is problematic and parametric model checks have little power. Ponocny (2001) introduced nonparametric (exact) test procedures based on Monte-Carlo simulations to sample random matrices with the same marginals as the observed data matrix. His simula-

tion method and proposed test-statistics allow to check the model fit even in small samples. Verhelst (2008) improved the simulation algorithm using a Markov-Chain Monte-Carlo (MCMC) approach. Recently, some test statistics and the MCMC method have been implemented in the R packages RaschSampler (Verhelst, Hatzinger & Mair, 2007) and eRm (Mair & Hatzinger, 1997). In this presentation we describe some test statistics and give an overview of first results of a power-analysis comparing the nonparametric tests with the likelihood ratio test (LRT) according to Andersen (1973). A practical application demonstrates the usefulness of the nonparametric methods.

### **The Sexual Orientation Impact Scale – a Validation Study**

Giovanni Battista Flebus & Antonella Montano

University of Milano-Bicocca, Italy  
Giovannibattista.Flebus@unimib.it

A 16-item scale meant to measure the impact of non-heterosexual (mainly homosexual) orientation on several events, that may affect gay-lesbian's life, has been proposed to a large sample of over 400 people from northern and central Italy. Life events were assembled and individualized during a focus group supported by a local lesbian organization (ARCI-LESBICA in Udine). The events to be rated were for example: (because of my sexual orientation) "I changed my religious faith", or "I have found my true love". The answers were given on a four-point scale, from (4) a great deal to (1) not at all. A fifth option was also offered: not relevant to me. The optimal score technique was used to extract two orthogonal dimensions: strength of impact on life, and the not relevant dimension. Reliability coefficients (Cronbach's alphas) were acceptable. However, only the latter was found to be correlated with some of the scales of the MIHI (Multifactor Internalized Homophobia Inventory, Flebus & Montano, 2003).

### **Validity Analyses of Different Factor Solutions of the Hungarian CD-RISC Resiliency Scale**

Róbert Járαι, Krisztina Csókási, Rita Hargitai, László Nagy, László Czirják & Enikő Gyöngyösiné Kiss

University of Pécs, Hungary  
jararobi@gmail.com

In a clinical study investigating the differences of resilience between autoimmune and control patients, we used the Connor and Davidson resilience scale (CD-RISC). Although the original scale has a reliable and valid one factor solution on a Hungarian sample, we tried fitting different factor structures on our 400 subjects sample. In our pres-

entation we will show the fit indices, reliability scores and different validity measures for the one, two, three, four and five factor model of the Hungarian CD-RISC questionnaire.

### **Sample Size Determination for Testing the Rasch Model**

Rainer Alexandrowicz

Ludwigs-Maximilians-Universität München, Deutschland  
rainer.alexandrowicz@psy.lmu.de

When the Rasch model (RM) fits a data set, consistent item parameter estimates can be obtained independently of the distribution of the abilities of the persons. This powerful feature is known as specific objectivity and represents one of the most important methodological innovations in psychology during the last century and also allows for testing model adequacy. Andersen (1973) has proposed a model test by splitting the data set into subgroups of respondents and comparing the likelihoods (reflecting differences of item parameters) of the subsets. He could derive a chi-square distributed test statistic, which allows to reject the assumption of model adequacy at a given risk alpha. Here, the hypothesis of interest is the null hypothesis stating model validity. Currently, we can not control the risk beta of making a type-II-error, i.e. to erroneously decide in favor of the model. This would require an effect size measure, expressing a maximum tolerable model deviation. We then could determine the required sample size, which allows for the detection of the prespecified deviation with given upper bounds for both the risks alpha and beta. The present study proposes such an effect size measure for the two group case, which can serve as a guideline for sample size determination. It has been developed in a large scale simulation study. This measure will prevent the acceptance of inapt models when samples were small or model rejection due to irrelevant aberrations when samples were large.

### **PROFESSIONALS' HEALTH CARE**

#### **Health Effects of a Long-term Stay in an Intensive Care Unit (ICU)**

Wolfgang Pipam, Rudolf Likar & Martin Liebhauser

Central Hospital Klagenfurt, Austria  
wolfgang.pipam@lkh-klu.at

The consequences of intensive care have increasingly attracted the interest of research on health and stress. On the one hand, the patients are threatened by very serious illnesses and on the other the environment of the ICU puts the patients under high levels of psychological and physical stress. Previous studies refer to a high incidence of PTSD, panic at-



tacks/anxiety and depressive reactions, but these studies are marked by methodological short-comings. The study presented is concerned with the following specific questions: Does the stay in an ICU, depending on the length of stay as well as the seriousness of the basic illness, result in a higher incidence of post-traumatic stress symptoms, anxiety /panic attacks and depression symptoms? What influence does the treatment in hospital have on the quality of life as well as on the processing of pain? Does a stay in an ICU lead to subjectively grounded or also objectively proven impairment of cognitive abilities? By a random selection 80 patients, who had undergone a stay at an ICU at the General Hospital in Klagenfurt in the previous 6 months, were chosen. They were questioned by a specially trained interviewer and also underwent a neuropsychological screening. The study was conducted between October 2009 and February 2010. In the end, 57 complete interviews were included in the final analysis.

### **Subjective Theories of Health Care Providers Treating Patients Diagnosed to ADHD**

Eva-Maria Tahedl & Rainer Alexandrowicz

University of Klagenfurt, Austria

tahedl@gmx.at

**Objective:** The consequences of subjective theories of health care providers concerning the treatment of attention deficit-hyperactivity disorder (ADHD) have so far received little attention. The present study refers to the ongoing debate of principles around ADHD. The major focus was on subjective theories of doctors and psychologists treating patients diagnosed to ADHD. **Methods:** Twenty-nine interviews were carried out with doctors and psychologists specialized on ADHD in Austria. A mixed method approach was adopted, involving both quantitative and qualitative data gained from the interviews and a questionnaire, which was also filled out. **Results:** Ten important subject theories concerning the right treatment of ADHD-patients could be identified. An inductive analysis reveals that ADHD symptoms are interpreted as having different causations, courses and implications. There are no known publications for an acquisition of global perspective direct from the field of treatment till now. The results indicate that subjective theories do not form a doctrine but, nevertheless, they are present and affect the treatment of ADHD. **Conclusions:** As long as the two major diagnostic systems (ICD and DSM) do not provide a coherent definition of ADHD, subjective theories in fact have an impact on both diagnosis and treatment of the disorder. Hence, further studies will have to focus on the subjective theories of doctors and psychologists as well, when investigating ADHD.

### **The Subjective Experiences in the Instructing Role of Preceptors in the Nursing Education**

Ulrike Auboeck

Health and Life Sciences University, Hall i.T., Austria

ulrike.auboeck@gmx.at

The education in caring and nursing professions is realised in Austria in a dual way of theory based knowledge transfer and a competence acquirement in practice, which the preceptors are responsible for. The purpose of this study was to examine the preceptor's experience in his instructing role. The causal connection between framework and role expectations and requirements is to be shown. The collected information can help to sharpen the focus on the existing situation and to facilitate the future development of preceptorship. A grounded theory approach was employed, including seven semi-structured, tape-recorded face-to-face interviews with experienced and accomplished preceptors in Upper Austrian hospitals. The analysis of data is to be based on the theory of open and theoretical selective coding of the grounded theory. Data revealed that the preceptors are caught in a crossfire of many possibilities of conflicts, which reduce the quality of their work. The reasons therefore are several opposed occupational expectations, a lack of sufficient job specification, insufficient role models in their own education and particularly constructive framework. The role of the preceptor, which is seen as particularly important also in research literature – has to be strengthened through the implementation of targeted framework, curricula, requirement profiles and a clearly outlined description of function and capacity.

### **Prosocial Behaviour Motivates Young Graduate Pharmacists to Work in Rural Communities in the Ukraine**

Peter Anzenberger, Sergey B. Popov, Herwig Ostermann

Health and Life Sciences University, Hall i.T., Austria

peter.anzenberger@umit.at

**Background:** Only few students go to rural communities to start a new business there. This paper introduces the question: how may prosocial behaviour motivate young graduate pharmacists to work in rural communities and refers to: "The factors that motivate young pharmacists to work in rural communities in Ukraine" submitted for publication to <http://rrh.org.au>. **Introduction:** The current literature has identified a number of factors that can influence clinicians in making location decisions while research about pharmacists is rare. There have been more studies on practice location preference for doctors than for other health professionals like pharmacists. The study above covers the factors for Ukrainian pharmacists. **Results:** The students' motivation

to work in rural areas after graduation depends on the regional background and sex of the students, but is not decisive for going to rural communities. More decisive are the motivation factors for study and life, and the mental attitude towards operating an own pharmacy. The observed prosocial motivation items for opening a pharmacy in rural areas are the dominant factors for the decision to work in rural communities. Conclusion: Students from the university indicated an interest in practicing in rural communities as long as opportunities align with their personal and professional interests. The higher the value of the prosocial motivation items, the higher is the disposition to plan a future work in rural communities.

### **Increasing the Effectiveness of Doctor-Patient Communication**

Dominika Szymańska

University of Warsaw, Poland  
mika.szymanska@gmail.com

**Objectives:** Communication between doctor and patient is crucial for a well-running health care system (Ong, de Haes, Hoos, Lammes, 1995). For the communication to run smoothly and effectively, the doctors need to be aware of not only their communication lacks but also of communication barriers. They need to extend their skills and knowledge in the area of doctor-patient communication. **Methods:** The programme consists of a set of trainings for doctors before which and after which they fill out self-esteem tests and their patients fill out questionnaires concerning their satisfaction with the doctors' work. The trainings are delivered by a professional trainer and consist of 3 training days, 8 hours each. 1st training day: fundamental communication skills: eg. using paraphrase, reflection. 2nd training day: advanced communication: talking about death, sexuality, disabilities. 3rd training day: advanced communication: assertiveness, coping with difficult patients. Between the trainings, there is at least a weekly break to enable the trainees to train newly obtained skills in a natural environment. **Results:** End of April 2010 the first group of 12 doctors is finishing their set of trainings. The first results will be known in mid May. Altogether, a group of 60 doctors will be trained and their work will be evaluated by their patients right after the set of trainings, 3 months later and 6 months later.

### **Emotional Intelligence, Coping Strategies and Stress Induced Changes of Emotional State in Hospital Nurses**

Aljoscha C. Neubauer, Doris Hechtl  
& Heribert H. Freudenthaler

University of Graz, Austria  
aljoscha.neubauer@uni-graz.at

The present study (n = 97 hospital nurses) examined potential effects of emotional intelligence (EI), coping strategies and the Big Five on stress-related changes of emotional state during the course of a working day. Stress was operationalized by the number of new patients. Regarding the measurement of EI, the Trait Emotional Intelligence Questionnaire (TEIQue, Freudenthaler et al., 2008)) and a behavior-related typical-performance emotional management test (TEMT, Freudenthaler & Neubauer, 2005) were administered along with a stress management questionnaire (SVF-78) and a Big Five inventory (NEO-FFI). In addition, the nurses' emotional state was assessed twice - at the beginning as well as at the end of the day - by means of a multidimensional emotional state questionnaire (MDBF). The performed analyses yielded an expected, stress-related decrease of nurses' emotional state during the course of the day. Moreover, the potential effects of stress on nurses' emotional state turned out to be moderated by their emotional management competencies (assessed by the TEMT). In contrast, no corresponding moderator effects were found for self-assessed trait EI components. The relevance of the EI construct for stress management will be discussed.

## SOCIAL PSYCHOLOGY

### **Mobbing in State Administration under Transition Circumstances and its Psychological and Economic Consequences**

Narcisa Vojnović & Siniša Manojlović

University of Osijek, Croatia  
narcisa.vojnovic@zg.t-com.hr

In studies about mobbers and victims, sources and circumstances of mobbing, emotive or strategic mobbing concepts are prevailing. There is still not clarified type of mobbing in the state and public administration, favoured by transition and a presence of corruption and the abuse of political position. Political aptness and not competence being criterion for selection and promotion, a typical mobber is characterised by a gap between (in)capacity and ambitions. Only the most capable employees can compensate his/her limitations and the system disorder. It is therefore just them, the mobber has to misuse, underestimate and isolate, in short, expose to permanent mobbing, in order to maintain his/her own position and power. It is mobbing of those politically apt over gifted, the latter being put in function of mobber goals, opposite to the common interest. Apart from being the source of continuous stress and frustrations, as well as dissipation of most valuable human resources, its consequences are still increased by the fact, that the inefficiency of the state administration has very strong impacts on all economic issues. This type of mobbing does not develop

its full, but a partial and rather modified picture, which is difficult to investigate, identify and sanction. Based on preliminary qualitative research on a small target sample of highly capable employees exposed to mobbing, the work analyses the influences on their psychophysical status, motivation, creativity, productivity and effectiveness.

### **Social Comparison in the Narratives of the Political Changes of 1989-1990**

Márk Kékesi

University of Pécs, Hungary  
markkekesi@gmail.com

The study is based on the narrative analysis of 50 semi-structured life story interviews conducted in 2009 with Hungarians in two age groups: those who were already adults in 1989, and those who grew up following the “fall of the Iron Curtain”. Within the interviews, a long section dealt with the perception of success in the economical and political changes, particularly in comparison with the neighboring countries and the so-called “Western” states. The main goal of the research was to identify the reference groups of international comparison regarding the success of the political changes which took place in Hungary following the end of the Communist era, with special attention to “upward” and “downward” comparison, based on sex, social status, age, political participation, nationalism and other important variables. The investigation of the mentioned topics was carried out by content analysis, using computerized methods, focusing on the linguistic markers of social comparison and the evaluation of the dimensions of success in an international context.

### **Psychological Analysis of Interpersonal and Intergroup Evaluation in Narratives**

István Csertő & János László

University of Pécs, Hungary  
csertopi@gmail.com

The Hungarian Narrative Psychological Research Team has been developing a computerized tool for automatic content analysis. The complex tool is designed for quantitative analysis of autobiographic and historical narratives that enables diagnostic and predictive inferences relating to features and processes of personal and group identity. The analytic tool comprises several modules, each exploring linguistic markers of a unique psychological dimension. The modules operate in the NooJ language technological system that enables identification of complex linguistic structures. The ‘interpersonal and intergroup evaluation’ module identifies explicit evaluations referring to different characters of a nar-

rative. Such evaluations reflect the narrator’s relations to the characters and the narrator’s image of the relations between them. Evaluation as a narrative means of identity-construction plays a basic role in the maintenance of positive social identity. Perceived threat of positive group identity in an intergroup context leads to intergroup biases, that is, to overvaluation of the ingroup and devaluation of the outgroup. On the basis of evaluation patterns emerging in historical narratives, assumptions can be formulated relating to the dynamics of group identity. The application of the module is illustrated by a study on temporal modifications of the Hungarian representation of the Paris peace treaty subsequent to the WW 1 as it appears in Hungarian historical textbooks.

### **The Relationship between Intergroup Contact and Implicit and Explicit Prejudice toward Roma**

Jasmina Tomašić

University of Osijek, Croatia  
jtomatic@ffos.hr

Considerable body of research has shown that greater intergroup contact corresponds with lower intergroup prejudice. However, little is known about the relationships between intergroup contact and implicit prejudice. The goal of the research was to determine the influence of intergroup contact of Croatian children and Roma children on implicit and explicit prejudice towards Roma. The total of N=151 Croatian children majority at the average age of M=13.7 years has participated in the research. The Implicit Association Test was used to determine implicit prejudice, and bipolar adjectives (good-bad, beautiful-ugly) were used to investigate explicit prejudice. The intergroup contact of Croatian children with Roma children was examined with questions about acquaintance and friendship with Roma children, and social distance towards Roma was examined. The results have shown that 42,2% of children had an acquaintance and 18,2% had a friendship relationship with Roma children. No relationship between implicit prejudice and intergroup contact was found, but an acquaintance with Roma children and social distance were significant predictors for explicit prejudice.

### **Out of Control: What Mediates the Effect of Perceived Lack of Control on Ethnocentrism?**

Dmitrij Agroskin & Eva Jonas

University of Salzburg, Austria  
dmitrij.agroskin@sbg.ac.at

Recent research on group-based control restoration shows that low sense of control leads to ingroup bias (Fritsche et al., 2008). The present investigation is an at-

tempt to shed light on the psychological mechanisms that mediate this effect. Based on Rothbaum et al.'s (1982) theorizing on secondary control, need for cognitive closure, right-wing authoritarianism, avoidance of empathy and prejudice towards immigrants were predicted to function as mediators of the effects of different facets of low perceived control on ethnocentrism, which is seen as a measure of ingroup bias. An internet study was performed to gauge 227 participants' perceived lack of control in political and economical domains. Furthermore, participants completed questionnaires concerning the aforementioned mediator variables. Path analysis revealed the hypothesized model to fit the data perfectly. 51% of the variance in ethnocentrism was explained. In addition, structural equation modelling replicated this pattern of results, additionally showing that prejudice towards immigrants was factorially different from ethnocentrism. Theoretical implications of the results are discussed in the light of secondary control theory. Moreover, practical implications in the socio-political domain are presented.

**How to Apply Emotions to Real Life Intergroup Conflicts? Group-related Emotions are Historically Anchored**

Éva Fülöp & János László  
University of Pecs, Hungary  
fulop81@gmail.com

Inter-group conflicts have been discussed from very different perspectives over the last decades in the area of social psychology. Recent approaches consider emotional components as fundamental contributors of inter-group processes, with special regard to discrimination or manifestation of intolerance. However, historical aspects of intergroup conflicts and intergroup emotions are highly neglected. Our study used Hungarian national history to test the role of historical context and historically anchored emotions in real-life intergroup conflicts. We used an experimental design with six out-groups. Hungarian subjects (N= 71) were presented with twelve short historical narratives describing two events involving each out-group: one in which the out-group was the perpetrator, one in which it was victim. Dependent variables were emotions ascribed to the in-group, to the out-group and to the subject itself in each situation. The list of emotions was systematically selected such that primary and secondary emotions, positive and negative emotions, were presented in equal distribution, i.e. results were amenable to an analysis along each dimension. As a potential moderating variable, perception or termination of the conflict was also measured. Results supported the hypothesis that the historical trajectory (the sequence of positive and negative events or victories and defeats) of the in-group, as it is preserved in collective memory, evokes a specific set of intergroup emotions. The hypothesis that historically trajectory related

emotions predict collective emotions that contemporary subjects experience also received support.

VISUAL PERCEPTION

**Facial Feedback Effect on Cognitive Performance: Looking Concentrated Increases your Attention**

Michael Brunner & Oliver Vitouch  
University of Klagenfurt, Austria  
mfjbrunner@gmx.at

Following the James-Lange-theory the so called Facial-Feedback-Effect tries to explicate the modulating impact of facial expression on human emotion. According to corresponding experiments we investigated whether the concept of Facial Feedback is transferable onto cognition and whether facial muscle positions – in particular those of the Corrugator supercillii muscle – affect attention performance. Our findings show that an activation of the Corrugator supercillii, which draws the eyebrows downward and inward and creates a hard-concentrated facial expression, is associated with higher performance in an attention test (d2) – compared to another experimental and one control group. Finally, these results suggest that current theories of attention need to be reconsidered and – if applicable – extended, since they localize the phenomenon of attention simply in the brain and ignore peripheral-physiological factors.

**Different Thresholds for Detection and Grouping**

Simone Gori & Lothar Spillmann  
University of Padua, Italy  
simone.gori@unipd.it

Three experiments were performed to compare thresholds for the detection of non-uniformity in spacing, size and luminance with thresholds for grouping. In the first experiment a row of 12 black equi-spaced dots was used and the spacing after the 3rd, 6th, and 9th dot increased in random steps to determine the threshold at which the observer detected a gap size irregularity. Thereafter, spacing in the same locations was increased further to find the threshold at which the observer perceived 4 triplets of dots. In the second experiment, empty circles were used instead of dots and the diameter of the second and fourth triplet increased until the difference in size gave rise either to a detection or grouping response. In the third experiment, the dots in the second and fourth triplet were increased in luminance. The aim again was to compare the difference in brightness required for detection or grouping, respectively. Results demonstrate that the threshold for perceiving stimuli as irregularly spaced or dissimilar in size or brightness is much

smaller than the threshold for grouping. In order to perceive stimuli as grouped, stimulus differences had to be 5.2 times (for dot spacing), 7.4 times (for size) and 6.6 times (for luminance) larger than for detection. Two control experiments demonstrated, that the difference between the two thresholds persisted when two gaps were used instead of three and when gap position was randomized.

### **Processing Textural Properties in Visual Segmentation**

Enrico Giora

University of Milan-Bicocca, Italy  
enrico.giora@gmail.com

According to a prominent view, visual segmentation represents a first stage in the hierarchical organisation of visual processing modules (edges, surfaces, objects). Edge-based models assume that segmentation results from both inhibition of redundant local information in the texture region and enhanced signal processing at the texture edge, where local filter response changes. However, the idea that overall characteristics of texture regions are inhibited when segmenting an edge conflicts with the effortless sensitivity of the visual system to image statistics. Furthermore, it has been shown that statistical properties of texture regions critically affect edge extraction. Alternative region-based models, accounting for visual segmentation processes based on the holistic representation of texture regions, are therefore discussed.

### **Phenomenal Influences on Fröhlich-Effect**

Grazia Caporusso & Luccio Riccardo

University of Trieste, Italy  
gcaporusso@units.it

One of the most important purposes of the vision system is to localize objects in our environment. In every day life we usually interact not only with static objects but also with moving objects and our attempts to localize moving objects are sometimes accompanied by small, but consistent errors, defined as spatio-temporal mislocations. One of them is the mislocation of the first position (ONSET) of a moving stimulus in the direction of the movement, called Fröhlich effect. The main aim of this research was to investigate if cognitive factors have an influence on the Fröhlich effect. In order to verify it we have conducted two experiments. In the first one we used an arrow as a stimulus, instead of a rectangle, as in the original experiment, whereas in the second one we studied through four experimental conditions the role of the rectangular window in which the stimulus moves (condition 1: without window; condition 2: window, twice the length of the original window; condition 3: window, half the length of the original; condition 4: window

without right side). Our results not only replicated the Fröhlich effect, but they also allowed us to control other factors that had an influence on our experimental setup (stimulus and window characteristics). The Fröhlich effect seems to be influenced not only by attentional mechanisms but also by cognitive factors. For example the arrow, for its physiognomic characteristics, seems to lead to an increase of the Fröhlich effect. The effect is greater also in the condition, in which the experimental window manipulation causes an extension of the visual field.

### **Temporal Instability and Hysteresis in Dynamic Multistable Patterns**

Enrico Giora, Simone Gori & Riccardo Pedersini

University of Milan-Bicocca, Italy  
enrico.giora@gmail.com

Ordered and discrete series of ambiguous figures varying along a single parameter were used to disentangle the effects of hysteresis and temporal stability on visual multistability. Reversals between different percepts can happen spontaneously while looking at a picture long enough or they can be favoured by changing some of its relevant features. The first phenomenon can be used to measure the temporal stability of a percept, the second to measure hysteresis. Most of the previous studies used static pictures, which is likely to increase the interference between temporal stability and hysteresis. Our stimuli were progressive series of images, which appeared either continuous (movies) or discontinuous (static images) depending on the presentation speed. Subjects had to press a key when they experienced a reversal. We found that hysteresis was almost absent for the series perceived as a sequence of static images, but it increased progressively with speed. Temporal instability, on the contrary, was stronger for static images than for movies. We conclude that using movies: (i) results in stronger hysteresis compared to the matched static stimuli; (ii) minimises temporal instability (spontaneous switches); and (iii) the size of the hysteresis effect depends on the overall trial duration, which is consistent with the stochastic nature of the dynamics governing figure-ground segregation.

### **A Coloured Version of Agostini & Galmonte's Necker Cube Display**

Tiziano Agostini, Alessandra Galmonte & Valter Prpic

University of Trieste, Italy  
agostini@units.it

In what is known as a reversed contrast display it has been found (Agostini & Galmonte, 1997, 2002) that a grey region surrounded by a black area can appear darker than an

identical grey region surrounded by white, and the induction cannot be explained by assimilation. Both high- and low-level factors are simultaneously present in this configuration, but the former prevail in determining the effect. The present work was aimed to verify whether global grouping factors induction holds also for coloured displays. In this new version of Agostini & Galmonte's display we used red/yellow inducing backgrounds/corners, while induced regions (dashed lines) were orange. We tested also two control conditions, where we did not expect any effect: 1. inducer corners of the same orange as targets; 2. inducer corners replaced by disks having the same area and colour. Observers' task was to judge the colour of the induced regions on a red/yellow scale. Results are comparable to those obtained for lightness: The targets perceived colour is determined by global factors; in fact, orange was judged as reddish in the yellow corners/red background display and yellowish in the opposite one. Both controls provided no statistically significant difference. To conclude, it seems plausible that global induction overcomes local induction also for coloured displays.

#### HIGHER EDUCATION AND STUDENTS

##### **Reflexivity in Teams - Correlates and Implications for Higher Education: A Quantitative and Qualitative Empirical Study in Austria**

Elfriede M. Ederer-Fick & Helga Kittl-Satran

University of Graz, Austria  
elfriede.ederer@uni-graz.at

Team reflexivity - a key factor in the effectiveness of work teams - means the extent to which team members reflect on shared targets, strategies and processes and modify their behaviour based on these reflective processes. This paper investigates the connection between team reflexivity and group-related (adaptation, feedback-seeking behaviour) and person-related variables (self-regulation, strategies of elaboration, organisation and repetition) in 25 teams consisting of 74 students. The instrument of Schippers et al. (2007) to measure reflection, adaptation and feedback-seeking behaviour was used in combination with the Short Self-regulation Questionnaire (Carey et al., 2004) and the strategies of elaboration, organisation and repetition from the Inventory for Academic Learning Strategies (Wild, 2000). Furthermore, qualitative interviews with the two instructors of the seminars that the student teams took part in as well as with the first author of the team reflection measure were carried out. The correlation analyses show highly significant correlations between team reflexivity and the group-related variables and significant correlations with the person-related variables self-regulation, organisation and elaboration.

The content analyses of the qualitative interviews shows the interest in and the necessity of implementing team reflexivity in academic learning and teaching and aim at interventions to improve reflexivity in teams and at tailoring didactic models involving teamwork.

##### **Measuring Entrepreneurial Orientation among High School Students**

Bojana Djuric & Jelena Lisac

University of Belgrade, Serbia  
dj\_bojana@yahoo.com

There are different views of what constitutes entrepreneurial behavior. One of the most discussed is the five-factor model, proposed by Lumpkin and Dess (Lumpkin, Dess, 2001). These authors define entrepreneurial orientation as a complex phenomenon consisting of five distinct dimensions: Pro-activeness, Innovativeness, Autonomy, Risk Taking and Assertiveness. The purpose of this study was to develop a questionnaire for measuring entrepreneurial orientation among young adults, according to the model of Lumpkin and Dess. In regard to that, we developed a pilot version of the questionnaire, which was administrated to 452 high school students. Factorial analysis confirmed three of five factors assumed by the theoretical model: Pro-activeness, Innovativeness and Autonomy. Based on these findings, the first pilot version was corrected and improved. In the next step, the revised version of the questionnaire was created and tested on a sample of 576 graduates of different high schools in Serbia. Again, factorial analysis confirmed the same three factors. In addition, a new factor named Stepping outside the Comfort Zone was found. Taking into account that this was one of the pioneer studies in this field in Serbia, the consistency of the above mentioned results is encouraging. Of course, further research is needed to validate the proposed questionnaire.

##### **The Impact of Temperament, Personality, Thinking Styles, and Achievement Goals on Austrian University Students' Academic Performance**

Chen Chen & Philipp Mayring

NanJing Normal University, China  
chenchen@graduate.hku.hk

This study does not only examine the contribution of temperament, personality, thinking styles, and achievement goals of Austrian university students' academic performance independently and jointly, but also investigates which process construct-thinking styles or achievement goals, are the stronger predictors of students' academic performance. One hundred and twenty-four university students

with an average age of 25.48 years in Klagenfurt completed four questionnaires in their classes: the Revised Dimensions of Temperament Survey (Windle & Lerner, 1986), the NEO Five-Factor Inventory (Costa & McCrae, 1992), the Thinking Style Inventory-Revised II (Sternberg, Wagner, & Zhang, 2007), and the Achievement Goal Measure (Elliot & McGregor, 2001). Students' academic performance was measured by their evaluations to the final examination results of the courses they attended. It was found that temperament, the Big Five personality traits, thinking styles, and achievement goals significantly predicted Austrian university students' academic performance independently. However, when the above four constructs working together, only personality, thinking styles, and achievement goals, rather than temperament, significantly contributed to students' academic performance. Furthermore, as process variables, achievement goals were stronger predictors of students' academic performance than thinking styles. Further studies consisting of diverse university students in Austria need to be conducted to enrich the understanding of the impact of individual differences on Austrian university students' learning performance.

#### **The Change of Life Cycle and the Personality Development among Young Intellectuals**

Attila Nagy

University of Pécs, Hungary  
attila.n@gmail.com

The lecture is about the personality profile and the personality development of young intellectuals in the context of the changing individual and family life circle. The stage of the young adult age is not an important field of development psychology, though it would be worth getting much more attention. On the basis of the national and international research there are more differences between the group of young adult intellectuals and young adults without a diploma. One of the important fields is the health behaviour. It seems, that life hope is growing in line with the qualification and intellectuals value positive attitude to health more than non-intellectuals. Statistics show, that people who have higher qualification show lower values in mood disorders, as well as in neurosis and vital exhaustion. The difference between the young intellectuals and non-intellectuals is confirmed in other fields. According to the following example, there is a difference between the intention of marrying and the desire to have children: the young adults who have a diploma get married later than others, and they want many children, but in their families are the least children (one or two of them). The life of intellectuals causes late separation from the original family unit (especially the mother) and the sense of separation of self (being an independent adult). It causes late changing of life circle, becoming the new couple system.

#### **Inclusive Education: Dilemmas and Attitudes of Students of the Faculty of Special Education and Rehabilitation**

Sanela Pacić, Fadilj Eminović, Radmila Čukić  
& Gordana Odović

University of Belgrade, Serbia  
eminovic73@gmail.com

Inclusion of a new philosophy in education and education of children with special educational needs, while depending on the attitude, this philosophy is gaining more supporters and like-minded followers. The aim of our study was to examine the attitudes of students of the Faculty of Special Education and Rehabilitation in relation to year of study in relation to the direction and examine the dilemmas that they have, that are related to their role in inclusive education. The sample comprised 80 students of the Faculty of Special Education and Rehabilitation, various years and majors. For the purposes of research a questionnaire was used specifically designed to have: cognitive (knowledge of inclusion), emotional (positive or negative feelings for inclusion) and behavioral (i.e. Role of behavior in inclusive education) component. The survey was conducted during 2009. The research results show, that there is no polarization of attitudes regarding the acceptance by the inclusion of students of all majors and all years. Differences exist in the knowledge of and assistance and support to students, teachers and schools in general. There are minimal differences between the years of study and the direction of the attending students. The survey is the initial step in the analysis of the situation, when it comes to the students of the Faculty of Special Education and Rehabilitation and their future inclusion in inclusive practices, where necessary to continue research in a number of subjects, students mentioned faculty and extend it to the population of teachers, teachers and other relevant experts in this field, to be an inclusive process as easily and adequately implemented and dilemmas brought to a minimum.

#### **The Relation between Teacher and Student Motivation: Perspectives on Self-determination Theory**

Florian H. Müller, Barbara Hanfstingl, Irina Andreitz

University of Klagenfurt, Austria  
florian.mueller@uni-klu.ac.at

The investigation of conditions of self-determined teacher motivation and their effects on classroom instruction and students' learning motivation is the focus of this paper. The topic teacher motivation and particularly the conditions and outcomes of teacher motivation seldom have been the purpose of empirical research. Previous research

has predominantly focused either on teacher motivation or student motivation. In a survey study including more than 2500 students and their teachers from Austrian secondary schools, the students' and the teachers' perspective was taken into account. Following self-determination theory (Deci & Ryan, 2002) it is proposed that perceived support of basic psychological needs (support of autonomy, competence, and social relatedness) has an impact on teachers' and students' self-determined motivation. The results of structural equation models show that teachers perceived need of support at their work places is directly and indirectly associated with their autonomous motivation to teach, with classroom instruction (perceived by students) and with students' autonomous motivation towards learning. The study seeks to make both a theoretical and practical contribution.

## PHYSIQUE AND PHYSICAL DISORDERS 1

### **Measuring Psychopathology with the MMPI-2 in Patients with Autoimmune Disorders**

László Nagy, Krisztina Csókási, Rita Hargitai, Róbert Járai & Enikő Gyöngyösiné Kiss

University of Pécs, Hungary  
nagyl@btk.pte.hu

Psychiatric symptoms are common to many autoimmune disorders (Martens et al. 2006). Our aim was to examine these symptoms in patients with autoimmune disorders. As diagnostic assessment instruments the MMPI-2 (Bucher et al., 1989, Hungarian version OS Hungary 2007) was used in patients with systemic scleroderma (SSC, n = 112), with rheumatoid arthritis (RA; n = 47) and with systemic lupus erythematosus (SLE, n = 81). Subjects were selected on a database from the Immunology and Rheumatology Clinic of University of Pécs. These groups were compared to healthy female subjects (n = 145), matched in age and level of qualification. The MMPI-2 is a self-report measure with 567 true-false items. We used the statistical method of repeated measures analysis of variance (ANOVA) under SPSS 17.0 comparing the means and T scores of the subscales. The patients with autoimmune disorders had a significantly higher scoring rate for Hypochondriasis, Hysteria, Depression, and surprisingly Psychopathic Deviate scales compared with the control group. The autoimmune patients did not differ significantly from each other. More details, the results of the content scales and their implications will be discussed in our presentation. These results indicate that autoimmune patients often have anxiety and mood disorders, which may affect their quality of life and the MMPI-2 is suitable for psychosomatic patients.

### **Psychodynamic of Stress and Perceived Life Stress Level at Cardio Surgical Patients**

Ljubica Naumoska, Frosina Ristovska, Ilija Dojcinovski & Tatjana Ristova-Dimova

Special Hospital for Surgery Diseases, Skopje, Macedonia  
ljnaumoska@googlegmail.com

Stress is a risk factor in the development of a cardiovascular disease. It has been concluded that CHD patients had experienced more stressful events than non patients. The aim of this study is to explore the psychodynamic of stress in CDH patients and the perceived life stress level as a risk factor in the development of their illness. The sample consists of 622 hospitalized patients indicated for cardio surgical intervention in the Special hospital for surgical diseases "Filip II". They completed the Holmes-Rahe Stress Inventory in two years (2006 and 2009). The perceived level of life-stress events as a risk factor in the development of the stress-related illness (coronary heart disease) has been noted, quantified and interpreted. The results group out patients in four groups - patients that value the highest level of stress, medium and low stress level and the last group, patients that didn't value stress as a risk factor in the development of their illness. According to the perceived stress-level as a risk factor in the development of cardiovascular disease, different psychological and psychotherapeutic interventions can be applied in the treatment of cardiovascular patients.

### **My Sibling has Cancer and I don't Feel Well either. A Study of the Effects of Cancer Patient Children on their Healthy Siblings**

Laura Barlay & Bernadette Péley

University of Pécs, Hungary  
l.m.barlay@gmail.com

Aims to explore in what ways children are affected by the presence of their cancer patient siblings in the family. Participants: 25 healthy siblings of children with cancer; a control group consisted of 25 healthy children with no current illness. Data included self-, parent-, and teacher-report questionnaires (Child Behavior Checklist), variables of the Kinetic Family Drawing. Results Behavioural and attention problems have increased since the diagnosis. All three versions of the CBCL scales showed significant differences on the Withdrawn and Anxious as well as on the Internalizing and the Total Problems subtests. In the self-reports the Thought Problems subtest provided important indications: all children mentioned worry about their siblings, fear of death and brooding over the eventuality of themselves also having cancer, as returning thoughts. Regarding the KFD,



reaction time increased in the target group and they used smaller proportions of the paper. Their own figure is usually smaller than that of other members of the family, it is the last one in the row. They express more sibling-mother interactions while they themselves are shown separated, not in interaction with any other family member. They use fewer and fainter colours than the children in the control group. Conclusions: Our study aims to emphasize the vulnerability of the healthy siblings of children with cancer due to the changed family homeostasis. These results give an opportunity to explore the deeper conflicts which are difficult to express otherwise, in addition to helping with the necessary interventions.

### **Resilience in Systemic Autoimmune Disorders (SLE, RA, SSC)**

Enikő Gyöngyösiné Kiss, Krisztina Csókási, László Czirják, Rita Hargitai, Róbert Járai & László Nagy

University of Pécs, Hungary  
gyongy@btk.pte.hu

Resilience is defined as a dynamic process that individuals exhibit positive behavioral adaptation when they encounter significant trauma, tragedy, threats, or even significant sources of stress (Luthar, S. S., Cicchetti, D., & Becker, B. (2000). The present study is a part of a complex clinical and health psychological approach of patients suffering from different systemic autoimmune diseases. An earlier study dealt with the relation of personality traits and resilience (Campbell-Sills et al, 2005) in a sample of college students and found a relationship between NEO Five Factor Inventory and Connor–Davidson’s Resilience Scale. In our study we examined the temperament and character factors of personality and their associations to resilience in patients with different systemic autoimmune disorders. Measures: Cloninger’s Temperament and Character Inventory (TCI, 1993), CD-RISC 10-item-version (Campbell-Sills, L. & Stein, 2007), Hospital Anxiety and Depression Scale (HADS; Zigmond-Snaith, 1983) and Center for Epidemiologic Studies Depression Scale (CES-D Radloff, 1977). Samples: patients with systemic autoimmune disorders (SLE, RA, SSC), a general sample and a chronic non-autoimmune locomotor disordered sample. The results support hypotheses regarding the relationship of resilience to personality traits. Resilience was higher in the general group than in the diseased samples. Resilience was negatively associated with Harm avoidance, Anxiety, Depression and positively related to Self-directedness. Further findings exhibit the associations among the subscales of CES-D (positive affect, negative affect, somatic symptoms, interpersonal relations) and resilience.

### **Personality in Autoimmune Diseases: Temperament and Character**

Krisztina Csókási, László Czirják, Rita Hargitai, Róbert Járai, László Nagy, Enikő Gyöngyösiné Kiss

University of Pécs, Hungary  
kriszta.csokasi@freemail.hu

In systemic autoimmune diseases, owing to the fact that autoantibodies are formed to a large variety of self-antigens, several organ systems are involved. Cardiac, pulmonary, renal and joint manifestations are the most frequent occurrence. In the face of common features (e.g. higher incidence among women; general symptoms like fever and asthenia), autoimmune diseases make a heterogenous group due to their differing symptoms and immunological abnormalities. Seeing that they are chronic, painful and progressive conditions, which can cause life-threatening problems at worst, many studies have been conducted to assess emotional status, quality of life or coping styles. Then again, the personality of people with autoimmune diseases is rarely examined. Accordingly, our primary aim was to describe the personality structure, viz. the features of temperament and character in 3 autoimmune conditions. Cloninger’s Temperament and Character Inventory (TCI) was completed by 54 systemic lupus erythematosus (SLE), 64 rheumatoid arthritis (RA) and 132 systemic sclerosis (SSc) patients. The 2 control groups included 118 healthy and 70 locomotor disease women. Regarding the temperament, the RA group shows a significantly lower score on Novelty Seeking scale, whilst all 3 of autoimmune groups present higher scores on the Harm Avoidance scale compared to the healthy control. On the Self-Directedness scale of character the SLE group has a lower score in comparison with healthy people.

### **Failure to Accumulate Perceived Cardiovascular Risks and the Erosion of Solidarity: A Vignette Study among the Austrian Public**

Ulrich Frick, Wolfgang Wiedermann,  
Olivia Kada & Jürgen Rehm

Carinthian University of Applied Sciences Feldkirchen, Austria  
u.frick@fh-kaernten.at

Little is known about how multiple risk factors jointly affect the perception of cardiovascular risks among the general public. Vignette techniques were used to investigate how endogenous risk behaviors (smoking, binge drinking, obesity due to physical inactivity) and exogenous risk factors (work-related stress, genetic predisposition), alone and in combination, affect the perceived probability of a major cardiovascular event (infarction or stroke) and/or may provoke an erosion of solidarity (willingness to impose an

increased health insurance risk premium on a person). A random sample from the general population (n= 265) was presented a vignette of a software engineer bearing varying risk constellations using an incomplete 5+2factorial between-subjects design. Presenting singular risks resulted in homogeneous overestimation of epidemiological risks, but stable solidarity with the described person. Joint presentation of “genetic predisposition and obesity” or “binge drinking and work-related stress” resulted in significantly reduced expected incidences. Respondents assumed a protective effect of binge drinking in stressful situations. If a genetic risk was combined with physical inactivity, respondents favored an increased health insurance premium for the vignette’s person (OR = 7.3; 95% CI: 1.75–30.50). This points to potential adverse effects of health promotion activities focusing on individual responsibility. Future health promotion should take precaution measures against erosion of solidarity and fight health myths like “beneficial binge drinking”.

#### HEALTH PSYCHOLOGY 1

##### **Lay Interventions as a Means of Coping with Stress and Depression in Migrants**

Walter Renner & Marina Ortner

Health and Life Sciences University, Hall i.T., Austria  
walter.renner@umit.at

In 3 Austrian studies, we investigated the effects of self-helps groups (1) on post-traumatic and acculturative stress in refugees and asylum seekers from Chechnya and (2) on recurrent depression in Turkish migrant women; (3) we investigated the effects of sponsorships by Austrian single persons and families on the psychological well-being of Afghan and Chechen refugees and asylum seekers. All studies employed randomized controlled designs on a wait-list and/or psychotherapy control group basis. The samples comprised N = 94 in Study 1, N = 66 in Study 2 and N = 63 in Study 3. – Self-help groups were significantly superior to the Wait-List condition and were equally effective as Cognitive Behavior Therapy (CBT) with refugees and asylum seekers from Chechnya (Study 1), while both, self-help groups and CBT had no significant effect in Turkish women with recurrent depression (Study 2). Most sponsors perceived their interventions as helpful to their clients, while psychometric self-reports by the clients showed no significant overall effect as compared to control groups (Study 3). More detailed analyses of Studies 2 and 3 suggested that individual results should be considered in order to determine statistical predictors of success and failure of interventions. The results will be discussed with respect to the ethnic and cultural background of migrants of Afghan, Chechen and

Turkish descent living in Austria and recommendations for future interventions will be presented.

##### **Risk and Protective Factors for Mental Health and Well-being in Austrian Adolescents and Adolescents with Migration Background**

Anita Buchegger-Traxler & Ulrike Sirsch

University of Linz, Austria  
anita.buchegger-traxler@jku.at

Based on Urie Bronfenbrenner’s socio-ecological model (1986), risk and protective factors and the impact of the socio-economic environment on youth outcomes were investigated comparing Austrian host youths and adolescents with migration background. Risk factors (intergenerational conflict, exposure to violence, social distance), protective factors (family connectedness, parental monitoring, school connectedness, peer support, and neighbourhood attachment), and youth outcome variables (somatic symptoms, anxiety, depression, self-esteem, social competence, substance use, academic performance) were assessed with a questionnaire (Multidimensional Screening Scale for Adolescents MSSA). Sources for the instrument were e.g. WHO cross-national survey - HBSC (1998), Rosenberg (1965), California Healthy Kids Survey (1999). Adolescents in Austria beyond the mandatory school age (15-19) were questioned yielding a sample of 1,114 both Austrian (n=919, 51% female) and with immigrant background from former Yugoslavia (n=195, 48% female). The impact of risk and protective factors on youth outcomes were analysed employing analysis of variance and regression techniques, controlling for demographic, economic, and social variables. The results show gender differences but mainly similarities between adolescents with migration background compared to Austrians. The research leads to a better understanding of factors determining the mental well-being of adolescents.

##### **The Role of Experience in Assessment of Pain in Others**

Koraljka Modic Stanke, Dragutin Ivanec, Valentina Ruzic, Olivera Petrak & Damir Lučanin

University of Zagreb, Croatia  
kmstanke@ffzg.hr

A person experiencing pain is usually the most competent one to indicate intensity and unpleasantness of the pain he/she is feeling. However, self-reports of pain are not always possible to obtain, so different methods must be used - one of them is the assessment of pain experience conducted by another individual, a professional or an outsider. Since experience usually improves individual’s efficacy in a certain field, it would be expected that professionals

- who assess pain on a daily basis, would be more accurate in such tasks than outsiders - who have no experience with such assessments. The aim of this study was to investigate whether the level of observers experience with assessment of pain in others affects such assessment accuracy in experimentally induced pain. Observers, 32 students and 31 nurses, watched 6 video-tapes (3 volunteers in 2 different experimentally induced painful situations) and rated the pain experience of the person on the tape. Results show no statistically significant difference between the two samples; both samples generally underestimated pain intensity and unpleasantness - indicating that everyday experience with assessment of pain in others does not improve efficacy in that task. Such finding suggests the necessity of educational intervention which would enhance assessment accuracy of medical staff. Further studies are needed to investigate a possible difference between professionals and outsiders in assessment accuracy of pain experienced in clinical conditions.

#### **Socio-demographic, Health and Psychological Factors Affecting the Decision about H1N1 Flu Vaccination**

Anja Podlesek, Saška Rožkar & Luka Komidar

University of Ljubljana, Slovenia  
 anja.podlesek@ff.uni-lj.si

The 2009 outbreak of the new pandemic H1N1 flu was accompanied with serious debates about whether to get or not to get vaccinated. The aim of our study was to identify how among the general population of Slovenia different factors influenced the decision to get or not to get the pandemic flu vaccine in this uncertain situation. An internet based survey using the "snow-ball" principle was completed by 1383 adult Slovene inhabitants. The survey encompassed socio-demographic and health characteristics as well as psychological variables, such as trust in media and professional information about the flu, trait anxiety, characteristics of decision making, and the Big Five personality dimensions. The results showed that respondents working in healthcare service were more inclined to getting the pandemic flu shot. Acceptance of the pandemic flu shot also increased with taking the seasonal flu shot, living with children, trust in the news, and trust in the information in favour of the pandemic flu shot given by professionals. It was higher if someone close to a person also took the pandemic flu shot. Apart from thoroughness in making decisions, other measured psychological traits did not correlate with the acceptance of the shot. It is concluded that when deciding about a vaccination is difficult, people behave as they had in previous similar situations, according to the behaviour of close people, concern for children, and recommendations of health authorities.

#### **Screening for Mental Health in People with Intellectual Disabilities**

Elisabeth Zeilinger, Barbara Brehmer & Germain Weber

University of Vienna, Austria  
 elisabeth.zeilinger@univie.ac.at

Aim: People with intellectual disabilities are often left out when it comes to reliable assessment and adequate treatment of mental health problems, and therefore often suffer from untreated mental health problems. The aim of the present study was to standardize and generate psychometric data of the German versions of two well established English language mental health instruments: the PAS-ADD Checklist and the ABC. Method: In a first assessment, which was embedded in the EU-Project POMONA II, the German version of the PAS-ADD-C and the ABC were administered to a total sample of 270 individuals with ID. In a follow-up study the authors wanted to examine changes over time and tested the sample again. Reliability and validity measures were computed. Standardized norms and factor analysis were generated. Relations of psychopathologies to polypharmacy were explored. Results: The analysis of the reliability, as well as the preliminary analysis of external validity and factor structure showed very promising results, and are compared to existing psychometric properties in other language areas. Polypharmacy showed to be most frequent in people with challenging behaviour. Conclusions: For the appropriate use of screening-instruments, it is crucial to rely on norms and psychometric data gathered from a sample of the same cultural background and the same language. The topic of polypharmacy should be more prominent in research concerning people with challenging behaviour.

#### **Quality of Work and Well-being as Seen by Employees**

Andreas Brucculeri & Irene Conte

Institute for Employment Promotion, Bozen, Italy  
 andreas.brucculeri@afi-ipl.org

For years politicians and society have recognised that key health factors depend closely on socio-economic conditions as well as on the living and working conditions connected therewith (Gesundheit-EU, 2009). Along with the prevention of dangers and strains at work, more recently it is the evaluation and improvement of the quality of work that are attracting much attention as a substantial part of the European Health Promotion Programmes (Kopp, 2009). Against this background are presented the findings of a representative study by the 'Arbeitsförderungsinstitut AFI-IPL Bolzano' which analysed the quality of working conditions

in South Tyrol. The questionnaire collects data about job satisfaction, work climate, stressors, innovation, optimism, working conditions and well-being (Pramstrahler, 2009). The N = 1,036 South Tyrolean employees surveyed work in various sectors, belonging to different age groups and work at diverse job levels (from worker to leadership positions). Variables identified included the key effects of educational level, economic sector and job position on the level of innovation, stressors and well-being. Beyond that, regression analyses reveal significant correlations between work satisfaction and flexibility. Moreover, the level of innovation and the work climate correlate closely with the quality of the working conditions. Finally the findings are discussed in the context of the world economic crisis.

## WORK PSYCHOLOGY

### **Perceived Antecedents and Obstacles to Cognitive Schema Change in Companies**

Ana Arzenšek

University of Primorska, Slovenia  
ana.arzensek@fm-kp.si

The main objective is to present the perceived antecedents of cognitive schema change as experienced by participants, and compare them with factors from the schema change theory in order to evaluate specific circumstances and obstacles to an effective cognitive schema change during the present crisis. 17 interviews with participants from six companies were conducted. Prevalent perceived antecedents of schema change were (Personal) crisis, Coercion in the business environment (Competitors & Globalisation) and Personal characteristics of management & Leadership role. Prevalent obstacles to schema change, as perceived by participants were "Sleepiness" and rigidity, Personal advantages of previous schemas and Personal characteristics and values of management.

### **Automotive Safety and Security**

Johannes Ritter

Alpha-Cog Consulting GmbH, Germany  
info@gutachten-psychologie.de

Modern automotive units are highly equipped with computer based or aided systems. The vehicles offer different levels of technical security. Research and development on the side of the production tends to confront the topics around automotive security. Also the human person of the driver integrates interactively and becomes a driving unit with the 'automobile'. Conducting properly the vehicle is

related to the central concept of safety. Several signs of risk and faults to a safe driving style are already known and even focussed by law and jurisprudence, e.g. the correct use of mobile phones during driving. Beyond the mere human interaction with the automotive unit, several psychological implications become quite relevant: a human lack of the subjective feeling for speed; perception of danger to prevent and neutralize even faults of others; adequate reaction or the sense of orientation. In all these actions our five sensual channels receive a lot of information and have to select permanently in order to grant safety. The sensual information is also differently filtered by the high variety of different accents of human personalities and their real emotions. Scientific psychology has here the imminent task to focus and outline future research according to the demand of Galileo Galilei: "Measure what's measurable and make measurable what cannot be measured yet."

### **Toward the Assessment of the Work-family Interface: Validation of the Slovenian Versions of Work-Family Conflict and Work-family Enrichment Scales**

Sara Tement, Christian Korunka & Ajda Pfifer

University of Vienna, Austria  
sara.tement@univie.ac.at

The work-family interface has been an interest of research since the rise in women's employment rates and substantially changed working conditions were reported worldwide. The Slovenian workforce has been no exception. The work-family interface in the Slovenian context, however, remains under-examined. Since appropriate measurement instruments are an indispensable step in every emerging research field, we translated two English scales measuring work-family conflict and enrichment. Work-family conflict refers to the difficulties of participation in one domain (e.g. work) due to participation in the other domain (e.g. family). Work-family enrichment, on the other hand, occurs when work and family positively affect each other. In the second step we conducted a study to validate the measures of both concepts. Dimensionality, item adequacy, reliability and several validity aspects were addressed by means of a sample of 214 employees from Slovenian enterprises and institutions. The results of the validation study confirmed the multidimensional structure of both scales. In addition, support was found for acceptable reliability and discriminant and construct validity of the two scales. Therefore, the use of the work-family conflict and enrichment scales in the Slovenian context can be recommended. Examining work-family conflict and enrichment as predictors of job and family satisfaction, for instance, is only one of the multiple research questions it would be interesting to answer.

### **Effects of Experimental Habituation on Efficiency and the Task Difficulty Assessment**

Irena Pavela & Ilija Manenica

University of Zadar, Croatia  
irena.pavela@gmail.com

The aim of this study was to find out possible effects of experimental habituation on efficiency and the task difficulty assessment. Ten subjects took part in an investigation where they had to complete 30 tapping cycles of Fitts' tapping tasks, the difficulty of which ranged from one to six bits. The completion time was measured. After a week, in one situation, the subjects repeated the same procedure again, while in the other, they were given their individual time needed to complete 30 cycles of every task. The number of tapping cycles completed in that time was registered. The task sequence was varied according to the Latin square principle. After completing a task, the subject assessed its difficulty on Borgs' scale. Since completion time was measured in two situations, and the number of tapping cycles in one, the data were expressed as the speed of tapping (no. cycles / time in sec.). The results showed that task tapping speed followed the opposite trend of changes in the task difficulty. The speed, on the other hand, did not reflect the effects of habituation. Changes in the task difficulty assessments, which were similar in the second and third situation, followed changes in the task difficulties. The differences in assessments, however, were found between the first and the other two situations, which was due to the effects of habituation to the tasks. This means that subjective assessments were more sensitive to habituation than speed parameters.

### **Localisation of the Pacing Mechanism during Self-paced Work**

Ilija Manenica & Matilda Nikolić

University of Zadar, Croatia  
manenica@unizd.hr

Since the results of some previous studies indicated the possible existence of a central pacing mechanism in self-paced working conditions, the aim of this study was to try to find its cortical location. It was hypothesised that such a mechanism would be more active during self-paced, and less active during machine-paced work, which could be seen via EEG. Twelve subjects took part in this study by doing a simple repetitive task in self-paced and machine-paced conditions, for two hours. On the basis of their self-paced performance the subjects were divided into a slow and a fast working group. Both groups had EEG alpha and beta activity continuously recorded during the two working conditions. The analyses of changes in EEG showed that slower subjects had no differences in alpha suppression, or beta

presence, between self-paced and machine-paced working conditions. The faster group, however, had a higher alpha suppression and beta presence during machine-paced, than in self-paced work, in the primary sensory area (CP4) and the secondary motor area (FC3), which was the opposite than expected. Nevertheless, the results suggest the existence of a central pacing mechanism, not as a single center, but as a system located in the primary sensory area, and the secondary motor area. The discrepancy between expected and obtained results may be due to the entrainment of the central pacing rhythm by the machine pacing rhythm, as it was shown in some earlier studies on cardiac activity.

### **MUSIC, EMOTIONS AND MORE**

#### **About the "Velocity" of Time**

Giovanni Bruno Vicario

University of Udine, Italy  
vicario.gb@for.uniud.it

There is an antinomy between the physical notion of time, which is supposed to flow at uniform velocity, and the phenomenal evidence of psychological time, which on the contrary appears to run fast or slowly according to the conditions of lived experience. Considering that [a] time is not an observable, but a concept; that [b] only change in perceptual events is observable, and also its velocity; that [c] velocity is not the mark of the sole translation, but also of change in quality and change in number; some suggestions are set forth to explain the fact that "time" seems to have velocity. The following phenomena are recalled and described: [1] transportation effect (Knops), [2] induced movement (Duncker), [3] dependence of velocity from heterogeneous conditions (Brown), [4] velocity contrast (Loomis & Nakayama); [5] velocity of auditory successions. In the frame of a representation of phenomenal field in terms of topological psychology (Lewin), the "velocity" of time is supposed to emerge from the balance between the velocity of change of events perceived as external and the velocity of change of the ones perceived as internal to the observer.

#### **Featuring the Film Viewer: Free Associations Evoked by Short Fiction Films**

Katalin Bálint, Orsolya Papp-Zipernovszky  
& András Bálint Kovács

Hungarian Academy of Sciences, Budapest, Hungary  
balintkatalin@mtapi.hu

The lecture undertakes to examine the content of free associations raised by the engagement of the viewers with fiction films. Our main question accordingly is how per-

sonality traits, attachment style and emotional involvement influence the content and pattern of free associations. Furthermore, the question is which specific points of the narrative evoke these associations, and how different genres affect responses. To find the answers we used the thinking aloud method, and showed two films in different genres to a sample of 15 students. We categorized the content of associations (e. g. emotions, personal memories and questions) and made a correlation between the association patterns of the participants and some of their personality traits (Big5, Experiences in Close Relationships, Interpersonal Reactivity Index). According to our hypotheses the more intensive emotional involvement, the higher reactivity index, the higher impulse control and secure attachment style correlates with more frequent and more personal associations.

### **Can the Tempo be Exactly Doubled?**

Erica Bisesi, Irene Gratton & Giovanni Bruno Vicario

University of Graz, Austria  
ericabisesi@yahoo.it

Is a piano player able to exactly double a given tempo in his performance? 15 trained pianists hear the first 4 measures of Bach's Prelude BWV 846 at 7 different tempi, chosen on a logarithmic temporal scale from 38 to 107 beats per minute. They are asked to play at double speed with respect to each of the 7 tempi. Results show that as the reference tempo increases, the doubled tempo becomes more defective, in the sense that performance is ever slower. The role of motor and cognitive competences is discussed, as well as the difference between estimation and production in Stevens' psychophysical procedures.

### **Acoustic Recognition of Musical Instruments: A Rapid-learning Approach**

Lisa Aufegger & Oliver Vitouch

University of Klagenfurt, Austria  
lisaaufegger@gmx.at

Musical abilities are strongly associated with lay theories of talent and early genius. However, while time windows of developmental plasticity exist for certain features (absolute pitch being an extreme example), training and learning processes evidently play an eminent role in musical skill acquisition. Demonstrating "rapid learning" of musical skills in non-musicians (e. g., Oechslein, Läge & Vitouch, under review) would help to deconstruct romantic myths of musical talent for a chosen few. This study aimed to quickly train the sound-based recognition of musical instruments in every-day listeners. Participants were presented with musical excerpts of 10 woodwind and brass instruments. In the pre- and post-test, they had to identify the solo instrument from orchestral pieces (e. g., a clarinet

concert). In the treatment phase between the tests, they participated in a PC-based training in three blocks, containing 5 standardized and 3 instrument-specific tunes per instrument, together with instrument explanations similar to an "orchestra guide". Post-test performance was also compared to the spontaneous recognition performance of music students (piano players and brass/wind players). Results from the pilot study (n = 15) and preliminary results from the main study (n = 34 non-musicians) indicate a marked improvement in the sense of rapid perceptual learning, with post-test performance levels moving towards the expert range even after a short and moderate training regimen.

### **The Influence of Excerpt-duration and Structural Features on Music-induced Emotions: An Analysis of Contemporary Western Concert Music**

Astrid Kause, Emmanuel Bigand, Philippe Lalitte  
& Paul Molin

University of Klagenfurt, Austria  
astrid.kause@uni-klu.ac.at

Putting into question the common claim, that contemporary western concert music is too complex or artificial to be interpreted in an emotional way, the following study shows, that an emotional reaction can systematically be induced in listeners also by that style of music. Subjects without any special knowledge in that music-domain listened to 27 music-excerpts, which highly varied in regard to their musical structure. Every excerpt was presented in a length of 20 s, 5 s, 2 s and 500 ms. Like in a comparable study of Bigand et al. (2005) using classical concert music, participants grouped the excerpts according to their emotional reaction. Afterwards these groupings were analyzed by the Multidimensional - Scaling Method (MDS). Results indicate that 1) emotions differ in regard to the dimensions valence and arousal, 2) these dimensions are based on multiple musical surface characteristics like e.g. timbre, harmony and tempo 3) participants showed a consistent emotional reaction even to very short excerpts. Results are discussed with regard to the systematic influence of structural features on musically induced emotions as well as to a cognitive appraisal evolving through time course.

## **PHYSIQUE AND PHYSICAL DISORDERS 2**

### **Psychodiagnostic Research of Rheumatoid Arthritis Patients**

Edit Paksi

University of Pécs, Hungary  
paksi.andras@kabelnet.hu

RA is a chronic, progressive, systemic autoimmune disorder, which fundamentally alters patients' way of life, so-

matic and psychical well-being. Previous researches mostly focused on the identification of specific personality factors, which easily distinguishes RA disease from another autoimmune disorder. The purpose of research is to identify such psychodynamic processes, which play a role in the process of disease and influence patients' living conditions. The sample analyzed is from twenty female patients diagnosed with RA. The patients are between 38-80 years old (average=61.5) and volunteered to take part in Rorschach tests. Results indicate that RA patients because of physical symptoms are introverted and their self efficacies and abilities for happiness are reduced. At the same time their behaviour is determined by outside events, which caused emotional instability. Low elaboration skills can't compensate difficulties in temper regulation. As a result, behaviour becomes overcontrolled and adaptional problems take place.

**Do we Apply a Complete Wrong Understanding to the Problem of Nonadherence?  
Results of an Analysis of Diabetic Nonadherence**

Sonja Marbaise & Harald Stummer

Health and Life Sciences University, Hall i.T., Austria  
smarbaise@marbaise.de

Though nonadherence is a major problem in health care for both the individual patients and the overall health system, to date no approach has been found to contain this kind of behaviour. This could arise from an incorrect understanding of the problem. Discrepancies start with the definition of adherence and go via the measurement methods to the relevant psychological models to apply. The authors of this study researched pharmacy records of two German pharmacies to gain unobtrusive insights into the "real" adherence behaviour of diabetic patients and to possibly develop an identification matrix. Thus, 4,474 patient datasets in pharmacy 1 and 2,650 patient datasets in pharmacy 2 are analysed regarding the refill behaviour of diabetic patients for a research period of two years, 2006 and 2007. Surprisingly, neither the adherence to oral antidiabetics nor the adherence to drugs for the cardiovascular system of the same diabetics show a pattern of influencing factors to prove the characteristics of nonadherent patients in the to date literature. Reason could be, that most of the relevant studies are designed with a classical understanding of reasons for this behaviour like with the Health Belief Model; they are on the one hand omitting other explanations like risk-taking models on the other hand are based on an understanding of the patient as homo economicus.

**Cognitive not Somatic Depressive Symptoms are Associated with Cardiac Morbidity and Mortality after Coronary Revascularization**

Phillip J. Tully, Helen R. Winefield, Robert A. Baker, Deborah A. Turnbull & Peter de Jonge

University of Adelaide, Australia  
phillip.tully@adelaide.edu.au

Objective: To examine the optimal latent factor structure of the Beck Depression Inventory-II (BDI-II) to differentiate between cognitive and somatic symptoms and report the prognostic association with cardiac morbidity and mortality after coronary revascularization. Methods: The BDI-II data of 226 coronary artery bypass graft (CABG) patients were subjected to confirmatory factor analysis (CFA) and examined in relation to cardiac morbidity and mortality with a median follow up of 4.9 years (interquartile range 3.5 to 7.5 years). Results: An item deleted three factor models consisting of six cognitive items, three affect items, and six somatic items obtained the best fit before and after revascularization among ten models examined. The postoperative cognitive factor z score was associated with cardiac morbidity and mortality (n=65, 28.8% of sample) after adjustment for left ventricular function, age, respiratory disease, congestive heart failure, renal disease and diabetes (hazard ratio=1.41; 95% confidence interval 1.05 to 1.88, p=.02). Conclusions: The superior CFA fit of a fifteen BDI-II item three factor model supported previous research in psychiatric samples and provides a novel conceptualization of depressive symptoms in cardiac patients. A cognitive factor marked by pessimism, past failure, self-criticalness and worthlessness was associated with cardiac morbidity in contrast to other work that documents an association with somatic symptoms.

**Association of Biochemical Factors and Age Changes in Cognitive Function**

Jasminka Despot Lučanin, Damir Lučanin & Morana Bilić

University of Applied Health Sciences Zagreb, Croatia  
jasminka@zvu.hr

Cognitive decline associated with aging may be explained, in part, by the effects of systemic medical diseases and associated risk factors, which increase in prevalence with older age. Better insight into the nature of these associations could reveal risk factors for MCI, impending AD, depression, or some other disease. The aim of this study was to determine the possible association between biochemical factors and cognitive impairment in old institutionalized people. Subjects were 505 residents of 11 older people's homes in Zagreb, Croatia, 138 (27.3%) men and 367

(72.7) women, aged 56-96 years (average 79 years), mobile and not diagnosed with dementia at baseline. Biochemical variables were measured from the vein blood sample, collected at baseline. Data were collected, at baseline and at a 2 years follow-up: sociodemographic, on health status (objective and subjective), health behaviour, functional ability and cognitive function, individually, in the institution, by trained interviewers. Significant associations among certain biochemical factors (triglycerides, lipoprotein levels etc.) and cognitive function were found, different for men and women, and interactions with functional ability. Associations between some biochemical factors and age changes in cognitive function are discussed. The implications of these findings are interesting in terms of intervention and better identification of groups particularly susceptible to cognitive decline.

#### DECISION MAKING

##### **Homo Oeconomicus vs. Homo Psychologicus: Primary Reinforcers and Empathy Gaps in Social Bargaining Situations**

Ina Gabriel, Astrid Kause & Oliver Vitouch

University of Klagenfurt, Austria  
igabriel@edu.uni-klu.ac.at

How do we make decisions in bargaining situations? Beside rationality, fairness and the actual driving state should be taken into consideration when trying to predict human behavior (Güth, Schmittberger & Schwarze, 1983). Furthermore, the so called cold-to-hot empathy gap (Loewenstein & Schkade, 1999) plays a role when anticipating future needs. The following study examines the outcome of the classical Dictator Game (McCabe & Smith, 1996) using water as a primary reinforcer instead of secondary reinforcement (money, trading goods). The experimental group had to share a small amount of water after a 25-minutes sports session, while the control group was asked to do so without doing any workout (N = 84). We hypothesized that (1) the primary reinforcer setup leads to marked differences from the conventional money reward game, and (2) cold-to-hot empathy gap effects arise, with individuals making different offers in the "hot" state than previously anticipated. Preliminary results point towards a stronger role of fairness when primary reinforcers are at stake. Results are discussed in the context of the current H. oeconomicus vs. H. psychologicus / H. reciprocans debate. It is put into question if the concept of the human rational mind can be purely transferred to bargaining situations, i. e. social interactions, or if it should be widened to motives such as reciprocity and fairness and a strong influence of bodily needs.

##### **Decisions in Social Dilemmas: The Role of Personality and Situational Variables**

Andrea Czibor & Tamás Bereczkei

University of Pecs, Hungary  
czibor.andrea@gmail.com

This study was aimed at investigating the influence of personality traits and situational factors on the behavioural strategies involved in a competitive and a cooperative game. 120 university students played two versions of the Public Goods Game. Two social situations were created: one in which the individual benefit could be maximized by cooperation with the group members, and one wherein the most beneficial strategy was competition. The subjects' personality characteristics were measured by Temperament and Character Inventory (TCI) by Cloninger and the Mach IV Test. Machiavellianism scores negatively correlated with the amount of the individuals' contributions in the cooperative situation, while no association has been found in the competitive settings. High Machs seem to recognize that manipulative strategies are most profitable, when other group-members are expected to cooperate, but do not yield gain, when the others also engage in competition. Significant negative relationship was found between the Persistence character factor and final profit. In other words, those individuals gain the highest amount of money at the end of the game who permanently adjusted their decisions to their group mates' behaviour. Exploring the influence of certain situational factors on the individual decisions, we found that the presence of free-riders reduced the group-members' contributions, while the groups with at least one altruistic member showed significantly more cooperation.

##### **To Forgive or not to Forgive? Beliefs about Costs and Benefits of Forgiveness, Motivation to Forgive and Well-being**

Lana Jurčec & Diana Kopačević

University of Zagreb, Croatia  
lana.jurcec@ufzg.hr

The aim of the study was to assess the relationship between beliefs about costs and benefits of forgiveness, motivation to forgive and well-being. The sample consisted of 150 adults (88 females and 62 males), aged from 20 to 62. The scale for measuring beliefs about costs and benefits of forgiveness (CBFS) was specially developed for this study. Beliefs about benefits of forgiveness included benefits for oneself and benefits for the relationship, while costs were related to beliefs that if forgiven offender would not learn



to change his/her behaviour and that it can be dangerous for forgivers. Motivation to forgive was measured by TRIM Inventory consisting of three scales – revenge, avoidance and benevolence motivation. Well-being was measured by Life satisfaction scale and PANAS (measuring positive and negative affect). Regression analyses revealed that a significant positive predictor of life satisfaction was the belief, that forgiving benefits the relationship, while the belief that forgiving can be dangerous for the forgiver was negatively related to life satisfaction. A significant positive predictor of negative affect was the belief, that forgiving can be dangerous for the forgiver, while the belief, that forgiving benefits the relationship was negatively related to negative affect. It seems that believing in benefits of forgiveness rather than in costs can improve our well-being by increasing life satisfaction and lowering negative affect.

### **Behavioral Patterns and Social Dynamics behind Speculative Asset Price Bubbles and Market Crashes**

Thomas Fenzl

University of Klagenfurt, Austria  
thomas.fenzl@uni-klu.ac.at

The cycle of boom and crisis may be accepted as a “natural” element in financial market history (Kindleberger and Aliber, 1978/2005) and numerous research works have provided evidence, that market prices spend far more time deviating from postulated theoretical equilibrium than actually tending towards it. The non-rational herding behavior among market participants, which leads to mass psychological dynamics in the patterns of human aggregate behavior and which produces non-mean-reverting dynamism in financial markets, is a response to the pervasive uncertainty in financial markets. Based on a literature review and the analysis of several case studies of financial market manias and panics, including the most recently observed phenomena, this presentation introduces into the emergence of speculative booms and crashes and elucidates some of the postulated psychological and social mechanisms behind, and characteristics of herding behavior. The main goal is to raise awareness of the often little-understood point, that collective behavior does not simply sum up pre-existing individual motives and preferences. Therefore the presentation focuses on the mechanism of how individually unintended aggregate outcomes such as financial market booms and panics are shaped by collective dynamics and interactions between traders and their environment. Concluding, a brief outlook on methodological aspects of the empirical research on behavioral finance effects is presented.

### **CLINICAL PSYCHOLOGY - PSYCHOTHERAPY**

#### **Adolescents' Depression: A Study in a Bangkok Slum Community**

Ratana Somrongthong, Sunanta Wonchalee, Vipat Kuruchittham & Edgar J. Love

Chulalongkorn University of Bangkok, Thailand  
sratana3@chula.ac.th

Urbanization, rapid migration and overcrowding have resulted in over 700 slum areas in Bangkok, Thailand. Conditions within these slum communities may have an effect on adolescent quality of life and depression. This study aims to 1) assess the level of depression of adolescents living in a slum community, 2) to determine the factors related to adolescent depression, and 3) to describe the relationship between depression and quality of life. It was carried out in the biggest slum, and surveys 871 adolescents aged 12-22 years by multi-stage sampling. Subjects were administered a series of questionnaires in order to assess depression (CES-D) and quality of life (WHO-BREF). Results indicated, that 34.9% of respondents exhibited depressive symptoms, including 27.6% of males and 40.4% of females. There was a statistically significant difference between level of depression and gender ( $p < .001$ ). Approximately 30% of adolescents indicated that they had a ‘poor’ quality of life, and there was statistically significant difference in the level of depression according to the level of Quality of life when considering both genders together ( $P$ -value  $< .001$ ). Associations were found between depression and three factors: quality of life ( $p < .001$ ), position in the family ( $p = .04$ ), and adolescent’s hometown ( $p = .02$ ). Base on the findings, the interventions for adolescent depression may be effective if gender, age group and family participation are taken into account.

#### **Communicative Functions of Dream Reports**

Hanspeter Mathys

University of Zurich, Switzerland  
hp.mathys@psychologie.uzh.ch

The report of dreams in psychotherapy usually gives a welcome contribution to the “royal road to a knowledge of the unconscious” as Freud already found. The focus generally lies on the dream content; seldom on a specific handling of the dream report. In this study, the relevance of the narrative and dialogue situation of dream reporting in a psychoanalytic setting will be demonstrated on the basis of a single-case study with the method of conversation analysis. Central question is: what latent communicative and interactive functions can be found within the dialogue between therapist and patient about the dream? The functional per-

ceptive makes evident that dream reports are a unique narrative form of relationship regulation. On the basis of selected conversation extracts this will be illustrated.

**Bright Light Therapy for Non-seasonal Depression –  
Psychotherapy in Orthopedic Rehabilitation:  
Are there any Benefits of Interventions beyond  
Treatment as Usual?**

Jutta Menschik-Bendele, Walter Renner, Ingrid Salem,  
Florian Liebeskind & Tina Strobl  
University of Klagenfurt, Austria  
jutta.menschik-bendele@uni-klu.ac.at

Starting from a holistic concept of the human mind and body, this study aimed at investigating the effects of a somatic intervention (Bright Light Therapy, BLT) for unipolar depression on the one hand and of psychotherapy (PT) for orthopedic disorders on the other. In addition to inpatient Treatment as Usual by antidepressants and psychotherapy, in Part 1 of the study, N = 90 patients with non-seasonal depression were assigned at random to (1) daily sessions of BLT, (2) a placebo condition of daily exposure to psychologically ineffective red light, or (3) to a control condition without additional treatment. In Part 2 of the study, N = 101 patients with orthopedic disorders received inpatient somatic Treatment as Usual and in addition were assigned to (1) six sessions of PT in a group setting, (2) six sessions of a placebo intervention (watching nature movies on TV), or (3) to a control group receiving no additional intervention. The effects were assessed by self-report measures of clinical symptoms and of cognitive variables. Neither BLT in Part 1 nor PT in Part 2 reduced clinical symptoms more effectively than Treatment as Usual. In Part 2, however, psychotherapy led to enhanced cognitive improvements on one of four scales as compared to the placebo and the control condition. This finding suggests that psychotherapy can address cognitive distortions in orthopedic patients successfully if treatment is designed with respect to their specific needs.

**Development of an Attachment Theory Based Measure  
of the Therapeutic Relationship**

András Láng  
University of Pécs, Hungary  
andraslang@hotmail.com

The attachment theory originally formulated by Bowlby (1958) has been developed into a comprehensive framework for understanding different forms of interpersonal relations. Recently there is a growing interest in conceptualizing the psychotherapy relationship as patient-therapist attachment. In this study a self-report questionnaire of adult romantic

attachment, Experiences in Close Relationships (ECR by Brennan et al., 1998) was transformed into a self-report questionnaire exploring patients' experiences about their relationship with their therapists. Analysis of data from around 110 patient-therapist pairs shows the following results. The original bidimensional model (Griffin & Bartholomew, 1994) underlying ECR is not necessarily the only possible way to interpret the factor structure of this newly developed scale. Three- and four-factor models suggest that the adapted form of ECR reflects a lack of security on one factor and two or three different modes of handling anxiety resulting from the lack of a sensitive attachment figure on the other two or three factors. Taking these results into account, the original structure of ECR should be reconsidered as well.

**Body Image Development in Relation with Normative  
Crises**

Linda Alföldi & Beatrix Lábadi  
University of Pecs, Hungary  
linda.alfoldi@gmail.com

During the past two decades, there has been an explosion of research concerning the development and change of body image, and, moreover, concerning the appearance of a negative body image in different age groups and clinical populations. This paper aims to present a series of studies concerning the body image development and dissatisfaction in relation to normative developmental crises appearing in different periods of life. In the present study we investigate the joint effect of biological and psychological factors on the formation of body image dissatisfaction and negative body image that mean risk factors in the development of more serious types of bodily dissatisfaction. The first group of subjects consists of preadolescents; the second group consists of adults, and the third group consists of elderly persons. The applied research method includes several questionnaires (CHLQ, BAT, SATAQ-3, MBSRQ, EAT-26) and scales. Results are discussed in the context of personality traits and developmental, clinical psychology.

**Cognitive Distortions of Pedophilic Child Molesters**

Sarah Scherr, Rainer Alexandrowicz & Reinhard Eher  
University of Klagenfurt, Austria  
s.scherr@gmx.at

Researchers hypothesize that sexual offenders hold distorted beliefs towards their victims, the world and themselves. In the past two decades, researchers developed a number of questionnaires in order to assess cognitive distortions of child molesters. However, there is only little evidence on the validity of these instruments. A large section of research focuses on differences between treated and un-

treated child molesters, but there is only little research on the role of typology. According to previous studies, child molesters are a very heterogeneous group which makes it important to look at the presence and variety of a given diagnosis of pedophilia. In this study we used the first German cognitive distortion questionnaire and presented the computerized assessment to 4 different groups of sexual offenders. Several theoretically derived models were tested by means of confirmatory factor analysis. Furthermore, response times helped identifying individuals not really answering items but just clicking through them. Taking this information into account it was possible to develop 5 scales which seem to differentiate different types of child molesters. Further, a significant connection between the degree of a diagnosed pedophilia and the advocacy of cognitive distortion items has been detected. Although the present questionnaire seems to differentiate between different types of child molesters, it can at the best be used as a screening method for the diagnostic analysis of pedophilia.

#### **Developing Well-being: Applying a Resource- and Well-being Diary to Foster Positive Emotional States**

Anton-Rupert Laireiter & Katharina Spitzbart

University of Salzburg, Austria  
anton.laireiter@sbg.ac.at

Positive Psychology states that it is time to concentrate more on positive emotions and personal resources. To prove this statement, a lot of studies have been conducted, amongst others using diaries on well-being and happiness. Most of these were applied to depressives with impressive outcomes: Depression was reduced and well-being enhanced. In the present study a similar approach was adopted. However, the diary was not applied to depressives but to healthy people. It was the aim of the study to test, if this method also leads to improvements in well-being and positive emotions in psychologically healthy people. The diary was applied by 80 students from different faculties of the University of Salzburg for a period of 14 days. Each respondent had to fill in once a day - in the evening - what kinds of good and lucky events he/she had experienced, what positive meetings with other people he/she had, and who, if ever, had supported him/her during the day. This intervention resulted into a significant growth of well-being and positive emotions and a decline of negative states such as anxiety, depression and irritability - with medium effect-sizes ( $d=.30-.50$ ). In addition, a growth in the perception of personal and social resources also with a medium effect-size ( $d=.30$ ) was observed. Participants, who felt less well at the beginning of the intervention and perceived less personal and social resources, benefited more from the application than those with higher well-being and more resources. The study shows that laying one's focus on his/her own resources and well-being

in everyday life can help to foster these states, especially if one feels a little bit bad or has some blues. In the next step a controlled design with a control group will be adopted.

#### **RELATIONSHIP - INTERPERSONAL PSYCHOLOGY**

##### **The Role of Positive Thinking in Marital Satisfaction**

Azarmidokht Rezaei & Katayoun Afshar

Islamic Azad University Marvdasht, Iran  
rezaei.azar@yahoo.com

Positive psychology emphasises on increasing health and happiness and also on the scientific study of the role of personal strengths and positive social systems for increasing health. This study tries to investigate the effectiveness of positive thoughts on marital satisfaction. The sample of the study consists of 60 couples that were placed in two groups (30 experimental and 30 controls). Marital satisfaction questionnaires were administered on both groups before and after training as pre and post test program. Positive thinking programs were trained to the experimental group only in 10 sessions. The results of covariance showed that the experimental group obtained a higher score in the post test which shows, positive thinking training was effective in increasing the marital satisfaction of these couples. The implication of the study focuses on the importance of positive thinking in decreasing conflicts and increasing marital satisfaction between couples.

##### **Determinants of Relationship Quality: A Cross-cultural Study**

Meri Tadinac, Hafez Bajoghli, Narges Joshaghani, Ivana Hromatko, Margareta Jelić & Željka Kamenov

University of Zagreb, Croatia  
mtadinac@ffzg.hr

Partners' perception of marital/relationship quality heavily depends upon societal norms and expectations that partners draw from internalised cultural standards. However, the evolutionary theory posits that the cross-cultural universality of pair-bonding and marital alliances suggests there is an adaptive function to it. Along with this line of reasoning, we hypothesised that partners' perceptions of the relationship quality should also be determined by a cross-culturally universal mechanism of cost-benefit analysis. Therefore, the aim of this study was to compare the predictors of relationship quality in two different cultures. 99 Iranian married and 99 Croatian married or cohabiting couples were included in a dyadic assessment. The highest between-culture similarities were found in the frequency of positive interactions and the profit in mate value (difference

in own and partner's perceived mate value). Sexual satisfaction proved to be a significant predictor only in the Croatian sample, while the number of children predicted the relationship quality in Iranian couples only. Other variables, such as difference in partners' age, income, and education showed a more complex culture- and gender-dependent pattern. The results are in accordance with the notion that while the cost-benefit analysis itself is a universal process, the perception of certain costs and benefits is culturally specific.

### **Need for Affect in Romantic Relationships**

Aleksandra Huić, Željka Kamenov & Ivana Jugović,  
Ted Huston  
University of Zagreb, Croatia  
ahuic@ffzg.hr

Need for affect is defined as a general motivation to approach or avoid emotion-inducing situations. This study examined whether the need for affect plays a significant role in relationships. Using a sample of 500 married couples, our aim was to investigate (1) the overall effect of need for affect; (2) whether particular combinations of need for affect (e.g., both spouses high; one spouse high, the other low) produce distinct behavioral dynamics; and (3) how need for affect and behavioral dynamics, when considered together, are associated with spouses' satisfaction with marriage. We expect couples with higher levels of need for affect to have more intense relationships. Also, relationships where both partners have similar need for affect levels should be more satisfactory than relationships where one partner has a high, and the other a low approach/avoid motivation. We also hypothesized that, depending on these similarities, couples will differ in actual affectionate, antagonistic, and sexual behaviors they exhibit, and the way they show love to their spouse. We administered The Need for Affect Scale, The Love Scale, and asked participants about the ways they show love, their specific behaviors in this relationship, and their marital satisfaction. Our findings show how the spouses' need for affect, considered in tandem, is associated both with how well they feel and get along with each other, as well as how they feel about their relationship.

### **Interethnic Feminine Gender: A Pilot Research**

Lucia Monacis, Daniela De Santis & Maria Sinatra  
University of Bari, Italy  
lucymonacis@yahoo.it

Our research analysed the feminine role, status, and cultural expectations in Italian, Chinese, Bulgarian/Romanian, and Albanian communities in Italy. It involved three steps.

Firstly, guided interviews were administered to 70 males and 70 females, all aged 25-40, from each group to investigate how they viewed the feminine role, men's idea of the ideal woman, how women internalized their own role, and how they fit into their traditional gender role. The scores showed stereotypical perceptions with little differences between groups. The Bem Sex-Role Inventory was then applied to assess the convergence/disagreement between expected traits and real status. Data, correlated with social indicators and compared among the groups, suggested a tendency in all groups to achieve higher scores on the femininity scale. These scores confirmed the self/other descriptions in the first step, emphasizing separate spheres of influence for women and men. Finally, Gilligan and Noddings' models of moral reasoning were administered to prove the correlation between the previous scores concerning gender identity and a propensity to caring, relationships and responsibilities as feminine characteristics. These scores contrasted with those of the former steps, showing a tendency to the masculine style of reasoning based on justice, rights, and decision-making. This analysis suggests that more reflection is needed on ethical rather than ethnic differences.

### **Attitudes towards Gender Roles and Perception of Gender (in)Equality in Croatia**

Željka Kamenov, Aleksandra Huić, Margareta Jelić, Ivana Jugović, Dean Ajduković, Branislava Baranović,  
Branka Galić & Smiljana Leinert-Novosel  
University of Zagreb, Croatia  
zkamenov@ffzg.hr

The aim of this study was to ascertain the role of egalitarian and traditional attitudes toward gender roles in the way people perceive the problem of gender inequality in Croatia. Theoretically, we would expect that people with more egalitarian attitudes perceive more inequality than people with traditional attitudes. However, since people have different life experiences, we would expect that situational differences (e. g. living in a rural vs. urban area) also play a significant role in this perception. A comprehensive questionnaire was administered to a national, representative sample of 1363 Croatian citizens aged 15 to 89, stratified according to town size and region, and controlling for gender, age and education level. We administered the Attitudes toward gender roles scale, and assessed the perception of gender (in)equality and awareness of gender discrimination. Not only were we interested in the overall level of gender discrimination, but we also wanted to know about gender discrimination in different areas – family life, education, work life and politics. We discuss the role of attitudes and situational variables in explaining the differences in perception and sensitivity to gender inequality. Results are discussed separately for men and women, since women see gender discrimination as a

much bigger problem than men do. Some interesting patterns of results in particular areas of life (family, education, work and politics) are also elaborated.

### **Intimate Partner Violence and Mental Health among Italian High School Students: Gender Similarities and Differences**

Lucia Beltramini & Patrizia Romito

University of Trieste, Italy  
lubltramini@hotmail.com

**Purpose:** To compare the frequency of Intimate Partner Violence (IPV); to analyze the links between IPV and mental health among male and female high school students. **Methods:** This cross-sectional study involved 726 students from 16 schools in Northern Italy. Information was collected with a self-administered questionnaire. Main outcome variables were: depressive symptoms, symptoms of panic attack, eating disorders, and suicidal ideation. Predictor variable was IPV. Multiple logistic regression models separated by sex were fitted. **Results:** Among the 327 female and the 259 male students who had a couple relationship, 43.7% and 34.8% respectively had experienced any IPV: female students had experienced more psychological and sexual IPV (no differences for physical IPV). Controlling for family and sexual violence and other confounding factors, female students exposed to IPV had significantly higher Adjusted Odds Ratios for depression (2.54), panic attack (1.86), eating problems (1.90), and suicidal ideation (2.44). For male students, only the OR of reporting eating problems almost reached statistical significance. **Conclusions:** Adolescent IPV is frequent also in Southern Europe and adversely affects health. Female adolescents experience more IPV; when exposed, they present more mental health problems than male adolescents. However, also boys are victimized. Health workers and educators should be ready to discuss IPV and the related suffering with adolescents.

## HEALTH PSYCHOLOGY 2

### **Can Humans be Divided into “Hawks” and “Doves”? An Evolutionary Medicine Perspective**

Ivana Hromatko, Meri Tadinac, Nataša Jokić-Begić, Anita Lauri-Korajlija & Lena Kotrulja

University of Zagreb, Croatia  
ivana.hromatko@ffzg.hr

One of the issues within the framework of Darwinian medicine is why individuals develop the specific disease they do? Within a population, natural selection maintains

the balance in frequency of different genes determining the tendency towards higher (Hawks) or lower aggressiveness (Doves), and it is suggested that these strategies are related to health outcomes. Since the physiological responses to stressful events are different in Hawks and Doves, the aims of this preliminary study were to determine whether an analogue of Hawks and Doves as basic coping strategies can be defined in humans and whether the proportion of Hawks and Doves differs among different groups of patients. 205 patients from various clinical departments participated in the study. Based on their coping style and trait anxiety, two groups of patients were formed: Hawks (low trait anxiety and problem-oriented coping style) vs. Doves (high trait anxiety and avoidant coping style). Although there were no overall differences in the proportion of Hawks and Doves between genders, a majority of men among gastroenterological and dermatological patients was classified as Hawks, while there were no differences in the proportion of Hawks and Doves among women in these groups. Irrespective of gender, a majority of patients in the psychiatric group was categorized as Doves. It seems there is an interaction between gender and allostatic load management, and the onset of a certain disease might be the outcome of this interaction.

### **Growth Mixture Modeling of Psychiatric Symptom Load in the Swiss Heroin Assisted Treatment Cohort 1994 – 2007**

Wolfgang Wiedermann, Ulrich Frick & Michael Schaub

University of Klagenfurt, Austria  
wolfgang.wiedermann@uni-klu.ac.at

Previous studies on Heroin-assisted treatment (HAT) mainly focused on factors for treatment outcome, mortality rates, and daily dosages. Little is known about the course of psychiatric symptoms during HAT. The present study investigated trajectories of psychiatric symptom load over an observation period of 14 years (1994–2007). Symptom load was assessed using four subscales of the Symptom Checklist (SCL-90R): depression, dysthymia, social phobia and mistrust. A total of 2243 subjects were measured at least twice during the observation period. Latent growth mixture models were used to identify distinct trajectories of symptom load. Patients' sex, age at entry, capacity of treatment centre and historical treatment cohort were used to predict trajectories memberships. The analysis revealed four latent trajectories. The largest group (62% of the sample) consists of patients who display a low symptom load on all scales at the HAT entry, which even declined during the first 8 years of treatment. The second largest group (14%) suffered from a rather high level of dysthymia and depression at HAT entry, followed by a slight decline during the follow-up period. About 13% showed severe symptoms of mistrust and moderate symptoms of depression. Depression load displayed

a rapid decline during treatment. About 12% showed the highest symptom load for depression and social phobia and rather high levels of dysthymia and mistrust. Symptom load of social phobia and depression declined over the first 6 years. Women as well as patients entering HAT during 1994–96 tended to a higher level of psychiatric symptoms. Patients' trajectories were associated with therapy outcome in complex patterns.

### **The Meanings of Health**

Nicola Curci & Luigi Traetta

University of Urbino, Italy  
giuseppe.annacontini@uniurb.it

The increases in and spread of the phenomena of malaise in today's society have led to a need to intensify preventive interventions not only in the field of education, but also in those institutions which deal with the protection of health. Our paper aims to clarify the different meanings given to subjective/social health; these determine the nature of the interventions required. More precisely, most literature on this topic considers these meanings as a derivation from a condition of bio-psycho-social equilibrium which is to be related to the quality of life of each subject, of groups or of society as a whole. Consequently, more complex meanings of health are evident, as they emerge in two particular approaches. The first of these deals with the social indicators of social well-being, namely with the meanings given to well-being as it manifests itself in the various cultures. Examples of this approach are investigations into socio-cultural components which affect the subjective perception of well-being (models of social self-fulfillment, membership, integration, etc.). The second, more empirical approach, aims to research the meanings which human beings give to well-being by trying to specify the individual definitions. In this last case, it can be incontestably affirmed that on the basis of these meanings there is a cognitive antecedent fact of the manifest behaviours.

### **Is Empathy an Appropriate Tool for the Helping Professions in Mental Health Matters?**

Finamore Rino, Vittoria Jacobone & Giancarlo Tanucci

University of Bari, Italy  
finamore.rino@gmail.com

Although empathy was widely discussed by philosophers throughout the 19th century, it was only in the second half of the 20th century that psychologists began to develop an interest in it. Our research deals with this topic in the

particular context of the helping professions, i.e. counseling and vocational guidance, which both aim at the promotion and maintenance of mental health. The starting point was Barrett-Lennard's 1981 hypothesis of three components of empathy, namely 1. counselor's experience ("empathic resonance"); 2. observer's perception (expressed empathy); 3. client's experience. His Relationship Inventory (BLRI) assessing congruence, regard, and unconditionality of regard, together with the Counselor Evaluation Inventory (CEI) and the Counselor Effectiveness Scale (CES) were administered to 122 male and female individuals aged between 20 and 40 involved in counseling and vocational guidance, who were assessed using Bandura's Self-Efficacy Scale. The data did not show the expected correlations between counselors' facilitative attitudes and client ratings. The implications of this suggested a more complex model than that predicted by the Rogerian theory which is the basis of the BLRI.

### **Investigation and Comparison of Psychological Well-being and Islamic Beliefs Among Students**

Bahman Tamini Kord

University of Sistan and Baluchestan, Iran  
serdeh58@yahoo.in

The present study aims at investigating and comparing the psychological well-being and Islamic beliefs among Sistan and Baluchestan University students. The sample size of the present study consists of 300 students that were selected at random from three faculties (Art & Humanities 100 students, Engineering 100 students and Science 100 students). Psychological Well-being and Islamic Beliefs Questionnaires were used to collect the data. Pearson correlation, One Way ANOVA and independent t-test were applied to analyze the data. The results illustrated, that there was a positive correlation between well-being sub-scales, namely satisfaction with life, spirituality, happiness and optimism, individual development, autonomy and total scores of well-being, but there was negative correlation between Islamic beliefs and positive relationship with other sub-scales ( $p < .01$ ). The results of One Way ANOVA did not emerge significant difference between the three groups of students on well-being and its sub-scales scores, but results revealed, that there was significant difference, at least between two groups of students on Islamic beliefs scores i.e. Engineering and Science students obtained more scores than Art and Humanities students and also results indicated, that the average scores of Engineering students were bigger than those of Science and Humanities students. The independent t-test results illustrated, that there was a significant difference between two groups of gender on satisfaction with

life, spirituality and positive relationship with others subscales i.e. the average scores of male students were bigger than those of female students and there was no significant difference between the two groups on happiness and optimism, individual development, autonomy and total scores of well-being, but male students obtained more scores on Islamic beliefs than their female counterparts. Eventually, the results of this study demonstrated, that there was no significant difference between married and single students on well-being scores and its sub-scales and Islamic beliefs scores, and also the results did not emerge significant difference between graduate and post-graduate students' well-being scores and its sub-scales and Islamic beliefs scores.

### **Critical Thinking and Decisional Procrastination Tendencies in a Group of Turkish Graduate Students**

Bilge Uzun Özer & Ayşenur Büyükgöze-Kavas  
Middle East Technical University of Ankara, Turkey  
ozbilge@metu.edu.tr

Critical thinking has been accepted an important element for all professional fields and academic disciplines. To date, the term has variously been defined by several researchers in different research area. For some authors, it is a reasonable reflective thinking process focused on deciding what to believe or what to do. Hence, it gains more important when people make decisions in their life. Although there appear no study conducted on examining the relationship between critical thinking and decisional procrastination, we hypothesized the strong association particularly on young adults. Thus, the purpose of the present research was to assess critical thinking tendencies and decisional procrastination in a group of Turkish graduate students. The sample of the study included 162 graduate students (108 female, 54 male) enrolled in Masters, PhD and integrated PhD programs at various departments of Middle East technical University. The average age of the participants was 26.8 (SD = 2.4) with an age range between 23 and 34 years old. Decisional Procrastination Scale (DP) and California Critical Thinking Disposition Inventory (CCTDI) were used to collect data. While the DP is a unidimensional, the Turkish version of CCTDI composed of six subscales including analyticity, open-mindedness, inquisitiveness, self-confidence, truth-seeking, and systematicity. The data was analyzed by performing series of Multivariate Analysis of Variance (MANOVA). Although the multivariate results yielded no significant demographic difference on critical thinking tendencies; univariate results revealed a significant sex difference on open mindedness, with females reporting to be more open minded than do males. The findings also showed that those participants who had higher open minded scores procrastinated more on their decisions. Results were discussed in line with the studies conducted in Turkey and in other countries.

### **Association of Length of Stay and Readmission Rate among Schizophrenic Patients in Nakhon Phanom Psychiatric Hospital, Thailand**

Kitkawe Pono, Sathirakorn Pongpanich & Pitakpol Boonyamalik  
Chulalongkorn University, Nakhon Phanom Psychiatric Hospital,  
pong\_kit@hotmail.com

The objectives are to study the relationship between length of stay and readmission among schizophrenic patients in Nakhon Phanom Psychiatric Hospital, and to study factors associated with readmission. This study is a case control study, by a case group of 91 cases from schizophrenic patients who return to admission in hospital within 90 days, and a control group of 100 cases from in-patients with schizophrenia who were not re-admitted in 90 days, reviewed from medical records from Jan 1 to Dec 31, 2009. The study was analyzed by descriptive statistics, and used logistic regression analysis for analyzing factors associated with readmission. In the total of samples which was 191, it was found that male more than female (89.01%, 10.99%), the most common age range was 30-39 years (41.36%), single status was accounted for 77.48%, 53.40% was primary school education with non-occupation of 48.32%, most of birthplaces is Nakhon Phanom Province (48.16%), and most diagnosed with schizophrenia paranoid type of 92.14%. The average length of stay of readmission group was 16.27 days which was less than those of the non-readmission group (21.10 days) with different statistical significance ( $p < .001$ ), and factors associated with readmission included gender, age, occupation, length of stay, and the number of readmissions. ( $p < .05$ ) Length of stay in hospitals affected readmission of patients with schizophrenia. Preparedness in hospitals and in communities before discharges is very important to increase community stay and to reduce the chance of re-admission of schizophrenic patients.

#### *POSTER SESSION*

#### **HEALTH PROFESSIONS AND HEALTH CARE INSTITUTIONS**

#### **1**

#### **Designing Geriatric Nurse Education – the EU-Project GEROM**

Eva Brunner & Olivia Kada  
Carinthian University of Applied Sciences, Feldkirchen, Austria  
e.brunner@fh-kaernten.at

The demographical changes (Plonczynski et al., 2007) and the increasing cultural diversity within the healthcare

market (Lindert et al., 2008) necessitates special attention to nurse education in the gerontological field. The ongoing Bologna process facilitates the realization of this endeavour (Davies, 2008): Professional education leading to graduate degrees and harmonization of the nursing curricula within the EU are of paramount importance and enhance the workforce mobility to overcome regional staff shortages (Law & Muir, 2006). Therefore, the EU-project GEROM is dedicated to the development and implementation of a gerontological online master degree programme. Since October 2007, six European countries (Austria, Bulgaria, Finland, Ireland, Slovenia, and the United Kingdom) are working on this project. Based on a state of the art review, which reflects on trends in computer-aided gerontological education, the project partners prepared module descriptions. The study programme's architecture was reviewed by external experts. Formative evaluation, using external evaluation and self-evaluation, supports a successful project management and ensures high quality of the course materials. To provide access to the study programme for people from all over Europe and to promote self-directed learning (Johnson et al., 2008) the curriculum is designed for the use of blended learning. The developed materials will be presented and lessons learned from the ongoing project will be discussed.

## 2

### **Evaluating the Appropriateness of Emergency Transports from Nursing Homes to a Carinthian Hospital**

Alexander Wressnegger, Florian Hotzy, Florian Janig & Olivia Kada

Medical University of Vienna, Austria  
a.wressnegger@gmx.at

Hospital transfers of nursing home residents are often preventable (Grabowski et al., 2008; Intrator et al., 2004). Also transfers to emergency departments turned out to be inappropriate to a remarkable extent (Ackermann et al., 1998; Finn et al., 2006). Nevertheless, this topic has only scarcely been investigated in Europe (Ramroth et al., 2006), especially in Austria. Therefore, the present study evaluated the appropriateness of emergency department presentations in Carinthia, Austria. Patient records of all nursing home residents who were presented to the emergency department of the provincial hospital Klagenfurt were analyzed ( $n = 423$ ). Each hospital transfer was classified as appropriate or inappropriate using the criteria developed by Finn et al. (2006) and adapted to the Austrian healthcare system. 328 (77.54%) of these transports were appropriate, whereas 95 (22.46%) could have been avoided. However, counting only ambulant patients ( $n=227$ ), 138 transfers (60.79%) were

appropriate, leaving 89 (29.21%) inappropriate transports. Patients who were admitted to the hospital for more than 24 hours were automatically considered appropriate, however 16 (11.42%) of these were released within one or two days, leading to the question, if these admissions were justified. Furthermore, x-raying in the hospital was considered appropriate in the study. In most of the cases no further interventions followed, though, again raising the question whether the x-ray was a necessary procedure in every case. All in all, the results show that also in Austria many emergency department transfers of nursing home residents are inappropriate and could be prevented through a better training of staff and better resources in the nursing homes (z.B. Finn et al., 2006; Grabowski et al., 2008; Specht-Leible et al., 2003). This would reduce stress for patients caused by transport (Laughlin et al., 2007) and can help lowering the costs for the health care system (Grabowski et al., 2007).

## 3

### **Physicians' Decision-making Process and its Determinants Regarding Hospitalisation of Nursing Home Residents: A Qualitative Approach**

Ines Leutgeb, Olivia Kada, Rudolf Likar, Georg Pinter & Herbert Janig

University of Klagenfurt, Austria  
ileutgeb@edu.uni-klu.ac.at

Hospitalisation is a stressful experience for nursing home residents (Hertz et al., 2007) and could often be avoided (Saliba et al., 2000). In case of an emergency general practitioners are to decide, whether the patients should be hospitalised or not. Research findings suggest, that the decision to hospitalise nursing home residents is based on a complex interaction between clinical and non-clinical factors (Buchanan et al., 2006). The present study explored the hospitalisation decision process of Carinthian physicians: 25 randomly selected general practitioners in the urban and rural region of Klagenfurt were questioned using qualitative interviews in order to gather data, which were evaluated applying Mayrings method of Qualitative Content Analysis (2007). The results indicate, that clinical determinants (e.g. meaningfulness of the hospitalisation) as well as non-clinical determinants (e.g. pressure from the family) have an effect on the medical decision-making process. The development of clinical practical guidelines (Ramroth et al., 2006) as well as intensive physicians' preparation for emergencies (Bowman et al., 2001) may lead to a cutback of unnecessary transfers and help to reduce the residents' emotional stress. Moreover, the implementation of nursing home physicians (Fasching, 2007) together with additional consultations of specialists (Specht-Leible et al., 2003) would help to improve the continuity and quality in the medical treatment of nursing home residents.



4

**Hell is Other People: A Comparative Study of Mobbing among Teachers and Healthcare Professionals**

Marlene Foller, Barbara Hanfstingl &  
Heribert H. Freudenthaler  
University of Klagenfurt, Austria  
marlenchen@gmx.at

Mobbing is used to describe systematical, psychological, work-related harassment that may eventually lead to expulsion from the labour market. Generally, a distinction is made between lateral and hierarchical workplace violence and types of bullies are identified. The study aims to investigate the mobbing actions reported by the victims working as school teachers or as healthcare professionals. The work areas, which were looked into, are reported to have a high prevalence of mobbing and the study is looking into differences and similarities, which may be the cause for the high prevalence. Furthermore, in the study we try to identify the role of emotional intelligence, self-regulation, gender, age and other socio-demographic characteristics in becoming a victim. Altogether more than 200 secondary school teachers and healthcare professionals were asked to answer four standardized questionnaires. The questionnaires used in this study are the LIPT (Lit), SSI (Lit), FEK (Lit) and WHS (Lit).

5

**School as a Healthy Environment**

Alma Tasevska  
Ciril and Method University Skopje, Macedonia  
almagulevska@yahoo.com

Schools are powerful places to shape the health, education and well-being of children. Healthy School environment provides young people with the knowledge and skills they need to become successful learners and healthy and productive adults. Healthy students are better able to concentrate on their work, attend school on a regular basis and perform better in class. Creating and sustaining a healthy school environment requires commitment from everyone. As with any systemic reorganization, change takes time—sometimes years. Over time, schools will identify problems, then analyze them and make necessary changes. Even as schools find successful solutions to one set of problems, new challenges arise. Thus, a school's attention to the healthfulness of its environment will involve and adapt to changing circumstances, while never losing sight of educating its students. A healthy school's physical environment includes the school building and the surrounding grounds, such as noise, temperature, and lighting as well as physi-

cal, biological, or chemical agents. Other factors that can affect a healthy school's environment include: the economy; social, cultural, and religious influences; geography; socio-economic status of students' families; tax bases and legal, political, and social institutions. In this period in R. Macedonia several projects and programs exist which provide a healthy environment. The most representative are: Child friendly school and Life skills.

6

**Sex Role Orientation, Stressors and Resources in Male and Female Nurses**

Olivia Kada  
Carinthia University of Applied Sciences, Feldkirchen, Austria  
o.kada@fh-kaernten.at

Given the demographic changes, it is important to counteract the nursing shortage by recruiting female and male nurses. Societal gender stereotypes and the low status of nursing are common barriers for men to enter nursing. The gender self-concept of nurses is related to the social valuation of this profession as well as to nurses' vocational stress. Therefore, the present study investigated sex role orientation (BSRI) and work stress (KZFA) in matched pairs of 30 female and 30 male nurses. Female and male study subjects did not differ regarding femininity and masculinity. Male nurses reported significantly more stressors. Masculinity was positively correlated to work content, resources and organizational climate in the male respondents and was negatively associated with resources and organizational climate in the female study subjects. It seems that masculinity is accepted and rewarded in male nurses whereas female nurses showing masculine traits and deviating from the traditional subservient role experience negative reactions. In order to counteract the nursing shortage, it is crucial to reduce the societal gender stereotypes, work towards the acceptance of gender-role transgressors and enhance the image of nursing.

7

**Work Related Stressors and Stress Symptoms in Emergency Medical Technicians and Paramedics: The Moderating Effects of Sense of Coherence and Self-determination**

Astrid Grant Hay  
Medical University of Vienna, Austria  
astrid.granthay@meduniwien.ac.at

The work of emergency medical technicians (EMT) and paramedics sometimes involves events that traumatise not only casualties, but also the professional helpers themselves. Secondary traumatization as well as resources

in dealing with potentially traumatising events, such as the sense of coherence (sensu Antonovsky), have increasingly become foci of research. Additionally to extreme acute stressors, however, EMT and paramedics also encounter chronic work related stressors similar to those employees in other fields might experience. This aspect, as well as potential resources in coping with chronic stressors, such as the feeling of self-determination (sensu Deci & Ryan), have often been neglected in studies on members of relief units. The aim of this study, therefore, was to investigate, whether sense of coherence and self-determination function as resources in coping with acute and chronic stressors, respectively. Multiple moderated regression analyses of data from 255 Austrian EMT and paramedics showed, that subscales of the sense of coherence moderate the correlation between strain due to acute stressors and stress symptoms. Scales of self-determination moderate the correlation between strain due to chronic stressors and stress symptoms. The results thus highlight the major role of both the resource of sense of coherence on a personal level and structures that allow the resource of self-determination on an organisational level in the work of EMT and paramedics.

8

**Review of Ten-year Activities in Humanization of Paediatrics Hospital Care in Clinical Hospital of Osijek, Croatia: The Role of Psychologists, Current Possibilities and Future Perspectives**

Dunja Baraban, Vlatka Zelić & Maja Buljubašić

Clinical Hospital Osijek, Croatia  
baraban.dunja@kbo.hr

The programme of humanization of paediatric hospital care with the purpose of reducing distressing experience in children being hospitalized formally started in Croatia in 1999. Although the programme's organization did not involve psychological association, the realization of the programme indirectly enabled affirmation of psychology in health institutions. In the beginning, the biggest efforts were put into the realization of the idea of an "open hospital": involving parents in their children's care and introducing changes of negative attitudes of medical staff and parents' daily presence in hospital. Hospital staff has been educated on themes covering both developmental and health psychology, as well as communication skills. We have printed brochures for parents, suggesting children's better adjustment to hospital, participated in establishing a special playroom and organizing educational fun activities for children with voluntary preschool teacher students. Current activities are more formal and health psychology specific: a support group with mothers of premature infants, individual help for parents and children with chronic illnesses, oncology patients, university education for nurses and doctors related

to psychological aspects of paediatric healthcare, participation in the medical students' project "Teddy Bear Hospital". Future activities we consider in surgery and intensive care units: sharing family emotional burden and preparing children for surgeries and painful procedures.

9

**Aging Adults with Learning Disabilities, in Special Consideration of Health and Well-being**

Barbara Hardt-Stremayr

Carinthian University of Applied Sciences Feldkirchen, Austria  
b.hardt-stremayr@fh-kaernten.at

Background: Due to historical and living circumstances, Austria has hardly any older people with learning disabilities. Slowly, this gap will be closed by post war generations. People with learning disabilities are today reaching a higher life expectancy. Austria's care structures are still inadequately equipped to meet the needs of aging adults with learning disabilities. The question how to meet these needs effectively, and what kind of needs are to be identified, has to be addressed. Study Design & Method: This empirical study investigates the situation and future needs in one of Austria's provinces, focusing on dwelling, occupation and health. In a mixed methods design, five sampling groups were identified (people with learning disabilities, caregiver, financier, professional and advocacy groups) and surveyed by a purposive sampling strategy. Nine semi-structured interviews with mainly open ended questions were held with the mentioned experts. 37 semi-structured interviews were held with people with learning disabilities in care organisations for elderly and disabled. This inclusive research project not only focuses on people with learning disabilities as research objects, but includes them in a participatory approach. Results: The project is still in process, the qualitative content analysis is currently being carried out. Results in health and well-being issues will be presented in this poster.

10

**How to Teach Dynamics and Solutions of Political Conflicts in Health Care Systems**

Florian Buchner & Ulrich Frick

Carinthia University of Applied Sciences Feldkirchen, Austria  
f.buchner@fh-kaernten.at

Background. Modern healthcare systems attract continuous conflicts of interest between numerous stakeholders. Rules of financing and resource allocation exert powerful incentives on the actors' behaviors and impact on access to

care and economic efficiency of service provision. Objective. A scenario of a fictitious state (Noricum) was developed for students of healthcare management. The course is rolled out in three steps: First, students get a description of the political, economical and medical situation in Noricum after a revolutionary overthrow: A new system of financing and organizing healthcare delivery has to be established, where students' groups take the roles of central stakeholders. Players confidentially formulate goals and implementation strategies and get feedback on their concepts. Second, governmental legislative initiatives and negotiations as well as contracting between the stakeholders are carried out. Students must not step out of their roles and may use only two communication channels: face-to-face negotiations and e-mail. A group of "observers" documents all interactions and results. Third and finally, a plenary workshop is held. It starts with observers' reports on the process and results reached. Teachers present their assessment of the healthcare system and evaluate negotiation strategies and behavioral aspects of the role play. Conclusion. Students display a high intellectual and emotional engagement. They sometimes develop astonishingly innovative concepts, pointing at a good understanding of the complex interdependencies. Though the course is rated as a strenuous event, students appreciate their personal profit.

## EMOTIONAL DISORDERS

### 11

#### **Relatedness of Behavioural Inhibition and Activation System Sensitivity to the Clinical Course Measures in Bipolar Disorder**

Tatjana Novak & Lilijana Šprah  
Sociomedical Institute Ljubljana, Slovenia  
novak.tatjana@gmail.com

Several studies have confirmed the association between behavioural activation system (BAS) hypersensitivity and occurrence of manic and depressive episodes in bipolar disorder. A link between high sensitivity of the behavioural inhibition system (BIS) and bipolar depression has also been reported. In our study we aimed to examine these relationships among remitted bipolar outpatients. 74 bipolar outpatients and 79 healthy volunteers were self assessed with the BIS/BAS scales. Some clinical characteristics regarding the number and severity of depressive and manic episodes were obtained for bipolar outpatients in order to explore the associations between BIS/BAS levels and clinical features of disorder during remission. Bipolar outpatients exhibited higher BAS but not BIS sensitivity compared to healthy volunteers. Higher BAS sensitivity was associated inversely

with severity of episodes (hospitalizations, presence of psychosis), whereas BIS levels were linked to the length and number of illness episodes. Both BAS and BIS levels were related to depressive states. To sum up, the BAS hypersensitivity could represent a trait vulnerability to frequency and severity of episodes of both poles, as elevated BAS levels persist in euthymic state of the bipolar disorder. BIS sensitivity may be more state dependent, given the comparable BIS levels of bipolar outpatients with those of healthy controls. The role of BIS/BAS sensitivity in predicting the course of bipolar disorder is yet to be clarified.

### 12

#### **Depression, Anxiety and Type D Personality in Cardiac Surgery Patients and the Risk of Arrhythmia**

Phillip J. Tully, Susanne S. Pedersen, Helen R. Winefield,  
Robert A. Baker, Deborah A. Turnbull & Johan Denollet  
University of Adelaide, Australia  
phillip.tully@adelaide.edu.au

Objective: To examine affective disorders among coronary artery bypass graft (CABG) surgery patients and examine the association with arrhythmia. Methods: Patients awaiting elective CABG surgery (N = 158; 20.9% female; age M = 64.7, SD = 10.6) underwent the structured MINI International Neuropsychiatric Interview and completed measures characteristic of depression and anxiety and Type D personality. Results: There were 33 (20.9% of total) instances of arrhythmia that was associated with general NA (p = .04) and with generalized anxiety disorder (p = .02). Conclusion: Cardiac arrhythmia was associated with NA symptoms and generalized anxiety suggesting that self-report measures of NA might be useful to adjust for in CHD samples.

### 13

#### **Transition to University: The Mediation Role of Social Support in the Relationship between Stress and Depression**

Lozena Ivanov, Izabela Sorić & Zvezdan Penezić  
University of Zadar, Croatia  
livanov@unizd.hr

The aim of this investigation was to explore the relationship among different types of social support from family and friends and students' depression during the first year of study. Gender differences were considered, also. In a sample of 124 male students and 194 female students two measurements have taken place. The first measurement point was at the beginning of their first academic year, while the other one took place at the end of that academic year. Results have

shown, that there is a significant negative correlation among all types of social support and depression at both measurement points for both genders. Our results have confirmed the findings of some other researches which have found significant gender differences in social support and depression. Using a longitudinal research design, we have found that depression which male students experience at the beginning of study predicts a level of social support at the end of the first year. Using the same regression model, we have found that social support which female students experience at the beginning of the study predicts a level of depression at the end of the first year. Also, we found that some types of social support mediate the relationship between stress and depression among female students. These results indicate that social support has a significantly different role in the adjustment to study for female and male students.

14

**The Psychoeducational Impact on Cognitive Inhibition among Euthymic Bipolar Patients**

Tatjana Novak & Lilijana Šprah,  
Sociomedical Institute Ljubljana, Slovenia  
novak.tatjana@gmail.com

Across all mood phases of bipolar disorder emotional dysregulation, attentional and cognitive control deficits are being consistently observed. Despite the efficacy of psychoeducational (PE) approaches in stabilising and preventing mood episodes in bipolar disorder, there are no published studies assessing directly the impact of psychosocial interventions on cognition of bipolar patients. Our aim was two-fold: to assess the impact of PE intervention on cognitive inhibition measures and to examine emotionally modulated attentional bias and cognitive control processes in remitted bipolar patients. Fifty-six euthymic bipolar patients and 31 healthy subjects were assigned either to the intervention or to the control group depending on the PE enrolment. The Emotional Stroop and the Emotional Go/NoGo tasks were administered to the intervention group before and after attendance at a group PE, and to the control group in an according time interval. Results revealed insignificant PE effects on the emotionally modulated cognitive inhibition measures. Compared to healthy subjects, bipolar patients' performance on both tasks was affected to a greater degree by emotional stimuli, suggesting more pronounced emotional-cognitive interference persistent also in interepisodic bipolar disorder. While relationship between PE and clinical outcome measures has been convincingly demonstrated, beneficial impact of PE on cognitive deficits in bipolar disorder remains to be determined.

15

**The Prescription of Antidepressants in Carinthia**

Gabriele Hagendorfer-Jauk, Melanie Deutmeyer  
& Herbert Janig

Carinthian University of Applied Sciences, Feldkirchen, Austria  
g.hagendorfer@fh-kaernten.at

Advances in medical science concerning treatment possibilities of depressive disorders have not led to a decline of depression prevalence rates so far. This indicates problems with the adequacy of treatment, especially the disease management of depression, which is most commonly provided in the primary care setting. At the moment, the pharmacological treatment by using antidepressant medication is reckoned as a most relevant therapeutic approach. In this context, there is a need to lay increasing emphasis on the measurement of quality of care delivered. By now there are no data available concerning the development of antidepressant prescribing in Carinthia. Within the scope of this study, a secondary data analysis was conducted using outpatient antidepressant prescription data of the Carinthian Regional Medical Insurance Company. As results, prescription rates as well as data concerning the socio-economic distribution of antidepressant treatment for an observation period of five years are provided. Furthermore, treatment adherence and prescription practices according to evidence based guidelines are explored. In addition to characteristics of patients treated with antidepressant medication, this study also focuses on the influence of primary care provider characteristics on antidepressant prescription rates.

16

**Could the Relationship between Trait Impulsivity and Affective Temperaments Represent a Distinctive Predictor of Increased Vulnerability to Bipolar Disorder?**

Barbara Dolenc & Lilijana Šprah  
Sociomedical Institute Ljubljana, Slovenia  
dolenc.barbara@gmail.com

Affective temperaments have been linked with major mood disorders. Less attention has been paid to the association of affective temperaments with the trait impulsivity, which is commonly associated with the clinical picture of bipolar disorder. The aim of our study was to examine the features and relationship between affective temperaments and impulsivity among remitted bipolar outpatients and healthy volunteers. 1096 students, 45 euthymic bipolar outpatients and 45 comparable healthy controls were self

assessed with Temperament Evaluation of Memphis, Pisa, Paris and San Diego – Autoquestionnaire (TEMPS-A) and Barratt Impulsivity Scale (BIS-11). In the group of bipolar outpatients, higher mean scores on depressive, cyclothymic, irritable and anxious temperament, as well as on attentional, nonplanning and general impulsivity have been found in comparison to healthy controls and students. Our data also revealed a positive correlation between impulsivity and certain aspects of affective temperaments. The results are in agreement with numerous studies where authors emphasized, that more pronounced depressive, cyclothymic, irritable and anxious temperaments as well as impulsivity could indicate a vulnerability to pathological mood regulation also during the remission phase of bipolar disorder. Besides, associations between affective temperaments and impulsivity could imply, that those traits may be relevant in an early diagnostic picture for affective disorders.

17

**Psychoenergetic Drawing: A proposal for the Elaboration of Traumatic Events**

Marialfonsa Fontana Sarotorio

Milano, Italy

fontana.sartorio@qualitaeformazione.com

The elaboration of the traumatic event requires a regressive movement and contemporarily a progressive movement, to avoid that the patient may fix in the traumatic experience. It is important the participating and constant presence of the therapist during the elaboration of the traumatic affections. The technique of drawing, managed according to the principles of the Psychoenergetic of Peter Schellenbaum, has revealed useful for this purpose. The patient is invited to concentrate on the predominant emotion and to let flow on the paper sheet the colours that he feels at the time, in an almost sub-vigilant state. Subsequently the patient is invited to express the feelings the drawing arouses in him, with the observation of its spatial components (up and down; left and right). The therapist accompanies the flow of the emotions and the memories. It is possible to connect to the body the affections that emerge from the elaboration of colours and drawing. The following sessions serve for the analytical elaboration of the emerged material. This technique is also useful with very fragile patients, because of the constant presence and support of the therapist. This therapeutic method doesn't force the patient to precocious insights and has resulted very useful for the elaboration of traumas, where strong emotions are present.

EMOTIONAL CONDITIONS AND COPING

21

**Contribution of Parental Attachment and Involvement in Subjective Health Complaints, Anxiety and Depressive Symptoms in College Students**

Sanja Smojver-Ažić, Tamara Martinac Dorčić & Ines Jakovčić

University of Rijeka, Croatia

smojver@ffri.hr

The contribution of parents in explaining psychological problems of adolescents is usually considered through only one aspect of relations with parents. Separate studies confirmed that internalizing problems in adolescence are related either to insecure attachment or to parental control. The goal of this study was to explore the predictive influence of college adjustment and both parental attachment and parental involvement on health complaints, depression and anxiety. A longitudinal sample of 260 college students was used. At the beginning of the first year of study (T1) students completed Experiences in Close Relationship Inventory adapted for parental attachment and Student Adaptation to College Questionnaire. In the second year (T2) Parent Involvement in Academic Functioning Scale was administrated. Beck Anxiety Inventory, Beck Depression Inventory (II) and Subjective Health Complaints were used in both times of measurement. Health complaints and anxiety symptoms were higher in the second year of study. Students with fearful attachment style had more internalized symptoms in both times of measurement. After controlling the symptoms at T1, parental attachment, college adjustment and parental involvement in academic functioning had different contributions to anxiety, somatic and depression symptoms. Results suggest sustaining parents' contribution to college student internalized problems.

22

**BOIT - Burnout Intervention Training for Managers and Team Leaders**

Maren Satke & Elisabeth Frankus

The Consultants, Vienna, Austria

m.satke@dieberater.com

The European Working Conditions Survey highlighted, that occupational illnesses associated with psychological stress are on the rise throughout the EU member states. BOIT – Burnout Intervention Training for Managers and Team leaders, a project funded by the European Commission for

Lifelong Learning with a project consortium consisting of seven partners from Austria, Germany, Denmark, UK, Italy and Romania, addresses a specific mental health syndrome characterized by emotional, mental and physical exhaustion: the burnout syndrome. The aim of the BOIT project is to prevent working situations that promote burnout, and to enable managers, team leaders and other members of the middle level management to recognize the burnout signals among their staff at an early stage. Furthermore this target group learns to define strategies for intercepting the burnout process in the course of a blended learning training. Social insurances and labour market services will be approached as potential multipliers in this project.

## 23

### **Monolingualism, Bilingualism and the Representation of Emotional Concepts**

Beáta Grabovac

Budapest University of Technology and Economics, Hungary  
beagrabovac@gmail.com

Some studies of autobiographical memory indicate that bilingual speakers experience reduced emotion when speaking in their second language, in opposition to the first. There is an often-held belief: the first language is the language of affect in a bilingual person. The majority of bilingual research has also found differences in the processing of emotional information in the first and second language. The aim of this research was to find out if there are statistically significant differences in the affective meanings of emotional concepts in Vojvodinian mono- and bilinguals. In our study, we wanted to examine if there are differences in the connotative or affective meaning of 12 emotionally laden words in the two languages. Another aim was to see if the emotion words exert the same influence and interference effect in both languages using the Emotional Stroop task. The emotional Stroop task provides an experimental measure of selective attention to emotional information. Using this task; we can see how automatic the access to the words in the task is. This way, the emotional Stroop captures the emotional relevance of the word for the individual. In the examination we tested Vojvodinian Hungarian-Serbian bilinguals and Serbian monolinguals. As a method we used semantic differential with adjective scales and emotional words in Hungarian and Serbian. The other method we used was the Emotional Stroop task, consisting of neutral and negative emotion words. Our preliminary results from the semantic differential with four words show, that the bilingual group rated emotionally positive words more positively and emotionally negative words more negatively than monolinguals, so that the bilingual answers are more extreme than

the monolingual ones and this indicates that there are differences in the experience of the emotion words.

## 24

### **The Perceived Age in Elderly: Appearance, Feelings and Desires**

Blanka Colnerič, Maja Zupančič & Martina Horvat

University of Ljubljana, Slovenia  
blanka.colneric@ff.uni-lj.si

Findings of the study on self-perceived age in relatively healthy elderly adults (N = 194), aged from 65 to 89 years (M = 72.7 years) will be presented. Along with a 58-item questionnaire on attitudes about aging and old age, the participants reported on their perceived age of appearance, age felt and age desired. On average, the differences with the chronological age were the greatest for the desired age (20 years) and the lowest for the age of appearance (7 years) with increasing discrepancies into the old age. The chronological age was significantly related to the three aspects of the perceived age. The associations of the former were the lowest with the desired age, whereas the strongest links were obtained between the age of appearance and age felt. Controlling for chronological age, no significant differences with regard to the perceived ages were obtained across gender, marital status and place of residence (urban, rural). However, lower educated elderly reported on lower desired age than their higher educated peers and the individuals having more negative attitudes towards aging and old age perceived themselves older in appearance as compared to their counterparts holding less negative views on age.

## 25

### **The Processes of Change and Coping Strategies – a Clue for Exploring Conceptual Similarities**

Dragan Žuljević & Vesna Gavrilov-Jerković

University of Novi Sad, Serbia  
drzuljevic@yahoo.com

The processes of change are key dimensions of the Transtheoretical model of change and represent hidden or obvious activities and experiences which people use trying to change their behaviour (Prochaska et al. 1992). Metaanalyses performed by TTM authors showed, that over 400 different psychotherapeutical interventions could be summarized to 10 basic processes of change. The aim of this research was to explore whether it is possible to discover these processes in a basis of psychiatric population activities while trying to move towards the behavioral change. The processes usage

was assessed by Processes of Change Questionnaire PCQ-2001 completed by 221 patients diagnosed as neurosis, psychosis and personality disorder. Principle component analysis (SPSS.12.0.1) extracted 10 components rotated with the Oblimin method, explaining 65.97% of total variance. Most of the items do not follow a theoretical model, except social liberation and medication treatment. The same analysis performed on component regression scores revealed 3 higher order components explaining 50.9% of variance - Activity and reorganising, passive and compliance, and social support processes, instead of theoretically expected experiential and behavioral processes. The similarity of these findings with problem solving, avoidance and seeking social support as fundamental coping strategies (Amirkhan,1990) emerges the question of conceptual overlapping of change processes and coping strategies. Implications and future research will be discussed.

26

**The Effect of Emotional Intelligence on Satisfaction of Life and Determining the Effectiveness of Teaching Communication Skills on them**

Javad Khalatbari, Shohre Ghorbanshiroodi & Sona Bahari  
Islamic Azad University of Tonekabon, Iran  
saba\_javadpsy2@yahoo.com

The present study investigates the relationship between emotional intelligence and satisfaction of life, and the effectiveness of learning communication skills on them. The main purpose of this research is to find out to what extent emotional intelligence and satisfaction of life might affect each other. The statistical population of the study includes all college students, studying at the Islamic Azad University of Sarab. Out of this population, 320 students (190 male and 130 female) were randomly selected as the sample population. A pretest was administered and its results were analyzed by the use of Bar-On, emotional and Dainer satisfaction of life questionnaires. On the basis of the results, 40 students were selected and divided into an experimental and a control group each of which included 20 students. The students in the experimental group received a communication skill package in eight sessions once a week. The students' performance was measured by a post test at the end of the sessions. The results of the study revealed that:  
- There is a positive relationship between emotional intelligence and satisfaction of life. -There are differences between emotional intelligence in the male and female. -There are differences between the satisfaction of life in the male and female. - Learning communication skills can improve emotional intelligence. - Learning communication skills can improve satisfaction of life.

27

**Influence of Self-efficacy on Anticipation of Development and Behavior**

Anita Dunkl & Paul Jiménez  
University of Graz, Austria  
03dunkla@edu.uni-graz.at

The construct of job satisfaction (JS) and its influencing factors have been analyzed to a large extent (e.g. Bruggemann, 1974; Büssing & Bissels, 1998). At the same time, possible impacts of JS, like effects on job performance, are highly controversial. Considering recent research (e.g. Schmidt, 2006), only marginal correlations between JS and job performance are shown. A possible reason could be that certain influencing factors have not been considered, like the new construct "anticipation of development" (AD). This construct measures perceived future development of job satisfaction or rather a future opinion of different working aspects. AD is highly correlated with JS, but a remarkably stronger predictor for job behavior than JS (Ilic, 2008). In the present study, we want to focus on the relation of JS, AD and job behavior. Possible influencing factors on the correlation of AD and job behavior like self-efficacy are investigated. In this study, self-efficacy is not only considered as a construct of personality but it's rather seen in the context of working situations. Furthermore, possible changes in the relation of AD and job behavior over time are examined. In a comprehensive online-study about 200 persons were analyzed at two different times (June and August) with questionnaires concerning JS, AD, self-efficacy and job behavior. Data will be analyzed with Structural Equation Modeling (SEM), most important results will be discussed.

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**Job Satisfaction, Anticipation of Development and Behavior**

Katharina Schaller & Paul Jiménez  
University of Graz, Austria  
schallka@edu.uni-graz.at

Looking at a long history of research of job performance and job satisfaction only vague causalities can be found. Even recent work like the study of Schmidt (2006) could only find poor negative or positive correlations between job satisfaction and job performance. A new construct of job satisfaction, also including a time-factor called anticipation of development (AD) can probably help to further clarify the actual relationship. Ilic (2008) showed that anticipation

of development has an impact on desired behaviour of employees. In this case AD can enlighten the relation between job satisfaction and job performance that is sought after for so many years. The aim of this study is to take a closer look at different behaviour patterns like Organizational Citizenship Behaviour (OCB; so called extra-role performance) and required job behaviour (in-role performance) and to analyse the relation between these behaviours, job satisfaction, and AD, respectively. In this longitudinal study, about 200 persons are going to be questioned at two different measuring times (June and August) about their job satisfaction, AD and different behaviour patterns. Results will be discussed on the basis of a Structural Equation Modelling (SEM).

29

**A Model of Job Satisfaction (JS), Anticipation of Development (AD) and Organizational Justice**

Kerstin Pichler & Paul Jiménez

University of Graz, Austria  
kerstin.pichler1@gmx.at

In the meta-analytic review of organizational justice research, different positive correlations between the four different forms of organizational justice (procedural, distributive, informational and interpersonal) and job satisfaction could be found (Colquitt et al., 2001). The new construct anticipation of development (AD), which measures a future perspective of job satisfaction, can be very important for future research. Jimenez, Ilic and Hinterreiter (2009) have shown that anticipation of development has a full mediator effect for job satisfaction to job behavior. The present study wants to identify the importance of the new construct anticipation of development in connection with job satisfaction and organizational justice. The aim is to analyze, how strong and in which way the different kinds of justice have an impact on anticipation of development and the possible mediating role of job satisfaction. In this longitudinal study, about 200 participations will be recruited via different local newspapers. They are going to be questioned with an online-questionnaire at two different times about their job satisfaction, anticipation of development and perceived justice. The first measurement is in May and the second one is about four weeks later. The main results will be discussed on the basis of a Structural Equation Modeling (SEM).

PHYSICAL DISORDERS

31

**Pain, Functional Disability and Emotional Status in Patients with Osteoarthritis**

Lada Perković, Zrinka Pukljak Iričanin, Olivera Petrak & Borko Borovec

University of Applied Health Studies, Zagreb, Croatia  
lada.perkovic@zvu.hr

**OBJECTIVES:** To investigate some pain characteristics, functional disability, depression and anxiety in patients with osteoarthritis and relations between observed variables. **METHODS:** 50 osteoarthritis patients, 7 men and 43 women, average age 64 years, completed a short form of Melzack-McGill Pain Questionnaire, Health Assessment Questionnaire (HAQ), Beck's Depression Inventory (BDI) and Spielberger State Anxiety Inventory (STAIS). **RESULTS:** Participants' anxiety was mild, depression was low and they had good functional ability. Pain intensity was relatively high, with higher scores on sensory than on affective quality measures. Aching, stabbing and sharp were the most intense qualities of pain. Patients with higher education had lower global pain intensity and lower affective quality of pain. Patients with higher pain intensity were more depressed, anxious, and more functionally disabled. Correlation between depression and anxiety was significant. Functional ability was the best predictor of anxiety and depression. **CONCLUSIONS:** Loss of mobility and function can contribute to the development of anxiety and depression in osteoarthritis patients.

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**Chronic Pain and Emotional Disorders**

Mirjana Vladetić & Silva Soldo-Butković

University of Osijek, Croatia  
zoran1.vladetic@inet.hr

Pain is a complex experience determined with many different factors, especially the chronic type. Numerous studies documented a strong association between chronic pain and emotional disorders as well as their influence on the quality of life. In our study, we have analyzed the pain experience and the presence of emotional disorders, according to gender, in the case of patients with chronic low back pain. Also we have assessed the state of their functional health. We have investigated a group of 50 patients (23 women and 27 men) suffering from chronic low back pain. For the assessment of the pain experience, we used the short form of the McGill Pain Questionnaire (SF-MPQ). For detection of emotional disorders, we used the Crown



Crisp Experience Index . In order to assess the functional state of health, we used Coop/Wonca charts. Results showed a high intensity of pain experience and a high prevalence of emotional disorders, mostly depression and generalized anxiety. Although both, pain and emotional disorders were more intense in men, there were no statistically significant differences according to gender. The assessment of the functional state of health showed severe difficulties in daily living. Our study confirms the presence of emotional disorders in patients with high intensity of chronic pain experience, without gender differences, as well as their influence on the daily living.

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**Comparison of Effectiveness in Muscles Relaxation Training and Respiration Control on Reduction of Tension Headache in the Tooba Clinic in Sari**

Shohre Ghorbanshiroodi, Javad Khalatbari  
& Shahla Bahramnezhad

Islamic Azad University of Tonekabon, Iran  
Shohreghorbanshiroodi@yahoo.com

The purpose of this research was to investigate the comparison and effectiveness of progressive muscle relaxation training and respiration control on reduction of tension headache in the Tooba clinic in Sari. In the present research, 45 individuals were selected based on the diagnosis of a psychiatrist and international headache society (IHS) diagnostic criteria for tension headache, from female patients of the Tooba clinic in Sari. The subjects participated in 50-minute treatment for 9 sessions. Headache diary inventories were used in this study. Subjects were asked to complete the headache diary for one week before and after in pretest and post test conditions. Data were analyzed by use of covariance (Mancova) by spss16. Results have demonstrated, that both the relaxation training and respiration control significantly decreased headache intensity, frequency and duration in patients with tension headache, but the effectiveness of muscle relaxation is higher than respiration control in headache intensity and duration. Infrequency had shown no change in comparison of the trainings.

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**Fear of Progression (FOP) in Rheumatic Diseases: Follow-up of a Psychotherapy Program**

Ursula Engst-Hastreiter, Gabriele Duran, Gerhard Henrich,  
Sabine Waadt, Petra Berg & Peter Herschbach

Clinic Wendelstein, Bad Aiblingen, Germany  
engst-hastreiter@ro1.de

Background: Fear of (illness-) Progression (FOP), an essential psychosocial distress in patients with chronic diseases,

impairs quality of life. Objectives: The research project (BMBF) includes at first the construction of the FOP-Questionnaire (FOP-Q) and at second a psychological program to FOP. 258 rheumatic-patients were compared with 334 cancer-patients and 246 diabetes-mellitus-patients. Methods: 1. project-phase: FOP can be assessed by the FOP-Q (43 items, 5 scales) and was highly marked in the anxiety scales by the rheumatic-patients. 2. project-phase: a newly developed psychotherapy-program, based on behavioral-medicine methods, was applied to 174 rheumatic-patients (46,4 years old on average, SD 9,4; 55% female), externally randomized in experimental- and controlgroups. Results: Presented are the results of therapy-evaluation (scores of FOP-Q, HADS, SCL-90) to 4 measurement-points: before (t1), after therapy (t2), after 3 (t3) and 12 (t4) months; (return-quotes: t2=95,6%, t3=85,0%, t4=73,2%). Demonstrated are the significant (p=0,05) reduction-effects of FOP at the follow up-measurement-points (t2-t4). There was a significant efficacy-effect at the 1-year-follow up, superior by the direct FOP-exposure therapy-program. Conclusion: FOP is a realistic anxiety, a highly relevant problem for patients in the course and treatment of their rheumatic diseases. Dysfunctional FOP and its emotional distress can be treated and reduced with significant effects till 1-year after intervention.

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**The Media Use of Breast-Cancer-Patients Taking Account of Psychological Factors**

Muna Agha

University of Vienna, Austria  
muna.agma@univie.ac.at

The poster will outline the media use of breast-cancer-patients taking psychological factors, like locus of control and "just-world belief", into account. In particular, it will focus on the correlation between locus of control and the patient's media consumption (referring to his or her disease, treatment and cure opportunities). Hence, one hypothesis might be: Patients, attributing internally, may exhibit higher active information seeking than patients who attribute externally. Regarding the methodical design, a method combination is applied. The first step will be to realize a quantitative survey, using online and paper-pencil questionnaire. The questionnaire raises the demographics and also the media use of patients. Additionally, standardized psychological test procedures are used to measure the „attribution style“ and the „just-world belief“ of the respondents. Secondly, there will be interviews conducted according to the method of "rekonstruktive Sozialforschung". Presently, the survey is not expired.

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**Feeling of Control over the Illness and Possible Health Benefits in Cardiac Surgery Patients**

Ilija Dojcinovski, Frosina Ristovska, Ljubica Naumoska & Tatjana Ristova-Dimova

Special Hospital for Surgery Diseases, Skopje, Macedonia  
ikaled@yahoo.com

Background: Feeling of control over a certain health condition is an important factor in determining, whether that condition will be considered stressful or not and thus having an impact on the overall health. Purpose: This survey examined the relationship between the feeling of control and some other aspects of an illness perception. Materials and methods: The Brief Illness Perception Questionnaire was completed with 79 patients indicated for Coronary artery bypass grafting (CABG) one day prior to their operation. It was filled in by the researchers while conducting short interviews with the patients. The results were obtained using the Pearson correlation. Results: The feeling of control over the illness has a positive correlation with the level of understanding the illness ( $p < .05$ ) and a negative correlation with the severity of the symptoms ( $p < .01$ ), effect on life and emotions ( $p < .01$ ), duration of the illness ( $p < .01$ ) and the concern about the illness ( $p < .05$ ). No significant correlation was found with the belief that treatment can help the illness. Conclusion: Strengthening the feeling of control over the illness can have positive benefits. It can support the optimistic prospective view about the disease, reduce the perceived severity of the symptoms, influence the quality of life and open the opportunity for psychotherapeutic interventions. Experiencing the condition less stressful can be a benefit for a better health outcome.

SOCIAL RELATIONS AND GROUPS

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**In-group and Out-group Implicit Attitudes among Italians and Bengalis in North Italy**

Elena Franzot

University of Trieste, Italy  
elena\_2004@libero.it

The aim of this work was to study in-group and out-group implicit prejudices among Italians and Bengalis in Monfalcone, an industrial town in the North-East of Italy, in which there is a consistent Bengali community. Two

measurement tests were used to evaluate implicit components of the attitude: Greenwald's Implicit Association Test (IAT, 1998), and a test derived from Jacoby's Process Dissociation Procedure (PDP, 1991). With the IAT, which studies links between memory representations, we were able to demonstrate, that the responses of the Italians were faster and more accurate when the stereotype associated with Bengali pictures was negative. With the PDP, Italians identified much faster negative targets when the prime was a Bengali face instead of an Italian face, and vice versa. We demonstrated also, that ethnical primes influence automatic processes and not controlled processes. This effect is automatic because the existence of ethnical primes influenced the responses interfering with subjects' intentional skill. Therefore, the results demonstrate the existence of negative stereotypes in Italians against Bengalis: Bengalis are considered people with little hygiene, and dangerous people not to trust.

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**Social Representations of a Virtual World**

Árpád Mihalik, Katalin Nagygyörgy & Ádám Fodor

University of Szeged, Hungary  
arpi.mihalik@gmail.com

Our research is focused on the social representation of World of Warcraft players. Respondents answered demographical questions and the Online Game Addiction Diagnostic Questionnaire (OGADQ) and we asked their social representations attached to the game as well. We formed several groups of the 1679 participants by age (group1: 13-18, group2: 19-26, group3: 27-51) and the level of online game addiction. The data were analyzed for the purpose of identifying, how different groups of players refer to the game. With the examination of the social representations of the different groups of players, significant differences emerged between the different group's social representations attached to the game. We found positive correlation between the age and the social representations attached to ingame relationships. This means surprisingly that younger players do not find the ingame relationships as important as older gamers do. In contrast, the representations attached to their own character were more permanent for younger players, which could mean that younger players' identity is not that complex yet, as that of older players. Our final result showed that the representations dealing with different forms of excessive use such as addiction emerged at players who responded a higher level of game engagement on the OGADQ and players who spent more time in the game.

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**Social Representations of Different Employee Groups in the Hungarian Labour Market**

Karina Szászvári

University of Pecs, Hungary  
karina.szaszvari@gmail.com

Up to the present, the social representation of different employee groups has been out of the scope of researchers. According to our assumptions, revealing the content of various employee groups' constructs may help us to obtain a more complex understanding of labour market phenomena, fostering improvement in employment prospects. Therefore, the goal of our research was to analyze the semantic field and content of representations that people share about different kinds of employee groups, in order to discover the ways and contents of thinking underlying the frequently experienced discrimination, with the future prospect of developing more effective attitude-forming methods. Our empirical study has been completed on the Hungarian labour market (N=220). Besides the concept of employee, we have gathered written data - using the free associative network technique - about the groups of beginners, aging employees and employees with altered abilities, and analysed the received responses with SPAD-T software. The specific ways of thinking related to the examined concepts will be presented, together with the significant dissimilarities between the perceptions of these employee groups (due to age, educational background, working experience and position).

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**Prejudices in Serbia – Is there a Prejudiced Person?**

Vladimir Mihic

University of Novi Sad, Serbia  
mihic@ff.uns.ac.rs

The research presented in this paper deals with the correlates of the prejudices towards three out-groups. We examined most commonly researched prejudices – ethnocentrism (i. e. prejudice toward Roma), sexism (prejudices towards women, but also prejudice towards men) and ageism. The sample consisted of 539 subjects from Vojvodina, age 17 to 51, gender-balanced (270 men and 269 women). We also took into account subjects' education, place of birth, employment and socio-economic status. Instruments used were: Rosenberg self-esteem scale, social dominance

orientation scale, collective self-esteem scale, Autoritar-NoSt, Fraboni ageism scale, ambivalent sexism inventory – ASI, ambivalence towards men inventory - AMI, prejudice towards Roma scale and modern racism scale. Results show that three types of prejudice measured moderately correlate, but also that they have somewhat different correlates. Shared correlates were education, importance of the social identity for the person – social identity salience (age, gender or ethnicity), authoritarianism, self-esteem and social dominance orientation. For ageism, strong correlates were also ethnicity and age of the subjects, and for the sexism, place of birth and socio-economic status. Finally, path analysis confirms the importance of the self-esteem, authoritarianism, social dominance orientation and social identity salience, but also indirect importance of education for the strength of the prejudices researched.

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**Relations between Implicit and Explicit Aggressiveness Measure**

Bojana Dinić

University of Novi Sad, Serbia  
b.dinic@nadlanu.com

The aim of this study was to explore the prediction of implicit aggressiveness measure by explicit aggressiveness measure. The sample included 70 participants, mostly females. Implicit measure was constructed as an Implicit Association Test in which stimuli of the attribute dimension were aggressive and non-aggressive adjectives (e. g. violent vs. kind), and stimuli of the target dimension were standard stimuli for the category „me“ and „others“. Aggressive adjectives were chosen to indicate direct and indirect modality of aggressiveness. Explicit aggressiveness was measured via Agreeableness scale of both NEO-PI-R and Big Five Inventory (BFI), via Fight scale of Reinforcement Sensitivity Questionnaire (RSQ) and via Aggression scale of Multidimensional Personality Questionnaire (MPQ). Optimal scaling results showed that both IAT scores for indirect and direct aggressiveness were negatively related to scores of BFI's Agreeableness and MPQ's Aggression scales, and that direct aggressiveness scores were positively related to RSQ's Fight scale. The percentage of total explained variance was small, but it was bigger for indirect (about 30%) than for direct aggressiveness (about 18%). The results suggested that aggressiveness, especially indirect aggressiveness, could benefit from the use of implicit measures, considering that this measure avoids socially-desirable answers and maybe has better access to implicit intention such as those in indirect aggression.

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### Individual Correlates of Readiness for Organizational Changes

Mirosava Đurišić-Bojanović & Anetta Der Radivojević

University of Belgrade, Serbia  
mdjurisic@rcub.bg.ac.rs

Effective organizational changes are a condition of survival and development of modern organizations and employees. They cannot obtain the planned goals without full readiness of participants to adopt, implement and contribute to the process of change. Subject of interest of our research was to identify relevant personal variables that support or aggravate the acceptance of change. The aim was to specify whether certain personality traits are an obstacle to the acceptance of plurality of ideas (API). API is treated as a cognitive indicator of readiness for change. The investigation was conducted on a sample of 104 students of psychology of Faculty of Philosophy in Belgrade. Instruments are constructed for research on plurality of ideas and tolerance to uncertainty by the first author of this work. Results show that traits of weak ego: dogmatism ( $r = -.490$ ,  $df=96$ ,  $p < .001$ ), authoritarianism ( $r = -.590$ ,  $df=96$ ,  $p < .001$ ), intolerance to uncertainty ( $r = -.411$ ,  $df=96$ ,  $p < .001$ ) are in negative correlation with acceptance of plurality of ideas. Findings of this research have a theoretical and practical significance for process of change management. Particularly, in the process of diagnose of resistance to organizational changes. They also give the base for planning particular techniques overcoming resistance to change and counseling interventions.

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### Experiences and Self-perceived Effects of Group Meditation

Ines Leutgeb, Anneliese Fuchs & Herbert Janig

University of Klagenfurt, Austria  
ileutgeb@edu.uni-klu.ac.at

The meditation courses developed by Anneliese Fuchs combine theoretical psychological input and elements of group therapy with spiritual techniques, especially guided imagery (Fuchs, 2007). Breathing and sitting posture play an important role. The present evaluation analyses the subjective experiences of the meditators and the effects on their daily life: Ten participants were recruited for semi-structured interviews. Qualitative Content Analysis (Mayring, 2007) was used to identify several categories that describe

the participants' perception and experiences during meditative states as well as beneficial and ambivalent effects. The evaluation showed that the respondents experienced a positive shift in self-development, which became apparent i.e. in a changed way of seeing or a serene and open attitude. All interviewees reported on positive effects. Spontaneous ambivalent effects can be dissolved with the help of the facilitator or the group. The group itself is characterised by mutual trust, security, solidarity, understanding, appreciation and openness; the major purpose of the group was to address problems, get feedback, support each other and exchange experiences. Related topics are found in the research field of Mindfulness-based Meditation (Mackenzie et al., 2007). The present findings suggest that practicing this type of meditation is closely connected with personal growth. However, the heterogeneity of the meditation practices makes it difficult to compare the results.

## PSYCHOMETRICS AND FMRI-STUDIES

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### Evaluation of the Hungarian Version of the Attachment Questionnaire "Relationships Structures Questionnaire" (RS)

Viktor Biro, G. Füzér, Matyas Káplár  
& Enikő Gyöngyösiné Kiss

University of Pécs, Hungary  
birov@gmail.hu

The „Relationships Structures questionnaire“ (RS) is a self-report instrument designed to assess attachment patterns in a variety of close relationships. In this paper, the Hungarian version (RS-HU) was evaluated in a non-clinical ( $N=186,32,73 \pm 10,8$ ) and a pathological (inprisoned offender) sample ( $N=131, 30,27 \pm 10,8$ ). Overall, good psychometrical property was confirmed (Cronbach's alpha = .89), and evidence was found for construct validity (Greenhouse-Geisser,  $F=36.43$ ,  $p < .001$ ). Principal Component Analysis has identified two factors, named as „attachment-related avoidance“ and „attachment-related anxiety“, which explained the 68.35% of total variance. Significant differences have emerged between the samples regarding four interpersonal targets (mother, father, romantic partner, and best friend). Therefore, results suggest that RS-HU can be considered as a reliable, internationally comparable instrument for assessing attachment representations in close relationships and can be used in clinical samples.

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**Psychometric Properties and Factor Structure of the German Version of the Internet Addiction Test**

Christoph Burger & Stefan Stieger

University of Vienna, Austria  
christoph.burger@univie.ac.at

In recent years, the prevalence of Internet addiction has dramatically increased and its impact on those affected has become an issue of great concern. One instrument to measure Internet addiction is the Internet Addiction Test (IAT) as developed by Young (1998). The present study examined the psychometric properties of a German version of the IAT, its relation to some outside criteria and its factor structure in a mixed community sample of 259 participants at two points in time. The German version of the IAT showed very high internal consistencies (Cronbach's alpha) at both time points (initial test: .895; retest: .898) and high stability within a time-frame of one week (retest-reliability: .883). As expected from previous research, correlation analysis of IAT scores revealed a significant positive association with private time spent online (concurrent validity) and a significant negative association with self-esteem (discriminant validity), speaking for the validity of the measure. An exploratory factor analysis pointed to a three-factor solution at the initial test, which could be replicated in the retest: (1) lack of control and time management, (2) preoccupation and hiding, and (3) "real" world abandonment. A confirmatory factor analysis indicated that the three-factor model of the IAT had better psychometric properties and fitted the data better than a six-factor model (Widyanto & McMurrin, 2004) or a one-factor model (Khazaal et al., 2008) as found in previous studies.

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**Personality and Psychopathology: Comparison of the Correlation Patterns on the Freiburg Personality Inventory (FPI-R) and Brief Symptom Inventory (BSI)**

Anita Vulić-Prtorić & Marinović Luka

University of Zadar, Croatia  
avulic@unizd.hr

The objectives of this study were to investigate the correlations between personality traits and psychopathology clusters in the sample of Croatian female and male university students. The research was carried out on a sample of 302 Croatian university students (170 females). Two self-

report measures were administered: Freiburg Personality Inventory (FPI-R) and Brief Symptom Inventory (BSI). Data were analyzed according to gender differences. Descriptive statistics and correlations are reported. According to the FPI-R results, female students indicated significantly higher scores on social orientation, excitability, stress, physical complaints and emotionality, and male students had higher scores on attainment orientation, aggression and extraversion. With regard to BSI results male students reported significantly more symptoms of hostility, phobic anxiety and paranoid ideation. The correlations between all observed indicators (12 variables from FPI-R and 9 variables from BSI) were calculated separately for males and females. There are a few aspects of the matrix, that are worth mentioning: first, it is notable that in both, female and male participants, social orientation, attainment orientation and extraversion do not correlate with any BSI symptom cluster and, as expected, the highest correlations were between emotionality and all BSI symptom clusters. Further connections show specific gender patterns that are analyzed in discussion.

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**Psychometric Analysis of the Temperament Evaluation of Memphis, Paris, Pisa and San Diego – Autoquestionnaire (TEMPS-A) in its Slovenian Version**

Barbara Dolenc & Lilijana Šprah

Sociomedical Institute Ljubljana, Slovenia  
dolenc.barbara@gmail.com

Temperament Evaluation of Memphis, Pisa, Paris and San Diego – Autoquestionnaire (TEMPS-A) is a self report 110-item measure that postulates five affective temperaments: depressive, cyclothymic, hyperthymic, irritable and anxious. Several studies have shown that affective temperaments can serve as an endophenotype for mood disorders and the TEMPS-A instrument could subservise as a useful tool in this regard. The aim of our study was to validate the TEMPS-A in its Slovenian version by using the classical test theory and the Rasch model for dichotomous items. 1067 students from different Slovenian universities participated in our study. The psychometric analysis showed relatively good reliability of all five affective temperaments, with a bit lower reliability of the depressive temperament. Also the internal structure of the instrument was good. Hyperthymic temperament proved to be the most homogenous, while characteristics of depressive and anxious, and also depressive and irritable overlapped considerably. The structure of irritable temperament is to some extent vague, as this trait appeared like a mixture of depressive and irritable characteristics. Also the structure of anxious temperament is not very clear, namely our analysis discriminated two different types of anxious temperament. Nevertheless, the Slovenian

version of the TEMPS-A proved to be a reliable and valid instrument and generally in accordance with previously validated versions of TEMPS-A in other languages.

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**The Fear of Cockroaches Questionnaire**

Michele Scandola, Alessia Bastianelli, Andrea Spoto,  
Giulio Vidotto

University of Padua, Italy  
michele.scandola@email.it

The aim of this study was to validate the Fear of Cockroaches Questionnaire (FCQ) in a normal Italian population. The FCQ is an 18-item self-report questionnaire assessing fear of cockroaches. It was translated into Italian and modified as a cockroach adaption of the Fear of Spiders Questionnaire. Data obtained from 329 (mean age 24.21 ± 4.08 years) undergraduates revealed, that the FCQ allowed discrimination between high fear and low fear subjects. Exploratory Factor Analysis revealed a mono-factorial structure. The FCQ has a good test-retest reliability ( $r=0.95$ ) and a good internal consistency ( $\alpha=0.95$ ). The FCQ correlates with other measures related to fear of small animals, showing good concurrent validity. Finally, the FCQ score seems to be a measure of the fear free from disgust and anxiety caused by the cockroach exposition.

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**Neuropsychological Correlates of Processing Emotional Stimuli. Rethinking the Role of Amygdala: An fMRI-Study**

Petra Hermann, Anita Deák, Peter Papp,  
György Révész & Tamás Bereczkei

University of Pécs, Hungary  
hermann.petra@gmail.com

In our fMRI-study we have examined the neural correlates of emotional processing. Emotional states have been induced by external stimuli from the International Affective Picture System (IAPS). Amygdala is a key structure in emotional processing. Early theories have declared its role in detecting the signals of specific emotional states (e.g. fear). Another assumption has focused on amygdala's role in identifying emotional valence (pleasantness-unpleasantness) and arousal. Positive, negative and neutral pictures have been presented to healthy subjects. They had to rate the level of pleasantness inside the scanner while the brain activity was registered. Self-relevant stimuli (positive, negative and social neutral) have been compared with self-irrelevant neutral pictures (household objects). Our results have not

strengthened the classical theories of amygdala, but suggest that the amygdala is important in assessing the emotional relevance of the stimuli from the perspective of the self.

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**Personality and the Nervous System – Personality Traits as Expressions of Inter-individual Differences in Brain Function: An fMRI-Study**

Peter Papp, Anita Deák, Petra Hermann, György Révész &  
Tamás Bereczkei

University of Pécs, Hungary  
necropety@freemail.hu

The idea that inter-individual differences in the functioning of the human brain mediate differences concerning personality is not new. The same hypothesis provided the basis of H. J. Eysenck's widely renowned, cortical arousal-based model of personality, published in its original form half a century ago. The existence of several empirical and clinical evidences pointing towards the plausibility of linking traits with different neural structures (damage to specific brain areas possibly disrupts one's personality etc.) led other researchers to construct similar neuropsychological theories of personality in the past decades. One of the most influential theorists was J. A. Gray who proposed three emotional-motivational systems: the behavioural activation and inhibition systems and the fight-flight-freeze system (BAS, BIS and FFFS, respectively), based upon distinct neural networks as the main framework of personality. Building upon past empirical research data investigating the relationship between various personality traits and specific neurophysiological indicators of brain functioning, our own research used functional magnetic resonance imaging (fMRI) technique complemented by behavioural measures (Carver and White's BIS / BAS scales and the SPSRQ) to test the possible associations of personality dimensions with neural activity in a sample of healthy university students, utilizing Gray's conceptual framework.

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**Emotion Regulation Uncovered**

Carmen Morawetz, Juergen Baudewig  
& Hauke R. Heekeren

Freie Universität Berlin, Germany  
carmen.morawetz@fu-berlin.de

The ability to successfully regulate emotions is related to a number of important psychological, social, and physical health outcomes. Conversely, difficulties in emotion regulation have been postulated as a core mechanism underlying

mood and anxiety disorders. Therefore, it is important to understand the differential impact of distinct types of emotion regulation on a behavioural and neuronal level. In the present study, we investigated the neuronal patterns underlying emotion regulation in male and female subjects using fMRI. 12 right-handed subjects (3m, mean age = 26) were examined. Aversive and neutral IAPS pictures were presented in an event-related design. The experimental design involved three different emotion regulation conditions: 'Increase', 'Decrease' and 'View'. In 'Increase' trials subjects were to engage themselves with the depicted situation, while in 'Decrease' trials they were to distance themselves from it. During the 'View' condition, subjects should not regulate their emotions. Decreasing emotions resulted in increased activity in frontal regions (medial frontal gyrus, frontal gyrus) as well as face-selective regions such as superior temporal sulcus and fusiform gyrus in contrast to the increase condition. Increase in contrast to decrease lead to higher signal changes in the right inferior frontal gyrus. The observed results are in line with previous studies pointing out the importance of the lateral and medial frontal cortices during emotion regulation.

#### STATISTICS

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#### Exploring the Latent Structure of the Justice Sensitivity Scale in Student Samples from Croatia and Bosnia and Herzegovina

Vera Ćubela Adorić, Marina Jurkin & Vedran Lešić

University of Zadar, Croatia  
vcubela@unizd.hr

Supplementing previous research into individual differences in the sensitivity towards injustice, Schmitt et al. (2003) proposed that three types of justice sensitivity can be reliably differentiated. These types correspond to three perspectives or roles in an unfair event: victim, observer and beneficiary. To assess the justice sensitivity from these perspectives, the authors developed the Justice Sensitivity Scale (JSS), an instrument composed of three subscales, each comprising 10 items that refer to the tolerance of injustice from victim, observer and beneficiary perspectives. In the study that will be reported here, the latent structure of the JSS was examined in student samples from Croatia and Bosnia & Herzegovina. CFA Multiple Groups Comparison procedures were used to compare the JSS latent structure in the two samples. The assumption was, that the indicators that describe the reactions to perceived injustice from three perspectives have the same factor loadings in both countries. As expected, the resulting goodness-of-fit indices ( $X^2(60) = 79.54$ , CFI = 0.97, RMSE = 0.04 and SRMR = 0.05) are in line with the hypothesized model. The obtained results support the construct validity of the JSS.

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#### The Criterion Validity of Dehaene's Triple Code Model for Mathematical Skills

Michaela Gareiß, Rainer Alexandrowicz & Ingrid Koller

University of Klagenfurt, Austria  
michaela.gareiss@uni-klu.ac.at

The Triple Code Model (Dehaene, 1992) and its further development in a hierarchical structure (von Aster, 2002) is a model for the explanation of the development of mathematical abilities in children. Its neuropsychological validity has been assessed in fMRI studies, but not by using empirical data of the mathematical performance of children. In this study, we present the examination of the criterion validity of the ZAREKI-R (von Aster, Weinhold & Horn, 2006), which is based on the triple code model and allows for the assessment of dyscalculia. The sample consisted of 684 children from second and third classes of sixteen different elementary schools in Austria. First, the homogeneities of the subscales of the ZAREKI-R were tested with Rasch Models. Then, the subscales were assigned to the components of Dehaene's Triple Code Model based on theoretical considerations. This configuration was tested with structural equation models (LISREL). The results show that the structure of the hierarchical triple code model fits the data if children with disabilities were excluded. Hence, the triple code model and its advancements seems in fact a valid means for describing the development of mathematical skills.

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#### Lost in Aggregation: On Non-normality of Response Times after Data Aggregation

Paul Czech, Denise Muschik, Bartosz Gula  
& Wolfgang Wiedermann

University of Klagenfurt, Austria  
paul.czech@uni-klu.ac.at

When analyzing data from response time (RT) experiments, a general code of practice is to aggregate RTs over a series of trials. A common misconception is, that due to the central limit theory mean RTs will result in normally distributed variables with a sufficient number of trials. The goal of the present study is to examine, how the type of aggregation and the degree of inter-trial dependency influence the shape of the aggregated variable. Applying Monte Carlo simulation techniques, RTs were generated using four ex-Gaussian distributions defined in Miller (1988). Different parameters were varied: Type of aggregation (median, mean, trimmed mean: SD = 2; 3), sample size (N = 20, 40, 60), average inter-trial correlations ( $\rho = .0, .2, .4, .6$ ), and number of trials (T = 30, 60, 90, 180). Kolmogorov-Smirnov and Shapiro-Wilks tests, skewness-, kurtosis-, mean- and standard

deviation-estimates were used to assess the degree of normalization of the aggregated RTs. The results show that for less skewed true RT-distributions mean aggregation leads to the most symmetric aggregated RTs. Median aggregation was more symmetric for distributions with higher skewness values. The higher the inter-trial correlation, the higher the skewness of the aggregated distribution. This was true regardless of the number of trials and the type of aggregation. In the discussion, it will be emphasized that researchers should examine the aggregated RTs and choose the most powerful procedure based on the shape of the aggregated sample distribution.

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**Goodness-Of-Fit Indexes in Structural Equation Models with R**

Elena Bertossi

University of Trieste, Italy  
bertossielena@gmail.com

A new package of R software was conceived, called semGOF. This package produces the same results as the sem package but with twenty more goodness-of-fit indexes. The first function of the sem package is to analyze multivariate data using structural equation modeling techniques, in particular the method of maximum likelihood. To verify the correctness of semGOF and study the behaviour of indexes, a simulation was realized with R software. Five models were created; they have 32 exogenous observed variables and 36 endogenous observed variables. For all models the sample size is 360. For every model the simulation was repeated 2500 times. The number of latent variables and the relations between latent variables and between latent variables and observed variables are different in the five models. Some indexes have been defined normative, that is they have a range from 0 to 1. In this work some of these can have a value of more than 1, for instance McDonald index and Incremental Fit Index. Model 1 (with 3 exogenous latent variables and 3 endogenous latent variables) turns out to be the worst, in fact all indexes show values which greatly differ from the values of the other models.

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**Measurement Invariance in Deci and Ryan's Self-determination Theory**

Barbara Hanfstingl, Timo Gnams, Irina Andreitz,  
Florian H. Müller, Almut Thomas

University of Klagenfurt, Austria  
barbara.hanfstingl@uni-klu.ac.at

Deci and Ryan (e.g. 2002) differentiate intrinsic and extrinsic motivation in a more precise way. They postulate

four different regulatory styles that can be distinguished empirically. The aim of the presented study is to show, that measurement invariance is not totally given to this construct of motivation. The authors tested four types of measurement invariance. Basis of the results is a large-scale study with 1992 students in grades 5 to 9 and their teachers (N=89) taking part in the so called IMST-Project. This project supports teachers who test innovative instructional styles in schools self dependently. The authors discuss possible causes of the not given measurement invariance.

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**Concordance Levels between Children's Reports Moderate Association Levels between Young and Teachers' Reports**

Francesca d'Orlando

University of Trieste, Italy  
francesca.d'orlando@phd.units.it

Our aim is to explore, how the correspondence degree between reports provided by independent young raters moderates the association levels between aggregated scores obtained from their reports and external variables obtained from teachers' reports. Specifically, we examined how the concordance levels observed between self/peer reports on a target child's interpersonal behavior of Dominance and Love (IBQ-C questionnaires) moderate correlations between children's self/peer aggregated reports and teacher scores on Internalizing, Externalizing and Social problems (TRF questionnaire). Our results revealed moderation effects tending towards significance of self/peer concordance. Dominance levels on correlations observed between aggregated self/peer Dominance scores and teacher Internalizing problems scores, moreover a significant moderation effect of self/peer concordance Love levels emerged between aggregated self/peer Love scores and teacher Internalizing problems scores. Our findings are in agreement with scientific literature, which shows how composite measures obtained by multi-informants yield better estimates of an external variable than those obtained by any single informant (Epstein, 1983; Ladd, et al., 2002).

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**Analyzing Leisure Interests with the Paired Comparison Method for Latent Variables**

Almut Thomas, Michaela Gareiß, Regina Dittrich  
& Reinhold Hatzinger

University of Klagenfurt, Austria  
almut.thomas@uni-klu.ac.at

Bradley and Terry (1952) formulated a model for paired comparisons which allows the positioning of objects ac-



ording to their popularity on a preference scale. In psychological research, the interesting variables are often latent traits that psychologists try to measure using manifest empirical observations. We present an approach how to use the Bradley-Terry-model for response formats where each object appears only once in a comparison. Proper reparameterisation allows for estimating the object parameters and to evaluate the effect of additional subject covariates. Empirical data on preference for certain leisure activities are analysed using the R-package 'prefmod'. The data was collected with the 'Freizeit-Interessen-Test' (Stangl, 1991) which is theoretically based on Holland's (1997) RIASEC-model. The analysis shows significant differences between students of psychology and mathematics as well as gender effects concerning leisure activity preferences.

#### ADOLESCENT LIFE

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##### **Critical Thinking Tendencies in a Group of Turkish Graduate Students**

Bilge Uzun Özer & Ayşenur Büyükgöze-Kavas  
Middle East Technical University of Ankara, Turkey  
ozbilge@metu.edu.tr

Critical thinking is variously defined in terms of the interested area; however, the common point is being aware of one's thinking process, examining others' thinking process and using the knowledge in life. People use their mental processes, reasons and form judgments when they make decisions in their life. When considered the process in graduates' life, their ways of thinking gain more importance. Hence, the purpose of the present research was to assess critical thinking tendencies in a group of Turkish graduate students. The sample included 186 graduate students (102 female, 84 male) enrolled in Masters, PhD and integrated PhD programs at various departments of the Middle East technical University. The average age of the participants was 26.8 (SD = 2.4) with an age range between 23 and 34 years. California Critical Thinking Disposition Inventory (CCTDI) and Demographic Information Form were used to collect data. CCTDI composed of six subscales including analyticity, open-mindedness, inquisitiveness, self-confidence, truth-seeking, systematicity. Demographic information form also included questions regarding the participants' gender, age, enrolled program, CGPA, and marital status. Series of MANOVA were conducted to analyze data. Preliminary results revealed that women and men did not significantly differ on their critical thinking tendencies. Results were discussed in line with the studies conducted in Turkey and in other countries.

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##### **Adolescents Susceptibility to Peer Pressure and their Perception of Parental Behavior**

Marija Lebedina Manzoni & Martina Lotar  
University of Zagreb, Croatia  
marija@erf.hr

Former researches have mainly investigated the relationship between adolescents' susceptibility to antisocial peer pressure and some family characteristics. Steinberg (1987) says that adolescents' susceptibility to antisocial peer pressure is related to the family structure and the dynamics of the relationship with parents. The author emphasizes, that parental supervision is in negative correlation with susceptibility to antisocial peer pressure. Snyder, Dishion & Patterson (1986) have shown that adolescents, whose parents are permissive, inconsistent in discipline, and unlikely to monitor or supervise their behaviour, show greater willingness to engage in antisocial behaviors with peers. The aim of this research was to examine relationships between susceptibility to peer pressure and dimensions of parental behavior (acceptance, autonomy, psychological control, supervision, permissiveness, positive and negative discipline) estimated by adolescents. It was expected that susceptibility to peer pressure will be positively correlated with perception of parental permissiveness, but negatively with perception of parental supervision. At a sample of 851 elementary and high school students (age 12 to 18) the following instruments were applied: Susceptibility to Peer Pressure Scale (SPPS) and Perception of Peer Pressure Scale (PPPS) (Lebedina, Lotar & Ricijaš, 2008), Croatian Parental Behavior Questionnaire (URP; Keresteš, Kuterovac Jagodić & Brković, 2006). Data analysis is still in progress.

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##### **Depression and Self-oriented Cognitions among Female Students**

Martina Lotar & Marija Lebedina Manzoni  
University of Zagreb, Croatia  
martinal@erf.hr

Reviewing different models of depression it is noted, that almost every model includes self-perception and self-evaluation, i.e. self-oriented cognitions as variables that favor depression development. Pettit and Joiner (2006) include self-perception from Beck's cognitive triad, discrepancy between actual and ideal self from Higgins' (1987) Self-Discrepancy Theory and perfectionism as self-oriented cognitions. Recent researches have confirmed that the re-

relationship between negative perfectionism and depression isn't direct (Rice, Ashby & Slaney, 1998; Ashby, Rice & Martin, 2006), so the aim of this research was to examine the mediating effects of self-evaluative variables (self-liking, self-competence, actual-ideal self-discrepancy and actual-ought self-discrepancy) on the relationship between negative perfectionism and depression. It was expected that relationship between negative perfectionism and depression is mediated by self-liking, self-competence and real-ideal self-discrepancy. At a sample of 144 female students the following instruments were applied: Beck's Depression Inventory II, Positive and Negative Perfectionism Scale, The Self-Liking/Self-Competence Scale and Self Concept Questionnaire - CC Version. In the tested multiple mediation model results have shown, that the included set of variables does mediate the effect of negative perfectionism and depression. An examination of the specific indirect effects indicates that only self-liking is a significant mediator.

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**Adolescent Girls Are More Body Dissatisfied and Used More Coping Strategies in Stressful Situations**

Gisele Straatmann & Sebastião Sousa Almeida

University of São Paulo, Brazil  
giselestr@gmail.com

This research aimed to investigate aspects of body image, stress and which coping strategies are used by adolescents in a stressful situation that involves body discomfort. A sample of 166 girls and 47 boys, aged 15-18 years, was recruited from public high schools in Ribeirão Preto, state of São Paulo, Brazil. The main outcome measures used were Figure Rating Scale, Lipp Stress Symptoms Inventory and The Ways of Coping Questionnaire. Descriptive analyses were performed. Correlational analyses tested the associations of body image, stress and coping with sex and BMI. Logistic regression analyses were conducted for each of the 8 coping strategies. The confidence intervals used were 95%. The results revealed that both boys and girls were dissatisfied with their body size and the majority overestimated it. The exception were the overweight adolescents that had significantly negative body distortion. Girls showed more body distortion than boys. The correlation between body dissatisfaction and body distortion was negative and moderate ( $r = -.65$ ). A large proportion (55,86%) of adolescents are found to have significant stress symptoms. A greater proportion of females (61,40%) than males (36,20%) are found to have stress. Adolescents with stress had more probability using confrontive coping (OR=3,14), distancing (OR=2,09), seeking social support (OR=3,33), self-controlling (OR=2,06), accepting responsibility (OR=4,40) and

escape-avoidance (OR=3,17) in a situation that involves body discomfort. Girls significantly employed more self-controlling than boys. In conclusion, negative body image perception and stress were observed in the present sample. Adolescents with stress used more coping strategies.

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**The Quality of Family Relations as Perceived by Serbian Adolescents**

Ivana Mihić & Jelica Petrović

University of Novi Sad, Serbia  
imihic@ff.uns.ac.rs

The research presented in this paper aims to describe different intra-familial relations as perceived by adolescents. Mother-child, father-child and sibling dyadic relations were evaluated by the sample of 780 youths in two age-defined groups- high-school (56.9%) and university students (43.1%) The quality of family relations was assessed by Network of Relationships Inventory (NRI, Furman, Buhrmaster, 1985). The NRI version used in this research allows assessment of 9 dimensions of dyadic relationships: Companionship, Instrumental Aid, Intimacy, Reliable Alliance, Admiration, Nurturance and Affection (positive dyadic interaction) and Conflict and Antagonism (negative dyadic interaction). Results indicate significant differences in perception of mother-child and father-child relations. Sibling dyadic interaction is significantly more symmetrical compared to parent-child relations. There are no significant age differences in the perceived quality of relations with mother and father, where relations with mother tend to be described as idealistically close, and relations with father as distanced and generally low in both positive and negative interaction. However, age differences in perceived quality of sibling relations indicate distancing and lower quality of positive dyadic interaction. Results are discussed in the context of cultural-specific characteristics of relationships, revealing impacts of dominating cultural values of family and intra-familial relations in Serbia.

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**Alcohol Consumption among Young People: How Much Do They Drink?**

Anna Salamó, Eugenia M. Gras, Silvia Font-Mayolas & Mark J.M. Sullman

University of Girona, Italy  
anna.salamo@udg.edu

Alcohol is the most commonly consumed psychoactive substance worldwide. During the first year of transition to university, there is a high risk of consuming large amounts

of alcohol and therefore students may suffer problems related to alcohol consumption. This study analyses the alcohol consumption patterns in a sample of 2,137 university students from Girona (Spain). The students were aged between 17 and 35 years, with 52.7% being female. The results showed that 71% of males and 59.5% of females consider themselves to be regular alcohol consumers, and more than half (57.8%) could be described as binge drinkers. Furthermore, high risk alcohol consumption was more frequent amongst females (73.3%), but this was mainly due to gender differences in the metabolism of alcohol. The implications of this research for preventive campaigns are discussed.

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**Decisional Balance and Cocaine Consumption amongst Adolescents**

Anna Salamó, Eugenia M. Gras, Silvia Font-Mayolas,  
Mark J.M. Sullman

University of Girona, Italy  
anna.salamo@udg.edu

This research investigated cocaine use in a sample of 1,474 secondary students, 50.6% of whom were female and aged 12 to 17 years (mean age = 14.03 ; SD = 1.28). In particular the study measured the participants' intentions for future cocaine consumption and their perceived value of a number of pros and cons of being a consumer. An adaptation of the Smoking Decisional Balance Inventory (Plummer, et al., 2001) was used to evaluate the benefits and disadvantages of being a cocaine consumer. The inventory assessed six items reflecting the pros of cocaine consumption (e.g. Consuming cocaine helps people to cope better with frustrations) and six cons of cocaine consumption (e.g. Consuming cocaine is hazardous to your own health). The items employed a 5-point Likert scale which ranged from 1 (not important) to 5 (extremely important). The results showed that 0.7% of the adolescents were current cocaine consumers and 1.1% was planning to consume cocaine in the next six months. Current consumers rated the benefits of cocaine consumption significantly more highly than those who were planning to consume cocaine in the next six months. There were, however, very few participants who were currently not consumers, and had no intention of consuming cocaine in the next six months, who rated the benefits of consumption highly. Interestingly, there were no significant differences in the disadvantages of cocaine use between consumers and those with the intention of future consumption. These results might suggest that the pros of cocaine consumption hold more weight than the cons in the decision to become a consumer. The implications of these findings for preventive campaigns are discussed.

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**The Long-term Motivation as a Personal Parameter of Innovative Activity of Students**

Donka Nikova-Tsioutsiou

University of National and World Economy, Sofia, Bulgaria  
donka\_tsioutsiou@yahoo.com

The work presents the empirical exploration of long-term motivation as a personal parameter of the innovative activity of students. The main goal of the work is to present some theoretical concepts of innovation, innovative activity and long-term motivation and also some results of the empirical exploration of the long-term motivation as a personal parameter of innovative activity of bachelor students from a main economic university in Bulgaria. The main hypotheses are relevant to the correlation and to the influences between the long-term motivation of bachelor students from this economic university and their innovative activity. The questionnaires for testing the innovative activity and the long-term motivation are used in the research. The extract includes 628 bachelor students, 251 male and 377 female, from a main economic university in Bulgaria. The statistical treatment is done by Correlation, T-test, Factor, Regression analyses. Some results and conclusions: The innovative activity of bachelor students from this economic university correlates with their long-term motivation. The long-term motivation has influence on the innovative activity of students. The long-term motivation is a parameter of innovative activity of bachelor students from this economic university.

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**The Effectiveness of Life Skills Training on Mental Health and Locus of Control in Adolescents**

Mohammad Ebrahim Madahi, Javad Khalatbari,  
Somayeh Yari & Zahra Paknahad

Shahed University Tehran, Iran  
memadahi@yahoo.com

The aim of this study was to evaluate the efficacy of training life skills on adolescent girls' mental health and locus of control. The statistical society of present study included all the students in the third grade of the junior high school and the first grade of the senior high school of one of the state schools for girls in Talesh, Iran. Among 180 students of the third grade of junior high school and the first grade of senior high school, 30 students who obtained the highest scores on mental health and locus of control tests were selected and divided randomly into two groups including experimental and control groups. The members of experimental group learned the life skills in 8 sessions. After one month, general

health test (GHQ) and locus of control test were carried out in two experimental and control groups. The results show that: (1) – training life skills improved the student’s mental health. (1-1) –training life skills was effective on decreasing students’ somatic syndrome. (1-2)– training life skills was effective on decreasing students’ anxiety. (1-3)– training life skills was effective on decreasing students’ social dysfunction. (1-4) –training life skills was effective on decreasing students’ depression. (2) –Training life skill doesn’t have a significant effect on changing the student’s locus of control. (2-1) –training life skills doesn’t have a significant effect on increasing student’s belief in internal abilities. (2-2) – training life skills doesn’t have a significant effect on increasing students , belief in chance. (2-3) – training life skills is effective on decreasing students’ belief to effectiveness of powerful peoples’ viewpoint.

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#### **With or Without the Mirror? Improving Motor Performance of Adolescent Dancers**

Anita Deák, Laszlo Sera, Bernadett Burkus, Gergő Kovacs, Helga Laposi, Kinga Sipos, Matyas Káplár & Laszlo Bernath

University of Pecs, Hungary  
deakanita@btk.pte.hu

A mirror is a source of visual information which provides continuous feedback about the movements with no delay. Self-analysis with mirror can help to improve the learner’s skills but these skills are performed in a setting without a mirror. It is a question, whether motor skills can be improved better with or without a mirror. Studies have shown contradicting results regarding the role of the mirror. According to some studies, weightlifters performed better, when a mirror was used during their training, while others have suggested that the mirror had no effect. Another branch of studies has examined dancers’ performances. These studies did not support the helping role of the mirror. The role of the mirror is a relevant question, because it is a standard tool in improving dancers’ motor skills. Early studies have used subjective measurements of performance. Objective machine-based measures of performance have been registered recently. Bodily changes and internal representations about the body can change differently in the adolescences. Therefore, the visual information seen in the mirror may not have a positive effect on the performance. In our experiment, the performances of three age groups (pre-adolescent, adolescent, post-adolescent) are compared with and without mirror in a sequential motor learning paradigm. The results of this study may help trainers to decide whether a mirror should or should not be used in the dancers’ training particularly at a special period of the development.

CHILDHOOD

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#### **The Relation of the Play Preferences in Childhood with the Relation of Parental Upbringing, the Social- and Agora Phobic Anxiety in Adulthood**

Imre András Török, Anett Cziglédszki & Gábor Vincze

University of Szeged, Hungary  
torokia@gmail.com

Aim: According to the epidemiological figures, the social anxiety and the agoraphobia occur more often from the anxiety disorders with the highest prevalence. The aim of our examination is to find the factors of play choosing, the role of the parental upbringing effects, and Gray’s Behavioural Activation System and the Behavioural Inhibition System in determining spatial and social anxiety. We suppose that the play preference in childhood influences later the spatial and social orientation. Method: we conducted a questionnaire with 282 people aged 19-26. In our examination based on interviews, we could separate 25 plays as typical ones in our society, between the ages of 7 and 11. We measured the way of spatial orientation and the spatial anxiety with Lawton Spatial Orientation Scale. The temperament influences the movement towards a target in space, so we applied the SPSR-Questionnaire. We determined the sexual differences in the occurrence of the two disorders, the spatial anxiety and the attachment anxiety, and in the use of the navigational strategies with T-test. We found typical play groups with Factor-analysis in case of both sexes. Results: The T-test showed a significant difference in the sub-clinical occurrence of social phobia and agoraphobia in case of women, in terms of spatial safety, and spatial orientation the values of men were higher. The factor analysis divided five play factors in case of both sexes. The factors in terms of plays and environment in case of boys: anxious, social, ruling the space, depending on parents, unassertive. Factors in case of girls: anxious, masculin, active, suffer from boredom, laissez-faire. Conclusions: Our analysis proved the relationship based on temperament, related to the anxiety trait in the development of the subclinical level of social and agoraphobia. It is also mediated by the relationship with parents and childhood play preferences.

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#### **The Function of Joint Attention in 9 -12- Month-old Infants**

Diana Agnes Horvath & Beatrix Lábadi

University of Pecs, Hungary  
horvathdiana@gmail.com

Triadic interactions receive a significant role in the social and cognitive developmental process and provide the basis

for shared experiences from about 9-12-months of age. The correct interpretation of communicative gestures and joint attentional interactions is therefore an important developmental step in social and learning processes. We focused on the role of joint visual attention and communicative gestures in an early learning or teaching situation. We predicted, that joint attentional interaction together with salient communicative gestures, facilitate the infants' efficiency in a difficult problem-solving situation already in this early age of life. Our results suggest that communicative gestures, like eye-contact, smiling and pointing, together with a joint attentional interaction generate a zone of proximal development, which facilitates infants' performance significantly. Our findings suggest that joint attentional interaction establishes a new learning situation, wherein the infants not only recognize the communicative gestures, but they also understand the intentional teaching behavior of an adult. We propose that by the help of triadic interactions and communicative gestures 9-12 months old infants are able to distinguish the reliable source of information from another one.

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**Development of Spatial Language in High Risk Preterm Children**

Eniko Gyorko & Beatrix Lábadí

University of Pecs, Hungary  
gyorkoe@freemail.hu

The aim of research is to determine the relationship between the language development and the spatial representation in a sample of fullterm and very preterm (< 30 weeks gestational age, < 1500 g, without neurological symptoms) children seen at 3-, 4- and 5 years of age. We investigated the development of spatial language in a real size three-dimensional space, study of elicited production and comprehension of spatial terms (Questioned: Where? Where from? Where to?). The results show poorer performance in the preterm group, both groups followed similar developmental trajectories, but the production of spatial relational terms are delayed in preterm children at the age of 3-4 years and a special difficulty of SOURCE (Where from?) terms in both groups. Furthermore, we found a relationship between the comprehension of relational terms and the production of language development. A developmental delay can be found in preterm children in both the production of language of space and the infinitive suffix. This result will be explained in terms of the language theory of space.

**84**

**Demerit Compensation of Children with Learning Disabilities**

Veronika Bolla

University of Győr, Hungary  
bolla.veronika@nordtelekom.hu

Owing to the variances turning up at the early stage of psychological development in the case of children with learning disabilities, the working of abilities is partially not reliable; therefore these children are blocked in reaching an acceptable learning performance expected by their level of intelligence and age. Disorders of abilities are not unfolded in the changes of performance alone, but due to frustration turning up. Bearing serial failure concerns the whole personality and influences its development. According to the Act of Primary and Secondary Education in Hungary, children with learning disabilities demand special education that guarantees the right for specific training. They come in for habilitation and rehabilitation of health and pedagogical aspects; they get equity in the process of teaching-learning, as well as exemption from being evaluated on subjects in school. These conditions secure the equality of rights among fellow pupils in education however, bearing from serial failure and frustration changing of psychic factors cannot be corrected. The aim of this lecture is to find answers to what indirect effects may decrease frustration besides direct ones.

**85**

**Problematic Feeding Behaviours in Childhood**

Jennifer Faietti & Nerina Fabbro

Association of Cognitive Psychology, Verona, Italy  
jenniferfaietti@virgilio.it

The present study originates from a review of the literature regarding problematic feeding behaviours appearing in childhood. Referring to the theoretical frame of cognitive behavioural model and attachment theories, the authors contemplate to explore the diversity and complexity of the eating difficulties during infancy. Breast-feeding, weaning and feeding difficulties during the sequent developmental steps are considered. The authors describe situations of selectivity, restrictiveness and obesity. The paper stresses the importance of attachment and interpersonal dynamics inside the family to influence eating behaviours in children. The role of child-caregiver interaction during meals is underlined. The authors present a review of the different diagnostic classifications of feeding disorders in childhood, as DSM-IV-TR (APA, 2000), 0-3R (Zero to Three, National Center

for Clinical Infant Programs, 2005), GOS Criteria (Lask & Bryant Waugh, 2000). Evaluative methods and instruments connected to different ages and disorders are also presented. Finally, the authors intend providing specific indications to identify, manage and prevent some feeding difficulties appearing in infancy.

**86**

**Teachers Reports of Preschoolers Behavior Problems**

Lara Cakić & Tena Velki  
University of Osijek, Croatia  
lcakic@ufos.hr

Current research examined the differences in behavior problems between boys and girls estimated by their teachers. Research included 240 children (125 boys and 115 girls who were five to seven years old) and their teachers. Behavior problems are measured by The Child Behavior Checklist – Teacher rating scale (Achenbach, 1991). We used six scales: somatic complaints, anxious/depressed, emotional reactivity, withdrawn, attention problems and aggressive behavior. Boys as opposed to girls were perceived as more aggressive and with more attention problems. In this sample older boys are less aggressive and have less attention problems than younger boys. There were no significant differences between boys and girls on other scales (somatic complaints, anxious/depressed, emotional reactivity, withdrawn).

**87**

**Mother-child Attachment and Adoption. A study of Adopted Children Compared with Children Growing up in the Family**

Nerina Fabbro, Marzia Morandini & Vincenzo Calvo  
University of Trieste, Italy  
n\_fabbro@yahoo.it

The aim is to study the attachment bond between adopted children and children who grow up in families; hypothesizing an insecure attachment in the adopted child; verifying adoption as a protection factor and studying the quality of the attachment to biological and adoptive parents, according to the intergenerational transmission. 30 adopted children, age 4-10 years, adoption time (1-3years) and (above 3years) with the respective mothers are compared with a control group balanced and their mothers. Instruments: children: Human Figure Drawing (Machover 1953), Drawing the Family (Attili 2007), Separation Anxiety Test (Attili 2001), Child Behaviour Check List (Achenbach 1991); mothers:

Parental Bonding Instrument (Parker et al.1979), Attachment Style Questionnaire (Fenney et al.1994) and SAT (Attili 2001). Adopted children are more likely to draw in the centre of the sheet and the family. Difficulties are encountered in aggressivity and attention in adopted children. The shorter the adoption time, the more likely it is to encounter problems concerning attention, egocentrism and physical contact. Self-height (HFD) correlates with adoption times. Both groups of mothers show a control pattern for affection; a good level of security, slight difficulty in unease-intimacy for the adoptive mothers. Greater correspondence between types of attachment biological mother-child vs adoptive mother-child.

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**The Effect of Music on the Care of Children with Intellectual Disability**

Sanela Pacić, Fadilj Eminović, Radmila Čukić & Goran Nedović  
University of Belgrade, Serbia  
eminovic73@gmail.com

Visual impairment, motor skills, hyperkinetic syndrome, mental retardation, and multiple disability in particular - are diagnosed due to retreating and learning difficulties. Scientific findings suggest that the timely introduction of children with selected music can speed up the development of speech, promote talent for mathematics and natural science, enhance coordination, improve memory skills and reading in a regular population of children, especially children with disabilities and learning. The aim of our study was to examine whether music can cause a change in the quality of care under the influence of music, for the time directed, as well as during leisure activities. Our sample consisted of 46 wards of the Home for children and youths with disabilities in Veternik, divided into 4 groups of 8 to 24 members. The survey was conducted during 2009.g. Music was broadcast and behavior of children followed in two conditions: during directed activities and free time activities. In the course of activities directed broadcast was very quiet, Water Music Georg F. Händel, and during the holiday songs Ambient 2, Bryn Eno & Harold Budd. Processing the results, we concluded that the positive changes recorded in half the children surveyed in terms of improving care during focused activities, especially during leisure activities. Proved to be significant changes in these variables were gender and level of damage, expressed through a finding committee for sorting, but not age. We believe that we have valid and encouraging results, especially the desire to encourage further research in this field.

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**Social Development of Preschool Children: The Relation of Temperament Dimensions and Some Parents' Characteristics to Child's Behaviour**

Ivana Hanzec & Andreja Brajša-Žganec

University of Zagreb, Croatia  
ivana.h.kt@gmail.com

In line with the increasing demand for research that extends beyond the study of main difficulties in child development and family functioning, the aim of this research was to determine the predictors of both positive and negative social behaviour of preschoolers. Variables included were parents' characteristics (education, socioeconomic status, estimated happiness and life satisfaction, parental practices and behaviour towards children's negative emotions) and children's temperament. Participants were mothers of 258 children from 5 kindergartens, and data was collected using Satisfaction with Life Scale, Subjective Happiness Scale, Parental Behaviour Questionnaire, and Questionnaire of parental behaviour towards children's emotions, EAS Temperament Survey and Strengths and Difficulties Questionnaire. After analyzing correlations between all the variables included in research and performing several multiple regression analysis, the hierarchical regression analysis was conducted, with implementation of predictor variables in 3 stages (socio-demographic variables, parents' estimated happiness and life satisfaction; child's temperament; parenthood). In the final step of regression significant predictors of children's conduct problems were temperamental emotionality and activity, and parents' negative and positive discipline. When predicting children's prosocial behaviour, significant predictors were parent's positive discipline and acceptance, and children's temperamental shyness.

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**The Agreement between Parents' and Preschool Teachers' Assessments of Toddler Language**

Ljubica Marjanovič-Umek, Urška Fekonja-Peklaj & Anja Podlesek

University of Ljubljana, Slovenia  
ljubica.marjanovic@ff.uni-lj.si

The findings of several studies proved that mothers are relatively valid and reliable estimators of toddlers' language. Similarly, the preschool teachers spend a great deal of time with toddlers, engaging in diverse social interactions with them. The purpose of this study was to examine the agreement between parents' and preschool teachers' assessments of toddler language. The study also sought to establish whether toddlers sex and parental education have any signif-

icant effect on parents' and preschool teachers' assessments. The sample included 140 toddlers 16 to 30 months old that had attended preschool for at least 1 year. The parents and preschool teachers assessed toddler language independently using the Communicative Development Inventory for Toddlers 16 to 30 Months Old. The correlation between parents' and preschool teachers' assessments of various areas of toddlers' language proved to be low to moderately high, although the preschool teachers assessed toddlers language lower than parents did. Parental education and toddlers' sex had a significant and high impact on parents' assessments of their toddlers' language, while only the parental education had a significant impact on preschool teachers' assessments. The findings were interpreted from the perspective of including both parents and preschool teachers in the process of assessing toddlers' language, thus obtaining a more complex picture of toddler's language competence, expressed within different social contexts.

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**Eysenck's Personality Dimensions and their Association with Roles in Bullying Behaviour in Elementary School Children**

Nataša Šimić, Kristina Sesar & Marijana Barišić

University of Zadar, Croatia  
nsimic@unizd.hr

Previous research which has investigated the association between bullying behavior and personality has shown an association between victimisation and introversion, as well as between bullying and psychoticism. However, there is a paucity of studies which have included different roles in bullying behaviour. The aim of this study was to examine differences in personality between bullies, victims, bully/victims and neutral participants. 372 elementary school children (192 female and 180 male), aged 10 to 14 years, completed the School Relationship Questionnaire (SRQ), as well as Junior Eysenck Personality Questionnaire. On the basis of results in SRQ, 57% of children were classified as involved in bullying behaviour, either as bullies (13%), victims (16%) or bullies/victims (28%), while 41% were neutral participants. Significant differences in personality dimensions between these groups were found. The results have shown that the victims and bullies/victims had a significantly higher score on neuroticism scale than other participants in bullying behaviour. The victims also had a lower score on the extraversion scale. Furthermore, bullies had higher results on extraversion, and lower on neuroticism scale. As expected, the bullies and bullies/victims had a higher level of psychoticism than the victims and neutral participants. The results showed that Eysenck's Personality dimensions could be important variables in understanding the bullying behaviour.

## PERCEPTION

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**Implicit Semantics of Agency: The Role of Verbal Activity and Intentionality in Impression Formation**Réka Ferenczhalmy, Zsolt Szabó, Katalin Szalai  
& János LászlóUniversity of Pécs, Hungary  
ferenczhalmy@gmail.com

This study examined the role of agency in the text in relation to perception of the narrator. Agency is the ability to act effectively. We assumed that it contributes to the judgment of responsibility, control and capability of coping. Life narratives reflect agency of narrators in terms of semantic and grammatical features. In our research, agency is approached on two ways in the text, through activity-passivity on the one hand and through attribution of intention on the other hand. In our study participants were presented with manipulated texts. There were three themes of the short narratives: a story of 1, becoming alcoholic, 2, an unemployed seeking a job and 3, becoming indebted and homeless. There were two versions of each text: one with active verbs and intentionality and the other with passive verbs and constraint. Each participant was given two different texts in two different versions and every variation of the texts was read by twenty participants. Participants had to guess the gender and the age of the narrator. We used the General Perceived Self-Efficacy Scale (Jerusalem & Schwarzer, 1981) regarding to the narrator and a fixed-response scale format adjudging e.g. the chance of the recovery, the perceived responsibility and the typicality of sixteen features. Our results show that agency influenced the perception of the narrator (i.e., the impression formation and judgments about the narrators' self-efficacy, perceived responsibility and the chances of recovery).

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**All Roads Lead to the Horizon: Development of Depth Perception in Drawings**

Marcello Indino

University of Zurich, Switzerland  
m.indino@psychologie.uzh.ch

The horizon-ratio relationship (Sedgwick, 1973) refers to the ratio between the visual angles subtended between the bottom and the top of an object and between the bottom of the same object and the eye level, thus the horizon (cf. Rogers, 1996). Perara and Cox (2000) demonstrated in a drawing experiment, that the correct combination of both

informations does not occur before age of nine. In addition they found that providing linear perspective does not influence the judgments. The present study used Functional Measurement (Anderson, 1982, 1996) to investigate if the presentation of a depth cue has an impact on the capacity to correctly integrate the size of an object and its distance from the horizon as mentioned above. Adults and children of different ages saw pictures of a road leading in a straight line to the horizon. Depending on the condition, the picture also included a schematic drawing of just one lamp (i.e. with no additional depth-cue) or of two street lamps, wherein the one appearing farther away from the observer was smaller. The participants had to draw a further street lamp at a certain position. The results reveal that the performance of the participants of all ages strongly depends on the amount of depth-cue available.

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**Search and Find - Differences in Neural Activations of Visual Search and Change Blindness Tasks**Matyas Káplár, Anita Deák, Lilla Tóth, Peter Bogner &  
Laszlo BernathUniversity of Pécs, Hungary  
kaplar.matyas@gmail.com

In cognitive research, visual search tasks are widely used for mapping attention and information processing. In these experiments subjects have to search for special cues in the experimental environment, that means that we can get data about the effect of different cues they met. If we use the phenomenon change blindness in these tasks we can get additional information about the mental processes. In a change blindness task the subjects have to recognize the difference between two similar pictures with a masking screen between them. This task can be used to map unconscious (non-directed) attention and the processing of unconscious information because the target (what? and where?) is unknown by the subject. In our experiment we examined if a conscious attentional task like visual search activates the same brain areas as solving a change blindness task. In an fMRI study we presented two very similar sets of stimuli, one for visual search and one for a change blindness task. We used the activations during a visual search task as baseline in the analysis of activations during the change blindness task. We got few activated brain areas like Middle Occipital and Temporal Gyrus, Fusiform Gyrus, Supramarginal Gyrus, Cingulate Gyrus and Hippocampus due to performance. The activation of these areas can be explained well by the differences of the two types (search vs. recognize, conscious vs. unconscious) of the two tasks used in the study.



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**The Health of Artworks: Neutral Colours in the Retouching of Large Losses in Paintings**

Lisa Mittone

University of Udine, Italy  
lisamittone@hotmail.it

Restoration refers to all the procedures aimed at improving the aesthetics and appearance of artefacts, avoiding any diminution of authenticity. As the aesthetics of a work of art is determined by its unity of form, the disturbance produced by losses (lacunae) is analysed according to the visual organization rules, focusing on large losses unsuitable for reconstruction. The main problem is in which way to reduce the disturbing effects produced by large losses: toning large losses in a neutral colour could be considered an appropriate solution to fill an interrupted image, without reconstructing it. However, the critical problem is to define what a neutral colour is and how to choose it. I propose a perceptual survey to evaluate and compare the disturbance/pleasantness produced by filling the same loss with different neutral colours. The same artwork has been modified in two different ways: the same loss, artificially made in it, has been filled alternatively with different neutral colours related to the average chromatic value of the whole painting and of the area immediately surrounding the loss. The neutral colours proposed have been chosen by a scientific method (algorithmic calculation) or by suggestions of restorers (according to their experience). The images alternatively displaying - in two different chromatic areas of the same fresco - a loss, filled in the two different ways proposed have been presented to twenty observers, asking them for preference judgments.

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**Simple Reaction Time on Light and Sound Stimulus during Different Phases of Menstrual Cycle**

Arijana Ravlić & Nataša Šimić

University of Mostar, Bosnia and Herzegovina  
arijanaravlich@yahoo.com

Influencing many neurotransmitter systems, estrogen and progesterone change the activation level during different phases of the menstrual cycle. Therefore it may be expected that efficiency will be better during the phases characterized with higher levels of these hormones in comparison with phases when the hormone level is low. The aim of this study was to examine changes of simple reaction times on light and sound stimulus, together with general and high activation level, during different phases of the menstrual cycle. 19 healthy female subjects, aged 18 to 24, with regular men-

strual cycle took part in the study. Their ovulatory cycles were confirmed by measurements of the basal body temperature. The investigation included measurements of simple reaction times on light and sound and the activation level during four different phases of the menstrual cycle. Thayer's Activation-Deactivation Adjective Check List was used for general and high activation level measures. The results showed shorter RT on both light and sound stimulus during the late follicular and luteal phase, when the hormone levels are high. Longer reaction times in menstrual and early follicular phase were expected because of a decreased level of estrogen and progesterone. The differences in the efficiency may be attributed to different hormones level during the menstrual cycle. The longitudinal design of the study and the subjective nature of the check-list measure may explain insignificant changes of the assessments of both activation levels in this study. Furthermore, different curve profiles for sound and light responses may be determined by both stimulus modality and intensity.

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**Visual Priming and Directionality of Conditionals**

Pavle Valerjev, Igor Bajšanski & Tanja Gulan

University of Zadar, Croatia  
valerjev@unizd.hr

The theory of mental models explained the differences in effectiveness when deriving modus ponens (MP) and modus tollens (MT) conclusions. Differences result from different numbers of mental models that are needed to be constructed for a valid conclusion. However, directionality of the conditionals also affects the effectiveness of conclusions beside the number of models. Previous research has shown how the direction of conclusion can affect the response time. Contemporary studies have shown that many of cognitive processes (i.e. understanding of sentences) had a significant perceptual basis. This research tested the possibility of perceptual grounding of deductive reasoning. Direction of conditionals, as well as spacial orientation of antecedent and consequent content has been used as critical perceptual feature. Three-factor experiment was carried out. Perceptual priming, conditional direction and conclusion type were manipulated as independent factors. Participants' task was to decide as quickly as possible whether the presented conditional conclusion was right or wrong. Perceptual priming, as well as conditional direction, showed significant effect on MP conclusions. It is interesting that the clear effect of perceptual priming (which was also opposite when compared to MP one) was obtained for wrong MT conclusions where participants should press \*No\* for an answer. These findings supported a claim for perceptual grounding of mental models needed for deriving valid conclusions.

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**Temporal Aspects of the Superposition of Tones**

Atsushi Sakai & Giovanni Bruno Vicario

Meisei University, Japan  
a\_sakai@psy.meisei-u.ac.jp

Let us consider two pure tones, say A440 and G392, lasting 1 sec each, rising to the sustain intensity in 25 msec, in succession. When the interval between the two tones is 1 second, we hear a gap between them. If we shorten the empty duration, we hear the gap shorter and shorter, and when the interval is 0 we hear a strict succession of tones. When the interval is less than 0, that is, when the two frequencies overlap for a small time, we continue to hear the succession and not a superposition of tones. The perception of the superposition of two tones takes place when the actual overlap is about 200 msec. Obviously enough, it is also a matter of frequencies. When the tones are at dissonant or not musical intervals, a noise is heard between the two tones, but even at the aforesaid actual overlap. When the two tones are consonant, a bichord can be heard, but only when the overlap is more than 500 msec. Two distinct lines of research are in program: (a) the bare psychophysical measurement of the minimum overlap that promotes the perception of a noise between the two tones at various frequency intervals, and (b) a manipulation of the stimulus that can allow a better description of the auditory event that takes place between the two tones.

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**“Even Educated Flees do it”: Inattentional Deafness under Dynamic Musical Conditions**

Sabrina Koreimann & Oliver Vitouch

University of Klagenfurt, Austria  
sabrina.koreimann@uni-klu.ac.at

While inattentional blindness is a modern classic in attention and perception research, analogous phenomena of inattentional deafness are less well-known. In music, inattentional deafness has never been demonstrated under controlled experimental conditions, despite indirect evidence for related effects. We tested inattentional deafness with real music – and therefore under dynamic acoustical conditions - in both musicians and non-musicians. Participants listened to the first 1’50” of Richard Strauss’ Thus Spake Zarathustra, with the experimental group having the task of counting the number of tympani beats and the control group just listening. The unexpected event was an e-guitar solo during the last 20s of this sequence. Among non-musicians (n = 58), only a single person in the experimental group noticed the e-guitar, while 52% of the control group did. In amateur musicians (n = 57), results were less extreme, but structurally equivalent: When engaged in a simple parallel

task, only 38% explicitly noticed the strange guitar, with 68% doing so in the control group. Results demonstrate that inattentional deafness exists in the musical realm, in close correspondence to known blindness effects with dynamic visual stimuli. The striking effects in the musicians’ group shed a new light on the role of attentional processes in music perception and performance.

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**Authorship in Music Performance**

Erica Bisesi, Alberto Odone & Natale Stucchi

University of Graz, Austria  
ericabisesi@yahoo.it

**Background.** The problem of the interaction between action and perception has recently attracted the attention of psychologists. An appealing interpretation rests on the existence of a common substrate between motor and perceptive codes. Such an interaction can occur in performers’ recognition of their own identity. **Aims.** Our project is aimed at investigating the relative roles of motor competence (automated skilled movements) and cognitive competence (expressive rendering) in self-recognition. **Methods.** This task is addressed by separating these aspects in two different experiments. (1) Motor competence: 15 trained pianists play two pieces (arranged from Czerny and Pozzoli Etudes) lacking any expressive indication and produced in three different levels of difficulty (nominal, rhythmically varied and with extraneous notes). (2) Cognitive competence: participants listen to midi pieces specifically composed by one of the authors, as played by a computer. Then they introduce selected expressive variations in the score by mean of Director Musices, a computer program for automatic rendering of expressive performance developed at KTH-Stockholm. In both cases, stimuli corresponding to short excerpts of the original recordings are randomly presented to the same subjects in a subsequent stage, asking them to rate their self recognition. **Conclusion.** We expect to infer whether self recognition in music performance should be ascribed to motor competence or to cognitive factors.

PARTNERSHIP

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**When Parents Divorce: A Protocol Suggestion in Cases of Adversarial Divorces**

Sara Bernardelli & Nerina Fabbro

School of Psychotherapy, Verona, Italy  
bernardellisara@googlemail.com

The experience of divorce influences the life of children involved and there could be short and long term con-

sequences. (Dykeman, 2003). Research shows that divorce can negatively change the quality of attachment between children and parents, especially if maternal depression and a high percentage of chronic conflict between parents appear (Fabbro et al., 2009); negative effects could concern psychological well being and school performance of children (Dykeman, 2003). Parents have difficulties to consider that when a marital relationship is broken up, they will always be parents: this process must be handled. The aim of the present work is to create a protocol for divorced families, where interventions for both parents and children are suggested. The main idea is that there are different phases in the divorce experience and each phase is characterized by specific interventions. The problem is to help families to find new ways to live "together" to bring up children, where "to find" means "to create". It is important to clarify reasons, to stop conflicts and pass ambivalences (Vegetti Finzi, 2005).

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**Relation Between Perceived Quality of Intimate Relationships and Self-silencing**

Lucija Mičić, Vanja Gršković, Anđela Smolić-Ročak & Jelena Milaković

University of Zadar, Croatia  
skaoss@gmail.com

Relations between people and relationships that they get into have always aroused the interest of researchers. An area of special interest was the way people perceive the quality of relationships in which they are involved. The quality of relationship is often a synonym for relationship satisfaction, and is defined as a subjective evaluation of an intimate relationship, while the others observed it in terms of mutual adjustment and alignment of partners. These commonly used measures of subjective quality of the relationship are asking of the respondents, not only rough estimates of relational satisfaction, but also to report on the level of agreement in the specific areas of intimate relationships (satisfaction, stability, communication, conflict, perceived justice, intimate relations and idealistic distortion). Self-silencing is a construct which signifies cognitive schemas of creating and maintaining a close relationship in a way that the person is passive, that he or she suppresses his or her feelings and thoughts. The aim of this study was to determine the relation between perceived quality of intimate relationships and self-silencing at couples in a relationship or marriage, and with regard to sex. Regression analysis showed that perception of relationship fairness ( $\beta=0.23$ ,  $p=.01$ ) and idealistic distortion ( $\beta=-0.36$ ,  $p=.00$ ) are good predictors of self-silencing. Further analysis showed that there was no difference in self-silencing between men and women ( $t = 0.98$ ,  $p = 0.32$ ).

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**Marital Idealization during the Transition to First Parenthood**

Vera Ćubela Adorić & Ivna Juranić

University of Zadar, Croatia  
vcubela@unizd.hr

Previous research and theorizing suggest, that positive illusions about one's marital relationship are normal in satisfying marriages. Since most of the studies focused on the newlyweds, it is less clear how this tendency operates during later stages of the marital and family cycle. Using a combination of both cross-sectional and longitudinal designs, this study examined the tendency of idealization in men and women at various points during the transition to the first parenthood. At Time 1, a sample of 320 wives and husbands, drawn from two periods of the transition (i.e., during wives' middle trimester of pregnancy and about four months after the birth of the child), completed measures of marital functioning, including marital idealization. The same measures were completed by a subsample of 122 participants who agreed to take part in the follow-up ten months later (Time 2). The analyses of both cross-sectional and longitudinal data indicated a higher tendency of idealization during the pregnancy phase. However, comparisons of the Time 1 and Time 2 data suggest that in the periods after the childbirth the idealization is a more stable tendency, which is more closely related with the perception of marital stability than with one's contentment with marriage. The observed pattern will be discussed with reference to the positive illusions functioning in sustaining the marital bond as well as to both processes' sensitivity to the developments during the transition to parenthood.

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**Relationships between Prenatal Attachment, Satisfaction with Partner Relationship and Anxiety**

Hajnalka Sz. Makó & Anita Deák

University of Pécs, Hungary  
mako.hajnalka@gmail.com

Many attachment studies focus on the parent-child relationship; others describe the features of the adult attachment. Less attention is paid to the maternal prenatal attachment during pregnancy. Former studies in the field of perinatal attachment emphasize the importance of the development of the parent-foetus relationship. This relationship is based on the fact that the parents accept the foetus as a human being. The parents' representation about their baby relates to emo-

tional, cognitive and behavioural components. We assume that the attachment in this early period is determined by many factors such as the mother's emotional state, psychological stability, and the quality of marital relationship. In this study, we have examined the relationships between the prenatal attachment to the foetus, their satisfaction with marital relationship and the level of anxiety among 150 pregnant women. We have used the Hospital Anxiety and Depression Scale (HADS), the Prenatal Attachment Inventory (PAI), and the Dyadic Adjustment Scale (DAS). Results have shown positive correlation between the prenatal attachment and the quality of marital relationship. Negative correlation has been found between the prenatal attachment and the level of anxiety. Highly anxious women have scored lower on the marital satisfaction scale and lower on the prenatal attachment scale compared to women with low anxiety scores.

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#### **Spa Break at Rogner Bad Blumau. Impact on Romantic Love and Work-life-balance**

Christine Paischer, Eva Brunner & Robert Rogner

Carinthian University of Applied Sciences Feldkirchen, Austria  
c\_paischer@hotmail.com

Increasing time pressure and the need for high occupational performance lead to stress at work and in private life. 22.3 % of the European workers report to suffer from stress, which represents a major work-related health problem (Eurofound, 2007). Therefore, stress relieve strategies are becoming more and more important and the wellness market is booming. The present study examines short spa breaks (weekend trips) of couples at the hot springs "Rogner Bad Blumau". Eighteen couples were interviewed separately at the end of their stay. A theory driven interview guide was used asking for the impact of the stay on their romantic love as well as on their work-life-balance. The interviews were transcribed and analyzed using qualitative content analysis (Mayring & Brunner, 2010). The majority of the interviewees suffer from work-related stress, which was the main reason for the spa break. They report that their stay was a good possibility to recreate and to get new energy for their everyday work life. 79 % believe that the short time-out will help them to perform better at work. According to the interviewees the weekend trip also had a great impact on the romantic love: 74 % of the respondents categorize the stay as positive. Spa breaks are perceived to help relax and recover from stress from work and private life. Further investigations should focus on long-term effects of wellness stays.

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#### **What Determines Self-disclosure to Romantic Partners?**

Margareta Jelić, Željka Kamenov & Ana Zlatar

University of Zagreb, Croatia  
mjelic@ffzg.hr

Self-disclosure is an act of revealing something about oneself to others that they otherwise wouldn't have known. It is an important aspect of every relationship, because intimacy can not be achieved without reciprocal self-disclosure. The aim of this study was to determine predictors of five dimensions of self-disclosure (volume, depth, honesty, intention, and valence) for men and women in a dating relationship. The sample consisted of 161 couples aged between 18 and 40 years. The questionnaire consisted of demographic data, the short version of Experience in Close Relations Inventory (Kamenov and Jelic, 2003), The Revised Self-disclosure Scale, Quality of Marriage Index as well as information on previous romantic relationships (number, duration of the longest relationship and satisfaction with past romantic experiences). We also asked participants how they perceive their parents' relationship (positive and negative interactions between parents, marital satisfaction and quality of parents' relationship). Regression analyses were conducted separately for each gender. Results have shown that different dimensions of self-disclosure could be explained with different predicting variables. Although there are some differences between men and women, "intention" is best predicted by relationship quality, "honesty" by relationship quality and attachment, "volume" by attachment, "depth" by previous romantic experiences and "valence" by the perceived relationship between one's parents.

#### GENDER DIFFERENCES

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#### **Men or Women: Who's the Better (Active) Listener?**

Aleksandra Mindoljević Drakulić

University of Zagreb, Croatia  
aleksandra.mindoljevic@ufzg.hr

Epictetus (AD 55-c.135), a Greek philosopher, once said: "Nature has given man one tongue, but two ears, that we may hear twice as much as we speak". A good listener is the one that knows how to listen effectively. He is able to participate effectively in a communicative situation, empathize with a speaker, and understand the hidden and

unexpressed messages. Active listening is one of the fundamental communicative tools. Very few people know how to listen effectively. Thus, of all spoken information, even 75% is not comprehensible. Therefore, we tend to ignore, forget, or misinterpret them. Much previous psychological research in the field of communication has shown that there are gender differences in communication styles. In Croatia it is a common belief that women are better listeners than men. Also, it is widely accepted that men initiate communication and participate in it more actively than women. On the other hand, women are considered to be passive and tranquil. This study examines two questions: a) Whether the female students are better in the reception of communicative messages than their male colleagues, and b) Are the male students active participants in the communication whereas women tend to hesitate? The participants (N=50) in the study were the students of the Department of Mathematics and the Department of Geography, Faculty of Science, University of Zagreb.

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### **Sexual Self-disclosure to Different People – Examination of Gender Differences**

Danijela Oštrić, Zvezdan Penezić, Jelena Ombla  
& Izabela Sorić

Center for Social Care, Zadar, Croatia  
danijelazd@gmail.com

The aim of this study was to examine factorial structure and construct validity of the Sexual Self-Disclosure scale (Snell and Belka, 1987), separately for each target person, and to examine gender differences in motivation to self-disclose to mother, father, male friend, female friend, partner and stranger. Correlations between results on SSDS and results on Jourard's Self-Disclosure Questionnaire, Rosenberg's Self-Esteem Scale and the Croatian version of the Separation-Individuation Test of Adolescence were also investigated. Sexual Self-Disclosure Scale measures the extent of disclosure about sexuality to different target person. The survey comprised of a sample of 220 students (95 male, 125 female) with an average age of 20 years. Using factor analysis, two factors were identified as a basis of 12 subscales of the Self-disclosure scale for mother, father, male and female friend, and stranger. The first one is named Attitudes and values, and the other Private aspects of sexuality. The reliability of each scale is high with Cronbach alphas from 0,870 to 0,958. Results show that people disclose about sexuality the most to partner, then to friends, and then to parents and strangers. There was also a tendency to disclose more to the same-sex parent and friend. Results on SSDS were in positive correlations with corresponding

results on Jourard's Self-Disclosure Questionnaire, and with some subscales on the Separation-Individuation Test of Adolescence.

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### **Some Determinants of Opposite-sex Friendships Initiation and Dissolution**

Svjetlana Salkičević & Meri Tadinac

University of Zagreb, Croatia  
ssalkice@ffzg.hr

From the evolutionary perspective, friends help us solve the adaptive problems of reproduction, our own survival and survival of our offspring. Opposite-sex friendships (OSFs) provide individuals with a wider net of quality friends, potential mates and protectors, with sex differences originating in parental investment differences: in OSFs men pursue sexual access, while females seek physical protection and long-term mate potential. We have investigated the relationship of sex, gender roles, sociosexuality (SOI) and romantic involvement with the reasons for OSFs initiation and dissolution in a sample of 94 female and 90 male heterosexual students of the Zagreb University. OSF initiation because of sexual attraction and availability is more important to men and single participants with higher SOI, while friendship dissolution for the same reason is more important to those with higher SOI, masculinity and femininity. OSF initiation because of physical protection is more important to women and participants with higher femininity, and dissolution for the same reason is more important to women; OSF initiation because of the romantic relationship potential of a friendship is more important to men. These findings can be explained by sex differences in long-term mating strategies, rendering the reasons for the initiation of OSFs similar to those for engaging in a long-term romantic relationship.

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### **Are Women Really Focalised? Overlap between the Concepts of Male Gaze and Focalisation**

Katalin Bálint

Hungarian Academy of Sciences, Budapest, Hungary  
balintkatalin@mtapi.hu

According to the feminist film theorist Laura Mulvey the visual structures of mainstream films repeat the patriarchal logic of power and domination, where point of view is controlled by the male character, and the female character appears as the object of his gaze. Gérard Genette structuralist literary theorist with the introduction of the concept of focalization sharpened and re-casted the broad concept of point of view and perspective. The main aim of this research

is to study the correspondence between the concepts of male gaze and focalization used in psychoanalytic, feminist and narrative theories of film respectively. The hypotheses says that if a conceptual correspondence can be found between the two ideas, then it is possible to transform the concept of male gaze into a focalizational pattern – as a constant combination of a male focalizer and a female focalized object – within a film. Cinematic techniques of internal focalization

(focusing at the point-of-view shots) at the level of composition was analysed in two Hitchcock's films (Vertigo, Marnie). Result shows the temporal structure of characters' focalization. The result suggests that focaliser-focalised combinations can express complex, but hidden relations of subjects, and the imbalance of the focalizer-focalized roles between characters may reveal deeper patterns and connections.