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Abstracts

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The 30th International Congresses of Psychology (ICP 2012) is the first to be held in Africa in the 123-year history of this flagship event in international psychology. ICP 2012 promises to be an unforgettable professional and scientific experience in a unique cultural environment, South Africa’s Mother City, Cape Town.

Under the theme *Psychology Serving Humanity*, ICP 2012 showcases new frontiers of psychological science and practice as a means of improving, developing and enriching human life. ICP 2012 acknowledges that the discipline of psychology is inextricably engaged with the global and local communities in which we live, learn and practice. Hosted by the National Research Foundation and the Psychological Society of South Africa, ICP 2012 includes the widest range of substantive content fields within psychology.

The outstanding scientific programme features distinguished keynote addresses, cutting edge state-of-the-science lectures, controversial debates, and compelling presentations by leaders in the various fields of psychology, as attested to by the abstracts below.

*Saths Cooper  
President: ICP 2012*
Participative appreciative therapy: A positive approach  
Manju Agrawal  
Amity University, India  
This paper introduces Participative Appreciative Therapy. It is based on principals of appreciative inquiry combined with the power of visualisation. It has two phases. First is CREAM (catharsis, rapport building, empathy, affirmative topic and motivational environment) and second is DESERT (exploring the dream, seeing the dream implemented, emotional glue, representative actions and behaviour, transformation and discussion). Positive outcomes are visible from the very first session as probing and inquiry are in themselves therapeutic in nature. This paper advocates the importance of positive life orientation in recovery which has a healing touch. Hope, faith, love, will to live, cheerfulness, creativity, playfulness, confidence and great expectations have therapeutic value recognised all over the world and also by medical science. Yet, until now, most of the traditional therapies take a pathology-focused approach: problem – cause - interventions to uproot the cause - find solutions - follow up. In contrast participative appreciative therapy is an alternative approach to counseling and therapy with a focused approach: catharsis - focus on life giving factors - visioning of what could be - action plan - making personal commitments – take actions - appreciate and celebrate.

Using single block single category implicit association test to measure implicit gender identification  
Chuanguo Ai  
Central China Normal University, China; He Wenhui  
Central China Normal University, China; Xue Mengjie  
Central China Normal University, China; Bin Zuo  
Central China Normal University, China; Guoji Wang  
This research used Single Block Single Category Implicit Association Test (SB-SC-IAT) to evaluate undergraduates’ gender identification, and try to find out whether it is better than Single Category Implicit Association Test (SC-IAT). SB-SC-IAT integrates two blocks (compatible and incompatible) into one block. Fifty-one students were recruited in one university (22 males, 29 females). They were first instructed to accomplish the Bem Gender Scale in Chinese Revised Version, and then instructed to accomplish the Parental Concerns’ Scale that comprised five subscales: Family and school problems; Eating, sleep and physical complaints; Preparation; Fears; and Negative behaviours. Predictive Validity was assessed by comparing differences between this group of parents and a stratified sample of 3842 Portuguese parents of preschool and elementary school children, with MANOVA followed by one-way ANOVA with Post-hoc tests. Parents of young children were more highly concerned with family and school problems, and with eating, sleep and physical complaints, and less concerned with the child’s negative behaviours. The comparative study showed significant differences between the three groups of parents, (F (2, 3866) = 38.314, p< .0005; Wilk’s A = .89; partial η2 = .056), for the total score, for family and school problems, and for eating, sleep and physical complaints. There were also marginally significant differences for preparation. Post-hoc tests revealed that parents of younger children were less concerned about all the dimensions than parents of older children. Parental concerns differed among age groups of children. These results supported evidence for the Predictive Validity of the Parental Concerns Scale by distinguishing between different age groups of children.

Validation study of the Parental Concerns’ Scale with a group of parents of children until 2 years old  
Susana Algarvio  
ISPA, IUI, Portugal; Joo Marocco  
ISPA, IUI, Portugal; Isabel Leal  
The aim of this study was to assess parental concerns in young children and to evaluate the Predictive Validity of a scale developed to assess parental concerns. The participants were 54 parents of children between 0 and 2 years old that went to a Day Care Centre in the Lisbon District. Parents completed a Parental Concerns’ Scale that comprised five subscales: Family and school problems; Eating, sleep and physical complaints; Preparation; Fears; and Negative behaviours. Predictive Validity was assessed by comparing differences between this group of parents and a stratified sample of 3842 Portuguese parents of preschool and elementary school children, with MANOVA followed by one-way ANOVA with Post-hoc tests. Parents of young children were more highly concerned with family and school problems, and with eating, sleep and physical complaints, and less concerned with the child’s negative behaviours. The comparative study showed significant differences between the three groups of parents, (F (2, 3866) = 38.314, p< .0005; Wilk’s A = .89; partial η2 = .056), for the total score, for family and school problems, and for eating, sleep and physical complaints. There were also marginally significant differences for preparation. Post-hoc tests revealed that parents of younger children were less concerned about all the dimensions than parents of older children. Parental concerns differed among age groups of children. These results supported evidence for the Predictive Validity of the Parental Concerns Scale by distinguishing between different age groups of children.

Development of multidimensional self-concept scale (mSCS) for Filipino college students  
Ercison Batican  
Ateneo de Davao University, Philippines  
This study intended to develop a multidimensional self-concept scale (mSCS) for Filipino college students. The model consists of two factors with fifteen dimensions: (a) Independent Self Construal (Physical Attributes, Scholastic Competence, Athletic Competence, Artistic Expression, Autonomy and Independence, Global Self Worth, Financial Capacity, Goal Setting, and Gender and Sex); and (b) the Dependent Self Construal (Family Relationship, Morality and Religiousity, Social Competence, Romantic Relationship, Close Friendship, and Affiliation). A total of 499 students participated in this study. Of 198 items, 19 were automatically removed, 13 were added and 47 were revised based on the content validation ratio (Lawrence, 1975) result from the ratings of 13 experts. The Cronbach’s coefficient is high (922) while test-retest reliability revealed high correlations in almost all dimensions except Gender and Sex (r= .13 p = .13). Concurrent validity coefficient with the Rosenberg Self-Esteem Scale is significant (r= .55, p < .001), while most of the dimensions yielded significant construct validity coefficients, except Gender and Sex (r = .18, p = .12) and Autonomy and Independence (r = .03, p = .41). Pretest-posttest change was determined using Wilcoxon Signed Rank Test as another evidence of construct validity. It revealed a significant change of the scores of the participants after the intervention in some dimensions like Physical Attributes (Z= –2.16, p = .015), Goal Setting (Z= 1.89, p = .029), and Autonomy and Independence (Z= –3.18, p < .001). Factor analyses were subsequently employed.

An investigation and analysis of high school student leadership in Central China  
Wang Bin  
Bin School of Physical Education, China; Li Min; Li Gai; Wei Ming ding; Li Zhongxian  
The study aims to investigate the leadership skills of first-year students in high schools and examine the differences in leadership experience and gender on the five subscales of Student Leadership Practice Inventory. With random sampling, we selected 381 students from over eight high schools in Wuhan – the provincial capital of Hubei – as subjects. They ranged 15-18 years of age and all had leadership experiences prior, with a representation of 55.9% females and 44.1% males. The participants’ scores of leadership practice range from 52–150 with a
mean of 108.8. The most frequently engaged in leadership practice is Enable others to act, followed by Encourage the heart, Model the way and Inspire a shared vision, then Challenge the process. A statistically significant difference is found by length of leadership experience on five leadership practices. The students with more than two years’ leadership experience engage in each leadership practice more than the students with leadership experience under one year and of one to two years do. No statistically significant difference is found between males and females on any leadership practice. The results indicate that the skills to inspire a shared vision and challenge the process should be emphasized more than the other skills when implementing leadership education practices for Chinese high school students. Furthermore, leadership experience may be good for students’ leadership development and some student leadership developmental programs may be suitable for both boys and girls in high schools.

Performance of adolescents on two versions of the RAVLT

Jeanine Blumenau University of the Witwatersrand, South Africa; Yvonne Broom

In South Africa, the multicultural and multilingual nature of society has impacted on the cultural appropriateness of psychological tests. In the assessment of memory and learning, tasks such as the Rey Auditory Verbal Learning Test (RAVLT) are widely used, although they may not be standardized for the South African context. This study investigated how South African learners performed on the RAVLT as well as on an adapted version of this test, the South African List Learning Test (SALLT). The impact of language differences on performance was also noted. Subjects were 54 participants, 56% (SALLT). The impact of language differences on this test, the South African List Learning Test on the RAVLT as well as on an adapted version of the task, were investigated. The results indicated that the SALLT was feasible in real practice.

The estimation and comparison of group-level IRT model and individual IRT model

Yan Cai; Jiangxi Normal University, China; Dongbo Tu; Shuliang Ding

Traditionally the assessment of a group was based on the assessment of an individual, but the group-level IRT (GIRT) model could realize the assessment of a group without the individual assessment, which only required the individual in a group to answer one or some items in a test. Thus, it could deal with not only the completed data, but also the missing data. Through the Monte Carlo simulation method, this paper discussed the estimation precision of 2 parameter GIRT model under small scale group-level assessment. Most importantly, it also made a comparison with the outputs of the 2 parameter IRT model, which provided another pro- vided version of the GIRT model. In the study, two aspects (the model assumptions and between variations) were discussed. The findings reflected: (1) The model holds relatively strong robustness. (2) The estimation precision of all parameters was great. The precision of ability and distinct item parameters were first increasing then descending with the value of the between variation varying from small to medium to great. Additionally, the precision of item parameter was increasing during this varying. Those were similar with the findings under the IRT model. It showed that the GIRT model supplied another feasible group-level assessment method, and it could provide a similar assessment using less data than IRT model.

Translating the CORE-OM into isiXhosa: A method of psychometric tool translation

Megan Campbell Rhodes University, South Africa

The Clinical Outcomes in Routine Evaluation-Outcome Measure (CORE-OM), a pan-theoretical, practice-based evidence tool for measuring gross psychological distress and change achieved during psychotherapy, was recently validated on a South African English-speaking student population sample for use in South African university student counselling centres. Following its successful validation, this paper now presents the design used to translate the CORE-OM into an isiXhosa version of the tool. The translated version was piloted and then validated using a small sample of students in isiXhosa medium South African university student counselling centres. A back-translation design was used comprising a team of 6 bilingual, first-language isiXhosa speaking translators, in combination with a committee approach. The final translation was then qualitatively piloted, after which a larger quantitative pilot was conducted in an isiXhosa medium South African university. Data analysis was conducted in Statistics. Confirmatory factor analysis was used to evaluate construct equivalence and internal consistency of the translated isiXhosa version in comparison to the original CORE-OM English version. Test-retest reliability of the scale was .734 and split-half (reliability coefficients of the 2 subscales are respectively .856, .873, .835 and .832. Test-retest correlation over a two-week interval is .723. The criterion validity of CCSSS with the Church-based Social Support Scale (CCSSS) has 21 items, of which the organisational support subscale covers 5 items, the support belief subscale covers 5, the affection support subscale covers 6, and the love and support subscale covers 5 items. The results of reliability and validity tests shows that CCSSS has good psychometric properties. Of these, the internal consistency coefficient of the full scale is .924 and the internal consistency coefficient of the 4 subscales are respectively .892, .898, .861 and .846. The split-half reliability coefficient of the full scale is .734 and split-half (reliability coefficients of the 4 subscales are respectively .856, .873, .835 and .832. Test-retest correlation over a two-week interval is .723. The criterion validity of CCSSS with the Church-based Social Support Measure (Chinese version) is .426. This study concludes that CCSSS is a valid measure for Chinese Christians.

The development of Chinese Christians’ social support scale

Yongsheng Chen Zhejiang Normal University, Afro- ghistan; Haiyan Song

The researchers assume that Chinese Christians’ social support includes four dimensions: Organisational support, belief support, affection support, and substance support. The qualitative software analysis of 103 valid participants’ interview information, exploratory factor analysis of 276 valid participants and the confirmatory factor analysis of 269 valid participants have verified the reliability of the hypothesis. Following the four dimensions, the Chinese Christians’ Social Support Scale (CCSSS) has 21 items, of which the organisational support subscale covers 5 items, the belief support subscale covers 5, the affection support subscale covers 6, and the support substance subscale covers 5 items. The results of reliability and validity tests shows that CCSSS has good psychometric properties. Of these, the internal consistency coefficient of the full scale is .934 and the internal consistency coefficient of the 4 subscales are respectively .892, .898, .861 and .846. The split-half reliability coefficient of the full scale is .734 and split-half (reliability coefficients of the 4 subscales are respectively .856, .873, .835 and .832. Test-retest correlation over a two-week interval is .723. The criterion validity of CCSSS with the Church-based Social Support Measure (Chinese version) is .426. This study concludes that CCSSS is a valid measure for Chinese Christians.

Development of Chinese urban citizens

Yongsheng Chen Zhejiang Normal University, Afghanistan; Lixia Mou

In this study, the operational definition and structure hypothesis is that SOC means community members’ attitude toward the psychological envi-
The application of survival analysis in psychological research
Chen Chuan South China Normal University, China; in-Qiang Zhang
There is not a complete loss of the phenomenon in follow-up data of psychological research subjects. Under the traditional statistical methods in dealing with the loss of such data, it was easy to overlook the phenomenon of the study results. Survival analysis is one of the methods which can track data loss. Compared with OLS and logistic regression, the survival analysis method can handle censored data well, reduce bias, and a good deal of explanatory variables well over time. In the practised data, the application of children Wechsler block design test is also proof of the above conclusion.

Different predictors of test anxiety among adolescents
Sadhan Dasgupta University of Calcutta, India; Sreeparna Dutta
The present study was an exploratory attempt to identify different predictors of Test Anxiety (TA) among adolescents where the students perceived the situation as one in which significant others will pass judgments upon their adequacy in context to a test-like situation. The participants were 131 adolescents (both boys and girls from class 11 and 12), from different Higher Secondary Schools in Kolkata city, India. They were selected from middle class socio-economic families. The participants were selected from all the streams (science, humanities and commerce). Their mean age was M=17.25. A purposive sampling technique was followed and the study was based on a cross-section correlational approach. Stepwise multiple regression analysis identified Reactive Aggression (RA), Emotional Intelligence (EI), Neuroticism (N) and Psychoticism (P) as important predictors of Test Anxiety (TA) among adolescents. The findings may suggest some effective intervention strategies for management of these worrying cognitions in terms of failure outcome expectancies.

Using patterns of career preferences to provide career guidance feedback to individuals
Marie De Beer UNISA, South Africa; Chris Morais; Franco Krzywczak; David Maree
Background and aim of the study: The Career Preference Computerised Adaptive Test (CPCAT) is a new measure of career-related preferences which provides information on the broad dimensions and sub-dimensions of career related fields, activities and environments. The relative rating between the dimensions and their sub-dimensions is presented as an individual profile of the top 16 of the 34 possible sub-dimensions. Method: Two secondary School samples (n=262 at junior secondary and n=181 at senior secondary level) and a sample of college students (n=75) were used to obtain reliability and construct validity information. Individual case studies were used to explore interpretation of results at individual level. Results: Coefficient alpha reliability values were generally high above .80 for 27 of 34 sub-dimensions and above .70 for the other 7 sub-dimensions. In terms of construct validity, the patterns of correlations with another interest measure showed convergent and discriminant validity in line with the dimensions measured. Individual case examples illustrate how the unique pattern of preferences within and between career fields, career-related activities and environments provide an additional layer of information that can enrich career guidance discussions. Conclusions: This measure and approach for assessing career-related interest provides psychometrically sound information that can contribute to career guidance assessment, feedback and discussions.

Organisational culture in a Chilean public university
Guido Demichelli Universidad de Valparaiso, Chile; Alvaro Infante
This presentation reports the results of an organisational culture study, aimed at establishing and measuring the main Faculty and Staff members’ attitudes and beliefs about their own organisation. 70 in-depth interviews and 362 questionnaires were complete with a proportional and stratified sample of two populations: Faculty (N=1.120; sample: 212) and Staff (N=789; sample: 150). This research used the Galileo System, an integral quasi-quantitative methodology program that includes software for content analysis as well as tools to construct a specific study questionnaire, to measure and graphically represent attitudes and beliefs of both populations. Even though the theoretical basic assumption is the shared character of organisational cultures, this study focuses on comparing two very distinctive groups inside the same organisation, in order to discover up to what point each of them report as relevant (or not) the same constitutive cultural features of their organisation, and which are their main attitudes and beliefs regarding the characteristics they distinguish. Regularly, organisational interventions assume a “general culture” rather than specific ones so, if eventually different groups experience different cultures inside the same institution, this should be relevant for taking into account for future institutional interventions, avoiding the pitfall of treating both groups (if it is the case) as being only one.

Reducing adverse impact experienced with psychometric assessments in the South African context
Kim Dowdeswell SHL South Africa, South Africa
Being able to identify and select the top performers who will drive the success of the business is viewed as a strategic priority by many organisations, with the benefits of appointing such well established in the research literature (Aberdeen Group, 2010; Hunter, Schmidt, & Judiesch, 1990). While there is robust validation evidence for several assessment methods, an area that should always be considered in any selection process is adverse impact, which occurs where the use of a test or selection procedure results in a substantially different selection rate between groups (Robertson & Smith, 2001). This is of particular import in South Africa, with reference to the Employment Equity Act (1998). This paper forms part of a broader doctoral study concerning adverse impact and psychometric assessments in South Africa. Using a sample of consumer service applicants who completed psychometric assessments (cognitive ability tests and a personality questionnaire) as part of the selection process (N=731), and tracking the appointed applicants in terms of their performance (N=83), the
potential for adverse impact resulting from the use of assessments in the selection process will be unpacked. This information will be considered in the light of validation evidence of the assessment battery, demonstrated by correlating appointed candidates’ assessment and performance scores. The impact of the broader research project is to provide South African organisations with guidance informed by international research and based on local evidence to address the dilemma of balancing commercial and business needs with social, ethical and legal obligations when using psychometric assessments in their selection procedures.

The use of the South African benchmark test (NBT) as a predictor of academic success

Graham Du Plessis University of Johannesburg, South Africa

Since 1994 the government of South Africa has championed access to opportunities for all citizens. The aspiration of equitable access to education opportunities has increasingly become an area of central theoretical and practical concern. Of particular interest has been the placement of secondary school students into universities. The employ of admission tests in addition to school performance indicators has a long history both in South Africa and internationally.

In the South African context the use of these tests is endorsed for two predominant reasons. Firstly, the schooling system is characterised by significant discrepancies that are engendered by both past and present disadvantage. Secondly, the South African population is characterised by considerable heterogeneity in areas such as culture, language and socio-economic background.

This study explored whether the NBT had potential utility in explaining the variance in academic performance during the first semester of 944 first year university students enrolled in the Faculty of Humanities at the University of Johannesburg in 2011. A linear regression analysis indicated that the NBT and secondary school performance explained a significant percentage of the variance in academic performance. A model using both independent variables explained 12% of the variance in academic performance (Adjusted R²=12, F(2,994)=65.47, p <.01). This indicated that the employment of NBT in addition to secondary school performance allowed for a better selection of students than secondary school performance alone; and that selection of this nature are potentially more equitable.

Psychometric characteristics of beta III intelligence scale within contrasted groups and factorial components

Fawzy Ezat Aly Abd Alazim Daw Suez Canal University, Egypt; Abd El Hamed Regia

The revised Beta III was administered to 164 senior male and female students (age 19–22 years) in the faculty of education, Suez Canal university. The sample was divided into two groups: Experimental 23 students, and practical 142 students. By administering Beta III to the experimental group on test-retest interval of two weeks, it was found to have a high reliability of the total test at P<0.01. To verify the validity of Beta III from the practical sample n=142, the researchers used two methods: Contrasted groups and factorial components. T-test between means scores between the Egyptian selected practical sample of this study and American male prisoners in the standardised sample of Beta III n=82, (age 20–24 years) contain African American, white, Hispanic and other. The majority of them have a low education level. The results indicated that their were significant relations in favour of the Egyptian sample at p.0.01 in all the variables of the test. Construct validity factor analysis was conducted, the results indicated that their were two factors: Nonverbal reasoning and processing speed. Picture completion, picture absurdisties, and matrix reasoning influenced significantly the nonverbal reasoning factor. Coding and clerical checking influenced significantly the processing speed factor. Extraction method principal component analysis revealed one component extracted as a general factor in which nonverbal reasoning and processing speed factors loaded significantly on the general factor. The findings indicated that the Beta III scale is relevant to expressive or receptive aspects of intelligence.

Moderators of sex-specific differential prediction in college admission testing

Franziska Fischer University of Konstanz, Germany; Benedikt Heli; Johannes Schult

Women often perform better than men in college, but they do not outperform men on admission tests. So far there have been many different attempts to explain this underprediction of women’s grades. A recurring hypothesis is that female college students show more personality traits such as achievement motivation. Anyhow, no single all-encompassing personality trait could be identified yet, and usually not more than one personality trait is investigated at once. In the present longitudinal study we compare the influence of the most promising personality traits in order to explain women’s superior college achievement. A sample of 596 German freshman students (52% women) in science and management completed a subject-specific college admission test and measures of achievement motivation, conscientiousness, self-efficacy, and test-anxiety. In line with earlier studies, we find a small underprediction of women’s first year grade point average. Furthermore, the differential prediction effects are smaller for management students than for science students. For science students, the underprediction of women’s college grades can in part be explained by their higher conscientiousness scores. For management students, personality traits fail to eliminate sex differences in the prediction of college grades. Adding high school grades to the prediction model reduces differential prediction, regardless of subject. Therefore, including high school grades in addition to admission test scores is recommended. Highly selective colleges might consider adding a conscientiousness indicator to their admission procedure in order to counter the predictive bias against female candidates.

Detecting answer copying using log-likelihood-ratio and w-index

Yuanjuan Gan Nanjing Normal University, China; Jiayuan Yu

A new method to automatically detect copying on multiple-choice examinations based on Log-Likelihood-Ratio and w-index is proposed. Two related statistical procedures are combined in the method. The first statistical procedure uses Log-Likelihood-Ratio to identify examinees, called subjects, who have demonstrated inconsistent performance during an examination. For each subject the second statistical procedure uses the w-index to search for a possible source of the responses. Both stages apply a hypothesis test given a significance level. Monte Carlo methods are applied to approximate empirical distributions and then compute critical values providing a low Type I error rate and a good copying-detection rate. The results from a simulation study in this paper demonstrate the effectiveness of the approach.

International perspectives on test reviewing

Kurt Seligser University of Nebraska-Lincoln, United States of America; David Bartram

The two authors of this paper were instrumental in the preparation for publication of a special issue of the International Journal of Testing devoted to the various international approaches to the reviewing of psychological measures. This paper would briefly summarise, compare and contrast the various methods utilised by different countries to meet the needs for the public quality control of such measures. The countries and regions involved include the United States, Great Britain, the Netherlands, Germany and
Test-taking strategies: Fundamental issues to consider in assessment validation processes

Shahram Ghahari (IAU), Iran Khomeinishar Branch, Islamic Republic of Iran; Mohd Salehuddin Abd Aziz

Validity is the most important attribute of a good test. A test is useful if it is appropriate in terms of the objectives for which the test is utilized. Validity of a test is defined as the interpretation of the correct responses given to its items. In other words, validity of a test has a direct relationship with the way the scores of a test are interpreted. Test performance is affected not only by the test characteristics of test method, but also by test takers’ language ability and test-taking strategies. What the test designer thinks is being tested or will be tested is not always what the test actually will do when test taking-strategies are employed. Therefore, investigating the processes of test-taking at the time of completing a test is vital to interpreting the test and to gain insights into what each item is actually measuring. So, the present article intends to clarify basic concepts and research issues in relation to test-taking strategies. First, various definitions of strategies in general and test-taking strategies in particular are addressed. Then, the issue of consciousness is briefly referred to, and the theoretical foundations for understanding test-taking strategies is explained. The paper also addresses the different type of taxonomies offered for test-taking strategies concerning reading skill. Basic research instruments used for data collection purposes on test-taking strategies, and their application in reading assessment are highlighted. The article gives special attention to test-taking strategies and their implications for test validation.

Assessment use argument: A new approach to test validation

Shahram Ghahari (IAU), Iran Khomeinishar Branch, Islamic Republic of Iran; Allam Wael; Mohd Salehuddin Abd Aziz

Validity and validation have been the central issues in educational measurement as well as in evaluation and assessment research. Validation examines certain assumptions and influences within a test design, particularly to establish the degree to which all accumulated evidence supports the intended interpretation of test scores for the proposed purpose. An assessment use argument offers a step by step approach, beginning with claims about test score consistency, and ending with the effects of test use on society. The model provides the basis for justifying the intended uses of an assessment. It also offers a conceptual framework consisting of a series of inferences that link the test taker’s performance to a claim about interpretations, and a claim about interpretations, to a claim about decisions, and to claim about intended consequences, along with warrants and backing to support these claims. Moreover, the model enables test users and decision-makers to be accountable to stakeholders for the intended use of the assessment. This article deals with test validation with a particular focus on assessment use argument approach. Specifically, the article reviews the evolution of validity theory and validation frameworks as well as methodologies used to validate tests. Then, we will describe the innovative nature of Bachman’s (2005) and Bachman and Palmer’s (2010) assessment use argument. Concepts such as claims, warrant, backing and rebuttals are explained as a new way to look into test validation. The article gives special discussion to implications of this model over the other approaches in the field.

The evaluation of the effectiveness of interventions into the psychological ambit: A computerised tool and methodological proposal of the dialogics as a science serving humanities

Valeria Ghisoldini (University of Padova, Italy); Denis Poeta; Gian Piero Turchi

The praxis of the evaluation of effectiveness, is a key moment for attesting the transformative impact of interventions in the psychological ambit (and for any kind of intervention referring to scientific criteria), and for monitoring interventions towards the pursuing of their objectives. The present contribution aims at presenting a tool focused on the evaluation of the effectiveness of intervention into the psychological context, regardless of the theoretical model of the intervention. The proposal is based on Dialogical Science presuppositions, according to which reality is defined as a configuration, and it is discursively generated. On the basis of these presuppositions, a methodology of the evaluation of the effectiveness was designed and, gathering the discursive production at an initial time (T0) and at the end of the intervention (T1), it allows the measurement of occurred modifications. The Computerised System of the Biographical Analysis (S.C.A.B.) is a tool that, according to precise presuppositions, measures, through a mathematical model, the difference between the registered value at T0 and the one registered at T1. Consequently, it measures the value of the effectiveness of the intervention. The use of the tool named S.C.A.B. offers guidelines to promote the application of more and more effective interventions, and promotes a culture of the effectiveness for a Psychology which takes the responsibility to deliver effective and quality-driven services to the Humanities.

Research on the revised Fujian version of Minnesota multiphasic personality inventory (mmpi-fj)

Jun Gong (Jiangxi Children’s Hospital, China); Shiliang Ding

As a result of the enormous cultural difference between China and America, traditional methods of MMPI revision didn’t solve the problem that validity of MMPI decreased obviously in China because American scoring keys don’t suit Chinese scoring customs. The scoring keys in the paper revision of MMPI was recalculated to construct MMPI-FJ in the paper. We selected a Chinese criterion group and a normal control group to screen out native scoring keys of twelve basic scales (except F scale), through an item discrimination index method. F scale was reconstructed with items to which the response rate of Fujian norm was lower than 10%. The comparison of validity between MMPI-FJ and MMPI was made by using Fisher discriminatory analysis and profile comparison. It was found that, (1) TBSs’ scoring keys in MMPI-FJ were 269 items in which 115 items were same as that in MMPI, (2) in multiple discriminant analysis among seven psychiatric groups and the normal group, average discriminant accuracy of the groups was 83.8%, 59.4% through retrospective validation for MMPI-FJ and MMPI respectively, and 78.9%, 47.3% through cross validation for MMPI-FJ and MMPI respectively, and (3) profile comparison, there were overall higher average T score gaps of TBSs between each psychiatric and norm group in MMPI-FJ than that in MMPI. In the MMPI-FJ profile, the group with highest T score in any clinical scale (except MfSi scale) was the corresponding criterion psychiatric group. In the MMPI profile, the group with highest T score in Hy, Pd, Pt, and Sc scales was corresponding to Hypochondriasis, paranoid disorder, bipolar disorder, and paranoid schizophrenia group respectively. This paper’s innovation lies in revising MMPI by empirical key approach; MMPI-FJ is fitter for Chinese than MMPI.

The effect of informative priors on estimating the variability of estimated variance components for MCMC procedure

Li Guangming (Guangzhou University, China); Zhang qiang

MCMC procedure is a mobile Monte Carlo method and can be used to estimate variance components which are constrained by sampling. However, these estimates are, like any statistic, subject to sampling variability. They are likely to vary from one sample to another. Therefore, estimating the variability of estimated variance components needs to be further explored in order to ensure the dependability of estimated variance components. The study adopts Monte Carlo data simulation technique to explore the effect of informative priors on estimating the variability of estimated variance components for MCMC procedure based on normal distribution data. This study shows that MCMC with informative priors(MCMC inf) is more precise than MCMC with non-informative priors (MCMC non-inf) for standard error of estimated variance components, but when the item sample is bigger, the trend decreases. This study also shows that MCMC inf is equivalent to MCMC non-inf for confidence interval of estimated variance components, but when item sample is bigger, the trend is still same.

Proactive coping inventory (Spanish): Initial factorial validity, reliability, and cross-legged relations

Benicio Gutierrez-Dona (Universidad Estatal a Distancia, Costa Rica); Ralf Schwarzer
This study was aimed to provide initial evidence for factorial validity, reliability, time invariance and cross-lagged relations for the Proactive Coping Inventory (PCI Spanish). German and English versions of the PCI were translated and adapted into Spanish at The Freie Universität Berlin, Germany. Data were collected from a longitudinal sample of Costa Ricans (T1, n=902/T2, n=535). Confirmatory factor analysis (CFA) was used to assess the hypothesised structure of 4 dimensions, 7 factors, and 55 items. SPSS-CFA yielded a 7-factor model, with eigenvalues greater than 1.00, quite consistent with theoretical assignment of items to scales. Structural equation model implemented (SEM) with LISREL provided consistent evidence for a 4-dimensional structure that clusters 7 scales, and 55 items. Analyses also revealed that the 4-dimensional structure was invariant across time. Correlations were consistent with hypothesised relations between the PCI Spanish and several external scales, namely: The Brief COPE, Personality Trait Scales, Cognitive Appraisal Scales, and The PANAS. Cross-lagged panel (SEM-LISREL) revealed significant and positive cross-lagged effects between proactive coping and goal oriented coping (reflective, preventive, and strategic planning). It was also found, that early increases in proactive coping were related to later reductions in avoidance coping. Conversely, initial increases in support-oriented coping were linked to later decreases in avoidance coping. Theoretical advances will be discussed, and recommendations for further refinements will be given.

Dementia screening with unbiased tasks for high and low education groups
Kit-Tai Hau Chinese University of Hong Kong, Hong Kong; Jianfong Chang; Chi-Shing Tse; Grace Leung; Linda Lam
Particularly in less developed countries, the selection of appropriate tasks in screening potential dementia patients that would not disadvantage those with little or no education is important. For example, reading out and remembering words is inappropriate for illiterates, so are other tasks that are school-curriculum based and are seldom used in daily life. In the present study, we examined the performance of various common screening tasks for high and low educational groups and identified those that were biased. We studied the performance of 788 Chinese elderly people (383 normal, 405 with mild cognitive impaired) in a wide range of screening tasks for dementia. The differential screening power of these instruments for high and low education groups was examined and instruments that were biased for people with minimal level of education were identified. While more suitable instruments are to be developed, the present study alerted assessors in the interpretation of results using potentially biased instruments. The findings also provided insights in the development of more sensitive instruments for patients with different backgrounds.

Assessment and evaluation of learning
Roche Herbst Human Capital Solutions Inc., Canada; Maretha Prinsloo
Control measures to survive problems brought on by the global economic crises, were implemented within an international organisation. This resulted in operational and centralised control. The aim of this study was to assess cognitive functioning and learning potential of senior leaders across geographical and cultural boundaries. The population comprised of adults enrolled at post-secondary level, while continuing to work or completing a practicum as required by the academic course. A sample of 2 individual cases studies was chosen as representative. In summary, correlations between expected scores on a standard measure of traditional intelligence tests may better reveal cognitive abilities, strengths and weaknesses involved in academic functioning and/or learning in the workplace. Methodologically, interviews, psychometric measurements and questionnaires were used to determine different cognitive abilities and behaviour characteristics. This type of research can be seen as exploratory, descriptive and non-experimental. The population comprised of adults enrolled at post-secondary level, while continuing to work or completing a practicum as required by the academic course. A sample of 2 individual cases studies was chosen as representative. In summary, correlations between expected scores on a standard measure of traditional intelligence tests (CPP and LOI) are considered. Conclusions based on the findings will reveal various recommendations and other helpful interventions to support the individual’s success in a post-secondary academic and/or workplace settings.

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How to assess communication skills in medical school?
Stefan Hoefner Innsbruck Medical University, Austria; Maria Theresa Barbist; Margit Breuss; Martin
This study was aimed to provide initial evidence for factorial validity, reliability, time invariance and cross-lagged relations for the Proactive Coping Inventory (PCI Spanish). German and English versions of the PCI were translated and adapted into Spanish at The Freie Universität Berlin, Germany. Data were collected from a longitudinal sample of Costa Ricans (T1, n=902/T2, n=535). Confirmatory factor analysis (CFA) was used to assess the hypothesised structure of 4 dimensions, 7 factors, and 55 items. SPSS-CFA yielded a 7-factor model, with eigenvalues greater than 1.00, quite consistent with theoretical assignment of items to scales. Structural equation model implemented (SEM) with LISREL provided consistent evidence for a 4-dimensional structure that clusters 7 scales, and 55 items. Analyses also revealed that the 4-dimensional structure was invariant across time. Correlations were consistent with hypothesised relations between the PCI Spanish and several external scales, namely: The Brief COPE, Personality Trait Scales, Cognitive Appraisal Scales, and The PANAS. Cross-lagged panel (SEM-LISREL) revealed significant and positive cross-lagged effects between proactive coping and goal oriented coping (reflective, preventive, and strategic planning). It was also found, that early increases in proactive coping were related to later reductions in avoidance coping. Conversely, initial increases in support-oriented coping were linked to later decreases in avoidance coping. Theoretical advances will be discussed, and recommendations for further refinements will be given.

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the complex nature of political socialisation among Black youth and the relevance that experience with welfare services may have on youth political and civic behaviour and beliefs.

The application of generalisability in item response modeling approach
Xiao-Tian Hu South China Normal University, China; Min-Qiang Zhang

Through the distributional assumption of the facets in generalizability theory, Briggs and Wilson (2007) proposed the Generalizability in Item Response Modeling (GIRM) approach incorporating the Rasch model of item response theory (IRT) into the p×i design of generalizability theory (GT). Rather than using the observed scores matrix as the traditional GT approach does, the GIRM approach uses an excepted scores matrix to estimate the variance component within a Markov Chain Monte Carlo (MCMC) simulation. This study presents the GIRM approach in the context of an empirical data set with a p×i measurement design, exploring the effects of the GIRM approach in the achievement test. The data are taken from the multiple choice test items of the simulated data to test the formulas which were usually used in examinations, and used the simulated data to test the formulas’ validity. It was found that these formulas could provide a good estimation of variance components. The number of items had the largest effect on the estimation. These formulas could provide good estimation when the number of items was six.

Good emotional intelligence with poor IQ: A study with children who have intellectual disability
Sanddeep Jain Avari, India

This study is intended to examine the emotional intelligence of children with intellectual disability. A total of 60 children were used as the sample. Of these 60, 30 were children with intellectual disability, and the remaining 30 were children of average intelligence. Rating by teachers was used to assess the emotional intelligence of both the groups. Results reveal that children with intellectual disability were rated by their teachers as equal to their counterparts in the control group. However, children with intellectual disability were found lower in comparison to children of average intelligence in managing emotions to attain a specific goal. Results indicate that in spite of lower IQ, children with ID may have good emotional intelligence.

Estimates of sparse data variance components in the generalizability theory framework
Can Jiao Shenzhen University, China; Min-Qiang Zhang

Missing data are easily found in psychological surveys and experiments. Researchers are always concerned about how to make good use of the observed data, particularly in the examination. Due to time, manpower and material considerations, raters cannot rate all the papers. The rules of rating in college entrance examinations can be briefly summarized as follows: the raters and the papers are randomly assigned; the system randomly assigns a paper to a certain rater. The system recalls the paper after the rater has rated, and then randomly assigns it to another rater. This shows that the rating in college entrance examinations’ scores is a large sparse data matrix. As the missing data make the estimation of variance components and data mining more difficult, it is necessary to find a simpler method to estimate sparse data variance components. This article provides the estimating formulas of a p×i×r design of sparse data provided by Brennan (2001). This article also simulated data which were usually used in examinations, and used the simulated data to test the formulas’ validity. It was found that these formulas could provide a good estimation of variance components. The number of items had the largest effect on the estimation. These formulas could provide good estimation when the number of items was six.

Scientometric analysis of production and consumption of Khartoum University, Sudan
Omar Khaleefa University of Khartoum, Sudan

The study employed the scientometric method to investigate the production and consumption of scientific creativity by the researchers at Khartoum University, Sudan. To achieve this aim, the study analysed the CVs of 297 participants, both male (71.7%) and female (28.3%), from the Science (57.6%) and Arts faculties (42.4%). It showed the percentage of producers (60.6%) and those that have citation or impact (35.9%). The total amount of production was 2,764 papers and the average of production was 9.31 papers while for consumption was 2.29 citations. The annual production for a single researcher was 0.53 papers per year. The study showed that 10% of prolific researchers contributed 43% and 79% of the total production and consumption, respectively. The average amount of production and consumption of prolific researchers was 40 papers and 207 citations respectively. The most exceptional prolific researcher produced 230 papers and 3,113 citations in 45 years with an average production and consumption of 5 papers and 13.5 citations respectively. The H-Index estimated for that prolific researcher was ranged between 24–30 points.

Meta-analysis of effectiveness of psychological intervention on rate of obsessive-compulsive disorder symptoms (Iran 2001–2011)
Mahboobeh Kiani University of Isfahan, Islamic Republic of Iran; Salar Faramarzi; Ahmad Abedi

In recent years, experts in the field of obsessive-compulsive disorder have been trying to measure the validity and efficiency of psychological interventions on OCD symptoms. In this regard, meta-analysis with the integration of research results, demonstrated the effect size of treatments. This study aims to investigate the impact of psychological interventions in reducing symptoms of obsessive-compulsive patients. For this purpose, 20 accepted researches were selected and meta-analysis was performed on them. The research instrument was a checklist of meta-analysis. It was found that the effect size of psychological interventions on
The structure of the torrance test of creative thinking-figural in Spanish-speaking children: A confirmatory factor-analytic study
Gabriela Krumm CIIPME/CONICET - UAP, Argentina; Viviana Lemos; Vanessa Aran Filippetti
One of the most common and worldwide instruments used to assess creativity is the Torrance Tests of Creative Thinking (TTCT). In spite of the fact that this test has been studied for years, research conducted in relation to its validity is contradictory. Some authors, following the theory proposed by Kirton, have suggested the existence of two factors: Innovation and Adaptation, which might explain operationalised creativity for the Figural TTCT. The Innovation factor would be composed by the scales of Fluency and Originality and the Adaptation factor would be composed by the scales of Elaboration and Abstractness of Title. The scale of Resistance to Premature Closure of the Figural TTCT would be present in the two factors (Kim, 2006; Kim, Crawford & Bandura, 2007). Prior parent’s authorisation and informed consent, the Figural TTCT, form B, was administered to 577 children in 10 schools of the cities of Libertador San Martin, Crespo, Diamante and Parana in the province of Entre Rios, Argentina. Confirmatory Factor Analysis (CFA) was used to assess three theoretical models: 1. One-factor model. 2. Correlated two-factor model. 3. Uncorrelated two-factor model. The most satisfactory adjustment CFA identified two correlated factors: Innovation and Adaptation. These results are in line with previous studies that suggest a multidimensional structure of the creativity construct assessed by the Figural TTCT.

International psychology: What students need to know
Judy Kuriansky Columbia University Teachers Co, United States of America; Uwe Gielen Columbia University Teachers Co, United States of America
An increasing number of students are interested in pursuing a career and work, but are not sure about what courses to take and what opportunities they have. This presentation addresses what students need to know about international psychology as a field for study and for a career. The increasing number of resources available will be presented, including courses, websites, newsletters, journals, and schools concentrating on the subject. The presentation will feature a screening of a new DVD documentary about International Psychology: What It Is and How Students Can Get Involved, that informs and interests students, professionals and others about the field of international psychology. The DVD has been used in the classroom setting for discussion. After viewing, students expressed greater understanding of international psychology and interest in pursuing a career in the field. These reactions will be discussed. The DVD includes the definition of International Psychology; profiles of international psychologists; opportunities and advice for students; students’ descriptions of their international projects and funding; and guidelines about whether International Psychology is a field that fits the student. Scenes are included from Psychology Day at the United Nations; how students can join professional organizations; professionals and students interviewed at international conferences, including in Berlin, Jordan and the United States; and a discussion group of Worlwide Countries. International psychologists featured in the video represent countries from continents of the world (Africa, Asia, Australia, Europe, North America and South America), and represent various psychological organizations, including the International Association of Applied Psychology, the International Council of Psychologists, the International Union of Psychological Science, the International Association of Cross-Cultural Psychology and others.

The ‘Big One’ factor of personality and competence: Exploring the validity and meaning of Big 5 and Great 8 totals
Rainer Kurz Saville Consulting, United Kingdom; Peter Saville; Rob MacIver
General factors have recently been found for Competency (Kurz, 2005), Personality (Musk, 2007) and Effectiveness (Kurz, MacIver, & Saville, 2009) variables. MacIver, Kurz, and Saville (2009) validated Great 8 Totals on a mixed occupational group (N=308) for NEO (.20 uncorrected) and Wave Professional Styles (.32) with external ratings of Global performance (3 item scale). This study researched the nature and validity of ‘Big One’ factor components on the same sample. The first unrotated principal component (FUPC) was extracted explaining 35% of the variance with all positive factor loadings (albeit marginal for Openness). The results indicate the existence of a positive manifold and a Big One personality factor. ‘Big 5 Total’ scores were created by reversing all Neuroticism scales to become measures of Emotional Stability, and adding up all 5 factors. This content based composite correlated .96 with the FUPC, with r ranging from .73 with Emotional Stability to .36 for Openness while FUPC correlations were .78 and .08 respectively. Both Big One personality variables correlated .17 with the Global score. After partiaiing out of the Big 5 Total composite, significant correlations remained for Agreeableness (-.20) and Extraversion (.17). The results indicate that the Big 5 composite has a moderate level of validity but that further coverage of Need for Power related aspects of Extraversion, and Need for Achievement and Analysis variables - known to correlate negatively with Agreeableness - enhance validity. Content based unit weight components increase the robustness and meaning of ‘general’ scores and foster clarity in the field.

Reinforcement sensitivity and family factors as moderators of child and adolescent mental health
Valeriya Kuznetsova Institute of Physiology, Russian Federation; Helena Slobodskaya
Recent findings provided support for two higher order dimensions of child temperament, impulsivity and inhibition (Deal et al., 2005), reflecting neuro-psychological systems of Behavioural Approach (BAS) and Behavioural Inhibition (BIS) outlined in Reinforcement Sensitivity Theory. BIS predicts internalising in children, while BAS - externalising (Colder & O’Connor, 2004; Slobodskaya, 2007). An aggregation with family environment may increase the risk of adjustment difficulties in children (Achenbach, Rescorla, 2007). The aim of the study was to explore the possibility of mitigation of risk, by examining the moderating effects of family factors on the association between children’s personality and adjustment. In a community sample of 536 children, Sensitivity to Punishment (SP) and Sensitivity to Reward (SR) were evaluated using the SPSR scales for children (Colder & O’Connor, 2004), problem behaviours were evaluated using the SDQ (Goodman, 2001) for parents. Family factors were assessed by Life Style Questionnaire. SP was associated with externalising and internalising. There were a number of significant interactions between SR and family factors in predicting problem behaviours, no interactions with SP were found. For externalising, there were significant moderating effects of urbanisation, neighbourhood safety, family type, parent’s education and family cohesion. For Internalising, there were significant moderating effects of family type, parent’s occupation, family violence and monitoring. For impact on everyday life; there were significant moderating effects of urbanisation, gender, type of family, family aggression, parenting and family cohesion on Impact in everyday life.

Using profiling to support first-year university students
Juan-Claude Lemmens University of Pretoria, South Africa
The Student Academic Readiness Survey© (STARS) is a low-stakes, self-report survey measuring non-cognitive variables for the purposes of student development and psycho-social support. The intention of the survey institutionally, is to address the needs of individual students and to provide early warning of potentially ‘at-risk’ students, so that interventions can be planned for retention and success. The STARS was developed at the University of Pretoria over a number of years and forms part of a first-year retention and success project that was initiated in 2010. The STARS is administered to first-year students during the start of the academic year and ‘at-risk’ students are shortlisted for a peer mentorship programme. The data of 6062 students from the 2010 and 4252 students from the 2011 student cohort was analysed with a Rasch model to determine the psychometric properties of the survey. The Rasch analysis is a one-parameter item response theory model that enables one to construct unidimensional measures. Analyses of the constructs show that the survey is reliable and valid. Regression analyses also show that three constructs in particular are predictive of academic achievement, namely, self-efficacy, engagement and test-taking skills. These constructs can therefore be used as part of an early warning system to identify students who are at risk for poor academic achievement. Other constructs, such as financial and family support information can be used qualitatively in student support and development initiatives.

Measurement equivalence of Internet-based testing and paper-and-pencil testing: Illustrated with cross-mode repeated measures of five-factor model
Yuhui Di Beijing University of China, China
The merging and flourishing of Internet-based testing brought about advantages and potential, but also
Assessment and Evaluation

led to with disadvantages and concerns. From the perspective of psychometrics, the focus is the reliability, validity and measurement equivalence/invariance (ME/I) between internet-based testing (IBT) and paper-and-pencil testing (PPT). The data was collected from a counterbalance within-subject design during two months. Half of the original sample using computerized assistant sampling technique first completed via IBT and then mailed PPT, while the other half reversed the administrating order. The final analysis was based on 169 valid cases with heterogeneous demographic background. The Chinese version of NEO-FFI was used. In the framework of CTT and CFA, ME/I analysis was conducted respectively. In the CTT, differences in means, deviation, kurtosis, and skewness were significant in some indicators and scales. The alpha reliabilities and inter-correlation of five subscales in IBT and PPT were also compared, and found one significant correlation difference. The congruence coefficients were calculated after target rotation and indicated factorial structure equivalence. In the CFA, sequences of nesting constrained models were specified to examine cross-mode ME/I, and found four loadings and three intercepts two factor covariance were significant difference between two modes. The results were most convergent between these two approaches. All the results in general support the Internet version of NEO-FFI in its equivalence to the paper-and-pencil version. In the conclusion, the limitations and issues for future research about cross-mode ME/I were discussed.

The influence of school conditions and students’ personal factors on their academic performance: A multi-linear model analysis in an large-scale test 
Meijuan Li Beijing Academy of Educational, China; Yongmei Zhang; Yi Tian; Yi Hao

This study examines the influence of school conditions and students’ personal factors on their academic performance for fifth-graders and eighth-graders. Through a multilevel analysis, it found that schools’ locations significantly influenced fifth-grade students’ academic performance, but did not influence eighth-grade students’ performance. The school sizes also influenced fifth-grade students’ academic performance. More specifically, fifth-graders in large size schools had better academic performance than those in small schools. However, the school size had no impact on eighth-grade students’ academic records. The proportion of non-local students only significantly influenced eighth-grade students’ academic performance. Personal factors such as gender, whether the student was an only-child or not, time for homework, learning styles, learning pressure, and self-education expectations all influenced fifth-grade students’ academic performance significantly. Compared to the fifth-grade students, the eighth-grade students showed similar patterns but were not influenced by how many children were in students’ families.

Examining rater effects in China civil servant candidate writing performance assessment 
Yingwu Li Rennin University of China, China; Qian Ye

Although writing tests have a long history in large scale civil servant candidate assessment, they have received extremely limited attention within the recent personnel selection literature in China. This study explores the potential of applying two measurement approaches (Generalisability theory and Item Response Theory) in the analysis of data from writing tests for national civil servant candidates, and apply Generalisability Theory(GT) methodology to analyse the total variance of the raters and items macroscopically, and build on the many-facet Rasch measurement(MFIRM) methodology. The focus was on three main effects as well as 2- and 3-way interactions between raters and the other facets involved, that is, examinees, rating criteria, and tasks. Another goal was to investigate differential rater functioning related to examinee gender. Results based on GT showed that an acceptable amount of variance component was attributed to candidate ability. Results based on MFIRM showed that raters differed in the severity with which they rated candidates and were fairly consistent in their ratings. These findings have implications for controlling and assuring the psychometric quality of the China National Civil Servant Personnel System.

The underlying mechanisms of emotion regulation affecting the decision making process
Yingwu Li Rennin University of China, China

Recently, the constructive influence of emotion on the cognitive processes, especially emotion affecting decision-making, attracts the focus of researchers, and a variety of emotion and decision-making related theories emerged. This paper clarifies the latest theories of emotion and decision-making focused on the underlying mechanisms, experimental paradigms, and predicts developing trends, while provides a new research perspective and experimental method for researchers. The main results and conclusions as follows: Positive emotion and negative emotion have different effects on decision making; individuals do probability decision making with negative emotion and improbable decision making with negative emotion.

Factorial validity and consistency of brief symptom inventory across occupational groups in China
Chaoping Li Rennin University of China, China

Data from 319 employees was collected to validate the Chinese version of the Brief Symptom Inventory (BSI). EFA analysis replicated the same nine-factor structure after five items were dropped. 824 samples were then obtained from three occupation groups: teachers, policemen and manufacturing enterprise employees. Both separate CFA analyses of different occupations and combined analyses showed that the original nine-factor model clearly better had a fit than other alternative models. Alpha coefficients for all nine subscales were above .70. The results support that BSI provides a suitable measurement to assess psychological symptoms across a diversity of professions in China.

A study on the relations between self-confidence personality and mental health of university students
Che Liping USST, China

The self-confidence study conducted in China is a new research theme and one of the important psychological research fields. The paper explored the relationship between mental health and self-confidence personality. Findings showed that the dimensions of self-confidence personality and mental health reflected extremely significant correlations. The personality characteristic of self-confidence had a tremendous effect on the formation of a healthy personality. The student’s self-confidence could predict individual mental health obviously if the overall confidence was better. There was a phenomenal difference of various self-confidence groups on healthy personality. The higher scores they got in self-confidence, the better and healthier personality they had. Improving self-confidence is good for raising healthy personality levels. Finally, the results are discussed and accordingly recommendations are put forward.

A study on psychological education mechanism of college students’ entrepreneurship
Che Liping USST, China

This subject aims to explore and study current university students’ entrepreneurship psychology present situation and education mechanism. Expanding the specific random sampling survey among universities in Shanghai, through literature review, questionnaires, interviews and other research methods combined. In order to reveal the contemporary university students’ entrepreneurship present situation and the existence question, combined with the corresponding regulations and policies with the state, we put forward effective countermeasures and propose specific measures to improve university students’ entrepreneurship level and success rate. Earnestly alleviating the employment pressure on college students, effectively promoting various types of college students’ good start on their own businesses and innovative development of the whole society. This issue has certain theoretical significance and practical value.

Re-test of pay satisfaction questionnaire: CFA and EFA
Bangcheng Liu Shanghai Jiao Tong University, China; Jinqiu Chen; Ningyu Tang

The Pay satisfaction questionnaire (PSQ) developed by Heneman and Schwab (1985) is currently a popular tool to estimate pay satisfaction. Unfortunately, since 20 years ago, there have been arguments about the structure of PSQ. There has been no consistency to the dimensions of PSQ ranged from 2 to 5. Moreover, most of the studies had been from the Western and few from the Chinese context. The study tried to re-test the structure of PSQ in China. A survey of 195 Masters students in human resource management, this study found the three-factor model is a better fit than the original four-factor model although the original four-factor model is supported with the help of confirmatory factor analysis (CFA) and exploratory factor analysis (EFA) technique.

Construction of the South African version of the fear survey schedule for children
Helene Loxton Stellenbosch University, South Africa; Kathie Burkhart Stellenbosch University, South Africa; Thomas Ollendick

Fears are a normal part of development but excessive fears may interfere with daily functioning and
Modification and extension of hierarchical consistency index

**Mengmeng Mao**
College of Education, Nan Chang, China; Shulliang Ding

Cui and Leighton (2009) proposed the hierarchical consistency index (HCI) to detect the fitness of an examinee’s observed response pattern (ORP) to an expected response pattern (ERP) as person fit index. HCI is not defined well in the sense that when an examinee’s ORP is consistent with an item with the same attribute, test HCI could not be computed for the number of comparisons being zero, hence the denominator of HCI being zero. The item ‘i’ is said to be a father-item of item ‘h’ or ‘h’ is a son-item of ‘j’ means that all of the attributes in item ‘h’ is a subset of the attributes included in item ‘j’. The question is presented to the ‘father-item correctly, and the son-items wrongly, or slipping appears only. And it leaves out of account being wrong about responses to the ‘son-items and correct about responses to the ‘father’ item(s) (it means guessing). Modification and extension of HCI (named as MHCI) are proposed. The denominator of MHCI can’t be zero and MHCI detects the slipping and guessing simultaneously. The performance detecting misfit of HCI and MHCI has been judged in the simulation research, the results indicate that MHCI is meaningful and intuitive. For example, there are 4 attributes with linear hierarchy structure and 2 ORPs X1=(0100) and X2=(0101), HCI(X1)=HCI(X2), and MHCI(X1)=MHCI(X2).

A Rasch approach to construct development of a goal achievement measure

**David Maree**
University of Pretoria, South Africa

The investigation of the construct ‘goal achievement’ is made against the background of a conceptual discussion of goal theory and an empirical investigation of a psychometric goal instrument. Goal theory is briefly discussed in terms of goal setting and goal orientation research. Goal orientation theory makes a distinction between performance and mastery goals both with an approach or avoidance dimension. The relationship between goal setting and goal orientation is further explained in terms of the role of self-efficacy that figures prominently in the work of Bandura. The resulting taxonomy of goal achievement is then investigated in the analysis of a goal instrument applied to a sample of 745 persons from diverse background of large animals and situational fears. The adapted scale is referred to as the FSSC-SA. Implications of the study’s results in the South African context will be discussed.

A comparison of item exposure methods in computerised adaptive testing

**Li Ming-Yong**
South China Normal University, China; Xiaozhuo Jian; Min-Qiang Zhang

This study compared three item exposure control algorithms – the McBride-Martin method (shorted as MM), Restricted method (shorted as RT) and Item Eligibility method (shorted as IE), using the Monte Carlo simulation approach with Maximum Information Item Select Method without controls as compared to base level in computerised adaptive testing. Both advantages and disadvantages of these three algorithms were discussed focusing on RMSE and bias, standard error of examinee’s ability estimated value, test overlap rate, the utilisation rate of item bank, observed maximum exposure rates and proportion of items with exposure over. Results showed that none of these three performs well in terms of all these seven indices at the same time. Therefore, some changes were given to the ability estimation method, the allowed maximum of the exposure rate, item banks and test length respectively, to see the following impacts on the improvement of these three methods under an autoclinic model. The conclusions were as follows: (1) Considering all seven indices, the IE method was the most satisfying one but still not perfect, for the IE method doesn’t have a favourable utilisation of item bank. It has an effect on the items with high exposure rate, but has nothing to do with the ones with at low and zero exposure rates. Moreover, a clear trade-off was found in all these methods. In other words, the greater the emphasis given on exposure control, the greater the costs of the measurement accuracy achieved. (2) The changes in this study do perform better to a certain extent. But regrettably it doesn’t put the results better essentially. That is, there is still a trade-off effect in all these algorithms.

Subjective well-being scale: Construction of scales and preliminary tests of reliability and validity

**Wen Mo**
Hunan Normal University, China; Lan Hong; Shitong Li; Yunshi Peng; Shun Peng

Subjective well-being is the presence of positive affect and the absence of negative affect on the basis of the overall assessment of the quality of life according to the individual custom criteria. It is an emotional state of the individual’s awareness that their needs are met and their ideals realised. It is a complex, multi-level mental state formed by the interaction of need (including the motivation, desire, interest), cognitive, emotional and other psychological factors. This paper compiled a Subjective well-being Scale (SWBS) for Chinese people, based on the analysis of theory dimensions of subjective well-being and Maslow’s Hierarchy of Needs. The SWBS includes three scales: Survival Subjective well-being Scale, Expand Subjective well-being Scale, and Transcendence Subjective well-being Scale. Both theoretical and empirical approaches were adopted in the present thesis, yielding the following findings: (1) After 2 preliminary studies, the SWBS was administered to 962 individuals. Exploratory factor analysis of the SWBS yielded three 3-factor solutions. (2) Subsequently, an independent sample of 996 individuals completed the SWBS. Confirmatory factor analysis revealed good model fit, and test-retest reliability was very good, with good reliability and validity.

The development of the junior officers core competencies system

**Oscar Mthembu South Africa, South Africa**

The role of military organisations in serving humanity through peacekeeping, observing and such integrative missions cannot be underestimated. Identification of the most important core competencies and dimensions for the different leadership and management levels and dispensations in the military, would be a step towards the development of tools that could be used in career management and decision-making throughout the employment process of military practitioners. The purpose of this study was to identify valid and reliable dimensions/variables for the development of the Junior Military Officers Core Competency System. The research sample consisted of 111 participants. They were asked to rate the importance of 23 items derived from the current performance appraisal, the organisational values and the individual values of the junior military officers. The intercorrelation coefficient of the 23 items was subjected to a principal factor analysis and rotated by means of the varimax rotation to identify the substructures in the data matrix. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and Bartlett’s test of sphericity confirmed that the properties of the item scores were suitable for factor analysis. The 5-factor solution was found to be the best essentially. That is, there is still a trade-off effect in all these algorithms.

Development and psychometric evaluation of a managerial decision making self-efficacy questionnaire (mdmseq)

**Willem Myburgh**
Pysmetric, South Africa; Mark Brownlee; Cheryl Foxcroft

There have been few efforts to conceptualise and measure managerial decision making self-efficacy
beliefs as a construct. The present research describes the design and development of the Managerial Decision Making Self-Efficacy Questionnaire (MDMSEQ) and provides empirical evidence on the construct coverage, content and construct validity of the MDMSEQ as a multi-dimensional construct. The results of two studies involving 321 experienced managers evidenced a multi-dimensional structure and demonstrated respectable sub-scale internal consistencies for the MDMSEQ. Further, validation research demonstrated evidence that the MDMSEQ shared little common variance with confid-ence and problem solving self-efficacy beliefs. Several model fit indices suggested a reasonable to good model fit for the measurement model.

The use of assessments to enhance the selection of graduates in emerging markets

Ceridwen Neilson SHL South Africa, South Africa

The objective of this presentation is to share experiences in using assessments to select graduates into leading organisations in emerging markets. The consolidation of these experiences, coupled with analysis of assessment data collected for various projects, assists organisations in identifying ways to optimise their selection of graduates in the future. Taken together, this learning is beneficial from both an organisational and candidate perspective. Through rigorous and scientific-based hurdle approaches, incorporating various screening-out and selecting-in assessment tools, organisations are able to appoint high quality candidates. Neilson & Olivier (2011). By analysing assessment data and different recruitment processes it can be determined which screening and assessment tools add value in selecting the best calibre candidates, and which tools can be omitted or replaced. Experience with managing graduate recruitment projects also allows for a clearer understanding of what forms of communication and what selection processes attract graduates and keep them interested and engaged in the recruitment process. The analysis of results across various graduate recruitment processes allow confirmation that the assessments used in hurdle-processes add value in allowing organisations to screen down applications and select candidates. In addition, the assessment results provide an organisation with information on their potential future talent pipeline and leaders. Through considering what an organisation requires from a leadership perspective then mapping this to the assessment results of the graduates, clear strengths and development areas can be focused on to assist in de-risking the business and ensuring a healthy talent pipeline.

Exploring the applicability of the attachment story completion test within middle childhood in the south african context

Nonhlanhla Nkosi University of the Witwatersrand, South Africa

The Attachment Story Completion Test (ASCT) is a test used to measure attachment in middle childhood (children aged between eight and 12 years). The ASCT comprises of seven story stems, which the researcher begins and the child is required to complete as in a game. This instrument has been researched in other contexts like the United States and not particularly in South Africa. The purpose of this research is to evaluate the applicability of the Attachment Story Completion Test to a South African sample and identify emerging themes using this measure. The sample used in this research comprises 10 children aged between nine and 10 years, of which five are male and five female, and all of whom were from the same school. The ASCT was administered to the participants, their responses recorded and later coded for themes. The responses to the seven story stems were individually evaluated to see if they elicited the themes as according to the literature. Overall, the ASCT’s story stems are effective in activating attachment schemas in a South African sample. Gender is not a good predictor of the themes that arose, as was anticipated. These results are discussed in relation to the value of the ASCT in the South African context.

Evaluating the usefulness of psychological assessment of clergy applicants

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This paper presents a review of psychological assessment of clergy applicants from the viewpoint of the usefulness of the assessments. A new, three-way model for evaluating the usefulness of the assessments is suggested. Psychological assessment is nowadays used in recruitment in many professions. Churches are increasingly applying tests to screen their clergy applicants. Early on, the assessments were aimed at discarding unfit candidates. Nowadays, the focus is more on selecting those persons who will best succeed in the job. The assessment methods vary greatly from region to region. Research on the assessments has been rather varied. Nation wide samples are difficult to obtain, and only a few follow up studies have been conducted. The usefulness of the psychological assessment of clergy is poorly known. First, studies have not been undertaken to establish whether these assessments are considered useful by the applicants or by the recruiting dioceses. In other words, the subjective experience of usefulness has been overlooked. Second, the ability of the assessments to predict future work performance and occupational well-being is not fully understood. At the same time, clergy burnout and other occupational health problems are a growing concern worldwide. Knowing the connections between assessment results and future occupational well-being issues would help with prevention and early intervention. A new, three-way model to evaluate the usefulness of psychological assessment of clergy applicants is presented. The model will be tested on a Finnish sample in the following studies by the author.

What can we learn from gathering assessment results? A case study

Danie Oosthuizen SHL South Africa, South Africa

Assessment practitioners sometimes struggle to convince key decision-makers of the added value assessment results can offer in an organisational context. Assessment outcomes are often only used to take short-term decisions: for example, once a candidate has been appointed the results are filed and never used again. However, if assessment results are aggregated to create a project- or organisation-wide view, the information can be used for a number of additional applications (e.g. illustrating business outcomes and ROI through validation studies, trend analyses and comparing the organisation’s own talent to external benchmarks). The purpose of this paper is to reflect on a large-scale assessment project (N=1,367) that was undertaken for an organisation in the financial industry, and to examine how aggregated information may be used to create a better understanding of the benchmark of a group. The paper will provide a short background to the assessment project, a brief description of the assessments administered and processes followed, a group-level view of the assessment results and a summary of the qualitative feedback received on the value-adding benefits of reviewing the assessment results in their aggregated form. The paper will also focus on additional utilisation of how such results can be utilised to conduct business outcome studies and benchmark comparisons. Delegates will gain insight on how aggregated assessment results were used in this case, and how they can be used to create additional value and benefits over and above individual assessment outcomes.

An assessment of the psycho-social classroom environment perceptions of students and teachers in mathematics

Ifeyinwa Osegbu Nwofor Orizoo College of Education, Nigeria

Two mathematics classroom environment instruments the mathematics classroom environment scale (MCES) and the individualized mathematics classroom environment questionnaire (IMCEQ) each having three forms (Osegbu, 2005) were used to establish the perception profiles of students and teachers in mathematics classrooms in Anambra State, Nigeria with a view to improving the present state of secondary school classroom environments in mathematics. To guide the study, three research questions and twelve hypotheses were formulated and tested. The research questions sought to establish whether there are differences in the perception profiles of students and students with regard to the MCES and IMCEQ. The hypotheses on the other hand sought to establish whether: (a) The MCES and IMCEQ are capable of differentiating among student in terms of their needs, location and class level. (b) There are significant differences in the forms of MCES, and IMCEQ with regards to student’s perceptions. (c)
Differences in students’ and teachers’ perceptions of the actual classroom environments. Questionnaires were used to collect data from 1039 students and 45 teachers. A combination of descriptive survey and ex-post facto research designs were used to obtain data from students and teachers in the actual and preferred formats of the instruments. Means standard deviations, multiple analysis of variance and t-test analysis were used to analyse data at a significant level of .05.

Predictive validity of biodata items generated from personnel files

Lu Shan Pan Chinese Academy of Personnel Science, China; Wei Fan

Although biodata has been shown to be one of the best predictors of employee performance and turnover, the problem of its being susceptible to faking remains unresolved. Rather than self-report data, relatively little research estimated the predictive validity of biodata by gathering the data from objective life experience. In this paper, 97 items of biographical information was generated from personnel files which form part of the national personnel management system in China. Personnel files were targeted to aspects of five life experiences (personal information, background, education, training and work experiences). 107 personnel files of financial professionals and 103 personnel files of automotive engineers were coded. The degree of item validity was associated with salary growth and promotion rate which were also gathered from the records of personnel files. Results indicated that the factor structure of dimensions for valid items was different from that of non-valid items. The difference factor structure of valid items between financial professionals and automotive engineers was also compared. Implications for the construction of biodata forms and the limitations of the study are discussed.

The improved maximum priority index method for balancing attribute coverage in cognitive diagnostic computerized adaptive testing

Yiroa Pan Jiangxi Normal University, China; Shu-liang Ding; Wenyi Wang

Cheng (2007) proposed maximum priority index (MPI) method for content balancing in a traditional CAT and Cheng (2010) extended to the modified maximum global discrimination index (MMGD1) method for cognitive diagnostic computerized adaptive testing (CD-CAT). But priority index in MPI or the attribute-balancing index in MMGD1 tends to choose those items with less constraints (e.g. contents or attributes) because the index of the gap from attaining the lower (upper) bound is not greater than one. To overcome these disadvantages, the improved maximum priority index (IMPI) is proposed by redefining the base in the exponential expression of MPI in this study. Considering the combination of balancing attribute coverage with the similarity of any two attribute patterns, the IMPI turns to another item selection method called MGCD1 for CD-CAT. MGCD1 benefits an item in two aspects: The recovering of attributes and better performance in similar attribute patterns. Compared with MMGD1 and MGCD1, results of Monte Carlo simulation indicate that MGCD1 is of higher pattern match ratio and marginal match rate than MMGD1 and performs as well as MMGD1 in balancing attribute coverage. Furthermore, we also attempt to incorporate the IMPI into other item selection strategies for CD-CAT, such as Kullback-Leibler strategy, Shannon entropy strategy and so on. Future research will explore the applications and advantages of using IMPI for test construction using cognitively diagnostic assessment.

The usefulness of alternative true-false test formats on assessing skill acquisition

Richard Perlow University of Lethbridge, Canada; Lori Kopp

One of the ways to assess the usefulness of job-related training programs is to measure trainee learning. One way to assess trainee learning and/or skill acquisition is through true-false tests, particularly when the multiple-choice question is suboptimal. However, the use of true-false measures is controversial and there is disagreement on the value of measuring learning using that method. One major criticism of true-false measures is that critics often mention is that guessing markedly inflates test scores thereby reducing the validity of inferences of those scores. There is some research examining the usefulness of modifying true-false tests as a way to improve the psychometric properties of the scores the test yields. Unfortunately, the research that we found typically involved correlating true-false test scores with other paper-and-pencil measures. In this paper, we describe and evaluate a method used to reduce the effects of guessing on true-false test performance. Specifically, we examine the relation of scores from both traditional and the modified true-false formats to non-paper-and-pencil performance indices that requiring knowledge application. Participants completed a true-false test assessing job allocation decisions and motivational knowledge before and after performing a complex simulation. Results show that a true-false format incorporating confidence ratings in the scoring algorithm is a useful predictor of complex skill acquisition but it is no more related to performance than the traditional true-false format.

Standardisation and psychometric investigation of the Emotional Quotient Inventory 2.0 in South Africa

Martineen Pienaar Jopie van Rooyen and Partners, South Africa; Casper Van Zyl; Nicola Taylor Jopie van Rooyen and Partners, South Africa

South Africa has a diverse society when compared to other countries with more homogenous populations. This presents unique challenges when making use of psychometric assessments, and it is thus vital to ensure that imported instruments are appropriate for local use. The revised version of the Emotional Quotient Inventory (EQ-i) was released in 2011. In order to ensure the appropriateness of use of the EQ-i version 2.0 in South Africa, we conducted a standardisation study. The objective of this study was to examine the psychometric functioning of the EQ-i 2.0 in the South African context to standardise the assessment for use in South Africa. The norm sample of approximately 1500 respondents was stratified according to South African census data to ensure a close representation of the working population in South Africa. We conducted ANOVA to determine whether any trends existed across gender, age, and ethnic groups which may require separate norms to be developed. Construct validity was examined by means of exploratory and confirmatory factor analysis. The results were compared to those obtained in North American samples. Item response theory analyses further supported the construct validity of the EQ-i 2.0 scales. IRT techniques were also used to investigate each of the scales for differential item functioning (DIF) which may result in scale level bias if uncorrected. The data collection process and results of the data analysis will be discussed, along with implications for the continued use of the EQ-i 2.0 in South Africa.

The future of assessment

Maretha Prinsloo Magellan Consulting Pty Ltd, South Africa

The challenges facing psychometric assessment and potential methodological adaptations to addressing these challenges are discussed. Given the dynamic complexity, integrated and contextualised nature of human functioning, as well as the role of collective consciousness, the evolution of consciousness, ethical considerations and societal evolution, it is much more likely that there would be room for the further improvement of assessment methodologies. Guidelines for the development of effective and appropriate measurement techniques are addressed. The concept of dynamic modelling is introduced to accommodate the challenge of dynamic complexity. The “additive approach” characterising current holistic psychometric practice is bound to be replaced by the emergence of integrated assessment techniques. Operational mechanisms and catalysts related to the impact of collective consciousness and contextual factors on individual functioning are discussed. Ethical considerations aimed at benefiting the individual, the organisation and society as a whole as well as the role of the internet to spread the benefits of assessment to a wide audience, are addressed. An emphasis on wisdom, intuition, integrity and related psychometric concepts may be required to accommodate factors linked to the evolution of consciousness. A further challenge is posed by the measurement of the effectiveness of measurement techniques. Traditional psychometric practice relying on ability tests and personality questionnaires is bound to be replaced by integrated, modelling techniques that are electronically delivered.

The suitability of the Suffolk Reading Scale (2) for South African primary school learners

Maria Ramaphalo Vaal University of Technology, South Africa

The field of psychometrics in South Africa faces many challenges. Imported assessments pose various biases to South Africa’s multilingual and multicultural situations, hence the need for test adaptation. The Suffolk Reading Scale (2) (SR2S) is an English proficiency assessment that measures reading comprehension. English, being the language of learning and teaching in most South African schools, makes the SR2S a significant gain to practitioners and the field of psychometrics. Consequently, this research aimed to narrow the gaps in this area of knowledge by evaluating the applicability of the SR2S as a proficiency assessment of reading comprehension among South African learners. The study also intended to compare learners speaking English as a first language with...
those who speak it as an additional language on reading comprehension. Primary school learners in Kwa-Zulu Natal were administered the SRS2. Of the 338 participants, 51.9 percent (n=140) of the sample were female, and 48.1 percent (n=130) were male. Sixty-six percent (n=164) of the participants spoke English as an Additional Language (EAL), while thirty-four percent (n=83) spoke English as a first language (EFL). Results indicated a significant difference in performance between EFL and EAL learners, with EAL learners performing lower than EFL learners on reading comprehension. The SRS2 proved to have an acceptable internal consistency; however questions of bias do arise.

Factor-structure of the temperament and character inventory in data of South African and Swedish police trainers

Joerg Richter Center for Child and Adolescent, Norway; Lars Erik Lauritzen; Deon Meiring; Elizabeth du Preez; Nafisa Cassimjee; Mehdz Haqznour; Marietha Visser

The Temperament and Character Inventory (TCI, 9th version) is a 240-item self-report questionnaire developed in the US to measure the four temperaments (novelty seeking – NS, harm avoidance - HA, reward dependence - RD, persistence - PS) and the three character domains (self-directedness, cooperativeness - CO, self-transcendence - ST) based on Cloninger’s psychobiological personality theory. The theory assumes that temperament traits are mainly genetically determined, while character traits are mainly determined by socialisation. However, personality is developed by an enduring interaction between all domains as well as with the environment throughout a lifespan. Cross-cultural equivalence of the TCI’s factor structure could be demonstrated between the US, Swedish and German normative data by procrustes rotation method (Richter, Brändström, & Przybeck, 1999). 1145 black and coloured South African and 103 Swedish police trainers were investigated by the TCI upon entry to training. The individuals of both samples showed, on average, higher scores on SD and lower scores on HA than samples from the general population. Results from comparisons of the factor structure by procrustes rotation method and by CFA will be presented. We hypothesise that the factor structure of the TCI is equivalent in the data from both countries, South Africa and Sweden, but mean scores significantly differ on all seven personality domains.

An item and construct bias analysis of two language versions of a verbal analogies scale

Riwana Roomaney South Africa

The Woodcock Muñoz Language Survey (WMLS) is a test of cognitive academic language proficiency that has been adapted from English into isiXhosa. This study was primarily concerned with the Verbal Analogies (VA) scale of the WMLS and aimed to cross-validate research on the language versions of the scale and improve on methodological issues by employing matched groups. The study employed a monolingual matched two-group design consisting of 150 mainly English speaking and 149 mainly isiXhosa learners in grades 6 and 7. This study had two sub aims. The first was to investigate item bias by identifying DIF items in the VA scale across the isiXhosa and English by conducting a logistic regression and Mantel-Haenszel procedure. Five items were identified by both techniques as DIF. The second sub aim was to evaluate construct equivalence between the isiXhosa and English versions of the VA scale by conducting a factor analysis on the tests after removal of DIF items. Two factors were requested during the factor analysis. The first factor displayed significant loadings across both language versions and was identified as a stable factor. The second factor was specific to English version but not for the isiXhosa version. Results were confirmed by the Tucker’s phi and scatter plot. It was therefore concluded that factor one is structurally equivalent across the two language versions but that factor two was not structurally equivalent. Therefore the detection and removal of DIF items did not result in structural equivalence being established.

Male gender preference: Is a risk factor for antenatal depression

Maryam Rouhi Islamic Azad University, Islamic Republic of Iran

Depression is one of the major morbidities that affect many women during ante- and postpartum periods. There are many risk factors that make women experienced and thereby became susceptible to depression. One of those items is male gender preference, especially in Asian women where most families desire a male child. This is a cross-sectional study of 2300 women in three cities (Naghad, Mahabad, Sardasht) who attended routine antenatal appointments and during the study period self-completed a questionnaire. The first part investigated socio-demographic, cultural and other possible risk factors, including gender preference. The second part comprised the Edinburgh Postnatal Depression Scale (EPDS). EPDS scores greater than or equal to 13 indicate probable depression. The prevalence of depression was 32.1%. Maternal male gender preference was common and was associated with depression. Family male gender preference, unplanned pregnancy, a history of depression and feeling anxious in pregnancy were associated with an increased likelihood of depression, while support from family and friends, being satisfied, and pregnancy anticipatory were associated with a reduced likelihood of depression. It was concluded that the rate of antenatal depression was very high in women and male preference was a risk factor in this population. On the other hand, antenatal depression was the strongest predictor for parenting stress. Recognizing risk factors play a vital role, especially for different ethnic groups.

Tests made in Germany: International use of psychological tests from the German-speaking countries

Nascher Saskia ZPID, Germany; Gabriel Schol; Guenter Krampen

The internationalisation of psychology has led to an increasing anglicisation of psychological publications from German-speaking countries. It is analysed whether this also led to a growing number of psychological tests originally developed in the German language, which are subsequently translated into English. Furthermore, it is examined whether such a tendency increased or decreased the number of tests from German-speaking countries (in comparison to tests of Anglo-American origin) employed in German and Anglo-American research studies. To investigate these aspects, bibliometric data of psychological tests developed in German-speaking countries since the 1950s are presented. The application of tests in German versus Anglo-American empirical research is analysed using data from the German reference database PSYNDEX (containing psychological publications of authors from German-speaking countries) and the American reference database PsycINFO (international coverage with a strong Anglo-American bias). The study analyses compare the number of German and Anglo-American test developments used in German and Anglo-American publications between 1950 and 2010. Further bibliometric data concerning differences between tests originating from German and Anglo-American countries are analysed according to subject classification. Results indicate a strong influence of the original language on test utilisation and highlight the significance of enhancing the visibility of German test developments in the English-speaking countries.

Development in an academic environment of a web-based test-manager with non-copy-righted psychological tests

Mark Schittekatte Ghent University, Belgium; John- ny R.J. Fontaine; Marc Covents

The main goal of this project at Ghent University (Belgium) is to develop an on-line test-manager which offers psychology students and our academic staff a tool to facilitate the inclusion of non-copy- righted psychological assessment instruments in their research. Often these instruments are poorly known and underused. Within this initiative both research and practice are included. Practitioners get access to many useful tests, and clients/patients are more likely to be tested with a specifically tailored assessment. At the same time researchers can use the responses for
Assessment and Evaluation

How intelligence facets relate to admission test scores and predict academic success
Johannes Schult University of Konstanz, Germany; Franziska Fischer; Benedict Hell

The aim of this study is to explore how intelligence facets that are crucial for academic success are mapped in tests of scholastic aptitude. We assess the differential influence of verbal, numeric, and figural ability separately for economics students and science students. Differential validity regarding gender within each field of study is also investigated. The data from 619 freshman students from two German universities include intelligence test scores (IST2000R) and academic aptitude test scores - both collected during the first weeks of college - as well as subsequent grades from the first year in college. Using structural equation models, we compare the direct influence of each intelligence facet on academic performance with the indirect effects mediated by academic aptitude test scores. Numeric abilities play an important role in the admission test’s predictive power. They also tend to have incremental validity over the aptitude test scores. Verbal abilities are important in science admission tests and science grades, but not in economics, where figural intelligence is a valid predictor for women’s academic success. In general, admission test scores have a larger predictive validity for women than for men. These findings highlight the need for general admission tests that cover all relevant intelligence facets.

The exploration of item selection strategy for cognitive diagnostic computerised adaptive testing
Zhiyong Shang Shenzhen Seaskyland Technology Co., Ltd; Shuling Ding; Yan Liu; Wenyi Wang

The purpose of this paper is to construct a new and effective adaptive selection strategy for computerised adaptive testing for cognitive diagnosis based on the DNA model. The new method is designed as follows: Firstly, before the test is administered, the item pool is partitioned to some sub-pools according to the attribute pattern contained in the items, and each sub-pool parameters (st,gt) is calculated by taking the mean of items parameters in the sub-pool. Secondly, let p(·,·) be the posterior distribution of knowledge state after h responses are observed, let f(·,·,·) be the discrimination function (DF) and it is defined below, let g(t+h+1) be the expected DF (EDF); Thirdly, the new method selects the t-th sub-pool if t maximises EDF and selects (h+1)-th item randomly from the sub-pool as the next item. To define DF, consider (st,gt) and any pair of knowledge states (u, ok). There are 4 possible expected item response (EIR) vectors. If EIRs are not the same, let f(u, ok)=1-(st+gt)/2, otherwise 0. When compared to selection strategies of random or Kullback-Leibler or Shannon Entropy with EDF, the simulation results show that the EDF is a significant improvement both in the measurement accuracy and the speed of item selection.

Trust behavior in a computerized investment game
Pei-Chun Shih Universidad Autonoma de Madrid, Spain; Alejandra Montoro; Eduardo Estrada; Agustín Martínez

The most common behavioral measure of trust is the Investment Game (Berg et al., 1995), where a sender and a receiver have to decide whether to invest their initial endowment on each other to gain the maximum profit. The aim of this study is to develop and validate a computerized version of the investment game in web setting. Two characteristics of this computerized task contribute to improve the quality and efficiency of research: it allows a higher control over the variables and a complete record of all actions. Three different performance conditions were carried out to (1) explore the psychometric properties of the measure; (2) compare the effect that positive and negative reciprocity has on trust behavior. The sample comprises 112 (82 females, 73.2%), whose age ranged from 17 to 52 years (M = 20.02, SD = 5.506). Internal consistency was good (α = .851) and the instrument showed convergent validity with other trust measures (r = .240, p < .05 with Yamagishi General Trust Scale and r = .331, p < .01 with NEO-PIR-FI Agreeableness). A significant difference between positive (M = 51.592, SD = 21.364) and negative (M = 37.437, SD = 17.235) reciprocity conditions was found (F = 15.06, p < .001; partial η2 = .120). Results show that this instrument has good reliability and validity. Moreover, it allows conducting experimental research on trust behavior with a large number of subjects while overcoming time and space restrictions.

The use of the phonic inventories by eight teachers in Japari Remedial Centre: A case study
Sibongile Sibanyoni Witwatersrand University, South Africa

This research is a case study of the use of the Phonic Inventories at Japari Remedial Centre, Johannesburg. Eight teachers at the centre used the error profiles from this instrument to identify each learner’s specific area of difficulty in learning phonics. This study attempted to establish whether this information was useful for planning lessons, and whether this was an effective way of enhancing teaching strategies. The investigation was multmethod. Teacher rating scales and phonic error profiles from the learners’ assessment were used as data for the quantitative aspect of the study. Interview and focus group data were used as qualitative data to identify the teachers’ perspectives concerning the use of the Phonic Inventories in the school, as well as to interpret important trends in the data. These two forms of data were analyzed interpretively. Overall, this study indicated that the phonic error profiles were used by both teachers and reading therapists in the school as a way of focusing on specific areas of reading, spelling and written work in which particular learners were struggling, as well as for planning instruction for groups of learners with similar error profiles. In addition, they provided a useful basis for communication with individual learners and groups of learners concerning their learning needs, as well as between teachers and teachers, teachers and reading therapists, teachers and school HOD’s and administrators, and teachers and parents.

Animal behaviour research in India: Contributions to basic science and conservation biology
Mewa Singh University of Mysore, India

Animal behaviour in India has been studied by zoologists and psychologists. Conservation biology has been researched by hard core conservation biologists and applied by the forest and wildlife managers. In recent years, behavioural ecology has become an independent discipline by itself. Whereas behavioural biologists have paid little attention to the conservation of species, conservation biologists have largely ignored the findings by behavioural biologists. I argue that behavioural ecology bridges the gap between behavioural biology and conservation biology. Animal behaviour research in India, on one hand, has contributed significantly to the basic science of evolution covering areas such as evolution of social systems, behavioural development, dominance systems, parental investment patterns, resource partitioning in sympatric species, social organisation, cognition, etc. on the other hand, it has contributed to our understanding of animal behaviour in wild habitats as well as in the captive conditions of zoos has a direct application value for conservation and management of species, especially endangered species. Such research includes spatiotemporal distribution, male migration patterns, mate choice, resource utilisation patterns, enclosure designs, etc. In this talk, I will briefly summarise the above topics of research in India.
The development of the revised DINA model and its application
Li Hong Song, Jinagi Normal University, China; Weihui Wang, Haiqii Dai, Shuliang Ding

This study introduced the revised DINA (R-DINA) model by redefining the ideal response of the DINA model. The new cognitive diagnostic model relaxes the DINA model’s assumption of equal probability of success for all subjects lacking some attributes on an item. It describes the correct answer probability as consistently increasing as the number of task-relevant attributes an examinee masters increases and partitions the latent classes into $k + 1$ latent groups, where $k$ represents the number of required attributes for correct response to item $j$. A simulation study is conducted to compare the performance of the DINA model, the R-DINA model and the RUM. According to model selection criteria (e.g., AIC, BIC, DIC4), classification accuracy of knowledge states and posterior predictive score distribution, the simulation results indicate that: (1) For data generated using the DINA model, the DINA model fits best while the results obtained by R-DINA and RUM are comparable, (2) for data generated using the R-DINA model or the RUM, the results by R-DINA and RUM are comparable and better than that of DINA. (3) in some situations, the R-DINA model could be considered an alternative simple model of the RUM. Moreover, the three models are used to analyze Tatsuoka’s fraction subtraction data. The results indicate that, according to model selection criteria and posterior predictive p-value of each item’s chi-square statistic, the R-DINA model and the RUM outperform the DINA model.

Assessment of prenatal psychological risk factors in Peruvian pregnant women by OB-GYNs using the ‘index Mum Screen’ Spanish validation for Latin America
Andria Spyridou, University of Konstanz, Cyprus; Martina Ruf, Maggie Schauer; Thomas Elbert

The objective of this study was to validate the KINDEX Mum Screen in Spanish for Latin American language through the assessment of women living in Lima, Peru. The KINDEX Mum Screen is a German validated tool, designed to be administered during pregnancy, for the assessment of some of the main psycho-social developmental risk factors for the child. The KINDEX was translated, back-translated, to Spanish, and adapted to language specifics in Latin America. A sample of 96 women were screened by gynaecologists and midwives working in a public Hospital serving a poor and crime-ridden area in Lima, Peru. A randomised subsample of 40 women were interviewed by a clinical psychologist with standardised instruments, like the PSS-14, M.I.N.I, PDS, HSCL-25. The results show that gynaecologists, midwives, clinicians and counsellors are able to assess valid information about existing risk factors (including trauma, mental health, acute stress, depression) through a structured 15-minute interview with pregnant women. Although the survey is one of the first efforts to study these issues in Latin America, who live in poor and insecure conditions, accumulate several high risk factors that compromise their own and their babies’ health. Adequate treatment is crucial to decrease symptoms related to post traumatic stress disorder, anxiety and depression, and to prevent adverse child development outcomes. The important question now is, how to implement the KINDEX Mum Screen tool in the everyday practice of gynaecologists, and midwives, and to develop low-threshold programmes, that are easily accessible, for women in need.

Re-standardising the Griffiths mental development scales: Phase one, its challenges and triumphs
Louise Stroud, Nelson Mandela Metropolitan University, South Africa; Cheryl Foxcroft

In 1954, Ruth Griffiths developed the Griffiths Mental Development Scales (GMDS), a developmental assessment measure based on a philosophy of the basic avenues of learning and the observation of children in play. Significantly, modern systemic approaches to developmental assessment remain in line with Griffiths’ (1954) thinking. July 2010 saw the commencement of the re-standardisation of the GMDS. A qualitative, exploratory and descriptive research approach was chosen to underpin Phase One and encompassed various sub-phases. These included a systematic review of recent literature regarding child development and assessment, an Avenues of Learning workshop in which ‘sticky note’ data was collected, the conducting of expert interviews, and the development, the conducting of distribution and analysis of a questionnaire to Griffiths Users and non Users. As the GMDS is widely used and recognised throughout the world, this paper serves to highlight the research challenges and triumphs experienced during Phase One. Themes and trends that emerged from triangulating the data suggested, inter alia, that developmental theory and knowledge must inform the domains; the screening versus diagnostic nature of the GMDS should be debated; observation and play with reference to the nature of the GMDS must be retained; the age range of the GMDS and the implications for test development was highlighted; and the universality of the link of the GMDS to remediation was expressed. The findings obtained in Phase One will guide the development of the blue print of test specifications to be used in directing Phase Two of the re-standardisation process.

An empirical study on teaching assessment indicators in China
Hechuan Sun, Shenyang Normal University, China

It is well-known that the teachers’ quality and the effectiveness of their classroom teaching will affect their student learning and the quality of their learning outcomes. Therefore, the quality and effectiveness of classroom activities, including effective classroom teaching and effective classroom learning, are profoundly important. To assess the behaviours of the teachers and their teaching in classrooms, teaching assessment indicators are needed. However, at the national level, China has no such indicators. In order to find out what kind of teaching assessment indicators are more suitable for building up the national teaching assessment indicator system, we have conducted a study. It focused on searching for the more suitable teaching assessment indicators for China. In the literature review part, it reviewed the related theories. Moreover, it collected the teaching assessment indicators used in different areas at present in mainland China. It compared the similarities and the differences among the collected teaching assessment indicators. Based on that, it is designed and conducted an empirical study. School teachers from 14 districts in the east, west, south, north and middle of Liaoning Province were randomly selected for a questionnaire survey. Both qualitative and quantitative approaches were used to analyse the collected data. The findings were presented in the final part of this study.

Application of rough set theory in cognitive diagnosis
Xiaojuan Tang, Jiangxi Normal University, China; Shuliang Ding

Cognitive diagnosis (CD) aims to diagnose examinees’ knowledge states (KSs), thereby providing them with detailed information. Rough set theory (RST) is a mathematical approach to uncertain data analysis. Through data reduction, it can induce decision rules under the condition of maintaining classification ability. And at the same time, it uses the decision rules for classification of examinees. Though it has been proved that RST is useful for data reduction, decision rule, classification, and so on, references of applying rough sets to CD are rare. In CD, estimating examinees’ KSs, based on examinees’ score matrix is essentially a process of classifying examinees. So it may be feasible to apply rough set theory in CD. First, items and examinees’ KSs are respectively regarded as condition attributes and decision attributes of a decision table. Condition attributes corresponded to examinees’ expectation response patterns, while decision attributes corresponded to examinees’ KSs. Second, data reductions and decision rules can be derived from the decision table. Third, based on examinees’ score matrix, examinees can be classified by the decision rules. The main advantage of the application is that it does not need a cognitive diagnostic model (CDM), i.e., it is a model-free method. It can save a lot of time to estimate unknown parameters in CDM. While, by using RESE (Rough set softwares), data reductions, decision rules and examinees classification takes almost no time at all. The results show that the method is satisfactory.

The standardisation of the Wechsler Adult Intelligence scales (4th edition) for use in South Africa
Nicola Taylor Jopie van Rooyen and Partners, South Africa

The Wechsler Adult Intelligence scales (WAIS) have long been the gold standard in the evaluation of intelligence, and have an established presence in South Africa as the same. The development of the Fourth Edition of the WAIS (WAIS-IV) provided an excellent opportunity to adapt and translate the scales for use in South Africa, and provide local, appropriate norms. The WAIS-IV was published in the US in 2008, and standardised for the UK in 2009. In 2010, the process for the adaptation of the WAIS-IV into South African English began, including the preparation of the material for later translation into Afrikaans and Zulu. A panel of South African psychologists and anthropologists examined the existing UK version to determine which scales required adaptation and made recommendations regarding the appropriateness of items for the South African context. Once the changes had been implemented, standardisation data were collected...
Assessment and Evaluation

A. Fisher

Predicting affect and behaviour from irrationality among youth internationally

Mark Terjesen St. John's University, United States of America

REBT posits that irrational beliefs in the form of absolutes (should, oughts, musts, needs) are the psychological core of children’s and adolescents’ emotional and behavioural problems (Bernard, 2004). The Social Developmental Scale of Irrationality (CASI; Bernard & Cronan, 1999) is a self-report measure of irrational beliefs which yields scores on six scales: self-downing, dependence, conformity, demandingness, low frustration tolerance, and discomfort anxiety as well as a total irrationality score. This thin research study explores the relationship between children’s social-emotional functioning, behaviour, and underlying thought processes through the administration of self-report and parent ratings measuring student cognitions and beliefs in five different countries. This presentation will describe results of a multi-national, cross-cultural study that examined the relationships between children’s irrational beliefs and their social-emotional functioning. The results of the present study may assist in determining the emotional and behavioural consequences of adolescents’ particular irrational beliefs with the hope that the results could aid practitioners in providing psychological services. The role of cognition and irrational beliefs in emotional and behavioural disorders among children and adolescents as a function of language and culture will be presented.

Accuracy, sensitivity and specificity of psycho-diagnostic tools

Marco Timpano Sportiello University of Pisa, Italy; Davide Dasio and Sabrina Danti

Recent studies have suggested using tests of episodic memory, learning, ongoing memory, naming, selective attention, planning and sensitivity to interference to diagnose Mild Cognitive Impairment (MCI) and to estimate its probability to convert to frank dementia. The present study aims at detecting neuropsychological tests that show a greater specificity and sensitivity to the minimal cognitive decline shown by MCI patients. 162 MCI patients (M: 73.21; Age: 5.8±3) were tested by a wide neuropsychological battery, including: Milan Overall Dementia Assessment, ADL and IADL, Digit Span, Corsi Span, Paired Associate Learning, WMS-Adult, Corsi Learning Some, Rey Visual Search Test, Stroop Test, Street’s Completion Test, Constructive Apraxia Test, Boston Naming Test, Verbal Fluency, Tower of London, Brixton Test, Go-no-Go Frontal Assessment Battery subtest. A. Fisher's discriminant analysis was used to determine what instruments were able to correctly classify and discriminate between MCI Type I and Type II. Then sensitivity and specificity, indices were calculated starting from classification matrix found. A selected set of instruments (Paired Associate Learning, Boston Naming Test and Stroop Test) showed a significant predictive capacity in discriminating between Type I and Type II (p <0.001). 92% and 82% of Type I and Type II, respectively, were correctly classified. The neuropsychological tests presented an acceptable sensitivity (57%) but above all an excellent specificity (97%) and accuracy (84%). We recommend a neuropsychological battery including measures of episodic memory, naming and sensitivity to interference to offer clinicians valuable information on MCI diagnosis and to reduce assessment time.

A multiple-strategies cognitive diagnosis model: the MSCD model

Dongbo Tu Jiangxi Normal University, China; Haiqi Dai; Yan Cai

Almost all of the current cognitive diagnosis models are only adaptive for single-strategy tests or data, and assume all examinees use the same processing strategy. Based on previously published studies, the current study developed a new multiple-strategies cognitive diagnosis model called the MSCD model. Monte Carlo methods were used to explore the feasibility of the MSCD model, and to examine the estimation precision as well as the properties of the MSCD model. The following findings were presented: (1) Under the single-strategy test or data, the average attribute match ratio (AAMR), pattern match ratio (PMR) and standard error of attribute (SAE) were all very high, AAMR, PMR and SAE were all very high, and these did not translate to bias at the scale level. Thus, the DIF was not practically significant. For Black and White respondents, mean score differences with medium effects were found for the Self-Reliance and Tension scales. A large effect was found for the Reasoning scale. Rasch analysis did not indicate that the assessments functioned differently for White or Black respondents at the scale level. The practically significant mean score differences found between Black and White respondents are therefore likely due to stable differences in the sample group. Consequently, separate norms may be required for these three scales.

Investigating the ethnic equivalence of the 16PF5-SA

Casper Van Zyl Jopie van Rooyen And Partners, South Africa

The 16PF5 has been adapted and standardized for use in South Africa. The objective of this study was to examine whether the 16PF5-SA has similar psychometric properties for Black and White respondents in the South African context. Independent samples t-tests were conducted to examine mean score differences and Cohen’s d effect sizes were calculated to determine practical significance. In none of the scales did DIF translate to bias at the scale level. Thus, the DIF was not practically significant. For Black and White respondents, mean score differences with medium effects were found for the Self-Reliance and Tension scales. A large effect was found for the Reasoning scale. Rasch analysis did not indicate that the assessments functioned differently for White or Black respondents at the scale level. The practically significant mean score differences found between Black and White respondents are therefore likely due to stable differences in the sample group. Consequently, separate norms may be required for these three scales.

Re-evaluating the importance of the criterion space in assessment centre design

Nadene Venter SHL, South Africa

The insights Assessment Centres (ACs) offer an organisation concerning the performance and potential of employees is valuable information on MCI diagnosis and to reduce assessment time. The insights Assessment Centres (ACs) offer an organisation concerning the performance and potential of employees is valuable information on MCI diagnosis and to reduce assessment time. The insights Assessment Centres (ACs) offer an organisation concerning the performance and potential of employees is valuable information on MCI diagnosis and to reduce assessment time.
organisational requirements, to continue delivering valuable information for use in talent management practices.

Technology-assisted test construction, delivery and validation
Nadene Venter SHL, South Africa
This paper will discuss how the Internet drives the need to address efficiencies in assessments to manage the candidate experience and the application of item generation tools to develop secure online tests. The concept of component-driven design to assessment stems from the need for assessment design to incorporate the candidate experience as well as concerns expressed by organisations that the assessment window is managed to avoid candidate fatigue and losing potential talent by the prospect of long assessments. Building on the need for efficient assessments and drawing on IRT models as well as computer generation of test items, the paper will describe how technology allied with effective test definition via computer generation of content provides a powerful new application in developing the large item banks required to manage test security (Burke, 2006 & 2008). It will also describe how these methods can be used to provide for short and valid testing solutions essential for online test security, using the development of online clerical and numerical fluency measures to provide tangible examples of the approach. In summary, the present paper will describe how candidate-focused assessments can be designed with strong construct and criterion validity, and that allow the assessment solution designer to pull together assessment modules to maximise effective assessments of job/role fit, as well as provide a solution that is also efficient for the candidate to navigate and complete.

Assessing predictors of adjustment to aging: A cross-validation study of an adjustment to aging schedule
Sofia Von Humboldt ISPA, Portugal; Isabel Leal
The aim of this study was to develop and validate a schedule to assess the factors that older adults recognized as determinants of their adjustment to aging. The measures used in the study were selected to assess the reliability and validity of one new instrument, the Adjustment to Aging Schedule. Measures were completed using a variety of culturally appropriate methods, including mail-outs, self-administration and interviews. For the purposes of this study, one measure of cognitive functioning - the Mini-Mental State Examination and demographics, were included. Complete data were available for 709 older adults (mean age 82.4, SD = 6.45, range 74-102) from eight different nationalities. Exploratory factor analyses were run for data reduction and for exploring the theoretical structure. Controlling for age, gender and country of origin, we assessed the level of adjustment of elderly people, and its effect on aging. The sampling adequacy was confirmed by the Kaiser-Meyer-Okin test (KMO=0.775) and the total variance explained by this eight-factor structure is 75.09%. Adjustment to aging appears to be a catalyst to attitudinal markers of maturity and internal development which in turn impact quality of life and aging, across cultures. All estimates were statistically significant (p <.01). This cross-cultural study illuminates links among adjustment and aging in older age, warranting further study across cultures among frailter populations over time. Recommendations for future research on older adults' adjustment and clinical practice are also presented.

Interactional pattern analysis
Charl Vorster North-West University, South Africa
Traditional approaches to diagnosis within the field of mental health are of limited value to the psychotherapist because the fitting of individuals into predetermined categories strips the individual of his or her unique qualities and potentially useful information for the psychotherapeutic process gets lost in the process. This, however, seemed inevitable in applying the mental health model. In contrast, Interactional Pattern Analysis, developed within the theoretical paradigm of the eco-systemic approach, seemingly offers an alternative psycho-diagnostic procedure that retains the uniqueness of the individual and yet provides a systematic and orderly procedure of indication for psychotherapy that has proved to be highly effective in directing the psychotherapeutic process. Interactional Pattern Analysis focuses on 17 interpersonal variables imbedded in the interactional patterns within the various interpersonal contexts in which an individual exists. During a one-day workshop delegates will be introduced to the concept of Interactional Pattern Analysis and equipped to start utilizing the procedure as an integral part of the psychotherapeutic process. In the workshop the theoretical rationale behind the procedure will be briefly introduced. This will be followed by a series of hands-on interactive practical interpersonal exercises that will aim at equipping delegates with the necessary frame of reference, an enhanced level of perception regarding the relevant interpersonal variables and an introduction to the actual process of producing an Interactional Pattern Analysis.

When test equating is necessary in cognitive diagnostic assessment under the DINA model
Wenji Wang Jiangxi Normal University, China; Li-hong Song; Shuliang Ding
In cognitive diagnostic assessment, the DINA model received much attention. Several factors affecting the quality of the item parameter estimates have been reported, such as Q-matrix misspecifications, sample size, representative samples, etc. (de la Torre & Lee, 2010; de la Torre, Hong, & Deng, 2010; Rupp & Tenplin, 2008). De la Torre and Lee (2010) discussed invariance of DINA parameters when the model perfectly fits the data and proposed test equating when two sets of item parameter estimates are markedly disparate. But there was no obvious standard of quantity to judge the extent of discrepancy. Considering that many factors could lead bias between item parameters more or less, one should examine the degree of discrepancy between two sets of item parameter estimates to determine whether a test equating is necessary. The aim of this study is to explore the discrepancy threshold of test equating under the DINA model. In order to obtain the threshold, the study mainly investigates the impact of the DINA model parameter bias on classification accuracy of knowledge states. To better understand how classification accuracy is affected by the bias, we conduct a simulation study in which nine levels of anchor item parameter bias are under consideration. The results indicate that the classification accuracy significantly decreases when the bias is above 0.1. In conclusion, we recommend a test equating when the discrepancy between anchor item parameters is above 0.1. Future research will explore the test equating method for the DINA model.

A cross-culture study of the impact of reading engagement and reading strategies on reading literacy
Zhang Wenjing Beijing Normal University, China; Xin Xin
Reading plays a very important role for the school success and life-long learning for everyone. From the international comparison perspective and based on the data of PISA 2009, this current study investigates the impact of reading engagement and reading strategies on reading literacy of 15-year-old students, while considering the nested structure of the data. Reading engagement is comprised of five variables: time spent reading for enjoyment, reading for information, diversity of reading materials, diversity of on-line reading activities and reading for school, while reading strategies also include five variables: Memorization strategies, control strategies, elaboration strategies, understanding and remembering metacognition strategies, summarizing metacognition strategies. The study selects three countries from the sixty national PISA 2009 database: Korea, Finland and United States and one PISA 2009 trial study country, Mainland-China and analyses whether the impact patterns are the same or not among the four countries. The findings indicate that the different variables of reading engagement and reading strategies influence reading literacy in differential degrees respectively. The impact patterns are almost consistent in the four countries, especially for the variables reading for enjoyment, reading for school and reading meta-strategies. Last but not least, the study also discusses how to cultivate students' reading engagement and reading strategies in the context of school education.

The metric invariance of the Wong and Law Emotional Intelligence Scale (WLEIS) across three Chinese university student groups
Gonggu Yan Beijing Normal University, China; Donald Saklofske; Tongwei Li
To date, cross-cultural research on emotional intelligence has been scant. The present study aimed to address this shortfall by assessing the measurement equivalence of the Wong & Law Emotional Intelligence Scale (WLEIS) developed in Hong Kong. Two studies were conducted – one in Beijing, China (n=680) with university students, and the other in Calgary, Canada with two groups of Chinese students who were administered the WLEIS in either Chinese (n=151) or English (n=151). The results showed that WLEIS had satisfactory reliability, the four-factor structure was replicated, and metric invariance was supported across the three groups using confirmatory factor analysis (CFA). The present results add to the growing cross-cultural EI research literature, specifically by providing empirical evidence supporting the measurement invariance of the WLEIS across three Chinese student groups.
groups using either a Chinese or English version of the scale.

The regulatory mechanism of stereotype threat and entrepreneurial self-efficacy on women entrepreneurs’ risk decision-making

Jing Yang Zhejiang University, China; Ming Wang

The research presented in this article provides the first evidence that women entrepreneurs’ risk decision-making can be influenced by concerns about stereotype threat and entrepreneurial self-efficacy. Using experimental design that was a 2 (entrepreneurial self-efficacy: high or low) × 2 (Sterotype activation: threat explicit vs non-explicit) between-subjects quasi-experimental design, this paper examined women entrepreneurs’ risk decision-making behavioral, and self-report responses to the negative stereotype as a function of entrepreneurial self-efficacy. Women entrepreneurs, selected on entrepreneurial self-efficacy, were divided into two groups (high and low). Half were randomly explicitly primed with the negative stereotype. As the results showed, women entrepreneurs with high, as opposed to low, percepts of entrepreneurial self-efficacy exhibited stereotype threat spillover when making risk decision, and they performed better in the explicit stereotype activation condition compared to those not explicitly primed. Low entrepreneurial self-efficacy women entrepreneurs were not threatened, but they did show stereotype priming effects by assimilating to the negative stereotype on the self-report and exhibited risk decision-making more loss averse. This research provides greater insight into stereotype reaction effects and highlights the role of entrepreneurial self-efficacy in moderating risk decision-making.

Development of the health-risk behaviour inventory for Chinese adolescents

Shuqiao Yao Beijing Normal University, China; Xin Chen Medical Psychological Institute, China; Jiahui Zhang Beijing Normal University, China

During adolescence health-risk behaviours (HRB) increase the likelihood of negative long-term consequences and predict decreased psychosocial functioning throughout adulthood. However, in China, there is not a comprehensive measure that was developed for examining adolescent risk behaviours using an emic approach. The primary aim was to develop and validate a comprehensive assessment tool, the Health-Risk Behaviour Inventory for Chinese Adolescents (HBICA). Chinese adolescents, ages 14–19 years (n = 6633), were recruited from mainland China high schools across 10 cities. In addition, a clinical sample, which included 326 adolescents meeting DSM-IV criteria for Conduct Disorder, was used to evaluate predictive validity of the HBICA. Psychometric properties of the HBICA were analysed. Based upon item analysis and exploratory factor analysis, we retained 33 items, and got 5 factors (Suicide and Self-Injurious Behaviours (SS); Aggression and Violence (AV); Rule Breaking (RB); Substance Use (SU); Unprotected Sex (US)). The five factors explained 51.75% of the total variance. Cronbach’s alphas were considered strong: ranging from .77 (RB) to .86 (US) for boys and from .74 (SD) to .83 (SS) for girls. The 8-week test-retest reliability was moderate: ranging from .66 (AV) to .76 (SD). Moreover, predictive validity analyses were able to effectively distinguish high-risk behaviours between normal and clinical adolescents (Cohen’s d = 52–1.51). These results provide initial support for the reliability and validity of the HBICA as an assessment tool for risk behaviours in adolescents.

The psychometric properties of the Swedish adolescent drug abuse diagnosis and results from a normative study

Helene Vrangbäck Department of Psychology, Sweden

The aim of the studies was to provide a standardisation of the use of the Adolescent Drug Abuse Diagnosis (ADAD) among Swedish adolescents. Data relating to nine life areas (medical status, school history and status, employment, social activities and peer relations, family background and relationships, psychological status and problems, legal involvement, alcohol use, and drug use) was gathered from a randomised population-based sample of 847 adolescents aged 13–18 years and from 1168 adolescents aged 10–21 years with antisocial problems detained under the Swedish Care of Young Persons Act in 2001 (Shyler et al. 2008). The result of the study is that the ADAD instrument produced good interrater reliability; the subscales showed moderate internal consistency and concept validity was satisfactory and comparable with American and Swedish versions. Finally, the ADAD subscales produced meaningful correlations. The Swedish ADAD psychological status and problem domain showed good content validity for normal adolescents (correlated with the Youth Self Report and Beck’s Depression Inventory), and low to moderate predictive validity correlated with YSR and DICA. The normative study shows that the effects of age, gender, and geographic region were small but significant, with older adolescents, girls, and adolescents in cities scoring higher for problem severity. The conclusion is that the Swedish version of ADAD appears to be a psychometrically good instrument for assessing the severity of adolescent problems and their need for treatment and has the potential to serve as an instrument for assessing individual adolescents’ self-reported problems in Sweden.

Application of multilevel latent class cluster analysis in classification

Jie-Ting Zhang South China Normal University, China; Min-qiang Zhang; Can Jiao

Multilevel latent class analysis provides an accurate classification at both the individual and group level, which is of great importance when conducting cross-cultural research or executing different measures to groups of diversity. This study probes into characteristics of the new method in application and the ways to improve the accuracy of model selection, in order to ensure the objectivity of classification. In the first section, application of multilevel latent class cluster analysis is demonstrated through the empirical data of an English comprehension test. In the second section, Monte Carlo simulation is conducted to investigate how sample size affects the judgment of criteria AIC, AIC3, BIC and BIC* in group-level numeration, as well as the conditions of applying these criteria. The result of the simulation is verified by empirical data. Results indicate: (1) Latent class analysis is an effective method of handling categorical data in psychological research and it processes some distinctive advantages, such as weak hypothesis, objectivity, visualization and being ready for further statistics. (2) When the multilevel model is complex, the model selection criteria do not give high or stable accuracy in all sample sizes, and they should be chosen in specified circumstances. When sample size per group is nk ≤ 40, AIC3 is preferred, with BIC a second choice, which would be even better when nk reaches 50. When nk ≤ 30, BIC or AIC is recommended, but high accuracy is hardly ensured.

Measurement of Internet addiction: Internet Addiction Test versus Chinese Internet Addiction Scale

Jiahui Zhang Beijing Normal University, China; Tao Xin

Measurement is the most important part of the research of Internet addiction (IA). Analysis based on item response theory is supposed to provide richer information on item level, thus bringing a new perspective of instrument comparison, a valuable complement to traditional analysis. This study aimed to compare the Internet Addiction Test (IAT), which is among the earliest instruments of IA, with the Chinese Internet Addiction Scale (CIAS), popular among Chinese researchers. A total of 467 Internet users participated in the study online. Data were analysed using Muraki’s Generalized Partial Credit Model. Two studies were conducted. The first study focused on the psychometric characteristics of two scales as norm-referenced tests. Results of Study 1 showed both scales had substantial standard errors on two ends of the trait continuum. Item-level analyses provided in-depth information for future instrument development, and items of high discrimination were found to share the characteristic of item description accuracy. The findings demonstrated CIAS may be a better choice than IAT, at least in Chinese culture. Study 2 examined the scales as criterion-reference tests and looked into the effectiveness of cut-off scores and compared classification consistency of two scales. This study also explored the possibility of adaptive testing of IA. The implications for these findings were discussed with a focus on how to improve the measurement instrument. IA scales can be improved in several ways in terms of item discrimination and difficulty distribution.

Cognitive diagnosis based on local equating of observed scores

Jiahui Zhang Beijing Normal University, China; Tao Xin

The importance of equating in large-scale test programs is beyond question. Some problems, however, remain unsolved in current research of equating. Traditional equating methods generally ignore the existence of measurement errors, and is thus subject to substantive equating biases. It was in such circumstances that van der Linden proposed local equating; a new equating theory which substitutes the single transformation in traditional equating with a family of equating transformations. Besides, currently widely used NEAT design is disadvantaged due to flaws of the anchor test. In fact, in other circumstances, due to test security, anchor tests are even implausible. Cognitive diagnostic theory assumes that the same attribute mastery
pattern has identical meanings in different tests with the same A-matrix. The authors of this paper aimed to generalise local equating to cognitive diagnostic theory, aiming thereby to solve the problem of equating without anchor tests. Observed score equating was of interest in this study. The DINA model was chosen as the cognitive diagnostic model. Theoretical study was carried out in the first place to provide a true family of equating transformations on each attribute mastery pattern shared by the two test forms to be equated. Then Monte Carlo simulations put this new method to test under different simulating conditions. Variables of interest were test length, the relative difference of slipping or guessing parameters between the two forms, and the estimation error. Evaluation criteria include bias and root mean-square error. Results from simulation studies suggested this method was able to provide satisfactory equating scores.

The revision of adolescent’s psychological Suzhi questionnaire

Dajun Zhang Center for Mental Health, China; Ling Gong, Jinliang Wang

Psychological Suzhi is an intrinsic factor that affects one’s mental health. It is important to accurately measure the level of psychological Suzhi among adolescents. On the basis of the structure of the original series of questionnaires from the study by Zhang Da-Jun, et al., this study built Adolescent’s Psychological Suzhi Questionnaire (APSQ) from three sub-scales - cognition, personality and adaptability - and redefined all of the operational definitions on the basis of literature review, expert interviews and structured interviews. On the initial measurement, 5,300 adolescent subjects were randomly selected, and we removed the items with lower correlational coefficients or discrimination coefficients. In the formal measurement, the data collected from more than 8,000 adolescent subjects were used to evaluate the following aspects of the scales: standard error, homogeneity reliability, re-test reliability, structural validity, content validity, empirical validity of APSQ. We will establish the norm in different genders, grades and professional norms groups from a standard sample consisting of 9,000 adolescent in China. The results showed that APSQ can be used to measure the adolescent’s psychological Suzhi with a good reliability and validity.

Latent profile analysis of personality by the eyseckn personality questionnaire: An empirical study of college students in the Chinese mainland

Jie-Ting Zhang South China Normal University, China; Min-qiang Zhang; Can Jiao

Latent profile analysis is a type of latent variable mixture model, which is used to classify individuals of different traits, such as personality, by building a measurement model interpreting the relation among latent class variables and continuous indicators. Furthermore, there are many advantages to using a latent profile analysis to investigate the profile and structure of personality, such as its model-based methodology and flexibility. The present study focuses on the application of latent profile analysis in personality measurement. 1,450 college students in Chinese mainland were measured by the Eysenck Personality Questionnaire. The analysis is demonstrated in three sections as follows. In the first section, different profile models were built and checked for model inference. In the second section, the rule for personality type and then evaluate the importance of the four dimensions of the EPQ. In the second section, we probed into the relation among the latent personality type and other variables. Some significant predictors would be taken as covariates in the model for further improvement of the latent structure. In the third section, cross validation was conducted, demonstrating the reliability and validity of classification in personality. Finally, different types of personality were discussed based on the final solution of the model.

The prospective effect of social behaviour on mutual friendship: A longitudinal study

Dongmei Zhao School of Public Administration, China; Zongkui Zhou

The present study aimed to investigate the effects of social behavior on children’s mutual friendship longitudinally, and the gender difference on the effects. 285 students from Grade 3 and Grade 4 were collected in June of 2002, 2003 and 2004. Measures included (1) Friendship Nomination, from which we got children’s mutual friends number with boys and with girls respectively, (2) the Revised Class Play, from which we got overt aggression, relational aggression and passive withdrawal scores, Hierarchical Linear Model were used to analyse the longitudinal data. Results indicated that (1) overt aggression significantly negatively affected on children’s mutual friends’ number with girls and marginally negatively on their mutual friends’ number with boys at each time. The groups of more mutual friends’ with girls or with boys at T1 could both weaken such negative effect. Compared with girls, if boys showed more overt aggression, they would have difficulty in making mutual friends with girls, (2) relational aggression had reasonable differences of positively affected children’s mutual friends’ number with girls at each time, while the influence on the mutual friends’ number with boys was not significant, (3) passive withdrawal had a significant negative effect on relationships with boys at T1, but no significant difference was found with boys at each time point, the influence on the mutual friends’ number with boys was not significant. Compared to girls, if boys showed more passive withdrawal, they would have difficulty in making mutual friends with boys. While the groups of more mutual friends’ with boys at T1 could weaken such negative effect.

Revision of Gong’s memory assessment battery for children

Shijie Zhou Central South University, China

The aim of this study is to revise the Gong’s Memory Assessment Battery for children. Necessary modification to the battery was made, and 266 subjects aged from 6 to 12 years old were sampled from 4 schools in Hunan province, Changsha city. Item analysis showed that the difficulty index ranged from .35 to .84, with an average difficulty index of .54, and the discrimination indexes ranged from .27 to .59. The test-retest stability coefficients for the subtests scores ranged from .32 to .81. The split-half coefficients, and Cronbach α coefficients for the subtest scores (except Picture Recall and Delayed Verbal Recall subtests) were around .80. The revised Gong’s Memory Assessment Battery had reasonable difficulty and discrimination, and psychometrically acceptable internal consistency reliabilities, however, the test-retest stability of some subtests needs further study.

Development of working memory test battery and preliminary application in elderly post-stroke patients in China

Shijie Zhou Central South University, China; Layan Zhang

The aims of this study were to develop a working memory test battery on the basis of working memory model of Baddeley, and test its clinical application in a group of post-stroke patients from mainland China. In the first, we developed a working memory test battery, which comprises four dimensions named as verbal working memory, visuo-spatial working memory, supervision function, and processing speed. The battery was administrated to 200 healthy adults (over 45 years of age), and its reliability was tested. Secondly, the working memory functions of 29 convalescent stroke patients were assessed by the working memory test battery. The working memory ability and validity for most of the subscales were psychometrically acceptable. Compared with the healthy controls, the post-stroke patients group showed significantly reduced performance in the working memory test battery, except backwards digit recall and digit deletion subscales. This study suggested that post-stroke patients exhibited declined working memory functions. We consider the working memory test battery to be a promising tool to evaluate the cognitive function for the post-stroke patients.

Development and validation of the 17-item uncertainty avoidance inventory (UAI)

Ai Zhou Peking University

Uncertainty avoidance, which refers to the extent to which the members of a culture feel threatened by uncertain or unknown situations, is one of the four dimensions of Hofstede’s cultural values that developed at the society level. However, Hofstede’s measure of uncertainty avoidance is more concerning to sticking to the rules, inconsistent with his original concept of anxiety about uncertain or unknown situations. Moreover, the uncertainty avoidance has great variation on individuals and these individual differences have direct impacts on many outcomes. Therefore, it is necessary and urgent to develop an index that is capable to measure uncertainty avoidance at the individual level. Conceptualising uncertainty avoidance as an individual disposition, the present research developed and validated a 17-item uncertainty avoidance inventory (UAI). Besides, we did a cross-cultural comparison in individual uncertainty avoidance between Chinese and Americans. The results showed the UAI has good reliability, structure, criterion-related validity, convergent and discriminant validity, and predictive validity. The scale has a one-factor structure. High scores in UAI were associated with subjective well-being, optimistic, money ethics, materialistic values and money attitude. Besides, Chinese have higher UAI scores than Americans, indicating that Chinese people are more concerned with uncertain situa-
Assessment and Evaluation

Cross-cultural adaptation of a diagnostic inventory for screening children
Turana Alvan Aliyeva Baku State University, Azerbaijan

Assessment of the developmental needs of children is considered a major problem in Azerbaijan due to the absence of standardised assessment tools in the country. Although there are several instruments to identify developmental needs of children, none of them are adapted to the Azerbaijani context or validated to be used in Azerbaijan. Considering that the use of standardised assessment tools are an effective method to screen children with developmental delays, this study describes the adaptation of the Diagnostic Inventory for Screening Children (DISC) and the pilot testing with Azerbaijani children. Translation of the DISC into Azerbaijani was conducted according to current guidelines for cross-cultural adaptation of instruments. The tool was piloted with 60 typically developing children with no developmental delay or disability. A convenience sample was used during the study. The translated instrument shows potential as a screening tool for children in Azerbaijan and should be further examined. Research with a larger sample is needed in order to define cut-off scores and verify the instrument’s validity and clinical utility.

Essentialism and mental disorders
Eva Arino-Mateo University La Laguna, Spain; Verónica Betancor-Rodríguez; Armando Rodríguez-Perez

Recent research has shown that people perceive social categories in terms of fixed and underlying realities. Belief in the fixity of features and categories, not only has been a focus of research in the tradition of implicit theories of the person, but has also been discussed in research on psychological essentialism (Gelman, 2003). Essentialism was introduced in Social Psychology by Rothbart and Taylor (1992) to argue that people often mistakenly treat social categories as if they are naturally essence-based, rather than as the artifacts of culture and history that they truly are. Haslam, Rothschild and Ernst (2000) showed that beliefs about the nature of social categories formed two distinct dimensions. The first one, natural kindness, refers to the degree to which a social category is sharply bounded, unalterable, and historically persisting. Also, category members share necessary properties. The second one, entitativity, refers to how a social category is perceived as homogeneous, informative, and construed around an underlying core. The objective of this research is to analyse the essential beliefs from various mental disorder groups, and to observe if lay people are more “essential” to some groups than to others, and under which dimension it is done: the natural or the entitative essentialist dimension.

Validation of the 12-item center for epidemiological studies depression scale (CES-d12) for use in the NLSCY
Lisa Batten uOttawa IMHR, Canada

The CES-D12 is a self-report measure of depression derived from the 20-item CES-D and adapted for use in the National Longitudinal Study of Children and Youth (NLSCY) to assess parental depression. The original CES-D has established cut-off scores that effectively identify clinical depression in adult populations. To date no studies have been conducted to determine an effective threshold of the CES-D12 as an epidemiological marker for clinically significant depressive symptoms or to assess the suggested cutoff score of 12, currently used. This study will also compare the CES-D12 to the QIDS-SR16, a psychometrically sound self-report scale for depression. Participants with a diagnosis of Major Depressive Disorder (MDD) were recruited from children with mental disorders clinics at the Royal Ottawa Mental Health Care Center. A total of 105 women and 65 men (N=170) completed the questionnaires. The suggested cutoff score of 12 on the CES-D12 yielded a sensitivity of 79.74% and a specificity of 89.65%, reducing the cutoff to 10 yielded a sensitivity of 93.99% and a specificity of 92.67%. Thus the optimal cutoff score was 10 for identification of depression. Furthermore, the optimal ranges of assessing symptom severity on the CES-D12 were 0-9 no or minimal symptoms, 10-20 moderate symptoms, and 21-36 severe symptoms. The total scores on the CES-D12 and the QIDS-SR16 were highly correlated (r=0.89). High item-total correlations (>0.60) were found for interest/ life enjoyment (0.75), effort/energy level (0.72), self view (0.71), and sad mood (0.69). Based on these results, it is suggested that the score for identification of significant depression on the CES-D12 be revised to 10. Also, the CES-D12 was equivalent to the QIDS-SR16 in identifying symptoms and severity of depression in this sample. Thus, it is possible to compare samples from the NLSCY to clinical studies that use the QIDS-SR16.

Students’ achievement in French at junior high school: Study of personal determinants
Halim Bennaccer Université Bourgogne, France

This research aims at studying, by means of a theoretical model, the role of certain personal features (gender, age, socioeconomic background, academic record) and some dynamical mechanisms of personality in predicting students’ achievement in French at junior high school. The dynamical mechanisms, relating to the affective personality characteristics (Bloom, 1979), were represented by five attitudes towards school: negative feelings, lack of scholastic interest, aspirations for future studies, "scholastic anxiety, worry and stress" and "nice school, distraction place" (Bennaccer, 2003). Academic achievement was estimated by both the teachers’ grade in French accorded to students and the cloze test score (relating to French comprehension). With a group of 501 students, the model was tested and affirmed by paths analysis. We obtained a final structural model which accounts for the interrelationships between variables. It allowed us to identify the profile of the student who gets bad academic results in French. The resulting study shows that personal features (distal variables) have an effect on academic achievement, an indirect effects via the dynamic dimensions of personality (proximal variables). The latter play, in the influence mechanism, a mediating role as dependent and independent variables. This supports the findings of other studies indicating that the affective entry characteristics depend on the personal features and affect the students’ behavior and their academic achievement (see Bennaccer, 2005; Potvin & Paradis, 2000).

Psychometric assessment of Islamic religiousness in Italy: First and second generation
Nicola Bragazzi University of Genoa, Italy

We have a psychometric scale created by Hisham Abu Raya (PMIR: Psychological Measure of Islamic Religiousness), translated into Italian and in Arabic, for exploring the spiritual attitude of Islamic immigrants in Italy. To the original scale, we added some questions specific to the Italian culture and context, in order to assess the integration of Islamic communities. The sample consisted of 500 Muslim participants from all over Italy. We studied the religiousness score according to demographic parameters, confirming the multidimensional nature of Islam. We present the psychometric parameters of these, translated and validated scales, and we compare Italian Islamic first and second generation with the data present in Hisham Abu Raya, “A psychological measure of Islamic religiousness: Evidence for relevance, reliability and validity”.

Burnout syndrome in dental students: Effectiveness of different methods
Juliana Campos UNESP - Univ Estadual Paulista, Brazil; Paula Jordani; Miriane Zucolotto; Fernanda Bonaf; Iao Marco

This study was proposed to estimate the effectiveness of different screening methods of the Burnout Syndrome among dental students. Of the 235 undergraduate students that participated, 78.0% were women and the mean of age was of 21.0 (SD = 1.8) years. The Burnout Syndrome assessment was performed using the Oldenburg Inventory-Student survey (OLBI-SS) and the Copenhagen Inventory-Student survey (CBI-SS). The Maslach Burnout Inventory-Student survey (MBI-SS) was used as the gold standard. The psychometric properties of the instruments were measured. The second-order hierarchical model was estimated to calculate the overall scores for OLBI-SS and CBI-SS. The ROC curves were constructed and the areas were estimated (AUROC). The instruments showed an adequate reliability and validity, however three questions had to be deleted from OLBI-SS and one from CBI-SS. There was good discriminating capacity of the Exhaustion dimensions of OLBI-SS, and Personal burnout and Study related Burnout of CBI-SS. CBI-SS showed higher discriminating capacity, than OLBI-SS, to identify the Burnout Syndrome (AUROC=0.172 (0.103-0.240); p

Adolescent worries across time and space
Clara Cantal Universidade de Brasília, Brazil; Isilda Gunti

Adolescence is an important developmental stage that varies across contexts. The majority of articles in English which report findings regarding this stage, are placed in the United States and Europe.
Little is known about other contexts and other realities of adolescence, and its characteristics. Considering the different challenges and Kurt Lewin’s life space theory in this study aimed to verify the factorial structure of Millar and Gallagher’s (1996) the Things I Worry About Scale among Federal District (Brazil) adolescents, compare it to the original Things I Worry About Scale factorial structure (Millar & Gallagher, 1996), and verify if there are other worries within the lives of adolescents of Federal District that are not included in the instrument. To reach these specific goals, a two-phase study was designed. In the first phase, the translated and semantically adapted scale was applied to 1418 adolescents ranging from 14 to 19 years of age (M=16.56; SD= 1.08). The factorial structure obtained in this study differed from previously encountered structures. In the second phase, focus groups were used to verify other worries within adolescents’ lives not included in the instrument. As Kurt Lewin’s life space theory would predict, worries experienced through adolescence vary across contexts and, therefore, are not globalised. Moreover, the way in which reality aspects, mostly social, enter individuals’ life space, influences adolescents’ worries and, consequently, his or her experience of adolescence.

Temperamental and personality characteristics of sexual disfunction patients: Hospital-based study

Rupesh Chaudhry Dayanand Medical College, Ludhiana, India; Bholeshwar Mishra

It is reasonable to assume that personality factors will influence sexual development and establishment of sexual intimacy. Neuroticism was regarded as relevant to sexuality in earlier studies but results are not consistent (Copper, 1968; Eysenck, 1976; Slater, 1945). Costa et al. (1992) found neuroticism to be correlated with lower sexual satisfaction and extraversion with sexual drive. Aim of the study is to see the personality characteristics of the patients presenting with sexual dysfunction and how it is associated with the pathology. Personality evaluation of 50 (both married and unmarried) diagnosed patients of sexual dysfunction presenting to psychiatry outpatient department was done using Catell’s 16 PF questionnaire. Patients with hypertension, diabetes, head injury and co morbidity substance abuse were excluded from the study. The 16 PF profile of these patients reflect that they are more prone to decide impulsively rather than using their intellectual ability or reasoning. They have low frustration tolerance and get easily upset and frustrated in smaller things. This type of emotional status leads to premature ejaculation and erectile dysfunction since patient gets distracted to other things. These patients have apprehensive tendencies which in turn lead to depressive cognition which is again a known factor for sexual inadequacy.

Peer victimisation and academic adjustment: The moderating role of teachers

Josafat Da Cunha Federal University of Para, Brazil; Lidia Weber; Jonathan Santo

The role that teachers play in the classroom goes beyond the academic one in that they may be faced with the challenges of addressing peer victimisation in and out of the classroom setting. Specifically, peer victimisation describes a student who experiences peer physical and verbal aggression. In previous studies that have examined the role of teachers in dealing with peer victimisation among their students, it remains unclear how teachers influence the association between peer victimisation and academic performance (Konishi, Hymel, Zumbo, & Li, 2010). Considering this gap in the literature, the present study expands on previous research by examining how the quality of the student-teacher relationship moderates the association between peer victimisation and academic adjustment among Brazilian adolescents, using a multilevel modelling procedure. Participants were 2135 students from 6th through 9th grades of 72 classes in five public schools located in an urban area of Brazil. Data on the quality of student-teacher relationships were collected from children’s and teachers’ reports. Peer victimisation was assessed through a peer nomination procedure, while academic adjustment data was assessed through the school records and teacher reports on students’ performance. Results show that some aspects of the student-teacher relationship show a buffering effect in regard to the impact of victimisation on achievement, such as companionship, emotional and instrumental support, while conflict and the use of punishment exacerbated the effects of victimisation. These results highlight how the peer ecology is influenced by the quality of student-teacher interactions.

Animal models of autism and related disorders: Implications for treatment

Petrus Devrries South Africa

South Africa

Recently, a flurry of animal models of autism have been developed, based on genetic syndromes associated with the disorder. These models involve measurement of behaviours typically associated with autism, such as social approach and social behaviours, communication (vocalisations), and repetitive actions. Even more recently, based on inferences about the neural pathways affected by the genetic patterns, new medical treatments have been proposed and begun to be tested, first with mouse and human models, and now even with persons. The paper will discuss some of these recent findings, and the implications for our understanding of the symptoms of autism and possible mechanisms for treatment.

Improvement of Berkson’s Minimum Chi-square estimation

Shiliang Ding Jiangxi Normal University, China; Fen Luo; Xiaoqing Wang

Baker and Kim (2004) introduced Berkson’s Minimum Chi-square estimation to give the initial value of the item parameters (IVIPs) in the 2-parameter Logistic model (2PLM) in the item response theory (IRT). In Berkson’s scheme there is a hypothesis of the examinees’ abilities being known. Usually this hypothesis is not realistic. An improvement of it has been proposed as below. Based on the empirical logistic regression in which logit transform for the correct-ratio of each item is made, this new scheme built a linear model which employs the iteratively reweighted least squares method in estimation. In more details, firstly, using the initial value of the ability parameters (IVAPs) and employing the Berkson’s scheme, the IVIPs are obtained. Secondly, the item parameters in the error term of the linear model are substituted with IVIPs, and weighted distance of the two vectors of item parameters (IPs) with variance-covariance matrix, then the new IVAPs are obtained through minimising the weighted distance. The above two steps are implemented until the convergent criterion is satisfied. The estimation of IPs is more accurate than that of BILOG3 if the sample size over 2000.

A new polytomous cognitive diagnostic model

Shiliang Ding Jiangxi Normal University, China; Wenyi Wang; Fen Luo; Xiaoqing Wang

For the dichotomous cognitive diagnostic models (CDMs), such as Attribute Hierarchy Model (AHM) and Determinant input noise "and" gate model (DINA), the distance between the observed response pattern (ORP) and its corresponding ideal response pattern (IRP) is very important. In fact, these CDMs could be represented as a function of the distance with some weight. It is well-known that the polytomous scoring could provide richer information for cognitive diagnosis and that polytomous CDMs (PCDMs) are few. A new PCDM (named polytomous minimum weighted distance classification method, PMWDCM) with high diagnostic accuracy is proposed. Given the test Q matrix and KSs, PMWDCM calculates IRPs using matrix product according to Tatsuoka (1995, pages 343-344). Then it matches each ORP with all IRPs through computing the sum of the product of the weighted distance between ORP and IRPs. An IRP which minimises the sum is considered as the match of the ORP. To seek the knowledge state (KS) corresponding to the IRP matched ORP, the test blueprint needs to be specially designed. Only when the rank of designed Q matrix equals to the number of the attributes, can one-to-one correspondence between the set of IRPs and the set KSs be obtained.

Study of the psychometric qualities of SCARED‐R (Revised version of the Screen for Child Anxiety Related Emotional Disorders) in a Portuguese sample

Filomena Dias UIPES, Portugal; Isabel Leal; Joao Maroco UIPES, Portugal

Our purpose was to evaluate the psychometric properties of the SCARED-R, proposed by Muris, in the Portuguese population. 1238 participants were gathered, through convenience sampling, from normative school children aged between 10-13. To evaluate the fit of the 9-factor original scale, a confirmatory factor analysis was done on the polythetic correlations matrix with WLSMV estimation implemented in Mplus (v.6, Muthén & Muthén). The original 9-factor structure showed bad fit (X2/df=15.295756; CFI=0.881; TLI=0.875; RMSEA=0.038). In addition, theoretical considerations led us to divide the factor Separation Anxiety (including school phobia) into two factors: Separation Anxiety (excluding school phobia) and School Phobia. This decision was based on the fact that 3 of the 4 items, concerning school phobia, had weights
The principle of the design of the test blueprint q matrix for cognitive diagnosis

Assessment of attributional styles and general health of university staff

Maternal attachment style and ante-postnatal depression

The prevalence estimates of ante-postnatal depression (PND) vary in literature from 10% to more than 15% considering both pregnant women and new mothers. In literature, several psychosocial risk factors for PND are identified. The hypothesis of this research is that a good quality of a mother’s early experiences with her attachment figures, is a protective factor against the development of PND. Our aim is to quickly identify pregnant women at risk of PND, by detecting the presence of possible risk factors and mood and anxiety disorders, by analysing the attachment quality of the mother to her own parents, and then by studying the maternal-foetal attachment. The sample is composed of 24 women; the research has been divided into 3 steps: (1) Women at their third trimester of pregnancy answer some questionnaires (Psychosocial risk factors Questionnaire; Edinburgh Postnatal Depression Scale - EPDS, Cox, 1996; Prenatal Bonding Instrument-PBI, Parker, 1979; Prenatal Attachment Instrument-PAL, Muller,1993); (2) On the 2nd day after delivery: the EPDS; (3) Then 3 months after delivery: EPDS. Results expected are: (1) the incidence of PND in this research will be the same compared to the data currently present in literature; (2) the depression indicators detected in the pre-delivery stage are a forewarning of PND; (3) people with secure attachments in their early relationships are less depressed than others who have a more insecure attachment to their parents in childhood.

Assessment of attributional styles and general health of university staff

The assessment of sensation seeking and correlations with other personality factors

The principle of the design of the test blueprint q matrix for cognitive diagnosis

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The assessment of sensation seeking and correlations with other personality factors

An improvement of maximum Fisher information selection item strategy

The development and validation of the Multidimensional Acculturation Scale

The influence of test development on the accuracy of KS-P model
conventional scored methods which give only a score. This research verified the influence of test development on the accuracy of the KS-P Model, and explored by identifying a test in order to get higher accuracy. The results showed: The accuracy of KS-P cognitive diagnostic model is influenced by the cognitive structure of items, the number of items, the guess parameter of items and the slip parameter of items. (1) If every key point of knowledge point has its own corresponding item, the diagnostic accuracy of the test based on the KS-P model will be higher, otherwise lower. (2) If the number of items increases, the accuracy of the KS-P model becomes higher. (3) If the guess parameter of items decreases, the accuracy of KS-P model will be improved. (4) The lower slip parameter of items, the higher the accuracy of the KS-P model will become.

Outpatient analytical individual and group psychotherapy in a nationwide catamnestic study
Roland Heinzel Practice, C.G. Jung-Institut Stuttgart, Germany
Unlike most (clinical) outcome studies, this study was designed to measure and evaluate the effects of analytical psychotherapy performed in its most prevalent setting: The ambulatory care in the therapist's office as individual and group therapy. A one-page questionnaire was sent to almost 1000 former patients of analytical psychotherapy (individual and group) through their therapists using a 20% sample of all members of the two main associations of analytical psychotherapists in Germany. The anonymous return rate was 65%. Subjects were asked for their self-assessed physical, mental, social and overall health status at three points of time: At the beginning and end of their therapy and today. Furthermore they had to report on their utilization of other health care (physician's visits, hospital days, drug consumption) and on their work-loss days. The responses show that the self-assessed health status of patients had improved significantly by the end of the therapy, and this effect has even slightly increased in the (up to six) years since. The number of hospital days declined on average by two-thirds: the physicians' visits by one-third and the work-loss days by one-half so that a substantial part of the costs of the therapy was saved in other parts of the health system. Besides a better cost-benefit relation of groups no other significant differences were found between the effects of group and individual therapy.

Development of the Profile of Mood States 2nd edition (POMS 2)
Juvia Heuchert Allegheny College, United States of America; Stephanie Mears; Sara Rzepa
The Profile of Mood States (POMS; McNair, Lorr, & Droppleman, 1992; McNair & Heuchert, 2003), has been widely used – both in a broad range of contexts (research, medical, clinical, sport, space travel, etc.) and in an array of settings (its cross-cultural applications are vast and it has been translated into at least 42 languages – from Afrikaans to isiZulu). However, despite its wide application, its scientific rigor and its clinical usefulness, it became apparent that the instrument needed to be updated, particularly to provide current norms and to replace dated items. The aim of the revision was to confirm the factor structure: an overall score, Total Mood Disturbance, for assessing general distress, and six scales, namely Anger-Hostility, Confusion-Bewilderment, Depression-Depression, Fatigue-Inertia, Tension-Anxiety, and Vigor-Activity. The development of the Profile of Mood States 2nd Edition (POMS 2™) will be discussed in this paper and our hope is that the POMS 2™ will continue to be used in many countries around the world. We believe that the more than 400 research reports involving the POMS that have been published, indicate that the POMS 2™ will continue to be at the cutting edge of science and that it will continue to be used in research and applications that improve the quality of human lives. The recent standardisation of the POMS 2™ will be discussed and the excellent psychometric properties that were found will be presented under the headings Background, Participants, Measures, Procedure and Results.

Resilience and children development in an environment of vulnerability from Sao Paulo Carlo Hisatogo USP Universidade Sao Paulo, Brazil; Lado Custodio
Resilience is a personal ability to respond to adversity and difficulties involving traumatic events, vulnerability by extreme poverty or lack of minimal resources for normal development of children. Objective was an exploratory study with resilient children, living at Sao Paulo, Brazil. Twenty participants, from 7 through 10 years old, from public schools, living with low income families, 33% female and 67% male, 35% white and 65% brown-skinned. The children demonstrate some important psychological resources, even considering psychopathological symptoms and the environment of vulnerability caused by the low-income families.

Verifying the prediction effect of a Guttman-based item-fit index set on the detection of differential item functioning
Tsai-Wei Huang National Chiayi University, Taiwan, R.O.C.
This study aimed at verifying the prediction effect of a Guttman-based item-fit index set (the BW indices) on the differential item functioning (DIF) detected by the SIBTEST approach. There were 34 achievement test items belonging to three major mathematics contents (arithmetic, algebra, and geometry), and two item formats (pure operation / computation and word problem). There were a total of 1439 seventh grade students in Taiwan (51.01% males and 48.99% females) participating in the test. The BW item-fit indices (difficulty, distinctiveness, disturbance, and hint) were calculated from the male and female samples respectively and the differences of individual indices between the two samples were served as the predictors for the DIF measure (BU) estimated by the SIBTEST procedure in a stepwise multiple regression approach. Results showed the three BW indices (distinctiveness, difficulty, and hint) significantly contributed 82% amount of explained variances of the DIF measure (BU). The BW-based predictions were further validated by linear discriminant analysis with an overall 76% accurate hit rate (100% for female-favor flag, 100% for male-favor flag, and 63.6% for neutral) and by the nonlinear multinomial logistic regression with an overall 91.2% accurate hit rate (83.3% for female-favor flag, 100% for male-favor flag, and 90.9% for neutral). This implied the BW item-fit indices, especially for the distinctiveness index, might effectively interpret the mathematical achievement item DIFs attributed to the different extents of ineffectiveness between genders (too easy to distinguish test-takers whose abilities were much higher than their difficulty levels).

Associations between educational attainment and CAMCOG-R performance in South African older adults
Katharine James University of Cape Town, South Africa; Kevin Thomas; Marc Conbrinck
The Cambridge Cognitive Examination-Revised (CAMCOG-R) is a sensitive measure of cognitive impairment in healthy older adults and early-stage dementia. Previous research suggests that CAMCOG-R overall performance is influenced by educational attainment. Few studies have, however, delineated associations between educational attainment and performance on individual CAMCOG subscales. This study aimed to delineate those associations in a South African low-middle income country (LAMIC), where financial/resource constraints may have compromised access to education for many older adults. 51 cognitively healthy volunteers over 60 years old (M = 73.51, SD = 8.89) participated. Most had at least a high school education (mean years of education = 13.35, SD = 4.88). Participants were administered the CAMCOG-R under standardized conditions. Regression analyses suggested significant associations between years of completed education and total CAMCOG-R score, as well as scores on four of the eight CAMCOG-R subscales (Orientation, Language, Memory, and Abstract Thinking). Notably, education was not significantly associated with scores on the Learning subscale, a measure of episodic memory. This is the first study to investigate the influence of education on CAMCOG-R subscales within a LAMIC sample. Some CAMCOG-R subscale scores were more strongly associated with formal educational attainment than others. Importantly, the Learning subscale, the most useful CAMCOG-R tool for assessing amnestic MCI and early AD, was not significantly associated with educational attainment; we suggest, therefore, that it may be valid for such clinical use in most settings.

The ability overestimated and underestimated under GRM
Xiaohua Jian Jinggangshan University, China; Zhang None
When low-ability examinees make correct responses on difficult items, this is named the guessing phenomenon; and when high-ability examinees make wrong responses on the easy items in the test, this is named the sleeping phenomenon. For the past researches, the guessing phenomenon indicates overestimation, while the sleeping phenomenon means underestimation. Many researches have proposed some methods to rectify the guessing or sleeping phenomenon. A Paper and Pencil Test is arranged for an average examinee. After the examinee finished the test, an extra item with difficulty parameters arranged from big to small in different test cases was given to the examinee. The author estimated the new estimated ability and calculated

Assessment and Evaluation
Assessment and Evaluation

the ability steplength. It found that: (1) If getting full score, the examinee will be overestimated when making correct responses on difficult items. (2) If getting a zero score, the examinee will be underestimated when making wrong responses on easy items. (3) If getting a moderate score, the overestimation phenomenon and underestimation phenomenon will exist. In contrast, under the new GRM model, the overestimation and underestimation phenomenon can both be rectified. In CAT simulation under old GRM model, the high-ability examinee with a poor beginning will be underestimated, and the low-ability examinee with a good beginning will be overestimated. But using the new GRM model, the high-ability examinee can lower the bias, and the low-ability examinee with a good beginning will generally recover to the true value.

Generalisability analysis of competence model
Can Jiao; Shenzhen University, China; Xiao-Tian Hu; Min-Qiang Zhang

Work analysis method based on competence model is the key decision basis of human resource management. It helps HR to implement activities such as recruitment, training, salary administration, downsizing and so on. However, work analysis method which is based on competency model cannot estimate the reliability accurately. Nevertheless, generalisability theory can solve this problem as it is a modern reliability theory. This paper introduced the work analysis method that is based on competency model, and then discussed how to estimate the result of work analysis method through generalisability theory. Finally we used both generalisability theory and traditional method to analyse the work analysis data of one company, and compared the result. The result showed that generalisability theory worked better than the traditional method.

Reliability and validity of the self-compassion scale
Kai Jing; Jiangxi Normal University, China

To test the reliability and validity of Self-Compassion Scale, data were collected from 440 university students and analysed by SPSS 13.0 and LISREL 7.07. The formal version of SCS consisted of 6 dimensions, including 26 items. The Cronbach’s Alpha of dimensions and the total scale were 0.64-0.87. Six factors were obtained from exploratory factor analysis, accounting for over 55.09% of the total variance. Confirmatory factor analysis indicated that AGFI-CFI-NNFI ranged from 0.85 to 0.94, and RMSEA was 0.059. CSCS developed in the present study attains acceptable psychometric properties.

Mechanisms of virtual reality exposure therapy: the effect of the behavioural inhibition and behavioural activation systems
Rong Kai; Beijing Forestry University, China

Gray’s (1976) theory distinguishes between two motivational systems that he is involved with as the behavioural activation system (BAS) and the behavioural inhibition system (BIS). Fowles (1980) has indicated that heart rate responses reflect the activity of the BAS, and electrodermal responses reflect the activity of the BIS. Both BAS and BIS are reliably activated during in vivo exposure to fearful situations. However, because of the constraints imposed by virtual reality (VR), we hypothesized that VR exposure to fearful situations would activate the BIS alone. To examine this hypothesis, a VR free-standing elevator simulation was presented to participants selected for high and low fear of heights in Beijing, China. As predicted, the high-anxious group strongly responded electrodermally (effect size d = 1.82), but showed only minimal HR elevations during exposure (d = 0.09), and little other cardiovascular and respiratory changes. The low-anxious group showed little electrodermal and HR reactivity (d = 0.19 and 0.09). A comparison with data from a previous study demonstrated that the BIS, but not BAS, is selectively activated during VR exposure, causing discordance between self-reported and commonly used physiological measures of anxiety, such as Foa and Kozak’s (1986) emotional processing theory of fear modification, suggesting different mechanisms underlying VR and in vivo exposure treatments, which explained the results. Future studies should make direct comparisons between real-life and VR exposure using the same subjects and procedures, and should consider cross-cultural effects.

Psychometric properties of the internet addiction test in Hong Kong Chinese adolescents
Ching-Man Lai; Chinese University of Hong Kong, Hong Kong

The Internet Addiction Test (IAT; Young, 1998) is widely used to measure addictive use of the Internet. With evidence of its reliability and validity in adults, psychometric evaluation of the IAT is absent in adolescents. This study aimed to examine the psychometric properties of the IAT in Hong Kong Chinese adolescents. Eight hundred and forty-four adolescents (57.7% boys) aged between 11 and 20 years recruited from local high schools completed the IAT and the Chen Internet Addiction Scale (CIAS), and reported their duration and frequency of Internet use. Descriptive statistics indicated that 3.0% and 15.2% of our participants were addicted and were occasional problematic Internet users, respectively. Results of the EFA on the split-half sample revealed a one-factor solution. Compared with other plausible models, results of CFA indicated that Chang and Man Law’s (2008) 18-item second-order 3-factor model fitted our data better (SB χ² = 502.59, df = 132, p < .001, NFI = 0.85, NNFI = 0.87, CFI = 0.88, RMSEA = 0.06). Despite the moderate goodness-of-fit, the IAT demonstrated satisfactory internal consistency (α = .93) and good concurrent validity, as suggested by its moderate correlations with CIAS (r = .46), and the average time spent online per day (r = .40 for weekdays; r = .37 for weekends). The IAT is generally acceptable as a measure of Internet addiction in Chinese adolescents, however, with room for improvement. Future investigations should examine, in depth, the latent factor contributing to Internet addiction in adolescents.

Mindfulness awareness-attention scale: A five items version
Jaime Leon Urux; Las Palmas de Gran Canaria, Spain; Celia Fernandez; Fernando Grigalvo; Juan Nunez

The goal of this research was to develop a short form of the Mindfulness Awareness Attention Scale by selecting five items. A total of 329 students (41 men and 288 women) took part in this study. Firstly, we examined the factorial validity of the whole scale (15 items), then taking into account the factor loadings, corrected item-test correlation, Cronbach’s alpha and the theoretical importance, and selected the items for the shorter version. Next, we analysed the factorial validity of the short form. Then, to evaluate the agreement of both versions, we computed the Pearson correlation and the Gower index. Also, we compared the predictive accuracy of the short and the long form score by estimating a structural equation model (SEM) where mindfulness had an effect on autonomy (feelings of choice and will) and self-esteem. Fit indices showed adequate values for the long and the short form. Cronbach’s alpha for the long form was .854 and for the short .837. Pearson correlation and Gower index between the mean of 15 items and the mean of the 5 items short version was r = .884 and .926, respectively. As for the SEM, for the long form, the standardised effect of mindfulness on autonomy was .164, and on self-esteem was .235, while for the short version it was .175 and .208. In conclusion, this short form can be used as a rough proxy for the original version.
Assessment and Evaluation

Dongmei Liang South China Normal University, China; Jie Fang; Min Zhang

Because the distribution of mediating effect is generally not normal, classical approaches to assessing mediation (Baron & Kenny, 1986; Sobel, 1982) have in recent years been supplemented by bootstrap, the distribution of the product methods, and Markov chain Monte Carlo (MCMC) methods. However, little is known about how these methods perform relative to each other. This study extends Mackinnon and colleagues’ (Mackinnon, Lockwood & Williams, 2004; Yuan & Mackinnon, 2009) works by conducting a simulation that examines a host of approaches for assessing mediation. The simulation study has found the following results:

1. Absolute bias of the MCMC with informative prior method was smallest among different methods when the sample size was 25.
2. Relative mean square error and interval width of the MCMC with informative prior method was the smallest of all methods.
3. Power of the MCMC with informative prior method was the greatest among all the methods. We demonstrate that extra power comes at the cost of underestimation of a Type I error. The power of bias-corrected Bootstrap method followed. The simulation results indicated, when informative prior was available, that the MCMC with informative prior method was recommended in mediation analysis. If informative prior was not available, the bias-corrected Bootstrap method could be adopted to analyze mediation.

Portuguese version of the mother and baby scales
Joao Maroco ISPA-U, Portugal; Maria Correia; Ana Silva; Sara Sereno; Isabel Leal

The Mother and Baby Scales (MABS) was developed by St James-Roberts and colleagues (1986) to assess the mother’s confidence in the care of the baby. The original version of the instrument is constituted by 64 items distributed by eight subscales: 1 – Instability/Irregularity, 2 – Irritable during feeding, 3 – Alertness/Reactivity, 4 – Alert state during feeding, 5 – Facility, 6 – Lack of confidence in the care of the baby, 7 – Lack of confidence to feed the baby, and 8 – Confidence. The evaluation of the psychometric properties of the MABS Portuguese version was done on a sample of 430 mothers on the second day of puerperium, from Maternity Dr Alfredo da Costa, aged 15 to 44 years. The 8 factor model showed a poor fit to the variance-covariance matrix of the scale’s items (X2 (df=2,638) = 32,680; CFI = .678; GFI = .905; RMSEA = .043). To improve the factorial validity of the MABS, items with factor loadings smaller than 0.4 and modification indices suggesting correlations with different factors were removed. The improved model with 30 of the original items showed a good fit to the 8 factor structure (X2 (df=1,779) = 918; CFI = .918; GFI = .905; RMSEA = .043). The stability of the reduced 30-item scale was tested on an independent sample of 162 participants in the same conditions. Invariance analysis demonstrated the external validity of the 8 factor/30 items structure (Factor weights: DX2(36)=30.362; p = .733).

Comparing the diagnostic accuracy between the Fusion model and the DINA model
Xie Meihua Jiangxi Normal University, China

The Fusion Model and the DINA Model are two important cognitive diagnosing model. The DINA Model is in wide use, while the Fusion Model is rarely studied or used in China. The two models were compared, by the Monte Carlo Simulation, combined with practical data. The results of the study showed that the precision of item and person parameters, is greater for the Fusion Model and the DINA Model in Monte Carlo Simulation, while the Fusion Model is more accurate than the DINA Model in the Pattern Match Ratio and mean Marginal Match Ratio with the practical data.

A factor-analytic study for the Bender Ge-stalt test, 2nd edition: Internal structure and measurement model
Cesar Merino USMP, Peru; Ryan

Bender Gestalt Test has had several modifications. A major change occurred with the second edition (Bender-II: Brannigan & Brunner, 2003) in which some items were added to the original version. The Bender-II Test was developed in 1967 and has been used in diverse cultures. However, in Latin American countries, it is rarely studied or used in clinical practice. In this study, we examined the factorial structure of the Spanish version of the Bender-II Test.

Factorial structure of Maslach burnout inventory-general survey with Spanish social educators: A preliminary analysis
Rosario J. Marrero University of La Laguna, Spain; Monica Carballeira; Jose Luis Rodriguez-Fiestas; Hector Morales

Previous research has analysed burnout in different human service professionals. This study explored the structure of the Spanish version of Maslach Burnout Inventory-General Survey (MBI-GS) with social educators. The questionnaire was completed by 54 child protection employees of Tenerife, Spain, with a mean age of 31.22 years (SD=1.55). Psychometric characteristics of the inventory were analysed using principal axis factoring, which seeks the least number of factors that explained common variance. Varimax rotation was used. The initial results showed four factors with eigenvalues greater than 1, which explained a 67.47% of the variance. A new factorial analysis was conducted to limit the extraction to three factors, as it was proposed by the authors of the scale. The three factors accounted for 62.63% of common variance. Factor 1 was formed by 6 items which related to professional efficacy, explaining a 33.64% of variance. Factor 2 was composed by 5 items about emotional exhaustion, accounting for 18.92% of variance. And Factor 3 was formed by 5 items called cynicism, explaining 10.17% of variance. An excellent internal consistency of scales was shown, being .89 for professional efficacy, .88 for emotional exhaustion and .80 for cynicism. This latter could increase to .88 if item 13 were eliminated. The findings replicated those obtained by the initial study of Maslach, Jackson and Leiter (1996). The Spanish version of the inventory satisfies the psychometric criteria for its use in social education in the future.

A practical illustration of the impact of work environment on a team’s emotional and social intelligence
Portia Maphala PWC, South Africa; David Lambiote

The study explores the perception that the productivity and satisfaction of employees, within corporate organisations, increases noticeably when working remotely and managed differently, as compared to those employees who are restricted to working in an office and managed in a manner characteristic of organisational structures. In order to test this hypothesis, we collected the data through administering the Team Emotional and Social Intelligence Assessment (TESI) on participants within a depart
Temperamental styles in Peruvian children and adolescents: An exploratory and cross-cultural comparative study

Cesar Merino USMP, Peru; Dora Pflucker; Thomas Oakland

The purpose of this study is to identify temperamental preferences of 1040 Peruvian children, 51% female, ages 9 though 16, and to compare their data cross-culturally with similar data from two other in Latin American countries: Venezuela (n = 441, Leon, Oakland, Wei, & Berrios, 2009), and Costa Rica (n = 432, Oakland & Mata, 2007). The Questionario de Estilos Temperamentales (SST Style: Questionnaire: SSQ; Oakland, Guttling & Horton, 1996), adapted for use in this study, assesses four bipolar temperamental styles: Extraversion–Introversion (E-I), Practical–Imaginative (P-I-M), Thinking–Feeling (T-F), and Organized–Flexible (O-L). Peruvian children express a strong preference for an extroverted and organized style with preferences of more than 50% and moderate preferences for imaginative (59%) and thinking (60%) styles. Gender differences are found on T-F; boys more commonly prefer thinking styles and girls prefer feeling styles. Age differences are most apparent on O-L styles; younger children express a greater preference for an organized style.

In this context, the purpose of adapting such important instruments as Emotional intelligence in Argentina: Cross-cultural adaptation and validation of assessment instruments

Isabel Mikulic Universidad de Buenos Aires, Argentina

This study aims to discuss cross-cultural adaptation and validation procedures regarding important instruments for emotional intelligence psychological assessment as translating and adapting a psychometric test poses considerable challenges. The International Test Commission Guidelines on Test Adaptation emphasize quite clearly many of the issues that are faced in such a process (ITC, 2001). While the tests chosen for adaptation must be compatible with such an issue, rigour of the translation method, proper attention to local linguistic and cultural idiosyncrasies remain essential conditions to validity (Geisinger, 1994; van De Vijver & Poortinga, 2005). In such a context, the purpose of adapting such important instruments as Emotional Skills and Competence Questionnaire (Tkachik, 2001), Trait Emotional Intelligence Questionnaire (Furnham & Petrides, 2001) and Mayer-Salovey-Caruso Emotional Intelligence Test (Mayer, Salovey, & Caruso, 2002) known for both psychometric qualities and cross-cultural validity required that ample consideration was given to Argentina’s cultural and linguistic particularities. According to the conceptual translation method (Jeanrie & Bertrand, 2001; Jeanrie & van De Vijver, 2005), they were first translated into Spanish by four bilingual psychologists. Each item version was scored for conceptual and linguistic equivalences by five bilingual assessors. The resulting versions were pre-tested and data from 10 assessors of the functional equivalence led to final versions. This presentation will summarise the adaptation process and method and discuss the psychometric qualities shown.

Emotional intelligence in Argentina: Cross-cultural adaptation and validation of assessment instruments

Exploration of ontological assumptions older people have regarding wellbeing of younger people

Beatrice Mulder North West University, South Africa

By using the concept of ontology, this presentation will drive to describe how individuals of the older generation regard as social reality of younger people’s wellbeing. Ontology refers to the assumptions on which perceived reality is based. A multiple case study design was used and 13 white, Afrikaans-speaking members of the older generation (ages 60–85 years), from a service centre for the aged in North West Province were purposively selected. Data were collected by applying the Mnengo-method™ (Roos, 2008) and in depth personal interviews. The Mnengo-method™ is a visual projective data gathering instrument which requires people to construct their perceptions by using material such as clay, beads and trays, which are explained by a researcher and text data were obtained and thematically analysed. Findings revealed that older persons regard their perception of social reality as normative and they tend to evaluate the wellbeing of younger people from this normative stance. Young people have obtained rights due to new political dispensation in South Africa during 1994 and thus older generations perceive young people to be liberal and not adhering to prescribed social norms. The ontological assumptions of older persons about wellbeing of younger people can be harmful for intergenerational relations because the judgments which are based on ontological assumptions of older persons seemingly does not allow for different social realities. It is recommended that older and young people be exposed to individual interactions, to develop an awareness of each other and an understanding of each other’s wellbeing.

Development of a mental health screening instrument for military personnel

Arthur Neale Military Hospital, South Africa

A cabinet decision, in 1998, determined that all military personnel in the South African National Defence Force, have to be medically fit to deploy on military missions. The implication was that all members of the SANDF have to undergo regular health assessments, that included a psychological or mental health assessment. This posed a challenge for military psychologists to develop an assessing procedure that will be able to assess at least 30000 personnel per year. The solution to this problem was to develop a mental health screening instrument known as the Psychological Risk Inventory (PRI). The PRI was developed and used as a test under development during the past 8 years. It has been subjected to thorough research. One of the important findings was that the psychometric properties of the test are acceptable. A computerised scoring program was developed that could link test results with patient information on a mainframe.

Assessment and Evaluation

The Romanian adaptation of the trust in teams measure

Catalina Otoiu Babes Bolyai University, Romania; Adriana Baban; Daniela Andrei; Oana Ferent

The aim of the present is the adaptation and validation of a trust measure on Romanian population. A review of the trust measures that are being used in our country showed that the Romanian version for most instruments lack the adequate psychometric properties that would allow for a proper use of the measure both in research and in practice. Therefore we found it necessary to introduce a new measure, and to follow the adaptation process all the way in order to ensure that the psychometric properties are within appropriate intervals. The Trust in Teams measure, developed by Costa and Anderson (2010), was translated to Romanian, back translation was performed and statistical analyses were conducted to verify the reliability and the validity of the scale. Our first results indicated that further adaptation of the initial version was necessary for the theoretical model to better represent our data. For our initial testing of the translated version we used a sample of N=1144 (38 teams). A second structural equation modeling analysis was conducted on the adapted version, with a sample of N=390 (65 teams). Confirmatory factor analysis was performed on our adapted version and this time we obtained adequate goodness of fit indices. Our results indicate that this instrument has the properties necessary to capture trust, not as a static concept, but as one of the emergent states of a group. Our results suggest some future research questions regarding trust manifestation and evolution within teams.

The internal and external validities of the Depression Anxiety Stress Scales (DASS-21)

Sajeda Ramaosamy AIX-MARSEILLE 1, Mauritius; Pierre Yves Gilles

The objective of this research was to examine the psychometric properties of the French version of the DASS-21 in a Mauritian student population. The DASS-21 consists of three scales: the depression, anxiety, and the stress scale. Each DASS-21 scale consists of 7 items. The DASS-21 has been translated into many languages and has been found to possess excellent psychometric properties in adults, and considering its brevity, it is widely used in clinical settings internationally. 1186 adolescent students (385 boys and 801 girls; mean age 14.3 years, responded to a set of four self-report measures: Depression Anxiety Stress Scales (DASS-21); Revised Children’s Manifest Anxiety Scales (RCMAS); Multiscore Depression Inventory for Children (MDI-C); and Coping Inventory for Stressful Situations (CISS). Reliability Internal consistency of the 3 scales of the DASS-21 was measured using Cronbach’s alpha, α, for the depression, anxiety, and stress scales, α was respectively 0.78, 0.71, and 0.77. Exploratory Factor Analysis: 3 factors were extracted (eigen values >1) accounting for 43.2%
of the total variance. Oblique rotation yielded three correlated factors that reproduced the DASS-21 scales. The DASS-21 was found to possess satisfactory concurrent validity as moderate positive correlations were obtained with the other measures of depression and anxiety. The DASS-21 has satisfactory structural and concurrent validity. The internal consistency is also satisfactory. Future research will focus on cognitive processes involved in depression and anxiety.

Strengths and difficulties questionnaire: An analysis of its structure in a multiethnic urban adolescent sample

The SDQ is currently one of the internationally most frequently used screening instruments for child and adolescent mental health purposes. Its structure, cross-cultural equivalence, and applicability in ethnic minority groups is still a matter of discussion. SDQ self-report data of 5,379 ethnic Norwegian and 865 ethnic minority adolescents with a variety of national origins were analyzed by means of confirmatory factor analysis. Multi-group comparisons considering equal thresholds combined with more in-depth analyses on factor loadings, residuals composite reliability and average amount of variance explained by the respective constructs, were performed. CFA suggested a good fit of the five-factor model of the SDQ self-report in the subsample of ethnic Norwegian adolescents and an acceptable fit in ethnic minority subsamples without substantial differences between ethnic Norwegian SDQ data and data of Pakistani, or those of ‘other ethnic minority’ adolescents. When assuming equal thresholds between response categories of the items, as well as equal factor loadings, the structure in the data significantly differed between ethnic Norwegian and both ethnic minority samples. Some factor loadings and some correlations between constructs significantly differed between ethnic Norwegian and both ethnic minority samples. To some extent the theoretically proposed five-factor structure of the Norwegian version of the SDQ self-report was supported in 15- to 16-year-old adolescents. When applying this screening method to Norwegian adolescents, our results suggest that the use of the total difficulty score of the SDQ in screening youth should be preferred over the sub-scale scores.

The role of life stressing events and the strategies of coping with the reemergence of PTSD

Mehrdad Sabet Islamic Azad University, Islamic Republic of Iran

The aim of this investigation was to determine the coping strategies for life-stressful events in those injured in the imposed war with post traumatic stress disorder (PTSD) and with people who had been injured in the imposed war without post traumatic stress disorder (PTSD). Statistic society of this investigation was all of the people who had been injured in the imposed war. They lived in Kermanshah in the year of 1389, 60 of this population with random sampling was chosen. 30 of this population have post traumatic stress disorder (PTSD), and the other 30 didn’t have post traumatic stress disorder (PTSD). The method of this investigation was causal comparative. For each groups paykel life events inventory, moos & billings coping responses inventory and post traumatic stress disorder checklist (PCL) is used. Analyses of data with multi analysis of variance, correlation coefficient, and T test, show that between evaluate dangers, stressful events in the life and emotional focused, re-appearing PTSD, old age at the time of investigation and old age at the time of injured, exist positive and meaningful intervening. Or so that’s better to tell: Low age at the time of injury use of problem-focused and high percentage of the injured protect people from PTSD.

Adaptation of parenting practices measure (PPM) in Spanish adolescents

Paula Samper University of Valencia, Spain; Ana Lorca; Ana Tur; Vicenta Mestre University of Valencia, Spain; Lorena Gimenez

The aim of this paper is to present an adaptation of a multi-dimensional measure of the prosocial practices designed by Carlo, McGinley, Hayes, Batenhorn, and Wilkinson (2007) in Spanish adolescents. Participants in the study were 450 adolescents (boys and girls, with a mean age of 14 years) belonging to public and private schools in the Valencian Community. The subjects completed the Interpersonal Reactivity Index (Davis, 1980; Mestres, Frias, and Samper, 2004), the Prosocial Behavior Scale, the Scale of Physical and Verbal Aggression and Emotional Instability Scale (Caprara & Pastorelli, 1993; Del Barrio, Moreno & Lopez, 2001), the Parenting Practices Measure (Carlo, G., McGinley, Hayes, Batenhorn, y Wilkinson, 2007) and the Prosocial Tendencies Questionnaire Revised (Carlo, Hausmann, Christiansen, and Randall, 2003). The questionnaires were filled in a 50-minute session. The results have shown adequate reliability and validity. The discussion is directed towards the need to identify those parenting practices used to promote prosocial behavior not on a global and undifferentiated scale, but specifying different dimensions of this behavior: emotional, altruistic, obedience or conformity, dire, public and anonymous.

Understanding the effects of religious beliefs on older adults sense of coherence

Susana Santos ISPA, Portugal

The rapid worldwide growth of the elderly population has led to an increase of studies addressing the strategies used by older adults to promote healthy aging, as they fact the challenges inherent to this process. This study aims to: (a) analyze if the internal sense of coherence (SOC) of older adults changes with the presence of religious beliefs, and (b) to assess bivariate associations between participant’s sense of coherence and their religious beliefs. 123 older adults, aged above 74 years (M = 82.4, SD = 5.6) were assessed with the Sense of Coherence (SOC) and the Mini Mental State Examination (MMSE). Sociodemographic data, including the type of belief system or the absence of religious beliefs were also assessed. The findings suggest that religious beliefs have a different effect on SOC. Participants with Judaic religious beliefs showed the highest SOC score (M=8.9), (in a likert scale that ranges from 1 to 7), followed by Protestants (MPRO=4.6), whilst the Islamic participants indicated the lowest SOC score (MISL=3.7). This study indicated that religious beliefs appear to have an effect on older adults’ SOC and that this effect can vary according to the religious belief practiced, emphasizing the relevance of religious beliefs for the SOC of older adults and its relevance to healthy aging. Implications of these findings in clinical approaches are also discussed.

Validation study of a model for the assessment of the potential in Italian young professionals

Riccardo Sartori Verona University, Italy; Annalisa Rolandi

This abstract presents the results of a study carried out on the potential profiles of 1068 Italian Young Professionals coming from Assessment Center and Development Center activities. A review carried out on a database of potential profiles made available by GSO, which has acknowledged the potential assessments conducted by 35 medium and large sized companies of 8 different business industries over ten years, showed that the assessment of the potential of Young Professionals was carried out by means of observation grids including 15 to 20 different skills, reaching a total number of 48 skills evaluated in all of the companies under examination. The aim of the study was to achieve an assessment model that includes the smallest possible number of highly predictive potential skills, avoiding dispersions and redundancies in the assessment, and maximizing the opportunities for the companies to make correct managerial choices when using potential data. The research has applied a series of statistical models (correlation, factor analysis and regression) in order to reduce the number of abilities and identify those that predict the overall skill better. The results show that the number of “necessary” skills is below 10. Two assessment models have been obtained, one defined as Narrow (8 necessary skills) and another defined as Broad (14 skills, the necessary ones plus others considered as “secondary” but relevant).

Norming process of ‘Wells’ meta cognitive test on high school students in Iran

Mohammadreza Seirafi Islamic Azad University, Karaj, Islamic Republic of Iran; Mohammad Hakan; Mehrdad Sabet

The object of this study is due inspecting the validity, reliability, and finding the norm of the Wells’ Meta cognitive Test. The study is a filed research of an exploratory type. 600 (male and female) pupils were chosen randomly as samples on the High School Students in the city of Karaj and there was used factor analysis using SPSS software for statistical analysis. Findings of this study indicate that test for high school students has validity. The total reliability coefficient is 0.83 (boys=0.835 & girls=0.825). There is nearly a positive correlation between all its subjects. A general factor has its findings in all questionnaires. After being assured of the reliability and validity of the test, the general norm tables were prepared, which may be used by the consultants and psychologists in the filed of clinical diagnosis.
Training mental health professionals in evaluating and managing suicide risk in college students

Jose Serra-Taylor University of Puerto Rico, Puerto Rico; Maria Jiménez-Chafey; Carol Izarry-Robles; Sheila Pérez-Lopez

The specific goal of this study is to evaluate the efficacy of training designed to improve the skills of university mental health professionals in evaluating and managing suicidal risk in college students. The training was developed and administered to 39 professionals (counsellors, psychologists, and social workers). Participants were trained using the Co-lumbia Suicide Severity Rating Scale (Posner, et al., 2009) as an instrument for suicide risk assessment. Four clinical cases were used to perform assessments through role-play. A pre- and post-test was administered consisting of 20 multiple choice questions to assess the participants’ gained knowledge during the training. Also, two other measures were administered: one collecting demographic data along with a 5-point Likert scale exploring their professional practice (17 items); and an evaluation of the training with closed- and open-ended questions (18 items). Results showed a significant difference in the pre- and post-test, (t(38) = -9.178, p < .000. The participants evaluated the training as excellent for their clinical practice. Results suggest that an evidence-based training that incorporates practical exercises increases the knowledge and improves the skills of mental health professionals in evaluating and managing suicide risk, thus helping to prevent suicide in college students.

The factor analysis and reliability of the Griffith empathy measure in Iranian adolescents

Maryam Sharyati Azad University of Birjand, Islamic Republic of Iran

The construct of “empathy” embodies a number of characteristics necessary for psychological health in adolescents (Dadds et al.,2008). The aim of this study was to investigate the psychometric evaluation of The Griffith Empathy Measure (GEM) (Dadds et al., 2008) in Iranian Adolescents. The Griffith Empathy Measure (GEM) was administered on 300 adolescents in Iran (150 girls and 150 boys). Factor analysis yielded two general factors (a cognitive and an affective factor, accounting for a subset of 22.32 and 15.03% of variance respectively). The reliability coefficient of the Iranian version of GEM, was 0.89; The evaluations provide support for the utility of the measure in capturing an overall dimension of empathy as well as two independent subscales of Affective and Cognitive Empathy for use in Iran.

Assessing community attitudes toward persons with a serious mental illness: A new measure

Marissa Snell Nova Southeastern University, United States of America; William Dorfman

Serious and persistent mental illness affects approximately 1 of every 17 people in the United States. Unfortunately, it seems that persons with long term mental illness are often mistreated and misunderstood in our society. There is a scarcity, however, of scales used to measure such misconceptions at the community level. The proposed study seeks to develop and validate a scale that measures community attitudes and beliefs regarding those with serious and persistent mental illness. The process will begin with the development of an item pool that will be subjected to reliability and validity analyses including split-half measures of homogeneity, and test-retest reliability. Construct validity and concurrent validity studies will follow based on any existing measures in the literature. Various validated scales, such as the Attitudes Toward People with Serious Mental Illness Survey (Black, 2005), which address these factors among professionals, will be referenced and refined to fit the current purpose of assessing these factors among community members. Such a scale is an essential component for much of the suggested research surrounding long term mental illness in that it will provide data on which to base interventions. Knowledge regarding biases and misconceptions that the community holds will aid in developing effective methods to target attitude changes towards persons with a serious mental illness.

New assessment tool measuring global knowledge outcomes for short study abroad experiences

Valeriya Spektor Lehigh University, United States of America; Tina Richardson

Global knowledge can be defined as knowledge relating to self and others, in regards to cultural values, beliefs, and behaviors, which impacts one’s ability to view the world from multiple perspectives and flexibly adjust to diverse interactions. The present study aimed to provide preliminary psychometric evidence for a new assessment tool measuring global knowledge outcomes for short-term study abroad experiences with regards to two aspects of knowledge, (1) para-communication and (2) reflection/pro- processing. A total of 108 participants (77 female; 27 male) completed a demographic questionnaire, the Cultural Intelligence Scale (CQS; Ang et al., 2007), and 39 items developed to assess para-communicating and reflection/processing. Exploratory factor analysis reduced the global knowledge items into three factors: effective communication, awareness of intercultural challenges, and reflection and processing. The new assessment tool evidenced high inter-rater consistency for each of the three factors, and bivariate correlations with the CQS subscales provided evidence of convergent/divergent validity. Findings indicated that global knowledge is a multi-dimensional construct that includes behavioural and affective communication skills, affective maturity in order to remain flexible and adapt in intercultural settings, and cognitive processes used to make sense of the cultural interaction. Additionally, the authors discussed implications for study abroad programme developers, providers, and counsellors, as well as directions for future research.

Two generation’s perception of why they need to be involved with each other

Tonette Stavast South Africa

The goal of this presentation is to explore the impact of older people’s responses, on younger people, in an intergenerational relational research project. Qualitative research was used, and data were obtained by using observations of videos and behavioural responses of older people who participated in an intergenerational research project. In addition individual interviews with young people (ages ranging from 21–33), in terms of how they experience the impact of older people (ages ranging from 60–85), were also used. The most important finding is that a lack of person centred qualities in the interaction between the younger and older generations can be experienced as a negative impact, for example being experienced as critical and unkind impacted on the members of the younger generation and they tended to withdraw from the interaction. This has serious implications for intergenerational solidarity. It is recommended that both generations become more mindful of their impact on others, and that they develop their person centred qualities such as empathy. Through clearly describing person centred qualities we will know how to cultivate these qualities in all generations to develop and improve the interaction between the various generations.

The effect of religious belief on college students’ mental health

Yaling Su Dongguan Technology University, China

The purpose of the present study was to explore the relationship between religious belief and the mental health of college students. 10957 students were invited to complete the following questionnaires:
University Personality Inventory, Life Event Scale, Coping Strategies Questionnaires and Life Satisfaction Scale (Life Satisfaction Index A and B). Then, 125 religious believers and 125 non-religious believers were randomly selected from the sample, and were asked to further complete the Chinese College Students’ Spirituality Scale and a self-developed scale. The results showed that, when compared with students with religious belief, the mental health and life satisfaction level of non-religious belief students were obviously lower; they also more frequently adopted an infantile coping style and were more sensitive to perceived stress. The research conclusions informed us that we should look at religion from the scientific point of view and pay more attention to the mental health state of college students with religious belief. Most importantly, we need to provide specific mental health education and psychological counselling to college students with religious belief in accordance with their psychological characteristics.

Perception of individual-group relationships as a reflection of perceiver’s abilities of teamwork
Shinkichi Sugimori Tokyo Gakugei University, Japan; Atsushi Furuya; Atsushi Aikawa
Teamwork is counted as an important aspect of key competencies (OECD, 2003). The aim of this study was to build an computer-based assessment tool measuring an individual’s teamwork abilities, implicitly, through projective responses to individual-group relationships displayed by computer graphics (CG). University students (N=165) and workers in various jobs at two companies (N=218) participated in this study. We prepared CG software which presents CGs of a solo fish or person, swimming or walking (1) alone, (2) alone outside of a group, or (3) within a group. To avoid influence by context information, the image of the fish and the person was relatively abstract, i.e. not using real images. We also developed, and used, self-rating teamwork ability scale (Aikawa, Takamoto, Sugimori, & Furuya, 2012) and also other-rated teamwork ability in a company. The teamwork ability scale consists of five factors: communication, back up, team orientation, monitoring, and leadership. The projective responses of participants to each CG were gathered as free descriptions in the first stage, and in the second stage, response categories were prepared for automatic scoring. Statistical examinations revealed many of the responses to CGs have significant relationships with other teamwork measures. It was suggested that the development of CG testing of teamwork abilities is both possible and promising.

Analysing personality scale using nonparametric item response theory model
Wenqing Tang South China Normal University, China; Xiaojie Wang; Min-Qiang Zhang; Xiao-Zhu Jian
The study analysed Neuroticism scale (N scale) of Eysenck Personality Questionnaire (EPQ) using the Nonparametric Item Response Theory (NIRT) model, and compared it to the Parametric Item Response Theory (PIRT) model. The results showed that the 24 items in N scale all fit the Mokken model and that 4 items didn’t fit the 2PLM, while those 4 items can be accurately measured using the Mokken model. After removing the unfit items based on the NIRT model, the increment of mean item information is much larger than that based on 2PLM model.

New development in computerised adaptive testing: Cognitive diagnostic computerised adaptive testing
Wenqing Tang South China Normal University, China; Min-Qiang Zhang; Mu-Hui Huang
With the development of modern computer technology, more and more researchers and practitioners are interested in building CAT based on cognitive diagnostic models (CD-CAT). These models aim to diagnose examinees’ mastery status of a group of discretely defined skills, or attributes, thereby providing them with detailed information regarding their specific strengths and weaknesses. This article aims to provide practitioners and researchers with an introduction to and overview of recent developments in cognitive diagnostic computer adaptive assessments. In this article, the authors will discuss the advantages and disadvantages of these methods focusing on five components of CD-CAT methodology, which include psychometric models (CDMs), calibrated item banks, entry level (starting point), item selection rules, scoring method and termination criterion. Development history and research ways of the CD-CAT methodology are summarised, and future research trends are forecast as well. It is hoped that some useful direction will be provided to practitioners wishing to begin working and experimenting with this new methodology.

The use of the millon clinical multiaxial inventory III in the South African context
Casper Van Zyl Jopie van Rooyen And Partners, South Africa
Psychological instruments require constant research with different populations and nationalities in order to be applicable to a wide variety of respondents. The purpose of the study was to investigate the reliability, factor structure and gender differences of the Millon™ Clinical Multiaxial Inventory – III (MCMI-III™) in the South African context. This study falls within the quantitative research paradigm. Internal consistency reliability, factor analysis, and analysis of variance (ANOVA) were useful to compare the psychometric properties of the MCMI-III™ with international findings. Secondary data was used in this study. The sample consisted of 418 men and women from different clinical, cultural and racial backgrounds. Satisfactory internal consistency reliability was found with the South African sample which is comparable to the United States (US) norm group. Congruence between the factor structure of the MCMI-III™ and previous studies was found, although unique differences do exist with a third factor. Differences between men and women when compared to the US norms were negligible except for the Compulsive scale where women scored higher than men. The results of this study provided evidence that the MCMI-III appears to be appropriate for use within the South African context.

An interbattery factor analysis of the Emotional Quotient Inventory and the Work Personality Index
Casper Van Zyl Jopie van Rooyen And Partners, South Africa
Stream three or mixed model emotional intelligence (EI) measures have been shown to be correlated with personality in the research literature. The objective of this study was to further examine the nature of this relationship. Previous studies using joint factor analysis to investigate the relationship between personality and mixed model EI have located EI as a separate trait in personality factor space. A common problem with using joint factor analysis for this purpose is the possibility of method artefacts. Thus, joint factor analysis may not reflect the true relationship between two variable sets. In the present study, an interbattery factor analysis was conducted with the scales of the Emotional Quotient Inventory (EQ-i) and the Work Personality Index (WPI). Interbattery factor analysis identifies only common factors between two variable sets. The sample size consisted of 615 working adults who completed the assessments for selection or developmental purposes. After a direct quartimin rotation, an eight factor solution provided the most parsimonious and theoretically meaningful solution. The analysis identified seven common factors between the EQ-i and WPI. Only Teamwork from the WPI loaded on factor eight. In contrast to previous results, EI did not load separately in personality factor space. The common factors between these variable sets indicate that the different constructs measured by EI and personality are related. Some of the relationships identified among the variables were unexpected. This provides additional interpretive information for when the EQ-i and WPI is used in conjunction.

Assessing job applicants’ emotional intelligence in interviews
Ching-Wen Wang National Chung Hsing University, Taichung, R.O.C.; Chi-Sum Wong
Emotional intelligence (EI) has been shown to be related to important job outcomes. However, existing EI measures may not be applicable in selection contexts because of the possibility of faking, the high costs involved, and the accessibility of scoring keys. In this study, we attempt to demonstrate that EI can be assessed through carefully designed interview questions. Using the position of customer service officer (CSO), we find that both situational interview (SI) and patterned behavior description interview (PBDI) questions are related to job applicant EI and may predict incumbent job performance and turnover intention. Suggestions for practitioners and researchers are discussed.

Present situation, hotspots and Chinese psychological research trend: A CNKI-based analysis
Zhimin Wu Jiangxi Normal University, China; Meirong Chen
CNKI is China National Knowledge Infrastructure or China periodical full-text database. It is the largest Chinese website of information on knowledge. The
Assessment and Evaluation

both men and women pre- and postnatally. GMDS Latvian versions appear to be valid and gender roles in contemporary society. The EPDS and correlations between EPDS and GMDS both for pregnancy, and three months postnatally. Results show similarly strong ranges from .80 to .90. Results show similarily strong for both scales which have been translated into Latvian: the Edinburgh Postnatal Depression Scale, (EPDS, Cox, Holden, & Sagovsky) and Gotland Male Depression Scale (GMDS, Zierau, Bille, Rutz, & Bech). The two scales were used to assess both traditional depression symptoms as well as behaviours, which may be more prevalent in men. For purposes of adaptation in Latvia the EPDS was translated from English to Latvian, and the GMDS was translated from Swedish to Latvian. Both questionnaires were completed by a sample of 100 women and their partners at two points in time: during the third trimester of pregnancy, and three months postnatally. Results show good internal reliability ratings for both scales at both points in time (Cronbach’s coefficients ranging from .80 to .90). Results show similarly strong correlation coefficient between EPDS and GMDS for both men and women, although it was initially predicted that this association between scales would be stronger for men. There is discussion of the similarities and differences of reported symptoms in relation to gender roles in contemporary society. The EPDS and GMDS Latvian versions appear to be valid and reliable measures of adequacy of depression symptoms for both men and women pre- and postnatally. The objective of this study was to evaluate the psychometric properties and convergent validity of two depression scales which have been translated into Latvian: the Edinburgh Postnatal Depression Scale, (EPDS, Cox, Holden, & Sagovsky) and Gotland Male Depression Scale (GMDS, Zierau, Bille, Rutz, & Bech). The latter was developed to assess both traditional depression symptoms as well as behaviours, which may be more prevalent in men. For purposes of adaptation in Latvia the EPDS was translated from English to Latvian, and the GMDS was translated from Swedish to Latvian. Both questionnaires were completed by a sample of 100 women and their partners at two points in time: during the third trimester of pregnancy, and three months postnatally. Results show good internal reliability ratings for both scales at both points in time (Cronbach’s coefficients ranging from .80 to .90). Results show similarly strong correlation coefficient between EPDS and GMDS for both men and women, although it was initially predicted that this association between scales would be stronger for men. There is discussion of the similarities and differences of reported symptoms in relation to gender roles in contemporary society. The EPDS and GMDS Latvian versions appear to be valid and reliable measures of adequacy of depression symptoms for both men and women pre- and postnatally.

Adaptation of Edinburgh Postnatal Depression and Gotland Male Depression scales in Latvia

Jie-Ting Zhang

South China Normal University, China

Xiao-Tian Hu

Kai-Yin Guo

The application research of GIRM approach

Min-Qiang Zhang

South China Normal University, China

Qing-qing Xiong

The number of papers in psychology theses after statistically analysing author, journal, psychological research; (5) Chinese psychologists should not pay due attention to evolutionary psychology, cultural psychology, indigenous psychology.

Confidence interval for effect size

Min-Qiang Zhang

South China Normal University, China

Qing-qing Xiong

Confidence intervals for effect sizes cannot be computed using formulas. The main classes of effect sizes are: (a) Standardised differences effect sizes, (b) variance-accounted-for effect sizes and (c) corrected effect sizes. We compared three methods: The noncentral-based, the percentile (PERC) bootstrap, and the biased-corrected and accelerated (BCA) bootstrap methods for setting a confidence interval (CI) around Cohen’s d under different conditions. A set of Monte Carlo simulations was constructed. The biased-corrected and accelerated (BCA) bootstrap is proposed and recommended for general use for above effect sizes, especially in cases when the assumption of normality is violated.

A review of testlet response theory

Jie-Ting Zhang

South China Normal University, China

Wen-na Tian

Min-Qiang Zhang

One important assumption made in standard IRT is the assumption of local independence. Violation of this assumption occurs under some conditions such as testlet or item-bundle, in which items share the same stimulation. Lots of examinations contain testlet items or item-bundle. When item response theory models are used, the correlations among testlet items or item-bundle can lead to the distortion of parameter estimation. In order to solve this problem, researchers introduced three approaches: (1) Ignore the item dependence, and use the standard IRT model. (2) Consider testlet as a super item, and score it polytomously. (3) Apply the testlet response theory. Method (1) and method (2) have some weak points in parameter estimation. This paper introduces related studies both in application and theory about testlet response theory, especially methods of parameter estimation, and aims to provide research direction for the future.

Applying MCMC algorithm in estimating variance components for generalisability theory

Min-Qiang Zhang

South China Normal University, China

Guang-Ming Li

Wen-yi Zhang

Kai-Yin Guo

The Markov Chain Monte Carlo (MCMC) method, as a dynamic computer simulation technique, was first applied in psychometrics in 1990s. To an extent, generalisability theory (GT) can be viewed as a combination of classical test theory and analysis of variance procedures. It helps to untangle different sources of error so that the efficiency of the measurement can be improved. As a result, the estimation of variance components is the key to GT. This paper summarised some studies about applying MCMC method on the estimation of variance component for GT. First, MCMC algorithms can be used in estimating the variability of estimated variance components for GT. The results showed that, compared with other methods (Traditional bootstrap and Jackknife methods), it was quite suitable to apply MCMC methods with prior information in estimating standard errors and confidence intervals. Second, in GIRM (Generalisability in Item Response Modeling), which connects the sampling model of GT with the scaling model of IRT, the application of MCMC algorithms can separate the interaction of person and item, and reduce error in the p×i design, which has developed and extended the traditional estimating method of variance components for GT. Last but not least, using MCMC methods to deal with missing data can avoid the information loss and improve the effectiveness of the measurement. In view of these studies, applying MCMC algorithms in estimating variance components for GT would be the main direction of future research.

Reliability and validity of cluster-b personality disorders beliefs questionnaire in Chinese university students

Shijie Zhou

Central South University, China

Qian-qian Zhang

The aim of this study is to examine the reliability and validity of Cluster-B personality beliefs questionnaire. Cluster-B personality beliefs questionnaire and Personality Diagnostic Questionnaire-4 + (PDQ-4+) were administered to 600 university students, 57 of which were assessed by Cluster-B personality beliefs questionnaire three weeks later. The results are as follows: (1) The Cronbach’s u coefficient for 4 subscales ranged from 0.79 to 0.91, the split-half coefficient from 0.73 to 0.87, and test-retest coefficient from 0.65 to 0.74, (2) four factors were extracted through exploratory factor analysis, which were consistent with the theoretical concepts. The correlation coefficients between 4 subscales were from 0.42 to 0.62. PDQ-4+ was chosen as a criterion, thus, correlation coefficients between four factors and corresponding personality disorders were between 0.37-0.45. The reliability and validity of the questionnaire is acceptable.
A clinical cognitive approach to thought: Implications in cognitive diagnosis and remediation

Evelyne Clement University of Rouen, France; Bruno Villette; Pascale Planchon; Bruno Vivitcosi

This contribution deals with mentally retarded adults’ problem solving strategies. To assess the strategies and the potentially inter-individual variability, an adapted version of the Twenty Questions Task was given to 30 mentally retarded adults (MRA), 30 mentally nonretarded adults (MNR) matched on chronological age, and 30 mentally non-retarded children (MNRC) matched on cognitive efficiency. In our version, the items belong to different semantic categories organised in a hierarchic network. This formalisation of the task was conceived in order (1) to identify the strategies that underlie and explain the performances and (2) to take into account the large individual differences commonly reported in the domain. Despite the performances, the MRA of the children did not significantly differ, the individual protocols analysis showed differences in the strategies developed by the two groups. The interpretation of the results as reflecting a conceptual deficit or a chronic cognitive sub-functioning of the MRA as well as their implication in cognitive diagnosis and remediation will be discussed. We question the relevance of the theoretical model proposed by Frith (1989) according to which individuals with autism present a “lack of central coherence” reflecting a deficit in the mobilisation of global processing. Fifteen children with high-functioning autism was compared with 15 normally developing children, matched on age and global level of intelligence and assessed on the WISC-III and the NEPSY. The results show no significant differences between children with high-functioning autism and typical children scores on the items requiring visuospatial processing. However, differences of strategies appeared both between the groups and within children with autism, according to the task. These results suggest in persons with autism the idea of a priority granted to the local information processing in the absence of a global processing deficit. It is assumed that the evolution of the relations between procedural and conceptual knowledge varies with the individual trajectories. We test this hypothesis by means on a combination of curves of growth, a dynamic modeling and the analysis of the inter individual variability (van Geert & Steenbeek, 2005). Twenty-eight 5 year old children were assessed eight times during one school year on three tasks: (a) To count collections of tokens ranging from 3 to 25 (the “Counting task” (CT): procedural knowledge), (b) to give a cardinal of tokens ranging from 3 to 25 (the “Give a number task” (GNT): conceptual knowledge), and (c) to count and to give the missing number of tokens ranging from 3 to 25 (the “Arithmetic task” (AT): procedural and conceptual knowledge). The results show that significant improvement in performance on the AT are always accompanied by significant improvements on both CT and GNT. Moreover, the children who do not progress on the AT can nevertheless significantly improve their performance either on the CT, or on the GNT, or still on both tasks. We conclude that the relations between procedural and conceptual knowledge are not uniform and vary with the individual trajectories. The aim of this research is to study mathematical preconceptions in problem solving. It was assumed that these preconceptions, i.e. naive knowledge (Lautrey et al. 2008), constitute a filter to interpret a new conceptual field and guide the strategies developed by the solver. In order to explain children responses, fifty-one 9-10-year-old children were invited to solve 12 problems constructed on the typology of Vergnaud. The data analysis combines a quantitative approach (Implicative Statistical Analysis) and a qualitative approach (Individual Protocols Analysis). Results will be discussed in the light of the interest of this kind of approach.

Geropsychology for an aging world

Rocío Fernandez-Ballesteros Autonomus University of Madrid, Spain

Over the last five decades, life expectancy at birth increased, globally, by almost 20 years. On average, the gain in life expectancy at birth varies from 23.4 years in the least developed regions and 9.4 years in the more developed regions. The range in life expectancy within more developed countries varies between 71 years in Latvia to 82 years in Japan (see United Nations). At the same time, fertility rate decreased dramatically from 3.7 children per women in developed countries during the 19th century to 1.4 at the beginning of the 21st century. When psychology developed as a science in the third quarter of the 19th century, societies were young, with higher proportions of people under 16, than of those older than 60. By the second decade of the 21st century, a growing proportion of countries will have aging societies with very a high percentage of elders in comparison with children and adolescents. As a consequence, psychology and psychologists must be concerned with this situation. This contribution will deal with those more important topics of geropsychology from a basic and applied point of view. Geropsychology is defined as the branch of psychology studying the psychological components of the process of aging, the psychological characteristics of age, and of the aged. A summary of the most important psychological issues of aging as well as of successful, normal and pathological will be introduced.

Session Type: Invited Symposia

Symposium title: Cross-cultural evidence-based health/psychotherapy research among North America, United Kingdom, China, Korea and Japan
Convenor: Akira Tsuda

Biopsychosocial approach to stress and health: Recent advances

Akira Tsuda Kurume University, Japan; Shigeko Tsuda

Bio-Psych-Social approaches are widely recognised as suitable strategies for the study of complex biological responses to various stress-related psychological factors from the point of view of indigenous and cross-country differences, which attempt to make the connection between stress and ill-health outcome. Emerging data from our laboratory and cooperative institutions has indicated that these approaches are useful to predict various markers of health, thus may be clinically relevant. This presentation will contain several findings from our laboratory that focus a biopsychosocial approach relevant to health outcomes. Topics will cover a wide range of measures that are currently being employed in psycho-biological research and how they might be used to understand important mechanisms of stress and health from the point of view of Indigenous and Cultural Psychology. We summarise results from our research program into the biological correlates of positive and negative affects with a line of cross-cultural perspective from Health Psychology. There is considerable interest in the relationship between affective states and cortisol output such as cortisol awakening response, but little evidence connecting the cross-cultural consistency of these associations. These topics will not only be of interest to Indigenous and Cultural Health Psychology, but will also be relevant to social psychologists, epidemiologists and public health workers.

Symposium title: Psychological assessment at the crossroads: Methodological advances and psychometric standards
Convenor: Kurt Pawlik

Using ambulatory assessment methodologies to capture daily life experiences

Barbara Lehman Western Washington University, United States of America; Tamlin Conner

Important psychological questions often focus on the dynamics of individuals as they participate in natu-
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Finally, several applications of these tests already in practice are listed.

Psychometric contributions to the longitudinal assessment of change
Kurt Pawlik University of Hamburg, Germany
There have been many considerations of the importance of reasonable measurement in behavioural science research. But it is also clear that the collection of longitudinal data provides special challenges. Some of the earliest challenges came from classical considerations about the “unreliability of difference scores” (see Cronbach & Furby, 1970; Nesselroade, 1972). Some of these challenges have been overcome by contemporary uses of structural equation models (Joreskog & Sorbom, 1979; Horn & McArdle, 1980). Special representations here include: (1) using multiple variables with factorial invariance over time, (2) using reliable latent variables to represent changes, and (3) using reliable latent variables as primary predictors of changes (see McArdle & Nesselroade, 1996, 2011). In this presentation, we will use recent longitudinal data on adult cognition to provide a direct comparison of the classical approaches and the contemporary approaches.

Recent developments in cross-cultural cognitive testing
Fons Van De Vijver Tilburg University, Netherlands
The use of intelligence tests to establish similarities and differences in cognitive functioning across cultural groups has a remarkably long tradition. Yet, a century of research has not lead to a clear-cut answer to the issue of similarities and differences. I will describe the scientific highlights in the assessment of intelligence of this century. The conclusion will be that our insight into the nature of intelligence has grown considerably and there is fairly widespread agreement about the structure of intelligence in various cultures. However, we have been less successful in our endeavours to understand cross-cultural differences in scores. I will argue the strong tendency to export western tests as culturally relevant, and I will illustrate how various sources of bias are present in exported tests and how these biases can be avoided. The argument will be illustrated on the basis of a study, conducted in South Africa, in which tests were adapted for use among white (Afrikaans speaking) and black (Tswwana speaking) children. It was found that the size of the cross-cultural differences observed strongly depended on the familiarity of the children with the cultural background of the stimuli. It is concluded that the quality of cross-cultural intelligence testing could be enhanced by the use of culturally more appropriate stimulus materials.

The technique of objective personality-tests sensu R.B. Cattell nowadays: The Viennese pool of computerised tests
Kurt Pawlik University of Hamburg, Germany
Consideration of the current scene of personality testing reveals that it is primarily personality questionnaires that are being applied, but that so-called Objective Personality-tests sensu R.B. Cattell (or, in more modern terminology: tests for experiment-based assessment of behavior), which have lately been experienced a certain “renaissance” within German speaking countries, are almost not in use. For this reason, a review is given of their typical properties and principle advantages over personality questionnaires. They are primarily less fakeable. As an illustration, several such tests stemming from a Viennese research group are presented, and their psychometric qualities and shortcomings discussed.
the willingness to voice this victimisation. The failure to voice incidents of workplace aggression may suggest that the aggression is not of concern, and does not allow the organisation to address the issue, ultimately perpetuating the problem. These results are important in that they suggest that there are policies and practices that organisations can engage in that will influence the likelihood of reporting workplace aggression.

### Symposium title: Approaches to teaching ethics in psychology
**Convenor:** Stephen Behnke

Teaching psychology ethics to students using role-play and group discussions

Yesim Korkut Bahcesehir University, Turkey

One of the aims of undergraduate psychology education is to teach students to be sensitive to ethics. Learning of code(s) of ethics and to understand why our profession needs codes of conduct (Ruiz, 2009) is of the utmost importance. Therefore we should find ways that students “internalize” this. There can be several diverse methods to teaching ethics in psychology. For example, using case vignettes is a widely used teaching method by many lecturers. Some extra learning strategies would help students learn and discuss better. Case studies role-played by the students and discussed in small groups is a very effective way. Cases that students role-play and discuss better. Case studies role-played by the students and discussed in small groups is a very effective way. Case studies role-played by the students and discussed in small groups is a very effective way.

### Symposium title: Assessment of problem solving: The unsolved issue of construct validity
**Convenor:** Samuel Greiff

One factor or many? Dimensions of complex problem solving ability

Andreas Fischer Germany

Complex Problem Solving (CPS) is understood as the process of (a) finding a parsimonious representation of a situation that is complex, i.e., which contains a lot of highly interrelated elements; (b) finding solutions based on these representations. Dörner (1986) proposes to use complex computer simulations to measure the operative aspects of intelligence relevant for representing and solving complex problems. In those simulations a problem solver usually has to (a) accomplish a set of multiple goals by (b) manipulating many variables, with each variable potentially having (c) a lot of effects while (d) the structure is partly transparent to the problem solver and (e) the problem’s state may change dynamically, i.e., independent of the problem solvers actions. According to Funke (2001), these features correspond to certain facets of CPS: (a’) Evaluation and priority setting in case of conflicting goals (= evaluation), (b’) The sparing of irrelevant information (= reduction of information), (c’) Successive generation of an adequate internal representation of the system structure (= model building), (d’) Exploration of important information (= information retrieval), (e’) Control of the system with respect to the system’s dynamic (= system control). We want to give a short review of modern CPS testing devices, and we will present empirical data from several studies, supporting the assumption of multiple facets of CPS (e.g., correlations corrected for attenuation mostly between r=0.42 and r=0.72 with α>0.75). Implications of these results are discussed.

### Dimensionality of analytical and dynamic problem solving competence

Jens Fleischer University of Duisburg-Essen, Germany

The competence to solve both analytical and dynamic problems is of crucial importance in almost all domains of learning and achievement. In analytical problem solving, relevant information is explicitly stated or can be inferred, whereas in dynamic problem solving information needed to solve the problem has to be generated in an explorative interaction with the problem situation. Since the first assessment of problem solving in an international large scale assessment with the Programme for International Student Assessment (PISA) 2003, the concepts of analytical and dynamic problem solving competence have received growing interest. Yet, questions concerning the construct validity of both competencies remain. Most notably, it is still unclear if problem solving competence is 1-dimensional (as it was found in PISA 2003 and will be in 2012) or if it is a multi-dimensional construct (e.g., representation and solution as separable subdimensions). Two studies on the dimensionality of analytical (N = 2452) and dynamic problem solving competence (N = 140) by means of item response theory (IRT) and confirmatory factor analysis (CFA) will be reported. Results from IRT analysis and CFA as well as differential relations of the problem solving dimensions with students’ school achievements, school track and gender suggest a three-dimensional competence structure for analytical and dynamic problem solving. Depending on the purpose of the assessment, the multidimensionality of analytical and dynamic and dynamic problem solving should be accounted for, although the loss of information by modeling both competencies on a 1-dimensional scale might not be severe.

### Complex problem solving in groups: Implications of conceptual perspectives for empirical analysis

Patrick Griffin The University of Melbourne, Australia

Problem solving comprises mental processes enacted within a problem space. Cognitive strategies brought to bear, such as hypothetico-deductive thinking, are directed by representation of the problem space, often characterised as a sequenced set of processes. The problem representation may include processes of understanding and formulating, planning and executing, and monitoring and reflection of skills, less obviously cognitive skills such as flexibility, and learning or knowledge building skills. Taking a “strategies” approach involves looking at hierarchies, in which ordered categories of responses to problems are identified and developed. For example, isolated elements of information are combined into patterns, and at the next level rules are formed, with subsequent generalising processes and hypothesis formulation. We present data collected in 2011 from N = 300 students’ completion of online collaborative problem solving tasks which exemplify representation and strategy/solution processes. Relatively simple problems that could be solved on an individual basis, were re-structured to require collaborative input by two paired students in an online environment. The re-designing required inherent characteristics of collaborative problem solving tasks such as dependency, unique contribution, and ambiguity, to be integrated within the tasks. Students took between 5 and 30 minutes to complete each of the tasks. Process data and chat were analysed to illustrate both the representational and strategic processes employed by the students within the context of a collaborative problem solving framework, and to exemplify the shared power of the two data sources.

### A modern understanding of complex problem solving approach and measurement

Sascha Wuestenberg Germany

Complex Problem Solving (CPS) is seen as a cross-curricular competency, which has recently attracted interest in large-scale-assessments. In fact, for the PISA 2012 cycle, CPS will be assessed using minimally complex computer simulations to gain knowledge on important facets of problem solving, such as (1) the acquisition of knowledge and (2) its subsequent application. Although its high ecological validity, empirical research on CPS has been scarce. In this talk, we (1) conceptually introduce MicroDYN, a computer-based test containing multiple items aimed to measure the two aforementioned aspects of CPS. The concept underlying MicroDYN is identical to the PISA 2012 understanding of problem solving and conceptualises CPS as a domain general mental ability, which can be informed by domain specific knowledge and previous experience without relying on it. Further, (2) psychometrical properties of MicroDYN are presented, including analyses of measurement invariance regarding different class levels (N=855 Hungarian students in classes 5 to 11). Results showed CPS to be strongly factorially invariant and thus, mean differences between class levels could be interpreted meaningfully. More specifically, latent mean comparisons showed an increase in knowledge acquisition at higher class levels even though this was not consistently the case for knowledge application suggesting that only some aspects of CPS may be sufficiently fostered in school. The assessment of CPS is an important step in measuring cross-curricular competencies of high educational relevance. Results of this study provide important implications on how to use CPS in an assessment context.

### Symposium title: Clinical psychology in the background of culture collision between the East and West
**Convenor:** Weidong Wang

Establishment, revision of norms of five-pattern personality inventory of TCM psychology

Quali Yang China Academy of CMS, China; Chongcheng Xue

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and computer-based tests of analytical problem-solving are recorded. In the Yellow Emperor Medical Canon there are two special chapters related to them. One from Yin-Yang theory classifies people as five personality patterns which have different internal components of the body and the other from Five Elements theory as well as the external structures of the body. This classifies people into five body types which have different characters. The former sees the ancient Greek temperament types as well as the works of Pavlov and Esencky except one balanced more, and the latter is like Krestchmers study. Based on reference of literatures and the authors’ own clinical experience four examining methods about personality and constitution were established. They are titled as Five-Pattern Personality Invento-ry. More than 14000 people from China mainland received four examinations. Both the samples and the examining tools were standardised according to internationally accepted rules. Norms that include national and regional general and sex, national general age, education and occupation etc. are established. For thousands of years in the study of temperament it is said that there is a specific corre-lation between character and constitution. Our results are not so definite except yin and yang. One’s pattern of constitution and personality are not one or the other, but a combination. This work is the succession and development of TCM and is useful for prevention and treatment of diseases especially for the individual.

Testing of equivalence between paper-pencil and computer-based tests of analytical problem solving

Florian Buchwald  University of Duisburg-Essen, Germany

Analytical problem-solving competence is of crucial importance in almost all domains of learning and achievement. Yet questions concerning the construct validity of the competence still remain. Most notably, it is unclear if analytical problem solving is unidimensional (as modelled in PISA 2003) or if it is a multi-dimensional construct. Furthermore, it is unclear if a computer-based assessment of analytical problem-solving is equivalent to a paper-pencil based assessment (as conducted in PISA 2003). In order to test the dimensionality of the construct, the authors developed several scales assessing different aspects of analytical problem-solving: knowledge of concepts and procedures, conditional knowledge and planning ability. Due to various advantages of computer-based testing (availability, effectiveness, possibility of feedback, log files) the authors plan to administer these scales computer-based. An optimal designed computer-based test has to be equivalent to the original paper-pencil test, which not only concerns the construct validity but also the fairness of the test. In an experimental study the problem-solving scales are presented either as paper-pencil or computer-based test. Equivalence of the test media will be analysed by means of confirmatory factor analysis and by analysing the relations of factor scores with external variables, such as school achievement, reason-ing ability, school track, gender and frequency of computer usage. Results from a pilot study indicate similar results in the paper-pencil and the computer-based test for the planning scale.

Technical challenges in computer-based assessment: An IT-perspective

Michel Dorochevsky  University of Neuchâtel, Switzerland

The development of the “CBA Item Builder” platform has started in 2007 to support the “Electronic Reading Assessment” option of PISA 2009. Since then the system has been continuously extended notably for assessing complex problem solving competencies incorporating dynamic systems (Micro-DYN) and finite state machines (MicroFIN). Our platform has been used in various large and medium scale assessments like PIAAC 2011 and at different universities. The core piece of the CBA Item Builder Platform is a graphical authoring tool which can be handled by test developers without any programming knowledge. We report about the technical challenges we faced during the development and the experiences gained when performing investigations. We investigate how to enable efficient construction of items, in particular for complex problem solving. We address the issue of item translation for international use, including left to right languages with possibly bidi-rectional texts. We analyse how to automate scoring, in particular for complex problem solving. We examine the different approaches to deliver computerbased-tests, from a stand alone system up to the internet and “the cloud”, from a PC up to a tablet or smartphone and the implications related to perfor-mance and security. We also look into the aspects of integration (e.g. in e-learning platforms) and platform independency. Building upon these experiences we deduce general principles and requirements to a sys-tem meeting the challenges of computer-based as-sessment. We close with an outlook on future planned collaborative problem solving items.

Computer simulations over the last decades in problem solving research

Joachim Funke  University of Heidelberg, Germany

For more than 100 years, problem solving research has used primarily static material like puzzle problems or insight problems. With the advent of personal computers in the 1980s, researchers interested in thinking and problem solving decided to use computer simulated scenarios as tools for eliciting interactions with dynamic problem situations (labeled “complex problem solving” or “dynamic decision making”). Today, two main approaches are available which allow to analyze problem solving activities of human problem solvers dealing with complex and uncertain events: (1) From a psychometric point of view, formal systems (linear structural equation systems, finite state automata) can be used to model the constructive dynamics of systems with varying complexity. The semantic embedding of these systems can be arbitrarily chosen, which means that domain-specific knowledge is not needed. (2) From a theory-driven point of view, special domain-specific problems can be constructed which put specific requests on the problem solvers’ activities (e.g., balancing goals, conflicts, reducing uncertainty). We will present examples from the two approaches and discuss advantages as well as dis-advantages of these methodological approaches. Empirical results from different studies underline the specific gains for the development of adequate theoretical explanations. Additionally, we will point to future developments with respect to process analyses that become possible due to extensive data logging. Thus, computer simulations do not simply offer new ways of presenting interactive problem situations but additionally offer new insights into the process of problem solving itself.

Factors that influence the difficulty of problem solving items

Dara Ramalingam ACER, Australia; Ray Philpot ACER, Australia

Computer-based assessment of problem solving allows problems of both static and interactive nature to be posed. Examples of static problems are scheduling and logic puzzles in which all relevant information is available to the solver at the outset. Problems of an interactive nature, on the other hand, require exploration of the situation to acquire additional knowledge needed to solve the problem. Examples include discovering how to use an unfamiliar mobile telephone or automatic vending ma-chine. This study used data from the 2011 Field Trial of the PISA 2012 computer-based assessment of problem solving which comprised 34 static and 45 interactive items. Fifteen characteristics under-stood to influence item difficulty were posited. Each item was rated as to the amount of each characteristic it possessed, with weights assigned to the characteristics based on how important a part each was believed to play in problem solving. The items were ranked as to their potential difficulty according to the sum of the weighted ratings. The responses from approximately 39,500 field trial participants from 43 countries were analysed to obtain IRT estimates of item difficulties. Several related analy-ses involving the predictor characteristics were then conducted. These included a hierarchical cluster analysis of the characteristics, regression analysis with item difficulty as outcome variable, and factor analysis. A tentative conclusion is that the main characteristics predicting item difficulty are “Number of constraints to be satisfied”, “Distance to goal” and “Amount of reasoning required”.

Is proactive coping a universal construct? Psychometric findings from six cultures

Benicio Gutierrez-Dona  Universidad Estatal a Dis-tancia, Costa Rica; Ralf Schwarzer

The Proactive Coping Theory distinguishes four perspectives of coping in terms of time and uncertainty, namely, reactive coping, anticipatory coping, preven-tive coping, and proactive coping. Specifically, this study was aimed to evaluate the unidimensionality of a brief version of The Proactive Coping Scale within and across six cultures. Psychometric characteristics of the 8-item version scale were examined among a sample of N = 2,701 participants (35% men, 65%
The growth of organizations operating on a multinational basis and the related development of the global Internet infrastructure have resulted in testing and assessment going ‘online’. We have seen traditional short-listing and recruitment procedures revolutionized by the advent of sophisticated methods to add security levels to unsupervised online assessment enabling the use of high validity instruments for pre-short-listing assessment. Key to this has been the use of item response theory in test construction in place of classical methods and the development of ‘layered’ security models. The increasing bandwidth of the Internet has also seen the growth in sophistication of assessment (e.g. multimedia avatar-based simulations now being used for job previews and situational judgment testing). The Internet has resulted in changes in relationships between test provider, test user, and test taker and has opened up new opportunities for large-volume data-mining.

Emerging issues impacting test development in cultural competence in counselling
Mark Leach University of Louisville, United States of America

The counselling field has been at the forefront of awareness and knowledge related to cultural competence for over two decades, though developing culturally-competent interventions and assessment strategies has been limited. A brief review of current testing instruments will be offered along with a presentation of the difficulties in measuring and parsing out cultural competence from general counselling competence itself. Some suggestions will be made to reconsider the measurement of cultural competence, and its implications for training counsellors.

Emerging issues impacting test development in four different areas of practice
Thomas Oakland University of Florida, United States of America

Traditionally, professionals have used tests to describe current behaviours and other qualities, estimate future behaviours, assist guidance and counselling services, establish intervention methods, evaluate progress, screen for special needs, diagnose disabling disorders, help place persons in jobs or programmes, and assist in determining whether persons should be credentialed, admitted/employed, retained, or promoted. Changes in test development and use are occurring in response to behavioural science research together with changes in technology and institutional demands. This symposium will review these changes from four perspectives: counselling, industrial/organizational, rehabilitation, and school psychology.

Emerging issues impacting test development in school psychology
Thomas Oakland University of Florida, United States of America

School psychological services traditionally rested on the use of measures to assist in diagnosing the more prevalent childhood disorders (e.g. learning disabilities, mental retardation, emotional and social disorders). New service delivery models emphasize the importance of interventions and thus the need to acquire data at a more precise and often behavioural-level detail to assist in these efforts. Methods that provide authentic assessment for young children are emphasized.
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When the conditions differ from those under which generalisation is open to two major weaknesses. That other factors than those examined remain the constant; (3) the ceteris paribus clause, which states with history, and can hence be studied at any moment.

This paper addresses the practice of generalising to the use and the users as essential aspects of generalisations. Two connected purposes are: (a) To articulate and discuss limitations of different forms of generalisations and (b) to argue for considering population heterogeneity and for including both use and users of generalisation claims as criteria when judging the appropriateness of generalisations. In the first part of the presentation we will present two forms of generalisation that rely on statistical analysis of between-group variation: Analytic and probabilistic generalisation. We then describe a third form of generalisation, essentialistic generalisation, which moves from the particular to the general in small sample studies. We discuss limitations of each kind of generalisation and propose two additional considerations when evaluating validity evidence for generalisations. In the second part of the presentation, we make a case for taking into account population heterogeneity when evaluating validity of generalisations. Second, we demonstrate a need to consider the use and the users as essential aspects of generalisability of research.

Using referents to improve generalisation in psychological research
Robert Roe Maastricht University, Netherlands

This paper addresses the practice of generalising findings from singular samples (here-and-now) to an overall population (there-and-then). This practice rests on (1) the uniformity-of-nature assumption, which posits that people are similar in their properties and behaviours, and are hence exchangeable; (2) the continuity assumption, which holds that people’s properties and behaviour do not change with history, and can hence be studied at any moment; (3) the ceteris paribus clause, which states that other factors than those examined remain the same. Psychological knowledge obtained by such generalisation is open to two major weaknesses. First, it may give a false or distorted representation of what is true for the overall population. Second, it may lead to ineffective or even harmful applications when the conditions differ from those under which knowledge was obtained. These problems can be averted by (1) using ‘referents’ to specify the conditions of any original study, and incorporating these in all publications and citations; (2) examining the independence of findings under conditions that are different and/or change over time; (3) label ‘referents’ for which invariance has not (yet) been shown as ‘boundary conditions’; and (4) abstain from generalisation beyond these ‘boundary conditions’. The feasibility and potential impact of this approach is illustrated in a critical review of research articles on team diversity, team conflict, and team performance.

Linking generalisability and effectiveness:
Evaluation of testing accommodations for English language learners
Guillermo Solano-Flores United States of America; Chao Wang; Khanh Nguyen-Le

This paper links generalisability and effectiveness in testing accommodations (TAs) for English language learners (ELLs) – students who are developing English as a second language. ELL TAs are modifications on the ways tests are administered (e.g., providing glossaries or translations of tests) intended to support ELLs to gain access to the content of items. Because ELL populations are heterogeneous, not all ELLs should be assumed to benefit from TAs in the same ways. Therefore, the generalisability of test scores obtained by ELLs when they are provided with a given TA speaks to its effectiveness. We focus on vignette illustrations (VIs) - images intended to illustrate terms likely to pose linguistic challenges to ELLs. We examined whether ELLs and non-ELLs interpreted VIs in the same ways intended by their creators. Students wrote their interpretations of 16 illustrations shown with and without the text of the science items they were created to accompany. Independent raters scored the descriptions’ alignment with the intended content, elaboration, epistemology, and type of discourse. Generalisability theory – a psychometric theory of measurement error – is allowing examination, among other things, of the magnitude of score variation due to the interaction of student, item, and format (i.e., the extent to which interpretations are shaped by the students’ characteristics, the content of the items, and the content of the illustrations). In addition to comparing scores obtained by ELLs and non-ELLs with and without TAs, we will use generalisability coefficients to report on the effectiveness of VIs as a TA for ELLs.

From the ground up: Designing and adapting cognitive tests for cross-cultural use
Mark Cadman Australia

In the adaptation of tests to new languages and cultures, a distinction is made between translation of instruments that were originally developed in a particular language for use in a specific context, and tests that are designed for international use. The objective of this presentation is to show how cognitive ability tests that, from conception, were designed for cross-cultural use within both English-speaking multicultural populations and non-English speaking background populations, can readily be applied and adapted to other cultures and languages. The abilities’ suite of cognitive ability tests has its theoretical underpinnings in Gf/Gc theory and incorporates some of the latest developments from experimental psychology (the measurement of self-monitoring ability and bias in decision-making). It includes measures of fluid (Gf) and crystallized (Gc) intelligence, broad quantitative ability (Gq), visual ability (Gv) and cognitive speed. An overall measure of general mental ability (gma) is also derived as part of the scoring process. Strategies used in design of fluid intelligence (Gf) tests to minimise cultural bias will be discussed including item selection, graphic material and instructions. Details of investigations into adverse impact and cultural bias amongst English-as-a-first-language and English-as-a-second-language working groups in Australia will be discussed, along with data collected in testing English speaking undergraduates in India and employed graduates in South Africa. The process of making tests of Gf available in languages other than English will be illustrated through experiences in Thailand, including investigations into cultural bias.

International development of Saville Consulting online assessments
Rainer Kurs Saville Consulting, United Kingdom

Founded in 2004 Saville Consulting started with a ‘blank sheet’, 100 years of psychometric assessment experience across the team, and many ideas to enhance assessment in the Internet age. The Saville Consulting Wave® Performance Culture Framework was drafted as a hierarchical model differentiating Behaviour, Ability & Global (B-AG) competency components that directly underpin Performance 360 and Job Profiler tools. The corresponding Professional Styles personality questionnaire was developed entirely based on online trials where more than 1000 participants across the world were invited to comment on the clarity and ease of translation of 428 items, and to nominate an external rater. Based on validation evidence the final version was compiled with 108 Motive and 108 Talent questions. In the development of Saville Consulting Aptitude Tests diverse content was created using innovative item formats optimised for on-screen presentation. Representatives from both Majority and regional representatives ensured that content would ‘travel’ well excluding local peculiarities and even words with US/UK spelling differences. Forward and backward translations were utilised aiming at item level equivalence with subsequent incremental improvements. Across regions with comparable socio-economic status most group differences seem to reflect sample characteristics such...
Lessons learnt from the adaptation of a personality assessment in South Africa
Nicola Taylor; Jopie van Rooyen and Partners, South Africa; Robert Bailey

The fact that South Africa has 11 official languages creates special challenges for the test developer. The Sixteen Personality Factor Questionnaire (16PF) 5th edition was adapted for use in the South African context with the intention to ensure that items would be equated across language versions. During the test translation process, a number of challenges arose that impacted on the adaptation and translation process. This presentation focuses on the nature of these challenges, as well as the actions taken to address them, and presents recommendations to psychologists looking to adapt and translate personality questionnaires in South Africa. The discussion of these issues will take place within the context of the adaptation of the 16PF for South Africa, from the initial trials and validation using student groups (N = 2,536) to the standardisation process followed with working adults (N = 478). Special attention will be paid to the following issues: Choosing items appropriate for multilingual users of an English questionnaire; choosing items to be translated into Afrikaans and Indigenous African languages (using Zulu as an example); collecting representative data for the standardisation of questionnaires; and the applicability of imported personality models in the South African context. The objective of this presentation is to provide psychologists with practical guidelines for the adaptation and translation of personality assessments based on best practice and experience.

Symposium title: Marriage and cohabitation separation adjustment
Convenor: Kim Halford

Motivational interviewing: Enhancing family mediation
Megan Morris Australia; Kim Halford; April O’Mara

Goodpost separation adjustment involves separated partners maintaining a co-operative parenting arrangement; yet this arrangement must be negotiated during the often heated climate of adjustment from a couple to separated individuals. Separated parents have to manage their own feelings about the break-up, and transcend conflicts with their ex-spouse, if they are to establish and sustain a productive co-parenting relationship. Family mediation is mandated under Australian Family Law (2006) as the preferred method to be used by separated parents to resolve conflict in regard to parenting responsibilities. However, there is no rigorous empirical research evaluating the efficacy of mediation in producing sustainable co-parenting arrangements, or the effect of mediation on child or adult adjustment. It is known that existing mediation processes often fail to produce mutually acceptable arrangements for separated parents, which often results in costly litigation and ongoing inter-parental conflict. Motivational Interviewing (MI) is an empirically-supported approach, and seems able to engage parents constructively in the mediation process. The current paper reports on preliminary results of a randomised controlled trials evaluating the effectiveness of MI in enhancing family mediation outcomes.

New perspectives on the conceptualisation and measurement of emotional abilities
Convenor: Sally Olderbak

Socio-emotional abilities, while increasingly adopted in consensus models of cognitive abilities, still represent significant conceptual and measurement challenges for basic and applied researchers. This symposium will introduce recent developments that focus on basic and specific processes that are clearly relevant within the structure of more broadly defined emotional abilities. Each speaker investigates such abilities from an experimental, neuro-physiological, and/or psychometric perspective, and integrates these levels throughout with multivariate data and large sample sizes. This symposium begins with a detailed analysis of the status of emotion recognition abilities measured from faces, specifically the ability to perceive and recognise emotion in faces, and relates these established factors to factors of identity recognition and general cognitive functioning. The second talk focuses on the volitional production of emotional expressions. We discuss scoring procedures of dynamically measured facial expressive behaviour and present a measurement model of facial expressivity. The third talk brings emotion recognition and production together and investigates their relationships at the level of latent variables. In the final presentation, new assessments of emotional understanding and management (which utilise complex socio-emotional situations) are presented as questionnaire items designed to build a comprehensive nomological network. Such measures are potential criteria that might well be predicted by the basic socio-emotional abilities discussed in the first part of the symposium. Finally, the findings are discussed with an unaffiliated expert, Prof. Dr. Moshe Zeidner. Taken together the presentations included in this symposium help to develop more sophisticated approaches to measuring and working with emotional abilities.

Scoring and measurement model of emotion expression
Sally Olderbak; University of Ulm, Germany; Thomas Pinkamp; Andrea Hildebrandt; Oliver Wilhelm; Werner Sommer

Emotion expression is a separate, but related factor, within the broader domain of socio-interpersonal-emotional abilities. Defining and effectively measuring emotion expression in faces has important implications for the applied field, and is important as an additional component in communication. A variety of workshops have developed computer programmes that automatically assess emotion expression in faces, yet emotion expression as an ability is relatively unexplored. We applied a popular emotion expression software programme, FaceReader4, to estimate the intensity of emotion expression in a dataset of 244 participants (18 to 35 years old). Participants were asked to show one of six main emotions – anger, fear, sadness, surprise, disgust, and happiness – through a series of tasks. The tasks included two calibration tasks, in order to establish individual differences in one’s range of facial muscle movement, and various emotion production tasks, where the participants were presented with either: (1) the name of the emotion; (2) a picture of an actor expressing that emotion; (3) a video of an actor expressing that emotion; (4) a picture of an actor expressing an emotion to a specific degree; or (5) a picture of an actor expressing an emotion. The participant was allowed feedback on their imitation. This resulted in data that is nested, multivariate, interesting longitudinally, and correlated. We will discuss data handling methods, and scoring procedures. Then, we will discuss our final measurement model of emotion expression, that was based on these scoring procedures.

On the relationship of emotion expression and emotion recognition
Sally Olderbak; University of Ulm, Germany; Werner Sommer; Andrea Hildebrandt

The previous presentations define and describe separate factors within the larger of socio-interpersonal-emotional ability domain, and where available, demonstrate how these abilities differ from general human cognitive abilities. In this presentation, we will show how these separate factors, specifically...
Assessing emotional understanding and management using situational judgment test paradigm: New conclusions

Sally Olderbak, University of Ulm, Germany; Gerald Matthews; Carolyn MacCann

There is growing evidence for the importance of emotional intelligence in applied contexts, including school, work, social relationships, and mental health. There remains, however, concern within the scientific community around validity evidence for many existing assessments. In this presentation, we will discuss a programme of research designed to develop new measures of emotional understanding and management using the situational judgment test paradigm, given in both self- and other-rating formats, and as text or multimedia. Across nearly a dozen studies, we show the measures (particularly of emotion management) have acceptable reliability, and appear to predict a range of valued outcomes (including academic performance, well-being, and coping with stress). These relationships remain after controlling for personality and cognitive ability. Nevertheless, there are measurement challenges and the presentation will conclude with some of the more sober lessons learned.

Service-facilitated pathways to resilience

Michele Wood, Nunatsiavut Government, DHSD, Canada; Alexandra Restrepo; Sergio Christiano; Luis Duque

This paper speaks specifically to service-facilitated pathways to resilience, using quantitative and qualitative data generated by the youth at participating sites. Services include schools, social welfare support, mental health resources and youth justice programmes. The findings underscore the importance of quality aspects of service provision: It is not the number of services available to youth that is important, but rather the relevance of services and how service providers relate with youth. These findings urge service providers, including mental health practitioners, to reconceptualise youth as active agents in the service provision process.

Influence of individual differences and organisational factors on employee attitudes to workplace safety

Leon Steyn, Eskom Holdings SOC Ltd, South Africa

Research suggests that 95% of all workplace incidents (including driver accidents) can be at-
tributed to human error and non-compliance. Many human error accidents and injuries are due to behavioural factors and unsafe workplace attitudes. An abundance of empirical studies have found a positive relationship between individual differences, such as personality, stress and attitude with unintentional workplace incidents/accidents and driver accidents. In addition, an organisation safety culture/climate has also been implicated as a stronger predictor of at-risk behaviour compared to individual dispositions. Lately, some safety researchers argue against the relevancy of recruiting/assessing for “safe” behaviour, but directing arguments towards improving safety culture and leadership practices. The purpose of this presentation is to continue the discussion on the significant influence of individual and organisational factors influencing employee’s attitude towards workplace safety in South Africa. A cross-sectional survey design was used to assess 240 employees doing live work on electrical apparatus, using a combination of biographical, psychomotor, personality, ability, and attitudinal measures. We tested a statistical model that included both individual and organisational variables such as safety climate, safety motivation, safety compliance and leadership in predicting at-risk behaviours and safety attitudes. The partial least squares path modelling technique was used to predict which factors significantly influence safety attitude. A model that has a number of implications for the implementation of future initiatives emerged. The results of the analysis will be presented, and the value in applying the learning to improving selection procedures and leadership practices discussed.

The prediction of safe employees using psychomotor assessments
Paul Vorster Jopie Van Rooyen and Partners, South Africa

Mining institutions in South Africa are mandated by law and profitability to reduce work related accidents. It is therefore imperative for these organisations to effectively select and place current and prospective employees with safety in mind. Analysis of the psychomotor results of mine workers (n = 716) in a leading South African mine, and the relationship of these results to the total number of work related injuries, was therefore investigated. Through the use of correlation, linear regression, and polynomial regression, evidence was found for the predictive capacity of the Vienna Test System subtests Determination Time, Reaction Time, Cognitrone, Two-Hand Coordination, Visual Line Pursuit, and Time Movement/Anticipation. Although most subtests function in a linear manner with the number of work related injuries, results indicate that some of these subtests function in a quadratic or cubic manner. This indicates that very fast reaction times and very slow reaction times may both be detrimental to a reduction of work injuries under certain conditions. Rather the frequency of responses and the accuracy of responses should be taken into account simultaneously when making decisions regarding mine worker selection. An argument for combining reaction time and accuracy of responses when selecting or placing mine workers is therefore made.

Assessing scientific reasoning using cognitive diagnosis models: A project between Costa Rica and Cape Town
Guasner Rojas Universidad Autonoma de Madrid, Spain

The scientific reasoning test (SRT) was developed in Cape Town University, South Africa, because of the necessity to select educative disadvantaged students. This test takes place on the assumption that the conventional assessment won’t take into consideration the academic potential of the students. The SRT main purpose is to assess the ability to engage with the logical thinking typically required by the students in higher education. SRT evaluates the student’s capability to identify the appropriate evidence to support an assertion or an argument; criticize suppositions and thoughts that underlie the argument; understand the nature of tentative and decisive reasoning; be able to perceive the relationships between events; and understand the meaning of “chance”. The purpose of this study is to provide an alternative assessment of scientific reasoning using cognitive diagnosis modeling (CDM). A cognitive diagnosis model, namely the generalized deterministic input noisy and gate (G-DINA; da Rorez, 2011) model is applied to SRT for classification purposes. CDM is incorporated into the diagnostic assessment process as a way to provide feedback for individual examinee’s mastery levels of the attributes of interest. CDM application requires a Q matrix, which contains attribute assignment of SRT items. Data were collected from 293 students in Costa Rica. Results suggest that attribute profiles show a large difference among examinees. Furthermore, mean score differences between item master and item nonmasters are large for the majority of the items.

Studies on diagnostic measurement and dynamic assessment
Jeannette Villalobos Palma Universidad de Costa Rica, Costa Rica

Higher education institutions face challenges in student selection. The majority of universities have established admission tests that intend to measure the students’ academic potential for higher education. Public universities, like the University of Costa Rica (UCR) and the University of Cape Town (UCT), have a need to improve the representativeness of diverse categories of the student population, so that it contributes to integration and social mobility, in the face of increasing inequalities. The UCT has around 25 years of experience in implementing an alternative admissions program for students with educative disadvantages. The underlying fundamental theory is dynamic assessment (DA), in which tests are implemented for determining the presence of capacities being considered innate or latent, that are not necessary related in a direct way with formal learning. Steinberg & Grigorenko, (2003) research performed a cross-cultural validation of admission and diagnostics tests of both universities, with the purpose to later make substantive studies of their comparative strengths and weaknesses, with regard to identifying young people from disadvantaged environments, who possess the cognitive potential to take higher education. This validation process includes the translation of the test to Spanish and English. The developed studies have allowed linking the DA principles with cognitive diagnosis models (CDMs). The results show a high internal consistency in the analyzed tests under the DA and CDMs approaches. In addition, evidence of construct validity have been collected that support the interpretation of test scores.

A comparison of 4 tests for use among applicants to the University of Costa Rica and the University of Cape Town
Maria Villarreal Universidad de Costa Rica, Costa Rica

In order to combine efforts for improving the selection of students, the University of Costa Rica (UCR) and the University of Cape Town (UCT) are developing a joint research to implement 4 tests: The Academic Literacy Test of Academic Potential (ALTAP) and Scientific Reasoning Test (SRT) of UCT; and Quantitative Ability Test (QAT) and Figural Reasoning Test (FRT) of UCR. This study compares UCR and UCT tests regarding to item and person parameters. Four tests were compared based on classical test theory, Rasch model approach and factor analysis. Preliminary results pertaining to the four tests applied in 6 secondary schools from Costa Rica show high reliability indexes. Particularly, ALTAP, QAT, FRT and SRT had Cronbach’s alpha values of 0.82, 0.50, 0.77 and 0.81, respectively. The person and item reliabilities were .76 or higher. A conducted factor analysis for each test provides information for measuring each construct. Furthermore, evidences supporting the construct validity of the test scores were found. Remaining results and conditions under which the four tests can effectively be applied will be presented and discussed at the meeting in Cape Town.
Measurement of academic literacy using a South African test applied in Costa Rica

Maria Villarreal
Universidad de Costa Rica, Costa Rica

Tests are made for measuring people's skills and abilities; however, the vast majority of tests focus on reporting a single score, used by teachers and practitioners to make students' selection or classification. Therefore, it is important to provide more information on the performance in tests to benefit both, the students and the institutions. Hence, detailed information on the level of performance on the construct of interest (i.e., academic literacy) is required. Using diagnostic information will allow items test makers to have more clarity in order to develop tests in regards to the construct measured. Therefore, in order to collect valid evidence, cognitive diagnosis models (CDMs) approach seeks the attributes measured in items, in relationship to the specific skills measured in a test. The data were collected from 297 students in Costa Rica. These data were responses to 50 items involving 10 attributes of the Academic Literacy test of Academic Potential (AL TAP). AL TAP aims to assess academic literacy defined by 6 domains of students' abilities to (1) make meaning from texts that they are more likely to encounter in their studies; (2) understand words and discourse signals in their contexts; (3) identify and track an academic argument; (4) understand and evaluate the basis of an argument; (5) extrapolate and draw inferences and conclusions from what is stated or given; and (6) differentiate main from supporting ideas in the overall organization of text. Results showed that CDMs provide particular information concerning levels of student's mastery.

Fundamental task and challenge of black psychology

Cheryl Grills
Loyola Marymount University, United States of America

In recognising that the mental health and well-being of African people world-wide is directly dependent on our ability to assist in the re-conceptualisation and reconstruction of African (black) people's reality independently of Eurocentric thought and Western hegemonic, white supremacist conceptualisations, this presentation will suggest that black psychology is the critical discipline missing from the discourse on Africa's renaissance and development and recommend that the discipline of black psychology serve as a key praxis in the restoration of the African mind, identity and consciousness. It will further outline the fundamental task and challenge of black psychologists to defend and promote the interest and image of Africa and Africa's children by understanding the past, present and future of our human story through the Africanisation of the epistemological, terminological, aesthetic and hermeneutical groundings of the scientific, artistic and investigative discourse.

The future of the MBTI assessment: A new scoring approach based on latent class analysis

Michael Morris CPP, Inc., United States of America

The MBTI assessment has been through several revisions since its introduction in 1942, and in the near future a new form will be released for use internationally. This paper briefly describes the history of MBTI scoring approaches, including the current item response theory (IRT) based approach, and details the scoring approach underlying the new form, latent class analysis (LCA). The LCA approach has two primary advantages over previous scoring approaches. First, LCA is based on the assumption that people are members of categorical latent (unobservable) classes. Past approaches were based on computing a continuous score and dichotomizing the result to get the MBTI preference categories, while the LCA approach is built on the assumption that the categories exist and that item responses are caused by one's membership to the MBTI preference categories. In the present context, this assumption means that the statistical theory of LCA aligns with MBTI theory in that people are either Extraverted or Introverted, Sensing or Intuiting, Thinking or Feeling, and Judging or Perceiving. Second, the LCA approach allows for computation of a posterior membership probability for each preference assignment, giving assessment takers a more intuitive idea of how accurately the new MBTI assessment predicted their preferences. In contrast, the current approach reports "preference clarity indexes", which are difficult for end users to understand. Other advantages of the LCA approach and details of the new scoring approach, including adjustments for different countries and languages, are discussed.

The distribution of psychological type in South Africa

Nicola Taylor
Jopie van Rooyen and Partners, South Africa

The Myers-Briggs Type Indicator instrument was first distributed in South Africa in 1993, and has a long history of use and research in the country. In 1997, the first study documenting the distribution of
psychological type in South Africa was published. Over the last decade, many changes to the political landscape, working environment, and general way of life in South Africa have occurred. This study provides a follow-up to the initial study to examine whether any changes can be found in the distribution of psychological type in South Africa. The sample consisted of 10,705 South Africans who completed the MBTI assessment between 2004 and 2010. The ages ranged between 14 and 74 years. From the total sample, 2,967 respondents indicated their group ethnicity. In this study we examine similarities and differences in type distribution across population groups in South Africa, and compare the South African type distribution to those found in previous studies to examine changes over time. Patterns within specific job categories are also explored. The implications of these differences in type preference will be discussed.

Revising the Myers-Briggs type indicator: A global collaboration
Richard Thompson CPP, Inc., United States of America

Recently, a revision of the Myers-Briggs Type Indicator (MBTI) assessment was undertaken by the publisher. Unlike many personality assessments that are initially psychometrically developed and commercialised in one country, then translated and adapted into other languages and cultures, this revision started with a global approach. Specifically, the publisher of the MBTI, along with distributors in Europe, Australia, and Canada, along with the copyright holders of the intellectual property created a committee to oversee the revision. This session will discuss the development of the research project, and discuss how the various parties collaborated to develop a large scale revision that is global in nature. This revision involved translation of a research form of the MBTI, originally compiled in Europe from a pool of items developed in the United States. Following the International Testing Commission translation and adaptation guidelines, the research assessment was adapted into 20 languages. Data were collected in 22 countries using these languages, using a multi-wave approach to collect the data. Data were then analysed using classical test theory, Item Response Theory, and Latent Class Analysis to arrive at a final Step I MBTI Instrument that can be used globally. This approach to developing an assessment provides a template for test publishers who wish to have a more global and inclusive development process.

The equivalence of the Myers-Briggs type indicator form M across language versions in South Africa
Casper Van Zyl Jopie van Rooyen And Partners, South Africa

The Myers-Briggs Type Indicator (MBTI) instrument has been used successfully in South Africa (SA) for many years. Although SA has a diverse population when compared to the more homogeneous population of the USA, local research has found that the questionnaire is appropriate for use in this context. In an attempt to satisfy the ever increasing demand, the MBTI questionnaire has been translated into Afrikaans. It often occurs during translation that no adequate terms exist in the translated language that convey the exact same meaning in the original language or that the most appropriate terms may represent an older and out-dated use of the language. For this reason it is important to investigate whether such effects have a significant impact on the psychometric functioning of the translated version. In this study, we present the process and difficulties experienced in creating an Afrikaans translation of the MBTI instrument in South Africa. Data from 505 Afrikaans-speaking South Africans were obtained. We examined the psychometric equivalence between the Afrikaans translation and English versions of the MBTI Form M. This involved analyses from both an item response theory and classical test theory perspective. The results obtained in this study and implications for the continued use of the Afrikaans translation of the MBTI instrument in South Africa will be discussed.