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12. International Military Mental Health Conference (12th IMMHC)

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Preface

The National Defence Academy, Vienna is the highest education and research institution of the Austrian Armed Forces. Research also includes holding and attending international conferences, which requires intensive cooperation with other civil and military education and research institutions at home and abroad, in order to meet the demands of modern science which is based on interdisciplinary and international networks.

The present publication – an international comparison of psychological and social care provided to soldiers serving abroad – is one significant result of such a network-based approach. It contains the contributions presented at the 12th International Military Mental Health Conference (12th IMMHC) which was held in Vienna for the first time. The main theme of the conference was, "Do cultural differences matter for mental health – preparing soldiers for and reintegrating them after international operations?"

For soldiers today it is self-understood and crucial to come into contact with other cultures, be it within the framework of international organizations or in multinational units. Therefore the preparation of troops for operations abroad has been substantially extended over the past few years, particularly in Austria.

This also finds reflection in the psychological and social care, as this publication demonstrates. In Austria, intercultural issues have been increasingly integrated into care programs for soldiers, specifically in areas like medicine, pastoral services, psychology and family welfare, before, during, and after deployment, in order to help them carry out their tasks in multinational units.

This interdisciplinary conference mainly focused on pre-deployment and post-deployment care and addressed the different concepts and ideas of several nations. To understand what intercultural and working together with other nations means can only be based on "understanding the

other". In this respect training and education is a decisive aspect of what we have "in common".

The conference lectures compiled in this publication facilitate international comparisons and form a solid basis for further research and teaching efforts, not only at the National Defence Academy, Vienna but also at other military and civil education centers in Austria and abroad.

General Raimund Schittenhelm,
Commandant of the National Defence Academy

Foreword

The 12th International Military Mental Health Conference (12th IMMHC) took place from 31 August to 4 September 2009 at the National Defence Academy. This international and interdisciplinary conference focused on the core theme of cross cultural issues and the challenges linked with them regarding the care of soldiers before, during and after an international operation.

The primary task of this conference was the optimisation of the psychosocial care for soldiers, especially in matters of cross-cultural competence. There were presentations by specialists from the fields of psychology and psychiatry, by doctors, nurses, pastors, family welfare organisations and also by civilian, university-based organisations researching the field of cross-cultural competence.

Furthermore, specific procedures concerning the preparation for tasks in an international environment and the resulting challenges were also discussed. Cross-cultural questions have achieved prominence also with civilian institutions, organisations and companies. Their findings will certainly tie in with the demands put on soldiers during international operations.

A further aspect was the alleviation of, or a different approach to, culture shock in relation to the area of operations, but also with regard to reintegration back home. Preparing the family in good time for a soldier's return, how to cope with this new experience, both on the part of the soldier and the family members, are critical elements of the challenges which impact on a soldier's and a family's well-being during an international operation.

The following contributions to the publication by military and civilian institutions as well as by international research establishments are designed to shed light on a variety of aspects of cross-cultural compe-

tence and to contribute to strengthening and improving the network between nations, as well as between military and civilian training institutions.

These topics will help soldiers and families with operations preparations, but also with preparations for the soldiers' return, as well as their reintegration into the families and into the civilian and military work environment.

All these presentations cover aspects of intercultural competence, and therefore constitute an essential component of the evermore important developments and operational options together with the best possible soldier training for international operations.

The speakers themselves came from countries as diverse as, for example, Belgium, Estonia, Germany, Great Britain, Kirgizia, the Netherlands, Switzerland and Austria, and have therefore addressed the current status in their respective countries and armed forces against their specific cultural and military background, as well as from a personal viewpoint.

There will also be special simulation and test programmes dealing with cross-cultural aspects of international operations, to show how technology can complement practical training, thereby contributing to an improvement of operations preparations.

Focused training in the field of cross-cultural issues can make a valuable contribution to the successful completion of international operations, both for the soldiers and – upon their return – for their families.

In this area of tension of cross cultural issues and the challenges linked with it for the preparation of soldiers on international operations I wish you a lot of fun when reading this publication and I hope to have awoken your interest in this subject area accordingly.

Colonel (General Staff) Andreas W. Stupka, PhD.
Director of the Institute for Human and Social Sciences

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The personal expressions used in this work concern, as far as this is considered concerning the contents, women and men equally.

Georg Ebner

Introduction

This publication contains the large part of the presentations delivered at the 12th International Military Mental Health Conference, printed in the order of these presentations. It aims at illustrating the exceedingly wide field of cross cultural differences as related to soldiers in international operations. The contributions deal with the various aspects of operational preparation, the care of soldiers and their families during as well as after operations and should help to shed light on the possibilities of how to support soldiers in the area of cross cultural differences. The publication offers different attempts from different fields of such care, from medicine to psychology and family care up to pastoral care. The contributions are both of a military as well as a civil nature and therefore give good guiding principles for networks and possibilities of cooperation in the field of psychosocial care. In particular by this interdisciplinary approach to this subject area many new approaches are pointed out, and for the observer new possibilities are opened up in order to apply new and innovative methods in this tension field for the improvement of the support of soldiers as well as their families. With these contributions possibilities shall be indicated that will offer transnational variables, ideas and improvements also for the soldiers in future.
The shown contributions comprise:

1)   The Selection Method of New Recruits
     Currently about 70 to 80% of the Kyrgyz youngsters do not speak Russian. Nevertheless, the compulsory tests are in Russian and therefore the difficulty lies not so much in translating texts but in understanding their essence. Therefore a new method was developed to meet such problems. The selection process of Kyrgyz soldiers aims at identifying recruits who definitely belong to risk groups with problems like low intellect or pronounced emotional instability.

2)   Social and Cultural Dynamics of Traditional Healing

Among the multi-fold functions of traditional healers are the regulation of social life, solving problems of individuals and the community, and preserving cultural identity, all of which form an important basis for the well being of individuals and the functioning of communities. In addition, it is a prerequisite for intercultural understanding and constructive encounters between members of different cultures and nations. Due to the important position of traditional healers they can serve as a gateway for outsiders who want to work or live in foreign cultures.

3)   The Thrilling Clash of Evidence Based Medicine and Traditional Healing

The aim of medical support within the military is to provide a standard of medical care to achieve outcomes of treatment equating "best medical practice" and as close as possible to prevailing peacetime medical standards. The application of this principle has to be guided by the directives, rules and guidelines of the civilian medical associations. These guidelines are based on a broad consensus of the leading specialists in each discipline.

4)   The Framework of Reasoning in the Realm of the Occult and Esoteric

Understanding the framework of reasoning in the realm of the occult and esoteric is important for soldiers confronted with different worldviews when being deployed in foreign areas or when encountering occult belief systems in a social sub-layer deep under the surface of our own society. Though investigating this framework of reasoning will put emphasis on the elements and the structures of occult reasoning, a broader view needs to encompass occult systems and worldviews as well as important occult practices and, last not least, the motivations of occult reasoning.

5)   Post Deployment Mental Health Care: a Cross Cultural Competence Gained or a Personality Changed?

From some studies in the Royal Netherlands Army it appears that the openness of deployed military personnel is affected by deployment experiences in the NATO International Security Assistance Force in Af-

ghanistan. Battle group members tend to be less open after deployment. Members of the Provincial Reconstruction Teams appear to be more open after deployment. From a pilot study on comparing military cadets and officers who served for approximately nineteen years in the Netherlands Armed Forces it appears that officers are more open than cadets.

6)   What New Brain Scan Techniques Tell Us about Stress and its Relevance for Military Stress Management

As we all know, and has been amply published by US and UK forces engaged in theatres, like Iraq and Afghanistan, suddenly some men will fall apart and react in all kinds of bizarre offensive and dangerous ways. They can, considering the situation, endanger themselves or others. Then others will fall apart after some weeks at home, having a delayed reaction to the accumulated stress.

Project Samurai goes about training the recruits systematically in
1. stress awareness
2. dealing with stress

Stress management training, as a skill to learn and develop, as already applied in medieval Japan, could be the solution to the actual ill will and avoidance by recruits, soldiers, non-commissioned officers and officers to accept and really work at their stress reactions.

7)   Intercultural Education

This research design tries to apply the following theories and research results:
- Ting-Toomey's "Cross-Cultural Face-Negotiation"
- "Engeström's Activity System merged into the identity negotiation frame"
- Susanne Weber's, "Intercultural Learning as Identity Negotiation"
- Shalom H. Schwartz's "Basic Human Values"

The aim is to show how national/international preparation for peace support operations on the various leadership levels can contribute to those values that are most probably positively influencing the norms and

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values of the rules of engagement and in general the success criteria according to NATO papers.

According to the theories of Ting-Toomey, the **mindful negotiation process** in combination with the **Basic Human Value Circle**, (Shalom H. Schwartz) proposes that through the preparatory courses for peace support a change of the value system is to be expected. This is also valid for experiences during deployment. So a well organized feedback system (by means of the After Action Reviews) could give helpful information for the didactic value and the curricular structure of the obligative preparatory training.

8) <u>Mental Health from a Pluricultural Perspective –</u>
<u>The Issue of Soldiers within International Operations</u>
Health is more than the functional state of the organs in the human body, the neural systems and their interconnected functions. The issue of mental health like that of health in general is also a cultural issue. This could be seen from the point of view of not only the definition but also the perception of health.

- Cultural traditions and mind sets play a vital role when it comes to health. In many cultures health is seen as a harmony between body, soul and mind.
- Mental health is an area where, due to cultural influences, the issue of culture becomes vital. This is both with reference to its perception, understanding and the dealing with it.
- Within the context of our 21st century the randomness of cultural interactions and intersections has increased enormously. This makes the issue of addressing health in general and mental health in particular from a pluricultural perspective very necessary.

The issue of soldiers within international operations falls within the sphere of the aforementioned sphere of cultural interactions. This hence justifies our addressing the case of mental health within this context from a pluricultural perspective.

9) <u>Assessment of Personality in a (P, E)-fit Approach to Cultural</u>
<u>Differences in Service Components</u>
In line with Lewin's approach that a behavior is the result of an interaction between the person's characteristics and the situation there is a

large body of research in organizational psychology showing that performance depends on the fit between the person and his work environment.

This means that performance is optimal when the person's characteristics equal or exceed the environmental demands. Performing well will lead to a feeling of self-efficacy and contributes that way to a subjective feeling of well being. On the contrary, when the situational demands exceed the person's capacities, performance will be suboptimal, which leads to dissatisfaction and in turn to a lack of subjective well being. Taken the other way around, given that human beings are driven by expectations, we can hypothesize that people search for a professional environment that fits with their characteristics.

10)   Soldiers' Moral and Psychological Well Being after Eight Months of Military Service

The general dynamics of changes revealed that, during conscription, enthusiasm and motivation gets higher for Russians and lower for Estonians. It can be concluded that, in some way, the military environment or the society in the broad sense has a divergent influence on our ethnic nationalities serving their time in the Armed Forces.

Nowadays military operations are multidimensional in multiple ways: multinational forces are composed of soldiers with multi-ethnic backgrounds conducting operations in a multicultural environment and under multi-situational conditions.

When focussing on ethnic nationalities, the situation is complicated by the ambivalent state of national identity and patriotic feelings, which are closely related with the meaning of conscription.

11)   Armed Forces in Peace-Making Missions in Central and South Asia: Problems of Adaptation

Culture, identity, and ethnicity are central to understanding the political behaviour of civilian actors and the complex questions of building cooperation between military and civilian actors in peace support operations. The military are often unaware of the culture and psychology of their civil partners. In most cases, the approach to civil-military cooperation has been spontaneous and improvised. When building partnerships and strategic alliances with the civilians, Western militaries often see

their partners as an abstract business organization that needs to be dealt with in order to implement a particular task. This "business approach" in dealing with local people leads to paternalism, commoditization of loyalties, and the creation of a political economy of dependency, and clientalism at all levels of the Afghan society. It prevents the creation of long-lasting partnerships, full-hearted cooperation and the enhancement of local capacities needed to build peace in the region.

12)   The Influence of a Migration Background on Drop-out Rates and Counsel-seeking Behaviour of Swiss Recruits

All of Switzerland is divided into four parts, as one might reformulate Julius Caesar's introduction to his "Commentaries on the Gallic War". With its four distinct linguistic regions and a significant percentage of foreign residents, Switzerland is indeed a classic consociational state. Switzerland stands out in its successful political integration of a multiethnic and multilingual population and is often cited as a model for efforts aimed at creating political unification. One factor that has had and still does have an effect on national identity and cohesion in Switzerland is the factor of immigration. In the spotlight of these issues stand especially young immigrants, for these adolescents are often socio-economically disadvantaged. These demographic and social developments have also become an issue for the Swiss Armed Forces, as the naturalization rate has successively increased over the last decades.

13)   Military and Indigenous Cultures –Wives and Sweethearts

The construct of a military culture common across nations varying only in degree, but not in underlying dimensions is more than a hypothesis. It is a recognisable fact in history, biography, fiction and film. Metaphors and models of military motivation can be examined to develop a key to understanding the precise nature of a command structure and to predict its psychological and social consequences. Such an examination yields salient characteristics of the necessary psychological adjustments to be made both by recruits and veteran soldiers. These are neither minor nor temporary. In particular, there are constraints and difficulties associated with becoming a severely stressed soldier during training and active service in a continuous command environment for a prolonged period.

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14)   Measuring Personality Traits and Cognitive Abilities across Language Barriers

Research in test adaptation indicates that purely literal translations of psychometric tests are inadequate to ensure the sufficient psychometric quality of the adapted tests. In the last few decades various judgmental and psychometric methods have been developed to circumvent different sources of bias that call into question the validity of adapted tests. In the first section we will outline various judgmental approaches to test adaptation including classic judgmental designs and approaches based on automatic item generation. These different approaches to test adaptation are illustrated by four empirical studies. Because of clients' specific requirements, full-score equivalence was called for in each case.

15)   The Use of "Implicit Association Tests" to Measure Unconscious Social Bias

Implicit Association Tests have increased in use over the past few years with a growing body of evidence about their predictive capability and utility in overcoming issues associated with traditional self-report personality and attitude tests. Such issues include dealing with attempts to distort responses and lack of self insight in the test-taker. Implicit Association Test methodology involves the accurate timing of stimuli responses in a simple sorting task as a measure of the underlying, often unconscious attitude towards a target.

16)   CHARLY, Preventive Preparatory Psychosocial Emergence Care

The military and civil forces deployed on peacekeeping missions and after terrorist attacks, natural disasters or serious accidents and catastrophes are frequently subjected to severe mental stress. The German Federal Institute for Occupational Safety and Health speaks of the "challenge of work-related trauma" in this context. In the second edition of its 2006 publication, the federal institute notes that "images of human suffering are imprinted on the human memory and have a lasting effect. Intense mental reactions, up to and including post-traumatic stress disorder, can occur and may be accompanied by psychosomatic symptoms, anxiety or depression." The need for effective prevention is therefore great.

17)   Intercultural Education in the Austrian Armed Forces

The Austrian Armed Forces have been developing into the direction that troops shall be de- and employed to and in countries almost world-wide. Austrian troops have been deployed to UN-missions since 1960. Most of these missions were or have been peace-keeping missions. Since KFOR was established, a PfP-mission has been running and the latest development shows that Austria participates in EUFOR (Bosnia-Herzegovina, Chad – until May 09). International Operations on the European Continent, in the Middle East and in Africa have never been a big problem so far. The Austrian soldier is used to being flexible and ready for new challenges.

18)   Item-Generative Tests and the Measurement of Cognitive Deficits: A Major Advance for Military Psychology

Single participant, repeated measure studies of cognitive performance using multiple parallel forms of reliable and valid psychometrically referenced tests in situations where cognitive deficit is known are extremely rare. This landmark study reveals the nature and extent of individual post-operative cognitive decrements as a function of anaesthesia, and compares them with the effects of aging after a 7 year interval. This approach, simulating brain dysfunction, provided a secure foundation for evaluating the use of multiple forms over time, from an initial baseline.

19)   Tools for Assessment of Brain Dysfunction and Percussive Injury: Not The Viennese Woman - but The Anaesthetised Male

It illustrates the nature of multiform computer-delivered cognitive tests, describes their use in determining the extent of cognitive deficits, and summarises the results, leaving time for discussion of the potential of components for assessing percussive effects in deployed military personnel

20)   Easy to Say, Hard to Do – Insights into the Preparation of the Workshop on Intercultural Competence for the General Staff Course

The operations preparation in the Austrian Armed Forces includes aspects of Intercultural Competence training. It is not a question of whether or not to raise the issue of culture during the operations preparation of soldiers; rather it is a question of how to do so and where to start.

Incontestably, the cultural dimension can have different impacts on the individual, which might significantly affect the work on the ground and eventually contribute to the success or failure of an operation. Experience has shown that even people who received "intercultural training" may face problems, like stereotyping people, capriciousness, frustration and lack of concentration.

Some interesting informations about the conference you will also find on our homepage:

http://12immhc.bmlvs.gv.at/

Ilfira Temirbulatova

Selection method of new recruits

Overcoming the Language Barrier during Psychological
Examinations in the Army

Problem

70% – 80% of all new recruits in the Kyrgyz Army do not speak Russian. However, 99% of all the available psychological tests are in this language. It is therefore only too often impossible to conduct a psychological investigation.

Possible solutions

There are two possible solutions: first, to teach every recruit the Russian language and, second, to adapt existing psychological questionnaires, i.e. to translate them into the Kyrgyz language

It is not a problem to translate these questionnaires into another language. There is, however, one more serious problem which cannot simply be solved by translating. The problem lies in understanding the essence underlying the questions.

Questionnaires are elaborated by natives of a certain country with a certain mentality. Certain stereotypes inherent only in that country, such as Russia, Germany, England, etc. aren't automatically clear to the speaker of another language. We are all different from each other, and one question may be interpreted in many different ways. If, for example, the question "Do you like spending time at parties?" is answered with "yes", this can be interpreted as a sign for sociability in one country. In another country, however, the same answer can be interpreted in such a way that the person is fond of drink or takes drugs.

Conclusion

So one and the same sentence might mean something completely different in another language, as is illustrated by the above example.

This is why the seemingly simple process of adapting a questionnaire is rather difficult and requires both time and active cooperation among many specialists.

The Kyrgyz Army does not have the funds, methods or specialists to accomplish that. However, in spite of our difficulties I have found a method which can solve the problem with fewer expenses and also sufficiently correctly. Furthermore, at this stage of development in military psychology in Kyrgyzstan this is better than using methods that have not yet been adapted.

A method is a battery of tests consisting of the following methods:
When general cognitive methods are evaluated,
Attention is studied using the "Shulte tables" and "Counting" by Kripelyn. Digits are produced and have to be found and added.
Memory is studied using the method "Ten words" by Luriya. Ten words are produced, which have to be remembered.
Peculiarities of thinking are studied using the method "Standard Progressive Matrices" by JC Raven. Graphic pictures are produced, which have to be matched with the correct answers.
The emotional sphere is studied using the "Eight-colour test" by Lutcher and the projective drawing tests "House, tree, person", "Person", "Person under the rain" and "Animal, which doesn't exist".

As you can see, these methods do no require special answers to questions that could be interpreted differently depending on the mentalities and cultural peculiarities in different countries.
It is also important to point out one aspect of psychological testing, which is often neglected by psychologists: determining the behavioural peculiarities of the investigated person, i.e. the observation of how the investigated person does the tests. They may, for example, turn pale, flush, fuss, or do the opposite – stay absolutely calm, concentrated and

impenetrable – indexes of the person's psychological state. The observation gives additional reliable information.

Final conclusion

I would like to emphasise that the existing standard questionnaires do not need to be adapted to the studies of new recruits in the Kyrgyz Army. This work is very long, laborious and requires big funds and many efforts if we want to receive reliable information.

The method which I have used for the last few years has proved to be valuable. During the selection of soldiers I manage to identify recruits who definitely belong to risk groups with such problems as low intellect or pronounced emotional instability, which have a lot of influence on the service of soldiers in the army.

Dagmar Eigner

Social and Cultural Dynamics of Traditional Healing

Introduction

Among the multi-fold functions of traditional healers are the regulation of social life, solving problems of individuals and the community, and preserving cultural identity, all of which form an important basis for the well being of individuals and the functioning of communities. In addition, it is a prerequisite for intercultural understanding and constructive encounters between members of different cultures and nations. Due to the important position of traditional healers they can serve as a gateway for outsiders who want to work or live in foreign cultures.

In the course of consultations and healing rituals individual problems are interpreted in the framework of traditional patterns. Thereby the suffering is given a specific meaning that is followed by immediate relief and the reduction of personal failure and guilt. Traditional healers are experts in dealing with social affairs in the communities and furthermore serve as mediators between forces at all levels of existence.

Picture 1: Traditional dress and paraphernalia of shamans in Nepal

Concepts of illness causation and diagnosis

Depending on the specific ailments healers give certain reasons lying behind the problems that serve as a starting point for rituals designed to solve the problems and alleviate the sufferings. All diagnoses and diagnostic manuals, also in Western biomedicine, are culture dependent and embedded in the worldviews and philosophical systems of the respective societies.

In traditional societies illnesses are often attributed to the influence of spirits and witches. Spirits represent the non-material world and can cause all sorts of troubles ranging from a general feeling of not being well to all kinds of somatic disorders. Even accidents can happen due to the actions of a spirit. Evans-Pritchard (1978: 64) emphasizes that only the specific circumstances leading to an accident are explained by supernatural interference and not the accident itself. For example, a boy would stumble over the trunk of a tree on one day, but not on another

day when he is not under the influence of some spiritual or cosmic force. In indigenous societies the life of humans is seen in a wider context including the spiritual (non-physical) level and cosmic constellations.

Regarding the naming process of disorders, the transcultural psychiatrist Wolfgang Pfeiffer

(1991: 95) notes that the terrible thing about a diagnosis like "schizophrenia" is that it neither gives plausible explanations concerning the illness causation nor provides therapeutic steps, but instead it stigmatises the patient and the family in public opinion. He continues that, on the contrary, a diagnosis like "evil eye" or "spirit possession" frees the patient from accusations, mobilizes support by the family or social group, and points towards a therapeutic programme that is beyond doubt. Thus, different diagnostic systems are not only equally logical but can also bear special benefits for effective treatment.

Furthermore, a specific diagnosis is not just a name for a given fact in a medical system equally valid in all cultures. It is not a word that can be translated into another word of a different language. The question "What is really wrong with the patient?" will therefore lead to a confusion of cultural realities. Wiemann-Michaels (1994) has investigated if the "depressive syndrome" in the Western diagnostic system is equivalent to "being bewitched" in Nepal. She concludes that although there are many similarities on the symptomatic level, the complex of causation, meaning, and expression is different and therefore one syndrome cannot be understood as a translation of the other.

Psychosocial conflicts

With examples from Nepal I want to show the interrelation of symptoms, diagnosis, and therapy. When a traditional healer finds out that other persons are involved in the causation of the patient's suffering, it is likely that he/she will diagnose witchcraft. Witches are thought to be live, concrete persons who mainly act out of anger and envy. They are not seen as monsters that cause harm without reason, but it is assumed that they have experienced hurt, unjust treatment or neglect. Thus, their behaviour is considered to be very human and understandable and so

they should not only be punished but also be appeased, because a lasting therapeutic effect can only be achieved if the witches have no more reason to cause harm.

Witches are said to know several methods to harm their victims: casting spells, spoiling food or raising and sending spirits in order to destroy someone. The latter is the most dangerous method that definitely calls for a big night ritual to sort out the problems, send back the spirit, and re-establish harmony in the social group of the patient, the witch, family members or other persons who have important relationships with the patient or the witch.

Specific diagnoses have specific meanings and implications. Witchcraft and spirit possession can be seen as constructs that are shaped according to a social reality and are associated with certain symptoms like trembling and uttering unintelligible words. These are signals to the surrounding that a person cannot cope with the pressures or aggressions he or she experiences.

In case of irreconcilable conflicts, the production of these symptoms (no matter how consciously or unconsciously they may be generated) is sufficient to prepare the ground for a specific kind of therapy. Expectations and theories that exist in a society play an important role. "Everyone sees it happen to others and expects without question that in similar circumstances it will happen to oneself. And it does." (Carstairs 1958: 1218). Berger and Luckmann (1980: 190) hold the opinion that psychological theories that are known by people become part of everyday reality in the lives of those persons. A diagnosis and its implications must be familiar to all the members of a community so that the ways outlined to solve the problems are shared knowledge.

Structure and dynamics of possession rituals

If a person is diagnosed as being possessed by a malevolent spirit – and especially if a person manipulates the spirit in order to harm someone – a healing ritual has to be performed to pacify the spirit and solve the problems in the social network of the patient. The main steps of the

healing session, their meanings, and the therapeutic importance are as follows:[1]

Rhythmic singing and drumming by the healer, calling helping spirits, and thereby marking the ritual space and time;

Inducing an altered state of consciousness in the patient by rhythmic stimulation;

Interrogating the spirit that is troubling the patient: the spirit should tell why it has attacked the patient, if it has been raised and sent by a person who wants to harm the patient (and maybe also other persons, especially close relatives of the patient).

Thus, with the "voice" of the spirit, the patient can talk freely about family matters, express deep emotions, and accuse other persons, also senior family members, because he/she is not himself/herself.

If a patient cannot let the spirit speak through himself/herself, the healer will take over this role and thereby elicit an intense communication about the problems in the family or community.

The ritual time and space provides a sheltered situation for people present so that no one has to fear negative consequences for any uttering or nonverbal behaviour.

The specific ritual language and rhythmic synchronisation facilitate an intense therapeutic process.

Sometimes also the person who has sent the spirit speaks through the mouth of the patient or the healer.

In the last part of the ritual the malevolent spirit and its master have to be appeased, and they have to promise that they will never cause any troubles again.

Before the closure of the ritual sacrifices are offered to the spirit as a substitute for the patient.

This process alleviates feelings of guilt that may have been in the patient before the treatment because he/she was not able to cope with the family situation, could not do daily work, and maybe even showed aggressive behaviour. Due to the metaphor of spirit possession and witchcraft the patient has no personal responsibility for any malfunctioning.

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[1] For a detailed description of traditional spirit possession rituals see Eigner 2001.

The traditional healer also serves as the director of the ritual to ensure that everything is done correctly and harmony is re-established at the end of the treatment.

Picture 2: Shaman tries to make the patient speak

Picture 3: Illness-causing agents must promise that they will never trouble the patient or other family members again

Picture 4: Food is given to the illness-causing spirit as a substitute for the patient

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Social drama

Individual conflicts embedded in cultural concepts are enacted in the course of healing sessions. Spirit possession rituals provide a symbolic language, in which conflicts can be expressed, discussed, and solved. The "stories" underlying the ritual performance represent the structure and dynamics of a society. It is likely for a married or widowed woman who has moved to her husband's house to have problems with his elder relatives. Likewise, it is probable that a man – and therefore also his wife – will encounter difficulties when dividing up the family property. And it is possible and likely that conflicts involving envy and guilt will develop with poorer neighbours or members of an extended family. Therefore the basic structure and plots of spirit possession rituals match more or less the individual problems of all the patients whose sufferings are due to psychosocial conflicts.[2]

The social drama and its enactment in a ritual influence the way in which conflicts are experienced. Victor Turner (1982: 72) notes that "just as the story itself still makes important points about the stresses between sex- and age-roles, and appears to be an emic generalization, clothed in metaphor and involving the projection of innumerable specific social dramas generated by these structural tensions, so does it feed back into the social process, providing it with a rhetoric, a mode of employment, and a meaning." Furthermore, if the suggested solutions contained in the ritual's basic structure are followed appropriately, the suffering will be alleviated.

Rhythm and Music Therapy

By rhythmic drumming, singing, and dancing traditional healers induce altered states of consciousness in themselves, in the patient, and to some degree in all the people who are present. It is assumed that a synchronization of brain waves in the individual persons and also synchronization of movement, brain waves, and speech of different persons - in particular the healer and the patient - takes place. Neher (1962) argues

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[2] Eigner 2008.

that drumming with 4 to 7 beats per second is most effective to induce altered states of consciousness because it corresponds to the theta brain waves that do not occur in alert waking states. He assumes that this frequency range is used in traditional rituals in many cultures.

In shamanic rituals in Central Nepal healers turn towards the patients and deliberately try to impose their rhythm on the patient. The process is similar to auditory driving that is also employed in Western psychology and medicine for various purposes, including diagnostic procedures.

Drum beating of a group of people who try to keep the same rhythm but are not completely successful, leads to a slight de-synchronisation that is called inherent patterns. Modern music therapy is well aware of this fact that traditional medicine in indigenous cultures has employed in healing procedures for thousands of years. At present, experiments are carried out in order to gain more knowledge about this kind of music therapy.

Last not least, singing, drumming, dancing, and rhythmical recitation of certain words are also a method to get into contact with tutelary spirits and other non-material agents involved in the illness causing events. The ways of connecting to a spiritual world are a representation of the culture specific order of the cosmos. Directing patients' rhythmical movements, recitations of healing words, and encourage them to speak out themselves, also with the voice of another being, are techniques central to spirit possession rituals.

Picture 5: Patient with a healer who is called "Electricity Shaman"

Implications for personnel on foreign missions

To work or live in a foreign country with different cultural back-ground and social life calls for profound knowledge of the particular culture and society and for a reasonable degree of expertise in intercultural communication. Culture is strongly connected with the worldview, the organisation of knowledge, and the concept of reality. The French psychoanalyst Jaques Lacan (1966) states that Western thinking has been dominated by the absolute distinction between the imaginary and the real. Vincent Crapanzano, an American ethno-psychiatrist, further notes that the imaginary "is relegated to a status inferior to that of the real which parades under the standard of truth. The problem of what is real or is not real is left to the philosopher. To Everyman the real is both distinctive from the imaginary and at one with the truth" (1980: 7). Psychological conditions concerning intercultural understanding include the "willingness and ability to give up one's own stance (position) temporarily" and the "willingness and ability to look at the world through the

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eyes of the other". In regard of this, it will be fruitful to reconsider one's own structure of thinking and concept of reality and truth.

In general, appreciation of a culture and the traditional knowledge opens doors that lead to an understanding of many facets of the social life, how problems arise, are interpreted and solved. If mutual trust has been established, people from different cultures can easily help each other, like in treatment of emotional and other health problems.

In addition, elements of traditional healing may be very helpful in treating certain disorders of personnel from Western countries. For example, rhythmic stimulation as it takes place in traditional healing rituals can decrease symptoms of post-traumatic stress disorders. It allows a profound relaxation without reflecting on the traumatic events. Rhythmic movement is an extremely effective method for inducing deep relaxation states, for some persons more effective than quiet meditative techniques. This can be used as quick therapeutic intervention in field situations. Furthermore, traditional medical systems also yield methods for treating certain diseases superior to Western medical treatment in foreign countries. In Nepal, for example, healers expert in curing diseases like hepatitis, are consulted by persons from ethnic, social, and cultural backgrounds, because rumours of the positive effects of their treatments spread quickly within a large territory. Thus, also foreigners can benefit from specific knowledge and skills of traditional healers.

Cultural identity: Presentation of shamanic dance in Nepal

Traditional healers usually have a strong presence in public life and contribute to the cultural identity of the people in a community. In 2002 the first international conference of the ethnic group of the Tamang took place in Kathmandu. The Tamang, who live primarily in the middle hills east and west of the Kathmandu Valley and in the Valley itself, are the largest ethnic minority in Nepal (Bista 1967). They are known for the large number of shamans among them.

One of the highlights of the conference was a procession of the various professional and social groups, like teachers, students, and shamans,

through the city of Kathmandu. Due to their impressive performance the shamans attracted many spectators of all the ethnic groups living in Central Nepal. A positive cultural identity contributes a lot to self-esteem and self-confidence and, therefore, enhances constructive intercultural understanding and communication.

Picture 6: Procession of shamans through the city of Kathmandu

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Harald Harbich

The Thrilling Clash of Evidence Based Medicine and Traditional Healing

The aim of medical support within the military is to provide a standard of medical care to achieve outcomes of treatment equating "best medical practice" and as close as possible to prevailing peacetime medical standards. The application of this principle has to be guided by the directives, rules and guidelines of the civilian medical associations. These guidelines are based on a broad consensus of the leading specialists in each discipline. They are stated in conferences and discussed in peer-reviewed publications with regular scientific criticism. Beside the essential health benefit, this process of gathering a broad consensus of secured knowledge in medicine is most important for the legal security in the area of patients' rights, but also for teaching at university. The consensus-meetings of medical experts are usually open to the progress of the most recent research and technological developments, which then find entrance into the secured knowledge. Therefore old medical habits are abandoned in accordance to the old saying: The truth of yesterday is the mistake of today, or otherwise the truth of today is the mistake of tomorrow!

Ultimately the scientific community wanted to find a way that the rare occurring errors of the vast majority of the experts do not cause much damage. This research resulted in the invention of Evidence-based-Medicine (EBM). It is a direction in medicine, which aims for the ideal that healthcare professionals should make "conscientious, explicit, and judicious use of current best evidence" in their everyday practice. The term has been marked in the early 1990s by Gordon Guyatt of the McMaster University, Hamilton, Canada, in the Department of Clinical Epidemiology and Biostatistics. The main area of EBM is to treat individual patients with acute or chronic pathologies by treatments supported in the most scientifically valid medical literature. Thus, medical practitioners would select treatment options for specific cases based on

the best research for each patient they treat. Another area is the systematic review of medical literature to evaluate the best studies on specific topics.

On the one hand there is the broad consensus of experts, whom I have mentioned, but of course on the other hand there are also outsider opinions. Those are often overrepresented in the press which paints a picture of a quarrel between medical experts that usually does not exist. However, such presentations confuse those patients, who, as result of their education or background of life, have experienced technology and in particular high tech much more as a disturbance than as blessing.

So far I have mentioned four players in European healthcare systems: Firstly, the patients who are either full of confidence or full of fear; secondly, the conventional medical practitioner with his serious scientific background. Thirdly, there is the outsider, who is right sometimes. And last not least the popular press, which questions the scientific process and earns a lot of money discussing that.

Objectively, the success of the scientific method is proven not only by the increase of life expectancy - in the past decade 22% and in recent times even four months per year. Much more important is the even bigger gain in quality of life, measured in years of lacking disabilities. The 70-year-old man enjoying his retirement to the full and of course being active in sports, forgetting the one or other small handicap with modern medicines or prostheses, is not the exception, but the rule today.

With us, but not in other parts of the world, where the health care system has apparently remained at a standstill for centuries and the already modest life expectancy will be reduced due to side effects of the occurring civilization. For example, the infant mortality in central Africa is rising today. It is not the lack of expertise of practicing doctors there: they are usually highly educated and highly committed, but their small numbers and the lack of medical infrastructure. In Austria with eight million inhabitants, there are currently about 40,000 doctors in charge, in Chad, with a comparably large population, there are 370. Of course that doesn't mean that the population would be helpless in the face of diseases. Traditional Healing has been practiced successfully for centuries. So the question arises what kind of success could be evaluated. Biologi-

cal or epidemiological standards emphasize only the exorbitant advantage of the western scientific medicine.

But salvation and healing has a different dimension. For instance, psychiatry never escapes from its traditions; medical ethics may be the subject of certain developments, but at what point is a step forward truly starting? Moreover, the actively practicing doctor is confronted with a real, entire human being, a "homo patiens", and not with the abstract phenomenon of well-defined disease in a textbook. The sick man in his frailty has not been changed over the times, but only been transformed. He hopes and wishes for a redeeming treatment for his suffering. This evil must not be a disease in our traditional sense; it may also be perceived as disharmony with God, the world of nature, the village or a result of an evil professional or familiar situation. For instance, the Australian aborigines do not have a word for healing. In case of physical or mental illness, they try to help the ill to rediscover his happiness and his internal balance with their ancient means and speak directly of "making someone happy again". The troubled sense of feeling finds its expression in a visible physical disorder. The body as a reflection of the soul uncovers something which is actually taking place in the psychosocial environment, therefore also in the community. This disturbance has its effects on the whole tribe through the close network between it and the individual. Therefore, the tribe is involved as a whole in the healing process.

The origin of medical treatment is an expected medical intervention, interference in the integrity of a fellow human being, not only with a knife, but also with the drug. The doctor intervenes with his council or his perplexity. These degrees of intervention are present in all ages and all cultures. Associated is also the sociological consequence of this intervention: the success or the failing of the treatment has repercussions for his family, his friendships and often on his position in employment and his position at the edge or within the society. In consideration of the particular "homo patiens" the mission of the "gods in white" and the healers with loincloth and with headgear is the same!

That also includes the most important criticism of the EBM: the more data are calculated in major studies, the harder it is to compare the

average patient of the research studies with a particular one. Studies with a large number of patients are not necessarily useful in a specific case. "Large numbers provide a statistically accurate result, of which we don't know to whom it is true. Small figures provide a statistically completely pointless result, from which we often know much better to whom it is true. Hard to decide which of these types of ignorance is more useless." (Beck-Bornholdt, Dubben: 2003)

My answer is exactly the opposite: not the "either – or" of the fruitless, but the "as well as" of the useful! So all patients have the right to be treated with scientifically proven medical methods concerning the whole human being, including one's personal environment and embedding in society. Scientifically proven medical methods must not necessarily come from recent times. Numerous examples, in particular the stimulating therapy, are many centuries old and have proved effective; as an example I would like to mention the Traditional Chinese Medicine, various massage techniques, diets, specific useful teas, but also hypnosis and other forms of suggestion and mental training. These forms of traditional medicine are most welcome in the military; they are very cheap and strengthen the doctor-patient relationship.

But at the same time I don't want to deny that under the guise of Alternative Medicine scientifically and technologically outdated methods are practiced sometimes, which have proven ineffective and often harmful. Heartless profiteers, but also practitioners who are overwhelmed by the complexity of the scientifically justified medicine find a market in uninformed, anxious and technology-skeptic patients. I refer to the reliability of the proven effectiveness in the EBM!

A specific issue is the meeting of our modern western medicine and traditional healing methods in their home countries. The Austrian Armed Forces have an almost fifty year old tradition of deployments abroad. The first use of Austrian soldiers under UN command took place in the peacekeeping mission in Congo. It was conducted by the Medical Corps and lasted from 20th November 1960 until 18th November 1963. The former Belgian Congo had been proclaimed an independent republic on 30th June 1960. Immediately several revolts developed. As soon as on

12th July 1960 the congolese government asked the United Nations for military aid for the protection of the national territory from foreign interventions. On 5th August UN Secretary-General Dag HAMMARSKJÖLD formally asked Austria to participate in the Congo operation with a field hospital including a hygiene team.

The Austrian contingent arrived in BUKAVU on 15th December 1960 and had to cope with a lot of dangerous misunderstandings and unforeseen adventures in the beginning. The main purpose of the Austrian UN contingent was in principle the medical support of the UN members. Ultimately, UN members have been only one-sixth of all patients. Moreover, important tasks were: development of public health, care of refugees, distribution of drinking water and food controlling. In contrary to initial difficulties the Congolese people were very grateful for the support of the Austrian contingent.

People suffered mainly from skin and eye disorders, moreover they had various injuries after fighting and requested help in the Austrian field hospital. Military doctors and medics observed these syndromes, which in this extent and expression had been forgotten in Europe for decades.

Based on the mutual unfamiliar socio-cultural circumstances the first treatments were not free of misunderstandings, because disease doesn't mean the same to all people. Everyone learns during the development of the Community. One learns how one is expected to behave when ill and only in that way one is properly recognized as a patient. This behavior is quite different in different cultures. What is the analytical approach to pain in western countries? The answer is: the clear communication of quality (how strong) and location in the body. In total contrast to the well-known south-eastern population African patients are very introverted when they are suffering from pain. But the presumption of less sensitivity is totally wrong and a bad mistake.

The first deployment in Congo was followed by a small medical contingent in eastern Nigeria between 1968 and 1970.

Another Austrian field hospital in CYPRUS treated about 65,000 people between April 1964 and October 1973.

There still is a small medical platoon on the Israeli/Syrian border on the Golan Heights in the frame of UNDOF. It is true that the medical care of the soldiers there has priority, but the aid seeking population could rarely be rejected.

Furthermore the following disaster-relief operations of AFDRU should be mentioned: after the earthquakes in Armenia in 1988, in Turkey and Taiwan in 1999, in Algeria and Iran in 2003, in Pakistan in 2005, and after the Tsunami in Sri Lanka in 2005. Medical soldiers were also temporarily deployed in Mozambique and Afghanistan. In the disaster areas there is generally no medical care anymore, since all hospitals, pharmacies or doctor´s offices are destroyed. The medical tasks in that field are therefore: - general hygiene measures in the field, - medical care of the soldiers, - the medical care of the public and the support for all rescued.

In my deployment for disaster relief after the Earthquake in Turkey 1999 I made an interesting experience. While the European relief units desperately tried to save the living people in the ruins, local people seemed to estimate their fate far less important than the early recovery of the dead. As we heard, it is a local custom that dead bodies must be buried properly within 24 hours to gain salvation in heaven. So it happened that occasionally locals attempted, even with lies and deception, to stop the search and rescue of the survivors in order to secure the dead.

The lack of capacity in the medical platoon was compensated with the fact that the patients were settled near the Austrian Camp and so they could be taken care of by the Austrian medics. Despite the limited amount of medicines and of diagnostic medical devices, the Austrian soldiers maintained the quality of medical care by practical skills and talent for improvisation at a very high level.

Further on I would like to mention our experience in the United Nations Austrian field hospital in Iran (UNAFHIR). After the American campaign "Desert Storm" in 1991, there were fights between the Iraqi government troops and the Kurds. This resulted in large flows of refugees in the direction of the Iranian territory, and therefore the UN High Commissioner for Refugees in agreement with Iran asked in the spring of 1991 for the deployment of an Austrian field hospital to support two

refugee camps with 60,000 displaced persons. The deployed medical staff noted a different behavior of Kurdish injured people. If a Kurdish worker or farmer cuts off his finger, he will not bat an eye, even though he suffers infernal pain: he knows that the doctor can see the violation. On the contrary even light abdominal pain results in him doing a performance of his body writhing in pain – because in his opinion the problem cannot be made obvious to the doctor otherwise.

Last not least, in 1999 we had to establish an "Austrian Village" in Shkodra, Albania, together with the Austrian Red Cross, the Austrian Caritas and the Austrian Knights of Malta.

Some 5,000 refugees from Kosovo have been supported by the field hospital of the army medical service.

During the recent deployment EUFOR TCHAD Austrian medical personnel have been integrated in the Italian Field Hospital. They took care primarily of the soldiers, but also treated the suffering civilian population. The Italian commander of that Medical Treatment Facility insisted on a formal transfer by the local Regional Hospital in line with UN recommendations. After all, western medicine is always attractive for the local upper class. In addition, the fees paid by these people are of greatest importance for the economic survival of the local health care providers and so indispensable for the public.

As said, there are and were striking differences of expectations in health care and in presenting various diseases and disorders. Doctors and paramedics should always interpret the communication with their patients according to the background of their different cultural origin. The doctor is always responsible for the success of medical care. It is therefore necessary to adjust the behavior accordingly, if he does not want to fail. This circumstance occurs not only in the military, but is generally recognized and has become the subject of scientific investigation in the past ten years.

Medicine and Public Health are established scientific specialties. It is a matter of working on the interfaces, which have been known to us for a long time. However, there are problems that are beyond existing disciplines, and finally we have to contribute to the challenges of increasing globalization in economy, society and in the important field of health care. This is not only an academic issue, but also in reality and with regard to global aid and rescue.

The development of the specialty of ethnomedicine at medical universities or relevant groups in them will be going on.

Ethnomedicine is a sub-field of medical anthropology that deals with the study of traditional healing: not only those that have relevant written sources (e.g. Traditional Chinese Medicine, Ayurveda), but especially those, whose knowledge and practices have been orally transmitted over the centuries.

Local medicinal knowledge cannot be fully integrated into science, nor should the reverse occur. Both are complementary, not replaceable. Both have value in their own right and need to be recognized as such, giving both equal weight.

Recent studies underlined that an understanding between traditional healing and Western medicine within medically plural systems will contribute to the development of more integrative models of cooperation.

Therefore, we have to introduce the expertise of ethnomedicine to those future military operations which have the objective of international aid and disaster relief, for the benefit of patients and for the benefit of the medical staff.

"The truth of today must not be the mistake of tomorrow!"

Peter MULACZ

The Framework of Reasoning in the Realm of the Occult and Esoteric

Preface

Understanding the framework of reasoning in the realm of the occult and esoteric[3] is important for soldiers confronted with different world-views when being deployed in foreign areas or when encountering occult belief systems in a social sub-layer deep under the surface of our own society. Though investigating this framework of reasoning will put emphasis on the elements and the structures of occult reasoning, a broader view needs to encompass occult systems and worldviews as well as important occult practices and, last not least, the motivations of occult reasoning. Despite the fact that a certain distinction may be made between "occult" and "esoteric", for the purpose of the following consideration these two notions are pooled together and the term "occult" will be used throughout.

Occult Systems and World Views

There are various occult systems, systems of occult world view, occult "Weltanschauung", both "longitudinal" through different eras and "transversal" co-existing at any given time. Perhaps the most well-known and influential ones are Theosophy, Anthroposophy, and Spiritualism. Different though they are, they have a number of properties in common, whereby not each and every one necessarily will display all these qualities. They are – in their majority – ready-made systems one may accept or reject. Some components appear to be interchangeable:

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[3] "Occult" = hidden, secret, hence occultism as the study of ostensibly hidden wisdom, or the study of the "inner nature" of things, as opposed to the outer characteristics that are studied by science. "Esoteric" = originally: knowledge available only to a narrow circle of "enlightened" or "initiated" people (Esotericism related to Gnosticism), at present the term that has been corrupted is used for vulgar esoteric shops and the like. In recent years, the term "occultism" has received a certain pejorative connotation.

the American spiritualism of Andrew Jackson Davis (1826–1910) has no notion of reincarnation whereas reincarnation is an indispensable element of the Romanesque spiritualism established by Allan Kardec (pseudonym of Hippolyte Léon Denizard Rivail (1804–1869). Other ones of these systems are concepts that are imported from culture areas other than ours, such as shamanism, or revitalized forms from by-gone times, such as Neo-Druidism (an echo of Celtic culture) and other branches of Neopaganism. Most of these systems show characteristics typical for this kind of revelations: there is one more or less charismatic founder whose statements are sacrosanct. No examination of the very foundations is possible; they must not be challenged as they are beyond any criticism. Theosophy, for example, in Blavatsky's[4] authoritative source "The Secret Doctrine" is based on a (spurious) "Book Dzyan" the existence of which must be believed by the followers without any proof, and same is true of the existence of the "hidden masters" in the Himalayas, Morya and Koot-Houmi. Likewise, in Anthroposophy one is supposed to believe in Rudolf Steiner's[5] "insights".

By the very token of this revelation-like structure, it becomes clear that all these systems are metaphysical in the sense that there is a world being revealed that ostensibly lies behind and beyond "our" world. Unquestioned belief in survival of bodily death is common with the occult worldview, and so is the belief in some kind of meta-structures in man that are unknown to present-day science (see below).

To a certain extent, the groupings transporting these occult views show cult-like structures such as a strong orientation towards a leader, a closure towards outsiders and, most importantly, feedback loops by mutual reinforcement in their beliefs.

Occult Practices

The occult practices can easily be categorized in two groups, the first aiming at gaining knowledge of what normally cannot be known, and the

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[4] Helena Petrowna Blavatsky (1831–1891).
[5] Rudolf Steiner (1861–1925).

second at achieving actions that normally cannot be performed – thus the practices are either receptive or active.

Since times immemorial, oracles have been used for learning what future has in store. Another ancient technique is crystal gazing and its varieties (staring at shiny surfaces). While "pure" clairvoyance is rather rarely claimed, various psychical automatisms are used such as table tilting or table turning, or glass moving, which are group efforts, or the pendulum/divining rod, and automatic writing that are carried out by one person on her own. On a different basis, however, likewise aiming at getting foreknowledge of the future, the preparing of horoscopes needs to be mentioned. This listing just provides a few examples, it is by far not exhaustive and there are numerous other techniques in use (e.g. Tarot decks, "numerology", etc.).

We humans have no knowledge of our fate beyond the grave (moreover, whether there is any such fate at all, which is, based on a scientific worldview, rather doubtful). Yet there are occult practices aiming at getting such knowledge, actually at establishing a connection with the deceased (who are supposed to have "survived" body death) and even with "other worlds". The techniques used are again table tilting or turning, glass moving, automatic writing, also automatic speaking, and trance phenomena. The information retrieved by these methods, ostensibly coming from the deceased yet in reality from the unconscious of the sitters, is usually very banal and of no particular value (except in cases of bereavement where any kind of consolation is welcome without asking deeper questions).

On the other hand, turning now to the active branch of practices, where the objective is influencing other individuals (or objects) by occult practices, we speak of "magic" which usually is, according to the intention of the magician (good or evil) classified as "white" or "black magic". Several systems belong to this category, from the "ceremonial magic" of the renaissance period to "shamanism", "voodoo", and other more recent imports from various other cultures.

A specific field that falls into this category are practices aiming at healing which include "therapies" such as spiritual healing, laying-on hands, mesmerism, Reiki, spiritual surgery – each of them with their

own underlying concept. Mostly the "therapy" is preceded by some kind of "diagnosis", again carried out in an occult fashion, i.e. using techniques listed above (with "feeling" by bare hands or the pendulum/divining rod in the first place).

Last, not least there are occult practices aiming at spiritual development and seeking direct insight, usually in form of meditation and certain rituals. Many followers of occult belief systems are being organized in occult orders several of which are arranged in a style comparable to freemasonry. Thus, "initiations" to higher grades may play an important role.

Occult Reasoning – Elements, Structures, and Modifiers

Studies of paranormal belief – broken down into individually oriented (New Age Philosophy) and socially oriented (Traditional Paranormal Belief) paranormal beliefs – have extensively been carried out by surveys using appropriate questionnaires, and several correlations have been identified between paranormal beliefs and certain personality traits[6]. The basic positions maintained by various researchers include:
- paranormal beliefs are most prevalent among people on the margins of society
- paranormal belief is simply one facet of a broader worldview, a view that is characterised by a highly subjective and esoteric outlook on humanity, life, and the world at large
- paranormal believers are essentially illogical, irrational, credulous, uncritical, and foolish
- paranormal beliefs are best understood as serving significant psycho-dynamic needs, and
- particular types of paranormal belief are related to dissociative tendencies.

While apparently more or less all of the above may apply to a certain degree, this paper looks rather into patterns of occult thinking and styles

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[6] Religiosity, locus of control (external vs. internal), narcissism, fantasy proneness, neuroticism, authoritarianism, depression, and many others.

of reasoning than into the belief systems and the believers as such, it investigates the elements and structures of occult reasoning underlying the various persuasions and shaping occult and esoteric beliefs.

Elements of Occult Reasoning

Energies and Substances

Leaving aside discussing similar concepts of forerunners, the most influential figure is the German doctor Franz Anton Mesmer (1734–1815) who during the 2nd half of the 18th century invented his healing system of "animal magnetism", later labelled in his honour "mesmerism". By Mesmer's system[7] the notion of a "vital energy", "life force", "bio-energy", "fluid", etc. comes in, the lack of which being the precondition of diseases which can easily be cured by supplying this energy up to the necessary level. This force can be transferred from one individual to another (i.e., from the magnetizer to the patient) and even accumulated (in the Mesmeric Bacquet[8]).

Mesmer's influence – he even enriched the English language by the verb "to mesmerize" – can hardly be overestimated. Within mainstream science, the effects of mesmerism are explained by hypnotism: the Scottish doctor James Braid (1795–1860), acknowledging the existence of all Mesmeric phenomena, supplied a new explanation that he labelled "neurypnology" or "human hibernation" that in our day is called hypnosis. The vast amount of research in the field of various "altered states of consciousness" including hypnosis has hardly been reflected by occultists. Moreover, in order to stick to the hypothesis of a "vital force" that can be transmitted they emphasize firstly the therapeutic aspect of traditional mesmerism (again without reflecting what is known about the role of suggestion, self-suggestion, placebos and the like) and secondly claim that in the old days the magnetisers could achieve effects much more

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[7] By the end of his life, Mesmer's system was very elaborate and comprehensive. He posited an all-encompassing "flood" of which the biological effects as the vital force are but one aspect.

[8] Mesmer's conception of storing the "fluid" in his "bacquet" is akin to storing static electricity in a "Leyden Jar" (a period capacitor).

impressive than our hypnotists can today, which is viewed as a justification of Mesmer's original concept of a "force". Though the assessment of the scale of phenomena during the period of romanticism as being much larger is correct, the occultists' interpretation is not necessarily true as there are many alternatives that need to be taken into account.

The concepts within this lineage of vital force vary a lot; there are some viewing this problem rather from the point of biophysics, whereas other ones postulate a non-physical entity (Bergson's "Élan vital", Driesch's "entelechy").

Carl, Baron Reichenbach (1788–1869) claimed to have discovered a new force which he called Odic (or Odylic) Force. Though there are some parallels to mesmerism, the Odic Force is different as it is thought to be bi-polar. No effort has ever been made to replicate Reichenbach's experiments – on which he published several books – independently.

Last, not least, Wilhelm Reich's "Orgone" needs to be mentioned in this context. Reich (1897–1957), originally a psychoanalyst and sexologist, tried to amalgamate psychoanalysis and Marxism. His later studies led him to postulate a number of elements (e.g. "bions" as preliminary phases of cells) which – like his "orgone" – were not accepted by the scientific community.

Thus, there are several different concepts of waves, radiations, oscillations, vibrations, and vital energy. The rather modern ones postulate an energy field, a notion that has some relation to the traditional conception of an "aura". In recent times, this idea has been revitalized under the label of "bioplasm"[9], i.e. "emanations" shown by all organisms. It is claimed that the "aura" or the "bioplasmatic body" can be photographed by means of "Kirlian photography", a method developed by Semion Davidovich Kirlian together with his wife Valentina in the 1960ies. Basically, the Kirlian photography is a method of taking pictures in an elec-

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[9] Basically by researchers in the former Soviet Union and Eastern Europe which was hailed by US writers much beyond of what it was worth in an attempt to have governmental research grants provided for American researches in the same field.

trical field of high frequency whereby the object is one and the photographic film is the other electrode. Already in the 18th century, the German physicist Lichtenberg has shown similar effects. Lacking any standardization of voltage, exposure time, photographic material etc., Kirlian photos achieved by different experimenters can hardly be compared. Some isolated spectacular effects could not be replicated. The far-reaching conclusions often related to this method are not substantiated.

"Radiations" of different denominations are considered the basis for dowsing (divining rod or pendulum). Elaborate grid systems of terrestrial influence have been proposed. Very little of this huge construct of ideas may hold water. In experiments, only a tiny fraction of dowsers have indeed shown reliable effects, the vast majority of ostensible effects rests on delusion. There are some indications that organisms may react differently on different sites; however, these small marks are in no proportion with the exaggerated claims of the believers in radiesthesia.

Nonetheless, all these concepts do not only play their role in occult belief systems, they are also elements of some branches of Alternative Medicine, e.g., the "Qi" force in Traditional Chinese Medicine.

Apparently, the concept of "Subtle Energies" – something substantial (even if invisible and immeasurable) – is deeply rooted in man; think of contact magic in ethnology as well as of the cult of relics in various religions where touching them (or their receptacles) appears to be important. E.g. in Islam, one can collect "Baraka" (actually the "Force", meaning grace) from the tombs of holy men by touching the tombstone, and in the rites of pilgrimage within Greek Orthodox Christianity, physical contact with "sacred" objects (like the Stone of Unction) plays a major role, etc.

These considerations show that the concepts in question are not confined to occultism, however, within occult reasoning they are not only indispensable, they are of higher importance, too, and they show rich ramifications. The idea of "subtle energies" is akin to the one of a "subtle body" (also "fluidal", "ethereal", or "astral body"), in other words: a meta-organism. This meta-organism is thought to be the link between

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the mortal physical body and the eternal soul. From presuming an ethereal meta-organism, it is not far to the idea of an ethereal plane, an astral world, etc.

Entities and Personifications

One of the characteristics of occult reasoning is the belief in the existence of non-physical entities; however, this belief is not exclusive to occultism. In dogmatic religions, e.g. in Christianity (in Catholicism as well as in Orthodoxy) there is the belief in angels and devils, i.e. good and evil spirits – angelology knows of a hierarchy of archangels, folk religion trusts in the guardian angel, etc., and the devil is believed to be the personification of evil. After-effects are the belief in obsession and possession and ultimately in exorcism as a remedy. Although these aspects are a bit hidden under the surface – which is beneficial for mental health – they still belong to the official teaching of the Church. In Islam, there is the belief in genies. Folklore, too, has its specific beliefs, such as in fairies.

Traditional Catholicism[10] viewed the nature of man as being composed by an immortal soul and a mortal body. Here again, a purely spiritual, i.e. non-physical entity, the human soul, is postulated which, after death, may appear as a "ghost". Whereas this is thought to happen only in certain circumstances, in necromancy it is believed that the spirits of the deceased can be forced to appear, and in spiritualism they manifest themselves on their own free will. Be the modalities as they may, the underlying concept of a non-physical entity with which an interaction can be established is no novelty brought along by occultism, yet the classes of such entities are augmented (e.g. astral entities; extraterrestrials, etc.).

Additionally, the concept of mental projections, thought forms, larvae, "egregores", etc. comes in, a concept found in Eastern religious systems (e.g. "Tulpa" in Tibetan Bonpo religion). In traditional ("ceremonial") magic, it is believed that non-physical beings may be created

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[10] I.e. before the Second Vatican Ecumenical Council.

by magical spells, entities who in turn can accomplish whatever the magician wishes to do.

It becomes evident that these two elements of occult reasoning (the notions of energies and substances as well as the notions of entities and personalities) are elements found already in folk belief during classical antiquity, whereby this folk belief itself roots in a vulgarized Neo-Platonism and in Gnosticism. The ramifications of ancient folk beliefs can be traced through-out all ages since[11].

Relations and Correspondences

The third element of occult reasoning is the "law of correlations", also called the "Hermetic principle". The Hermetic concept of "As Above, So Below" was first laid out in the "Emerald Tablet" (also Tabula Smaragdina)[12] of Hermes Trismegistus[13]. In nuce, this is the belief in correlations between macrocosm and microcosm, between the whole and the part, and the belief in mutual attraction of the equal. Hence a tiny particle may represent the entirety (pars pro toto), and what happens to this part has its consequences upon the whole. The relation is called "sympathy" and is the basis of magical thinking which in its essence is analogical thinking. Analogical thinking is primordial compared to rational thinking, in ontogenesis (developmental psychology) as well as probably in phylogenesis (ethnology). Thus, occult reasoning is sort of archaic thinking.

In addition, occult reasoning is characterized by attributing correspondences and significances to elements that are in fact randomly distributed. A prime example of this is astrology where no rationale can be

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[11] Refer the works by Eduard Stemplinger; unfortunately, there is no translation into English.
[12] "That which is Below corresponds to that which is Above, and that which is Above, corresponds to that which is Below, to accomplish the miracles of the One Thing."
[13] The representation of the combination of the Greek god Hermes and the Egyptian god Thoth, hailed by early Christian authors as a wise pagan prophet, "thrice great" on account of being the greatest priest, philosopher and king.

supplied by the believers how the supposed correspondence of the angles between the sun and the planets with human life might be brought about.

Digression: Pareidolia

Pareidolia means the tendency of recognizing patterns where in fact there are none (e.g. seeing faces in clouds, hearing voices in unstructured sounds, etc.).

Two well-known examples from the field of visual perception are "the little man in the camel" depicted on Camel cigarette packs and "the face of the devil in the smoke of the WTC on 9/11" of which several versions are available on the web. (The latter goes together with the belief in a personal evil force.) For pictures of these, see http://parapsychologie.ac.at/programm/ss2000/leutner/camel.htm, http://www.christianmedia.us/images2/FaceinSmokeWTC.jpg, and http://www.allmystery.de/bilder/rs42391 [30/08/09].

Pareidolia in perception has its counterpart in reasoning in form of magical thinking whereby unfounded correlations between (purported) "cause" and "effect" are identified and whereby significance and meaning are detected even if there are none. Astrology, as mentioned above, is *the* example for this type of reasoning.

Apparently, there is a neurophysiologic basis as persons displaying this attitude show a prevalence of right brain hemisphere function[14]. When L-Dopa is administered to people who normally do not show the above characteristics, they also tend to detect correlations, interrelations, and meanings until the dopamine level is down to normal whereupon their behaviour normalizes again. (Peter Brugger, who has done extensive research in this matter, suggests a relative hyperdopaminergia of the right hemisphere as the biological basis of magical ideation.) Interestingly enough, there is no correlation between proneness to "magical thinking" and either IQ or level of education.

There are, however, certain aspects where correlations beyond the rational accessible ones may legitimately be discussed. Famous Swiss

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[14] This is suggestive of magical thinking as being related to creativity.

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psychologist Carl Gustav Jung, in his co-operation with Austrian-born Nobel Prize winning physicist Wolfgang Pauli, postulates the Synchronicity principle[15] that by definition is a-kausal, its focal point is on the meaning. The "meaning" is, of course, an attribution by the observer or the interpreter. Thus, synchronicity, at its core, is sort of "magical thinking", however, Jung emphasizes that such correspondences occur under very special circumstances only. Hence, the difference between his concept and the occult reasoning is a difference in orders of magnitude.

Same is true when examining the notion of "entanglement" in quantum mechanics. Whereas QM as such refers to tiny, sub-atomic structures, there are considerations by serious scientists of widening the QM framework of thinking[16] to macroscopic elements. Harald Atmanspacher, Hartmann Roemer, and Harald Walach are the proponents of Generalized Quantum Theory (also Weak Quantum Theory, WQT). Again, there are differences to occult reasoning, primarily in the issue of magnitude as well as in the issue of availability.

Pushing the concept of entanglement further, one arrives at the notion of interconnectedness of everything with everything else. This is a widespread concept of the New Age movement (which bears some resemblance to occult reasoning). Once again, the ancient occult concept is but an enormous exaggeration of a concept that in our day has been established by science, too, namely by chaos theory (deterministic chaos) yet on a different scale.

Occult reasoning claims justification by the statement that modern science has "rediscovered ancient wisdom" yet neglecting the fact that the basis is too limited for far reaching conclusions.

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[15] Jung's Synchronicity principle draws heavily on the concept of *Seriality* (Law of Series) proposed by Austrian biologist Paul Kammerer.

[16] It needs to be born in mind that the framework of thinking in quantum mechanics contradicts, rather transcends Aristotelian logic: whereas for Aristotle there is either *A* or *non-A*, and "tertium non datur", QM deals with the double nature of wave and particle.

Structures of Occult Reasoning

Reification

In the 17th century, the scientific explanation of combustion was based on the presupposition of the existence of "phlogiston", a fire-like element, actually the heat that was contained within flammable bodies, and released during combustion. In this theory, the notion of heat turned into a kind of matter, phlogiston. Only a century later, the famous French chemist Lavoisier proved the phlogiston theory wrong.

The use of nouns in our language is seducing thinking into creating "things" (reification), a common mistake of undisciplined reasoning and not confined to the occultists. "The weather" is not a thing, it is composed of various elements (temperature, air pressure, wind, humidity, etc.), yet we use phrases like "the weather is picking up" as if the weather were just one thing. If evil aspects in man's behaviour are treated similarly, they easily turn into "the devil" – a personification, even beyond reification – and once "the devil" has materialized language-wise, it will be attributed some properties such as the possibility to take possession of human beings, etc. Thus, a simple trap of the language may ultimately be leading to the revival of medieval superstition with all unwelcome consequences.

Same is true with mistaking functions for objects by taking things at face level. The notion of a substantial soul (like in traditional Christianity) replaces the rather complex interaction of mental abilities and functions and the difficult-to-explain emergence of the "ego". In addition, rather primitive thinking has difficulties in coping with complex mechanisms and interactions; hence, the simplistic explanation usually is preferred[17]. Occam's razor is, so to speak, set on a wrong spot and the summons of parsimony in basic assumptions is ignored in favour of an ostensibly "plain" interpretation of complex systems; in other words,

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[17] A prime example is how the phenomena of Near Death Experience and particularly of Out-of-the-Body Experiences are dealt with in occult circles.

parsimony – desirable as it is – is mistakenly traded in for but superficial simplicity.

"The Will to Believe"

William James (1842–1910) coined the famous term "the will to believe" in a lecture, published in 1896, which, addressing the issue of religion, defended the adoption of beliefs as hypotheses and self-fulfilling prophecies even without prior evidence of their truth. James's central thesis is that when an option is live, forced and momentous and cannot be settled by intellectual means, one may and has to let one's non-rational nature make the choice. One may believe what one hopes to be true, or what makes one happiest. This is the mindset of occult reasoning, too, whereby a proneness to self-deception and wishful thinking play a major role. This is even aggravated by a striking blindness towards rational argumentation that can frequently be observed. Sometimes one cannot help feeling reminded of Tertullian's famous "Credo quia absurdum".

Uncritical Attitude

A characteristic of occult reasoning is not only the obvious lack of critical attitude in analyzing the logical plausibility of their own beliefs, moreover, when some of their intellectual positions are challenged, a strong defence mechanism takes place, sometimes including a pre-emptive immunization strategy. Rarely is there any examination of the own positions in the light of the critic's argumentation, rather the own position becomes entrenched, as criticism is not seen as a chance of ascertaining the correctness of one's own positions and a motor of possible corrections but as a hostile act. Again, this kind of reaction is not proprietary to the occultist camp, it is likewise found in the anti-occultist camp of self-styled "sceptics" and professional debunkers, and ultimately of all other "fundamentalist" believers.

Camp Mentality

Often, a sharp distinction is felt between "us" and "them", between "ours" and "theirs". Openness and preparedness to accept ideas is reserved for members of "our camp" whereas members of "their camp" and their opinions and ideas are met with reservation unless hostility[18], not by scrutinizing the opinions and ideas argued by them but simply a priori by virtue of the fact that they are felt to belong to the other camp or at least to lack the air of the own one.

This is particularly the case with occult groupings that have political implications and/or racist components[19], such as "Ariosophy"[20] (an occult system claiming the superiority of the Aryans).

An effect of the camp mentality is the style of "thinking in clusters", i.e. the proneness to subscribe simultaneously to various occult disciplines as they are felt to be "ours", and to look for confirmation of one's own ideas within the "occultist camp". This goes together with proneness to "alternative" ideas (e.g. alternative medicine), and to conspiracy theories (where two strings are tied together: the "secret, arcane, and esoteric knowledge" and the "beleaguered and entrenched position[21]"). So, one can find dowsers believing in astrology, mental "healers" who are ardent spiritualists, and a plethora of various other combinations of

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[18] This often even includes *argumenta ad hominem.*

[19] Though Theosophy has high aspirations of humanity and equal dignity of all men ("…to form a nucleus of the universal brotherhood of humanity without distinction of race, creed, sex, caste, or colour"), nonetheless there is a distinctive racist element contained within Blavatsky's doctrine of the seven Root Races. The situation in regard of Steiner's Anthroposophy is similar.

[20] The founder fathers of Ariosophy were Guido von List (1848–1919) and Jörg Lanz von Liebenfels (1874–1954, a defrocked monk of the Cistercian order) and its periodical was the "Ostara" journal. Hitler, who had met Lanz-Liebenfels and was a subscriber to the Ostara, was certainly influenced by Lanz' ideas. However, the one out of the leading figures of the "Third Reich" who entertained the most pronounced occult ideas was Heinrich Himmler.

[21] A position attacked by opponents usually not on the basis of rational argumentation but rather by ridiculing it.

occult disciplines (and other non-conform attitudes and behaviours, e.g. vegan, environmentalists, social reformers, etc.).

Partly the mindset of occultists is pronouncedly anti-scientific, anti-modernistic, ultimately anti-Enlightenment, and so for various reasons. Apart from those who are uneducated or simply cannot grasp what science is about, there are others who feel compelled to attack science on ground of scientific errors that have occurred in the past ("the great scientific achievements of today are the great scientific errors of tomorrow"), not least in the context of environmental issues. Moreover, there is widespread claim that science merely sticks to the surface of things whereas occult reasoning allows the believer to have a different worldview, one that shows the world as being more humane and having greater meaning including metaphysical ideas of "karma", afterlife and other conceptions of award or punishment after death. Such an "animistic" world does not obey "mechanical" scientific laws and is not reducible to materialism.

Based on the latter, one can often determine a certain feeling of superiority within the occultist camp that goes like "we are the ones who look behind the surface, we don't confine ourselves to the obvious, we dig deeper, we look for hidden and secret factors, we aim for the very core of everything", and other attributed values of "higher knowledge".

Modifiers of Occult Reasoning: Occult Phenomena and Encounters with the Occult

Experiences of "occult phenomena" bring along strong confirmation of the occult belief system. Whether these occult phenomena are "paranormal" or "pseudo-paranormal" is to be distinguished by parapsychological[22] expertise, however, for the experiencer of such ostensible

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[22] The Parapsychological Association has been an affiliate of the American Association for the Advancement of Science (AAAS) since 1969. Thus, the centennial discussion whether parapsychology is a branch of science has eventually come to an end. Technically speaking, only members of the Parapsychological Association are "parapsychologists". However, as there is no legal protection of the terms "parapsychology" and "parapsychologist", they are usurped by occultists of any denomination, clairvoyants,

"phenomena" mere pseudo-phenomena (delusion, [undetected] fraud, etc.) work as well as "genuine" phenomena do in enhancing belief. It has been suggested to pool these phenomena as "extraordinary experiences".

Likewise, the kind of encounter with the occult may shape occult beliefs. It makes a difference whether the first encounter is emotionally charged or not. Attending lectures or reading books has much less impact than own experiences. Besides that, the usual modifiers like age and educational level have their influence on occult belief and reasoning.

Motivations of Occult Reasoning

There are several groups of motifs with large varieties in each group.

One is anxiety leading to the search for feeling of security, and further to the search for meaning, spirituality, self-development and self-awareness. The other one may be called "search for occult power", i.e. the drive for foreknowledge and for "magic" influence on others (without realizing how unrealistic the assessment of what is thought to be possible really is). A third one is the search for novelty, be it just sensation seeking, be it mere curiosity, or be it a deeply rooted "Faustian" urge for insight and knowledge.

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astrologers, etc., leading to big confusion in the public at large. The sensation-seeking nature of mass media even adds to this confusion. Serious researchers try to circumvent this issue by using alternative terminologies such as "border [or fringe] areas of psychology" or "anomalistic psychology".

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Marten Meijer

Post Deployment Mental Health Care: a Cross Cultural Competence Gained or a Personality Changed?

Abstract

From some studies in the Royal Netherlands Army it appears that the openness of deployed military personnel is affected by deployment experiences in the NATO International Security Assistance Force in Afghanistan. Battle group members tend to be less open after deployment. Members of the Provincial Reconstruction Teams appear to be more open after deployment. From a pilot study on comparing military cadets and officers who served for approximately nineteen years in the Netherlands Armed Forces it appears that officers are more open than cadets.

These results are discussed in the perspectives of personality theory and cross cultural competences. Recommendations are made to focus on changes in personality of deployed military personnel in military mental health care.

> All good people agree
> And all good people say
> All nice people like us are we
> And everyone else is they
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> But if you cross over the sea
> Instead of over the way
> You may end up (think of it)
> Looking on we as a sort of they
>
> Rudyard Kipling (1865-1936)

Introduction and research question

"A 'cross-cultural' or 'overseas type' is an individual who is truly open to and interested in other people and their ideas, capable of building relationships of trust among people. He or she is sensitive to the feelings and thoughts of another, expresses respect and positive regard for others, and is nonjudgmental. Finally, he or she tends to be self-confident, is able to take initiative, is calm in situations of frustration of ambiguity and is not rigid. The individual also is a technically or professionally competent person" (Kealy and Rubin, 1983). Not all military personnel are overseas types by nature, so professional armed forces have to train their military personnel in cross cultural competences before deployment. Openness is also a personality factor, which is measured in the Big Five Personality Inventory, although both scales are not identical at item level.

Netherlands Armed Forces in Afghanistan have been deployed as of 2006 with 1,500 troops, mainly from the Royal Netherlands Army. They deploy in 4 months rotations with a 10 days rest and recuperation leave after 2 months. At the end of the deployment they cool down during a third location decompression at the island of Cyprus for primary physical and mental health care. The main area of deployment is the southern province of Afghanistan called Uruzgan, in which provincial reconstruction teams are being protected by battle groups. The main activities for reconstruction are diplomacy and development. The main activities for the battle groups are protection, surveillance and defence, including counter-insurgency operations.

As of August 2009 the Netherlands Armed Forces had 19 lethal casualties, over 100 severely physically wounded and many more military personnel mentally injured. By number of participating international military forces, which exceeds a total of 55,000 troops, ISAF is the major NATO operation in the 60 years of NATO history.

From some studies in the Royal Netherlands Army it appears that openness is affected by deployment experiences in the NATO International Security Assistance Force in Afghanistan. Battle group members tend to be less open after deployment. Members of the Provincial Reconstruction Teams appear to be more open after deployment. The nature of contact with the local population appears to predict the changes

in openness, e.g. violent contacts make military personnel less open, and friendly contacts make military personnel more open. From these findings the research question raises how deployment experiences affect openness in military personnel.

Method and subjects

The FORCE-IT instrument (De Ridder, 2007) was used to measure seven cross-cultural competences, openness being one of those competences. After deployment, battle group members were less open than before deployment. Military members of provincial reconstruction teams were more open after deployment than before deployment (Frankenhuizen, 2008). The NEO-FFI includes openness as a personality trait amongst four others: neuroticism, extraversion, flexibility, altruism and conscientiousness. People with high scores on openness have a good imagination, are not conservative and are able to think "out of the box". In modern military operations with a high need for new solutions to new problems this openness might be of great value. Openness is also needed for a constructive engagement with other cultures and for winning the hearts and minds of a local population from another culture.

In this study seventy-two midshipmen and cadets and sixty-two officers filled out the FORCE-IT and NEO-FFI instruments. Midshipmen and cadets are in their initial officers training. Officers in this study were participating in their middle management career training. The officers had an average time of service of nineteen years, deployed twice and were 39 years of age. The midshipmen and cadets served for one and a half years, never deployed and were 20 years of age on average. Compared with midshipmen and cadets, officers had the same average score on openness as a cross-cultural competence. However, officers had higher scores on openness as a personality trait. No significant differences were found between parts of the armed forces or between both sexes. The Pearson correlation between openness as a cross-cultural competence and openness as a personality trait was .59, which is exactly the same as reported in another study (Van der Zee and Van Oudenhoven, 2001).

Discussion and conclusion

This study has some limitations in design and measurements. The design is based on a comparison of independent samples of midshipmen, cadets and officers. A longitudinal design would make conclusions more robust as such a sample consists of the same subjects. In this study the attrition of less open officers out of active service might explain also why officers on average are more open than midshipmen and cadets. In the measurement of openness two instruments were used to measure the concept of openness. So far it is not clear which instrument is the better one.

Deployments can decrease the openness of deployed military personnel, especially when the contacts with the local population are violent and the military activities consist mainly of defence and counterinsurgency. However, when the deployed personnel are active in provincial reconstruction teams, the contacts with the local population are less violent. With those deployed personnel the openness is increasing. In an officers sample the openness is higher than in a sample of midshipmen and cadets, when it is measured as a personality trait. When measured as a cross-cultural competence, officers, cadets and midshipmen have the same openness. Based on these results, it is concluded that deployments can influence the openness of the personalities or cross-cultural competences of deployed personnel. Deployments with lots of violence appear to lower openness as a cross-cultural competence. Deployments with main activities in development and diplomacy appear to increase openness as a cross-cultural competence. In general, deployments seem to increase the openness of officers, when openness is measured as a personality trait.

Recommendations

Openness seems to be a success factor in hearts and minds operations and might also contribute to the acceptance of cultural diversity within the armed forces. In addition to that, openness might help in broadening and maintaining a social network, which is a protective factor for mental health problems. Veterans and active duty military personnel with mental health problems like anxiety, depression or Post

Traumatic Stress Disorder appear to narrow their social network, to lose intimate relationships and friends and to get isolated. Openness might help them to gain new social networks. In mental health interventions openness needs a focus, both from clinicians and from staff members for initial selection. When, starting with the initial selection, records on openness of military recruits are kept, it might be possible to monitor them in order to detect loss of openness at the earliest possible stage. For scientific research this would open the possibility to conduct longitudinal studies on the development of personality features of deployed military personnel.

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Alexander van Acker

What New Brain Scan Techniques Tell us about Stress and its Relevance for Military Stress Management

Introduction

Neuroimaging:
Actually every large University Centre with a medical school does some research into neurofunctioning through neuroimaging techniques. This gives an overflow of information, today Google points out 1 ½ million references. The difficulty is to find out what is useful to us.

Neuroimaging started early – in Wimbledon at the Atkinson Morley Hospital in '72, with the CAT scan (Computerised Axial Tomography), which gave state images of the brain, without traumatising the patient. It was a revolution. There were, however, some disadvantages: static images, limited resolution and an X-ray charge for the patient.

Soon followed the PET scan (Positron Emission Tomography), needing the injection of positron emitting isotopes. One could then check where those isotopes went to, where they were metabolised.

Its advantages were that it enabled us to see dynamic images, where the isotopes aggregated and to follow the metabolisation of many products, f.i.: glucose, oxygen, neuropharmaca, etc. Its disadvantages lay with the preparation of isotopes and radioactive charge for the patient.

It was followed by SPECT, which stands for Single Photon Emission Computer Tomography. SPECT is similar to PET in its use of radioactive tracer material and detection of gamma rays. In contrast with PET, however, the tracer used in SPECT emits gamma radiation that is measured directly, whereas a PET tracer emits positrons which annihilate electrons up to a few millimeters away, causing two gamma photons to be emitted in opposite directions. A PET scanner detects these emissions "coincident" in time, which provides more radiation event localization information and thus higher resolution images than SPECT (which is about 1 cm). SPECT scans, however, are significantly less expensive.

Later followed the NMRN (Nuclear Magnetic Resonance Imaging) an imaging technique used to visualize the structure and function of the body. It provides detailed images of the body in any plane. MRI provides much greater contrast between the different soft tissues of the body than computerized axial tomography (CAT scan) does, making it particularly useful in neurological, brain imaging. Unlike CT, it uses no ionizing radiation, but a powerful magnetic field to align the nuclear magnetization of (usually) hydrogen atoms in water in the body. Radiofrequency fields are used to systematically alter the alignment of this magnetization, causing the hydrogen nuclei to produce a rotating magnetic field detectable by the scanner. This signal can be manipulated by additional magnetic fields to build up enough information to construct an image of the body. Its obvious disadvantage is the high costs. Actually, there is also research being done with the MEG (Magnetic Encephalo- Graphy), an old invention, dating back to '68, only recently made workable, especially by MIT, checking for the blood oxygenation, sign of brain metabolism.

We have also Transcranial Magnetic Stimulation (TMS) at our disposition, which is a noninvasive method to excite neurons in the brain. Weak electric currents are induced in the tissue by rapidly changing magnetic fields (electromagnetic induction). This way, brain activity can be triggered with minimal discomfort, and the functionality of the circuitry and connectivity of the brain can be studied. It was originally a technique discovered in the 19th century, made useful in the 1980ies in Sheffield.

All those techniques together, applied to the functioning of the brain, brought some spectacular findings, which pave the way for a better understanding of the functioning brain.

Stressing the mother gives disturbed offspring

Mothers who stress during their pregnancies will give birth to babies whose brains are more sensitive to stress. Stress during pregnancy can have negative consequences for the child: slower development, learning and attention deficits, anxiety and depressive syndrome. The putative explanation would be high levels of cortisol reaching the foetal brain at critical stages of its development.

Thousands of animal studies, on different stressors, on all kinds of animals confirmed this thesis, f.i. with monkeys: stressed mothers produced hypersensitive youngsters, fact well known. In February 2008 a PET scan at the University of Wisconsin (Madison) showed correlations with dopamine in the striatum. A problem with this kind of studies is that they seem to concentrate on only some activities, some brain centres, some neurotransmitters or other brain chemicals. This gives a flood of information which, however, only comes up with few clinically worthwhile data, like greater autonomic and HPA responsiveness with smaller hippocampi and larger amygdalae. The hippocampus formation is sensitive to elevated glucocorticoids and/or excitatory amino acids, like cytokines. It is a brain area central to emotion, memory and learning.

The amygdala, a component of the limbic system, a medial, almond-shaped part of the temporal lobes, adjacent to the hippocampus, is a key brain centre for emotional or affective behaviours and feelings (e.g. fear, anger).

The prefrontal cortex too suffers under stress and atrophies, showing diminished activity. This affects the cognition, the logical, rational thinking. Intellectual performances will lower.

Children who grow up in stressful environments, especially under the age of five, will show a higher sensitivity of stress

Different studies checked younger and older children for stress-related damage to the brain in children with an abuse history. Furthermore there are plenty animal studies on this subject. Thus, deficient maternal care has been found to consistently influence cortisol and dopamine responses throughout life in animals and in humans.

Early life experiences appear capable of enhancing or suppressing the expression of certain genetic traits, and this may change behavioural performances in later life.

Some will gain from trauma, others will lose coping capacity.

Bremner, professor of psychiatry at Emory University in Atlanta, keeps repeating that we carry our stress lifelong and that it affects the whole body.

Recently it has been discovered that neurogenesis and gliogenesis not only happens in the hippocampi and lateral brain ventricles but also in the adult neocortex. This opens more perspectives into the possibilities of retraining the brain. Interesting is that antidepressants can stimulate cytogenesis in the brain. Indeed, different studies show also a positive impact on the brain functioning by yoga and meditation.

Stress is cumulative over the years

If one starts as a baby who was submitted to maternal stress during her pregnancy of this baby, if you live a traumatic childhood, if you cumulate traumatic events over adolescence, if later on more life traumas come your way, especially if they are life threatening, your chances of coping badly with stress and finally "crashing" are high.

To complicate the matter, there is the continuous interaction with our genetic reactions, with genes turned on and off, and a complicated interplay with life events, memories, education and of course training. This again offers corrective possibilities, by working with those variables.

Stress can become a self-fulfilling prophecy

What isn't often enough emphasized is that the brain reacts like any other organ. The more you use certain circuitry, the more it will become active and grow and the more sensitive you will become to this kind of reactions, thus closing the circle.

F.i., the more stress and fear one undergoes, the more the brain will enhance its potential to work with those feelings and the more one will react on stress and fear.

Finally, like in any other organ, if you overdemand some part of the brain circuitry, it will start dysfunctioning, as we, f.i., know serotonine depletion to be related to depression. Luckily, medication, psychotherapy, training and relaxation/meditation can help, stopping the infernal cycle.

A big question that comes up is why some people fall into this self-destructive way of feeling and thinking and why others are resilient. The French Prof. Cyrulnick (Marseille) did research on this. Probably, like the Swiss Prof. Piaget mentioned, a mixture of an over-quantity of trau-

mas and the lack of personal resistance, will cause the person to collapse mentally. "One can just take so much".

Piaget stated that human thinking evolves progressively from the interaction between the growing child and its environment. In a Kantian (thesis-antithesis- synthesis) way the child works through assimilation > accommodation > equilibration.

Knowledge is basically operative, it is about change and transformation. It arises out of action. This can also be used to bring in more stress resilience through action.

People join the military with a more or less stress-sensitized brain

As already mentioned, there is an interaction between the traumatic/stressful events one lives through as a foetus, child, adolescent and adult and the organic organisation of the brain, depending also on gene expression.

Other life experiences, education and training will of course have their influence on the way one experiences, accumulates and reacts to stress.

They will have uploaded stress and ways of dealing with it and are usually not aware of this, thinking their ways of experiencing life and reacting to it is normal or a given fact, part of their nature.

The recruits start with their own way of perceiving and dealing with stress

The recruits will start by perceiving and reacting to the stress of military life and training in their own idiosyncratic way. Sometimes the non-commissioned officers training the recruits will observe the "wrong" reaction pattern and try to correct it in an informal way. Often, however, training is too much centred on habit-formation and action-training. Stress management training may be limited to "you don't have to stress", or something of the same nature.

Mainly during operations this can lead to awkward situations

As we all know, and has been amply published by US and UK forces engaged in theatres, like Irak and Afghanistan, suddenly some men will fall apart and react in all kinds of bizarre offensive and dangerous ways. They can, considering the situation, endanger themselves or others. Then others will fall apart after some weeks at home, having a delayed reaction to the accumulated stress.

Important to realize is that most stress accumulation comes from what the soldier brings along to the theatre of operations form the home front and from what is happening at home with wife, kids and family.

Start "stress awareness" and "dealing with stress" courses and exercises at boot camps

Project Samurai goes about training the recruits systematically in
1. stress awareness
2. dealing with stress

1. Stress awareness

It is useful to teach the recruits the basic mechanisms of stress. Those courses already exist in the different NATO armies but are usually only given at the units when a mission is prepared, often formally in a large group. This doesn't help much as everybody gently nods and agrees but internally denies that this course applies to them or they believe that stress doesn't really matter, that they will overcome their stress by willpower, or a little drink, or a little "smoke".

To overcome the refusal of the men to consider stress before it becomes a problem we have to get out of the medical attribution of stress. It is still considered too much as weakness, invalidity or illness, which makes one incapable to be a soldier. The solution here is to give this stress awareness course next to the other courses like First Help, Orientation, Personal Hygiene, Armament, etc.

We can destigmatise stress as something one has to learn to become a better soldier.

<u>2. Dealing with stress</u>

After the general stress awareness courses practical education can be given to deal with stress with exercises:

Continuous self monitoring of your stress level

Relaxation: f.i. autogenic training (Schultz, '32): needs regular practice

Meditation with positive imaging

Dealing with telephone and home front stress

Personal approaches and coaching can eventually be organised if need be.

This program is one which the Japanese and their Samurai already thought of in the medieval times: how to stay alert without stressing, which makes you lose your edge. They used meditation in order to clean the mind to improve speed, concentration and mental alertness. Mental calm was seen as the main quality of the warrior.

Miyamoto Musashi (* 1584) wrote in book 2 of the "Book of Five Rings": "Both in fighting and in everyday life you should be determined, though calm. Meet the situation without tenseness, yet not recklessly, your spirit settled, yet unbiased…"

Continue this in the unit

Of course the subject stress management has to be retrained continuously. Like other military skills this has to be trained and retrained. Particularly before a mission a rehearsal and retraining is indicated.

The aim is that the troops learn to apply the stress management techniques, especially when on mission.

Conclusion

This stress management training, as a skill to learn and develop, as already applied in medieval Japan, could be the solution to the actual ill will and avoidance by recruits, soldiers, non-commissioned officers and officers to accept and really work at their stress reactions.

This could be implemented fast as we have the psychologists in the army to do this training, as we can use well known techniques and, as I

observed myself, when giving those stress management courses to different units, the men like this approach.

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Warren D Taylor, Duke University, Durham, NC

Hermann Jung

Intercultural Education Positively Influences the Success Criteria of Peace Keeping/Peace Enforcement Operations according to NATO AJP 3.4.1 – a Research Design

1. Abstract:

This research design tries to apply the following theories and research results:

- Ting-Toomey's "Cross-Cultural Face-Negotiation"
- "Engeström's Activity System merged into the identity negotiation frame"
- Susanne Weber's, "Intercultural Learning as Identity Negotiation"
- Shalom H. Schwartz's "Basic Human Values"

The aim of this presentation is to show how national/international preparation for peace support operations on the various leadership levels can contribute to those values that are most probably positively influencing the norms and values of the rules of engagement and in general the success criteria according to NATO papers.

According to the theories of Ting-Toomey, the **mindful negotiation process** in combination with the **Basic Human Value Circle**, (Shalom H. Schwartz) proposes that through the preparatory courses for peace support a change of the value system is to be expected. This is also valid for experiences during deployment. So a well organized feedback system (by means of the After Action Reviews) could give helpful information for the didactic value and the curricular structure of the obligative preparatory training.

2. Normative Template that has to be matched - Success criteria according to NATO AJP 3.4.1

(grey coloured frames seem to be positively influenced by cultural education)

Political/ strategic level	Objective and mandate	A clear objective/mandate is an essential element in achieving success in a peacekeeping mission. The mandate should give a clear political end state which must be attainable with the resources provided in the mandate.
	Perseverance	Achieving the desired political end state will require a patient, resolute and persistent pursuit of objectives. The pursuit of short-term military success should be balanced against the longer-term social, economic, environmental, and political consequences.
	Unity of effort	Unity of effort recognizes the need for a coherent approach to a common objective between the various military contingents and between the military and civilian components of any operation. Cooperation between military and civil elements requires continual military interaction with international organizations and non- governmental organizations.
Operational level	Unity of command	Unity of command between different security- and military organs requires clearly defined authorities, roles and relationships in order to accomplish as-signedtasks.
	Credibiliy	A force must respond to incidents with professional bearing and swift, effective reactions. Establishing credibility is essential for building confidence. While a force should not appear to pose a direct threat as long as compliance exists, there must be no doubt that a force is fully capable of carrying out its responsibilities and has the will to coerce if required to do so.
	Transparency of operation	The mission and concept of operations as well as political and military end states must be readily understood and obvious to all parties and agencies. Achieving a common understanding will remove suspicion and mistrust.

	Protection	Force protection needs to be taken into account when planning the size and composition of the force and when drawing up military plans, orders and rules of engagement.
	Flexibility	The successful conduct of a peacekeeping operation involves the management of change and the eventual transition to a stable environment. The operational plan and the constraints of the rules of engagement should be given maximum operational flexibility, and the forces should be able to adapt and move from one activity to another at short notice and with the minimum of outside assistance.
	Promotion of cooperation and consent	Any military activity which may result in a loss of consent should be carefully balanced and assessed against the long-term objectives of the operation. This may be achieved through careful coordination of national agendas and enhanced consultation and co-operation.
Tactical level	Media plan and public information	Good relations with the media are vital for the success of the mission and for national and international public support. In order to ensure good relations a coherent Public Information Plan should be produced. This plan must be coordinated with all relevant organizations and agencies participating in the mission.
	Use of force - rules of engagement	The potential use of force affects every aspect of a mission and requires continual review to accomplish the mission. In all cases, the use of force must be in accordance with the provisions of the international law. With respect to mission accomplishment, the degree of force used must be no more than that necessary to carry out duties and accomplish assigned objectives of the mission.

	Mutual respect, impartiality and legitimacy	Depending on the mandate of the mission – UN chapter IV or VII - operations should be conducted impartially without favor or prejudice to any party. Through a UN mandate or other special arrangements the peacekeepers may enjoy certain immunities related to their duties. Notwithstanding this, they must respect the laws and customs of the host nation and must be seen to be doing so. The legitimacy of the operation will be a crucial factor for drawing support within the international community, contributing nations and the involved parties, including the civil community.
	Freedom and military movement	Freedom of military movement is essential for the successful accomplishment of a peacekeeping mission. The mandate and the rules of engagement must allow for the peacekeepers to remain free at all times to perform their duties throughout the designated mission area without interference from any local factions.

3. The expansive learning cycle

(Susanne Weber, Intercultural Learning as Identity Negotiation
Berufliche Bildung im Wandel, Verlag Lang, 2005)

Phase one
Introduction
- getting learners in the right mood by means of handouts, newspapers, videoclips etc.
- making learners aware that uttered behavior might hurt or offend culturally dissimilar persons
- making learners aware of own value preferences

Phase two
Charting the situation
- provoking a "need state" by getting the learners into actions where they produce and experience typical misunderstandings (learning fields)

Aspects of culture	Western mainstream	Cultures to study
sense of self and space	informal, handshake	formal hugs, bows, hands-hakes
communication and language	explicit, direct communication, emphasis on content, meaning found in words	implicit, indirect communication, emphasis on context, meaning found around words
dress and appearance	"dress for success" ideal, wide range in accepted dress	dress seen as sign of position, and prestige, religious rules
food and eating habits	eating as necessity, fast food	dining as a social experience; religious rules
time and time conciousness	linear and exact time consciousness; value on promptness, time equals money	elastic and relative time consciousness; time spent on enjoyment of relationships
relationships, family, friends	focus on nuclear family; responsibility for self; value on youth; age seen as handicap	focus on extended family; loyalty and responsibility to family; age given status and respect
values and norms	individual orientation; independence; preference for direct confrontation of conflict	group orientation; conformity; preference for harmony
beliefs and attitudes	egalitarian; challenging of authority; individuals control their destiny; gender equality	hierarchical; respest for authority and social order; individuals accept their destiny; different roles for men and women
mental process and learning style	linear, logical, sequential problem solving focus	lateral, holistic, simultaneous; accepting of life's difficulties
work habits and practices	emphasis on task; reward based on individual achievement; work has intrinsic value	emphasis on relationships; rewards based on seniority, relationships; work is a necessity of life

Phase three
Analyzing the situation

- provoking reflection on the basis of the own role behavior, provoking articulation, systematization by mirroring, provoking questioning, realizing that culture influences behavior

Phase four
Creating a new model/vision

- deepening the reflections of cultural dissimilarities, making links to reality, experience
- creating alternative intercultural communication patterns/strategies

Phase five
Testing the new model
- provoking experiences that a certain intercultural framework is helpful for acting in intercultural situations
- provoking situations where it is helpful to act as "change agent" and to do the first step

Phase six
Implementing the new model

- reflecting the conditions and intentions

Phase seven
Spreading and consolidating

- by mirroring the situations of role taking and role making
- being able to anticipate the results and outcomes of the intercultural encounters.
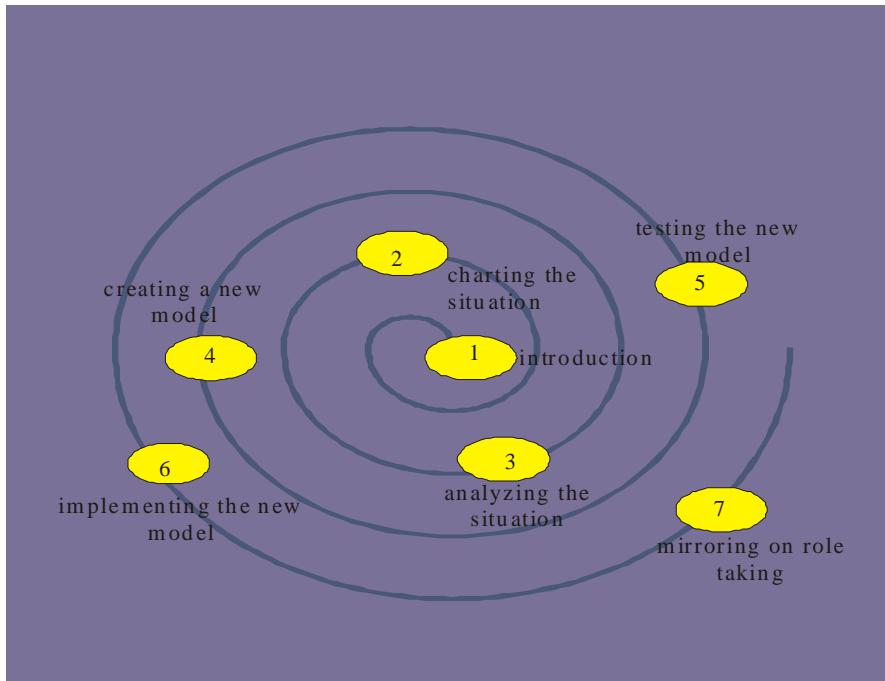
Figure 1: The expansive learning circle

4. Engeström's Activity System merged into the identity negotiation frame -
Theoretical implications (Ting-Toomey)

mediating artifacts
scientific publications

probably
opposing
factors

subject
studying
groups

object

outcome:

probably
opposing
factors

rules/regulations

community
scholars/trainers

division
of labour:
training centers

Source Engeström 1999

Figure 2: Engeström`s Activity System

This system seems to be capable of comprising all the influencing variables to evaluate the effects and outcomes

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Subject

refers to the individual or group whose point of view is adopted in the analysis:

Are there participants who prefer short term (military) success before a long term end state?

Are all participants prepared to lay their overt or covert aims on the table and their interdependencies to a wider net of interconnections?

Instruments

refer to situation-bound goals to be achieved by certain actions, e.g. categories for describing intercultural interaction situations, necessary organizational plans/operational plans directed to the activity:

Are there manuals, charts etc. offending or provoking misunderstandings on one side of the other party?

Object

refers to artifacts as human products e.g. cultural objects, signs or symbols, language, mental concepts, social institutions:

Are the participants acting in a way that allows their partners to feel understood, respected, supported?
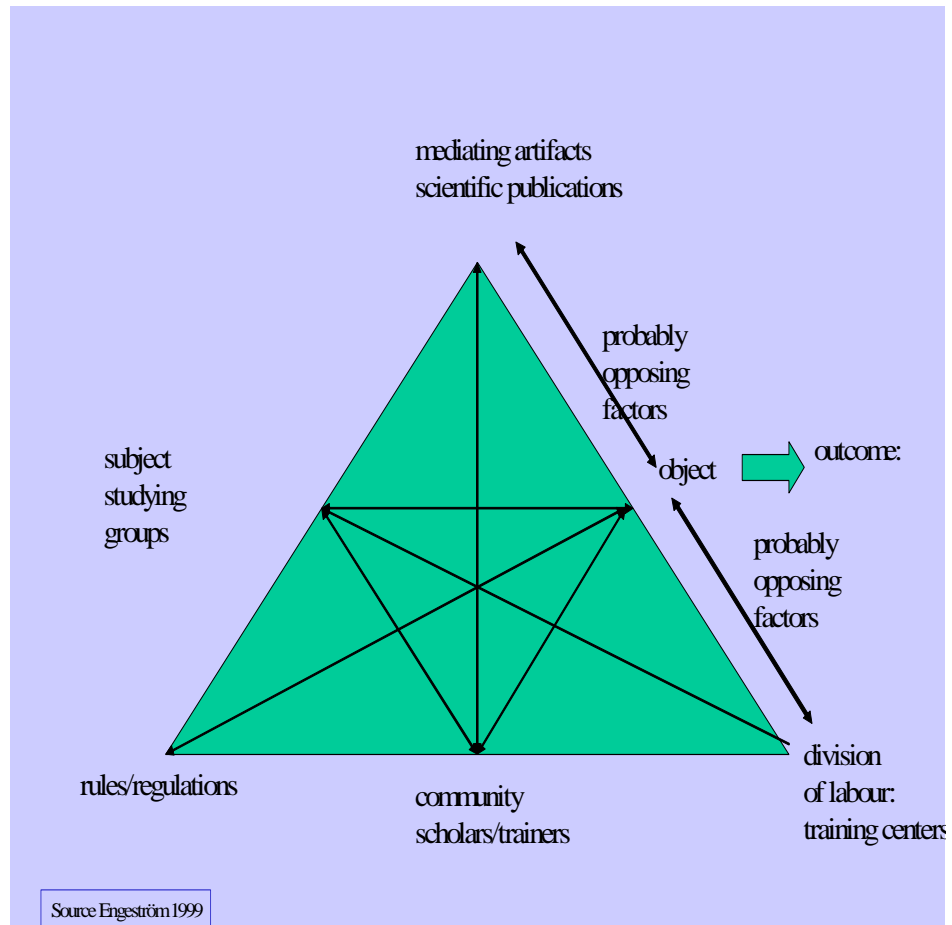
Is the climate appropriate, effective and satisfactory for all participants, which party remains unsupported, and why?

How is face work? Do face gaining, face losing and face restoration change from one party to the other?

Are there situational solutions being developed and evaluated from both parties or always denied?

Is dominance changing from one party to the other or always on one side?

Outcome
refers to the transformed objects, such as new patterns of collaboration, new intellectual tools, concepts, theories etc.:
Higher perseverance - coherent approach (common vision) – military/civil component's cooperation
Solutions to new approaches allow more flexibility in conducting operations and more chances for a stable environment – rules of engagement allow maximum flexibility/adaptability in operations with a minimum of outside assistance
Cooperation and consent – operations are outbalanced between gaining and loss of consent of the regional authorities
Media Public Information Plan in cooperation with civil/military authorities/officials
Rules of Engagement in acordance with international/regional law and culture
Use of Force calculated only for accomplishment of assigned objectives of the mission
Mutual respect and legitimacy
Freedom of Movement of assigned forces, no interference of regional factions.
Rules
refer to explicit or implicit regulations that determine or constrain actions:
Do the rules of engagement restrain tactical decisions in a crucial way that interfere with short/long term missions, flexibility of mission, cooperation and consent by the civil community and NGOs?
Community
refers to all participants in an activity system who share the same object/aim:
Are there interdependencies that interfere with the criteria of unity of effort, credibility of misson?

> **Division of labor**
> refers to the distribution of tasks, authority, or benefits of the activity system:
> Are there meetings on consultation and cooperation taking place periodically or on demand? Is the national agenda contributing to the long term missions of the task forces etc.?

5. Face work competency

In training people to go overseas it is critical to teach about low versus high context cultures as part of their applied skills. Listening skills are important in high context cultures. (In China, the character for listening implies listening with your ears, eyes, and heart.) When collectivistic people come to individualistic cultures, they should learn to share more information, to self-disclose, to seek information more openly, and to seek to reduce uncertainty more than they normally would.

Within the face-negotiation framework, identity is important: How do we see the self? Who constitutes the in-group and the out-group? How do we move from out-group to in-group circles? What do we need to do in moving from ritualistic to substantive behavioral acts?

How do we develop face-work competency?

There are four stages in communication competency:

a) unconscious incompetence implies fundamental ignorance on the cognitive and behavioural levels;

b) conscious incompetence means that behavior is understood but not synchronized, e.g., being aware that there are too many awkward pauses and silences;

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c) conscious competence or the "mindful stage" means cognitively understanding communication differences, the patterns and variations of different cultures, and working on behavioral facework competence; and

d) unconscious competence is rather like driving a car or swimming; at a certain point, it becomes spontaneous, natural. Spontaneity is part of practicing facework, you adjust and you adapt. You become "mindlessly mindful" at this final stage (see diagram below).

consciousness

area of the mindful stage

competency

unconsciousness
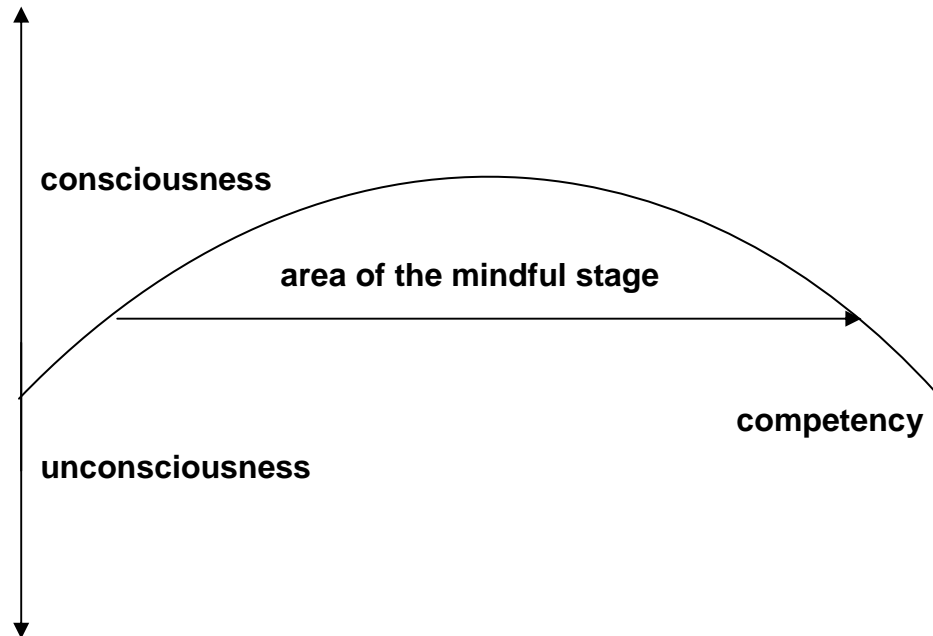
Figure 3: How to develop Face work competency

Motives to develop face work competency

- socio-economic conditions, multicultural attitudes, degree of institutional support, in- and outgroup definitions, degree of cultural differences

- motivational expectations, cultural knowledge

- existence of networks, ethnic media, interpersonal adaptation ability[23]

Cultural knowledge

Knowledge about one's own and other cultures is the most critical component in managing intercultural differences.

Communication skills

Ting-Toomey suggests various interaction and communication skills:

- "Mindful" observation

- "Mindful" listening

- Practicing verbal empathy

- Practicing identity confirmation

- Facework-management skills

- Building up trust

- Collaborative dialogue skills

Self reflection

Mindful identity negotiation requires a high degree of consciousness and reflectivity about the elements and processes of an intercultural encounter. This includes becoming aware of one's own history, value orienta-

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[23] Ting-Toomey, 1999, p. 233-260, cited in S. Weber, Intercultural Learning as Identity Negotiation, Verlag Lang, 2005

tions, views, identity needs, etc., as well as questioning one's own routinized behavior and practises.[24]

Mindful identity negotiation

This process seems to be crucial to intercultural relationships and in any form of intercultural learning.

The confrontation between different patterns of interpretation and practice leads the individuals to some kind of **self reflection** so that they recognize that there are alternative ways to handle a new cultural phenomenon. It is also necessary for the individuals to understand their own identities.

The discussion, in which both partners or groups present, evoke, challenge, and or support their own and other's desired identities, is often characterized by disharmony. It helps the individuals to come to the insight that something must be done. This corresponds to the first phase of the expansive learning cycle.

In order to gain more insight into the alien patterns of interpretation and thinking, the individuals develop adequate instruments of mindful observation/listening. This information enables them not only to figure out the identity needs, attitudes, cultural orientations and further cultural knowledge.

They then integrate and transform their extended cultural knowledge with other pending issues developing relationships and/or conflict styles to develop mindful intercultural skills for the ongoing collective activity. When the partners achieve a commonly shared meaning through negotiation and reach their goals, i.e. they feel understood, respected and

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[24] Ting-Toomey, 1999, pp. 8, 40, cited in S. Weber, Intercultural Learning as Identity Negotiation, Verlag Lang, 2005

supported, they will judge their negotiation process as appropriate, effective and satisfactory. This way the partners develope a so called inter-culture[25]. This phase corresponds to the third phase of expansive learning cycle creating a new vision.

The whole process has to be repeated in each new encounter, however, for economic reasons the partner groups routinize this process. But routines must be controlled from time to time in order to avoid misunderstandings and failures within the activity system and from time to time implementing necessary adaptations into the model.
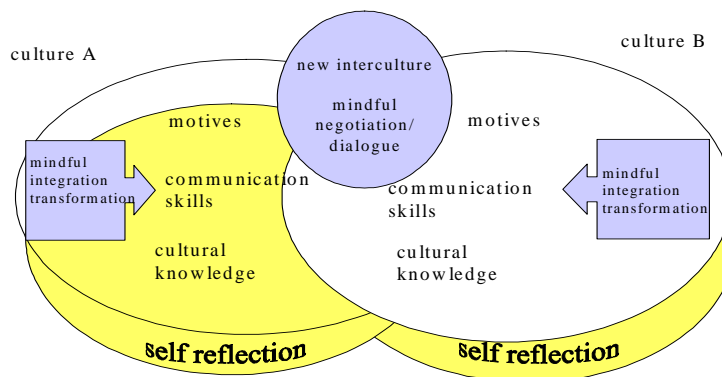
Source, slightly altered: S. Weber, Intercltural Learning as Identity Negotiation, Verlag Lang, 2005

Figure 4: Mindful identity negotiation

6. The Value Circle as a tool to evaluate cross culture training effects

To evaluate the outcome of the pre-mission trainings for deployments in peace keeping and peace enforcement missions the trainers

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[25] See Bolton, 1995,Grenzen der Internationalisierungsfähigkeit. Interkulturelles Handeln aus interaktionstheoretischer Perspektive, cited in S. Weber, Intercultural Learning as Identity Negotiation, Verlag Lang, 2005

should be able to measure the effects and the amount of shiftings in value preferences as an effect of training. During the training sessions the trainers present case studies in which the trainees by means of role taking and role making have to solve the presented problems that are caused by cultural dissimilarities and cultural incompatibilities and embedded in the case studies. So the trainees are constantly forced to question their selves.

Since values are seen as the core of identity, based on Rokeach, 1972, the trainees are forced to assimilate to cope with the presented problem out of cultural dissimilarities to offer cross cultural compatible solutions.

This mindful negotiation dialogue, as it is called by Ting-Toomey, provocates and evokes shiftings in value preferences. So it can be assumed that this process results in subtle changes in identity. This process is going on covertly and remains more or less unconscious. But measuring the shifting of value preferences shows possible changes. These measuremens can be performed by means of the value circle (see below).

Universal value circle:

Each of the ten basic values can be characterized by describing its central motivational goal:

1. **Self-Direction.** Independent thought and action; choosing, creating, exploring.

2. **Stimulation.** Excitement, novelty, and challenge in life.

3. **Hedonism.** Pleasure and sensuous gratification for oneself.

4. **Achievement.** Personal success through demonstrating competence according to social standards.

5. **Power.** Social status and prestige, control or dominance over people and resources.

6. **Security.** Safety, harmony, and stability of society, of relationships, and of self.

7. **Conformity.** Restraint of actions, inclinations, and impulses likely to upset or harm others and violate social expectations or norms.

8. **Tradition.** Respect, commitment, and acceptance of the customs and ideas that traditional culture or religion provide for the self.

9. **Benevolence.** Preserving and enhancing the welfare of those with whom one is in frequent personal contact (the 'in-group').

10. **Universalism**. Understanding appreciation, tolerance, and protection for the welfare of all people and for nature. (This contrasts with the in-group focus of benevolence values.)
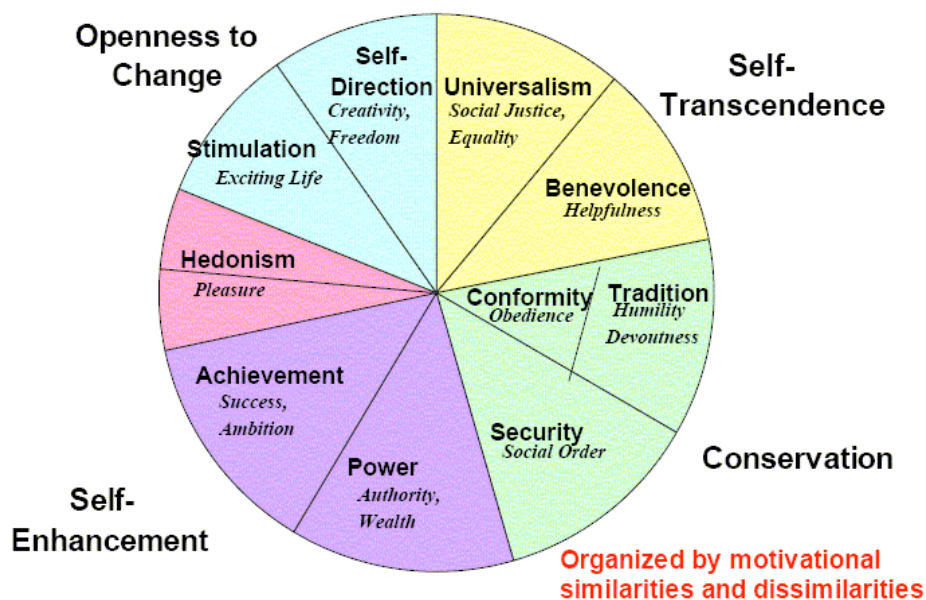

Figure 5: Universal human value circle

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More details are entered, so it can be used to mark the shifts in value preferences before, during and after the preparation phase:
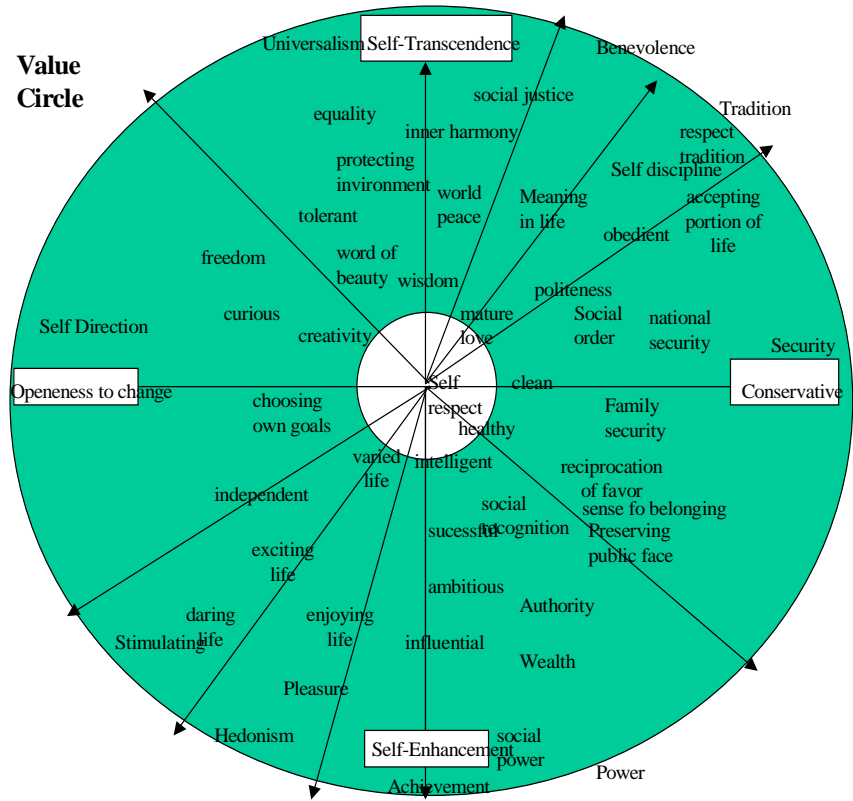
Figure 6: Human value circle in more detail

Interview/observation guide:

Procedure:

Before training:

The observer delivers the sheet with the value circle to all group mem-

bers, gives them time for browsing through it and gives explanations when neccesary (This may not afford too much time, because of the necessary spontaneity of the decision.) Then he asks the trainees to choose one or two of the terms that are for the moment the most appropriate to explain their way of life (mark the appropriate term in the value circle; when the group members want to make additional remarks, allow not more than one or two statements).

Then the observer should collect the sheets (anonymous).

During training/participative observation

During the training session the observer has to mark on an extra sheet the frequency of remarks the trainees are uttering in relation to the terms of the value circle (it is not important who is uttering something, only the frequency counts).

After training sessions

Every trainee gets a new sheet and is asked to mark the most important terms on the value circle to represent his "mood" at the moment, some additional remarks are allowed, when the trainees ask for it.

Evaluation of the training effects

The interviewer/participative observer tries to evaluate first the preferred value domains (not more than two of the offered domains in respect of the value circle should be taken into account). Then compare the entire observation protocols during the training sessions with the sum of the single person value circles sheets the trainer/observer wanted to do the participants after training sessions in the phase of the after session feed back. (The training sessions at least should go on regularly for three days, the feed back exploration included.)
Then he should try to make out the probable effect of the training by finding out new domains of the group value preferences being apparent.

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Shifting of value preferences during cross culture training

The arrows show assumed shiftings necessary to cope with presented problems (imbedded in case studies).
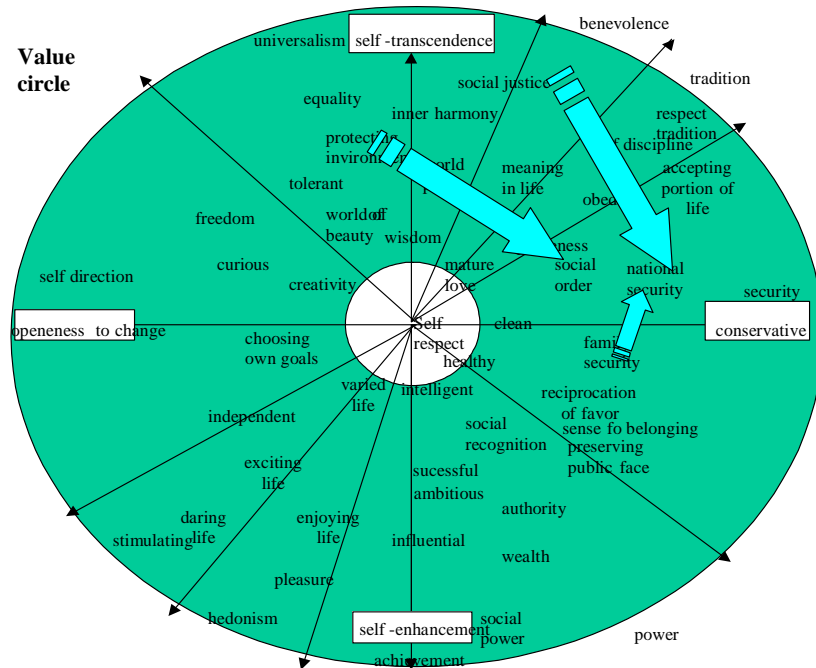
Figure 7: assumed shifts in value preferences

Further possibilities to evaluate the process of mindful identity negotiation by means of the value circle as an indicator for positive/negative influences on the value system during deployment is an assessment of After Action Reviews.

7. After Action Reviews – Evaluation

An After Action Review (AAR) is an assessment conducted after a project or major activity that allows employees and leaders to discover (learn) what happened and why. It may be thought of as a professional discussion of an event that enables employees to understand why things happened during the progression of the process and to learn from that experience. Examples of when to use it are: introduction of a new product line in a production facility, after a busy holiday season in a retail store, introduction of a new computer system upgrade, after a major training activity, a change in procedures, etc.

Photo by Fred W. Baker III and courtesy of the U.S. Army

Figure 8:After action reviews contribute to mindful identity negotiation

The AAR does not have to be performed only at the end of a project or activity. Rather, it can be performed after each identifiable event within a project or major activity, thus becoming a live learning process (the team as a learning organization).

The AAR is a professional discussion that includes the participants and focuses directly on the tasks and goals. It is not a critique. In fact, it has several advantages over a critique:

It does not judge success or failure.

It attempts to discover why things happened.

It focuses directly on the tasks and goals that were to be accomplished.

It encourages employees to surface important lessons in the discussion.

More employees participate so that more of the project or activity can be recalled and more lessons can be learned and shared.

As a leader, you are responsible for training your workforce. The AAR is a tool that can assist you with developing your employees. It does this by providing feedback. Normally, feedback should be direct and on-the-spot. Each time an incorrect performance is observed, it should be immediately corrected so that it will not interfere with future tasks. During major projects or activities, it is not always easy to notice incorrect performances. Indeed, in many cases the correct performances will be unknown for these projects or activities as they are learning activities for all the participants. That is why the AAR should be planned at the end of each activity or event...so that feedback can be provided, lessons can be learned, and ideas and suggestions can be generated, and so the next project or activity will be an improved one.

An AAR is both an art and a science. The art of an AAR is in the obtainment of mutual trust so that people will speak freely. Innovative behavior should be the norm. Problem solving should be pragmatic and employees should NOT be preoccupied with status, territory, or second guessing "what the leader will think". There is a fine line between keeping the meeting from falling into chaos where nothing real gets accomplished, to people treating each other in a formal and polite manner that masks issues (especially with the boss) where again, nothing real gets accomplished.

Steps for Conducting the AAR

An AAR may be formal or informal. Both follow the same format and involve the exchange of observations and ideas. However, formal ones are normally more structured and require planning. While informal ones are conducted anywhere, anytime in order to provide quick learning lessons.

Gather all the players.

Introduction and rules.

Review events leading to the activity (what was supposed to happen).

Give a brief statement of the specific activity.

Summarize the key events. Encourage participation.

Have junior leaders restate portions of their part of the activity.

Do not turn it into a critique or lecture. The following will help:

Ask why certain actions were taken.

Ask how they reacted to certain situations.

Ask when actions were initiated.

Ask leading and thought provoking questions.

Exchange "war stories" (lessons learned).

Ask employees what happened in their own point of view.

Relate events to subsequent results.

Explore alternative courses of actions that might have been more effective.

Complaints are handled positively.

When the discussion turns to errors made, emphasize the positive and point out the difficulties of making tough decisions.

Summarize.

Allow junior leaders to discuss the events with their people in private.

Follow-up on needed actions.

If you become an AAR facilitator, which every leader needs to do:

Remain unbiased throughout the review.

Try to speak to draw out comments from all.

Do NOT allow personal attacks.

The focus should be on learning and continuous improvement.

Strive to allow others to offer solutions, rather than you offering them.

A properly conducted AAR can have a powerful influence on the climate of your organization. It is part of the communication process that educates and motivates people on to greatness by making them sure to do the right thing. It can prevent future confusion on organizational priorities and philosophies and drive home the point that we learn from our mistakes.

Up to now there are such data that show shiftings in value preferences are not available. It is very difficult to assume the role of a participative observer and at the same time being prepared for the mission (in the role of a trainee). On the other hand researchers that only accompany the training group will not be admitted.

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Chibueze Udeani

Mental Health from a Pluricultural Perspective –
The Issue of Soldiers within International Operations

Introduction

- Health is more than the functional state of the organs in the human body, the neural systems and their interconnected functions. The issue of mental health like that of health in general is also a cultural issue. This could be seen from the point of view of not only the definition but also the perception of health.
- Cultural traditions and mind sets play a vital role when it comes to health. In many cultures health is seen as a harmony between body, soul and mind.
- Mental health is an area where, due to cultural influences, the issue of culture becomes vital. This is both with reference to its perception, understanding and the dealing with it.
- Within the context of our 21st century the randomness of cultural interactions and intersections has increased enormously. This makes the issue of addressing health in general and mental health in particular from a pluricultural perspective very necessary.
- The issue of soldiers within international operations falls within the sphere of the aforementioned sphere of cultural interactions. This hence justifies our addressing the case of mental health within this context from a pluricultural perspective.

On the Issue of Culture

- "Culture serves as the web that structures human thought, emotion, and interaction. Culture provides a variety of resources for dealing with major life changes and challenges."
- "Culture is continuously being shaped by social processes such as migration and acculturation."

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- "Cultures vary not only by national, regional, or ethnic background, but by age, gender, and social class. Much of culture is embedded in, and communicated by, language; language cannot be understood or used outside its cultural context."

Within the setting of mental health, culture impacts on how people:

1. perceive mental health and other issues related to it;
2. explain the causes of mental health problems;
3. label and communicate cases of distress;
4. respond to the diverse issues relating to mental health.

Cultural identity imparts distinct patterns of beliefs and practices that have implications for mental health e.g. the willingness to seek, and the ability to respond to mental health services.

Culture also imprints on mental health by influencing whether and how individuals experience the discomfort associated with mental illness.

Culture as a source of knowledge, information, and support provides continuity and a process for acting during times of engagement with different life issues. Actors/agents here always act with and react to incidents within the context of their individual racial and ethnic backgrounds, cultural viewpoints, life experiences, and values. Culture offers a protective system that is comfortable and reassuring.

It defines appropriate behavior and furnishes social support, identity, and a shared vision. For example, stories, rituals, and legends that are part of a culture's fabric help people adjust to catastrophic losses by highlighting the mastery of communal trauma and explaining the relationship of individuals to the spiritual.

On the Issue of Soldiers within International Operations

- They are cultural beings.
- Every international operation entails the cultural encounter of at least 2 dimensions:
    - the culture of the soldiers in operation
    - the culture of the place or region of operation.

International operations mostly imply a "trinity" of cultures.

The "trinity" of cultures comprises:
- the soldiers' own culture;
- the culture of their international comrades;
- the local culture of the area of operation;
- the "trinity" of cultures.

Why the "trinity" of cultures?
Though these cultures are and remain unique, they are (within such a constellation) essentially connected and any succesful operation depends to a great extent on a balanced involvement of the members of this "trinity" of cultures.

Implications for the soldiers:
- They must have to succeed in balancing these cultures.
- Only in one of the three cultures are they at home; only this may be comparatively simple.
- The other two members (comrades' culture/s and the local cultures) of the trinity of culture are usually foreign, unknown, complex and ambiguous.
- The soldiers are involved not just as lifeless professionals but also as human beings made out of flesh and blood. This means they are individuals (with all that is entailed), members of (a) group/s, owners of roles, private persons (man, woman, loving and loved, single, engaged, married or with or withou family).

Here comes the issue of mental health into question:
» perception
» encounter
» experience
» decision
» actions
» consequences
» standpoints and views.

What is needed here?

Competence is needed, especially from a cultural perspective – intercultural competence.

• Intercultural competence is the integration and transformation of knowledge, information, and data about individuals and groups of people into specific standards, skills, service approaches, techniques, and marketing programs that match the individual's culture and increase the quality and appropriateness of mental health programs.
• Intercultural competence occurs in mental health service settings in international operations when cultural issues are acknowledged and addressed at all levels of an organization, administration, service delivery, and clinicians.
• At the service delivery level, this competence fosters engagement and retention of groups in operation. Some examples of service delivery strategies are the incorporation of spiritual beliefs into the treatment of culturally different groups, the provision of services in the group's primary language through bilingual staff or interpreters, and the use of culturally and linguistically appropriate assessment instruments.
• We can describe an interculturally competent person as somebody who recognizes the dynamic interplay between "heritage" and "adaptation" in shaping human behavior.
• Heritage is the passing of tradition, beliefs, and values from older generations to younger generations.

•   Intercultural competence requires system-wide changes. It must be manifested at every level of an organization, including policy making, administration, and direct service provision. Therefore, for mental health programs to be effective, this competence must be reflected in mental health plans.

•   Intercultural competence requires an understanding of the historical, social, and political events that affect the physical and mental health of soldiers within international operations. Issues which reinforce cultural differences and distinguish one cultural group from another must be considered.

•   Achieving intercultural competence and progressing along the continuum do not happen by chance. Policies and procedures, hiring practices, service delivery, and community outreach must all include the principles of intercultural competence. For these reasons, a commitment to intercultural competence must permeate an organization.

•   If the concepts of intercultural competence and proficiency have been integrated into the philosophy, policies, and day-to-day practices of the mental health provider agency, they will be much easier to be incorporate into international operations.

•   Interculturally competent organizations and individuals accept and respect differences, and they participate in continuing self-assessment regarding culture. Such organizations continuously expand their cultural knowledge and resources and adopt service models that better meet the needs of minority populations. In addition, they strive to hire unbiased employees, and seek advice and consultation from representatives of the cultures served.

•   They also support their staff members' comfort levels when working in multicultural situations and in understanding the interplay between policy and practice.

•   Once again intercultural competence is a set of values, behaviors, attitudes, and practices within a system, organization, program, or among individuals that enables people to work effectively across cultures. It refers to the ability to honor and respect

the beliefs, language, interpersonal styles, and behaviors of individuals and groups.

Intercultural competence is a dynamic, ongoing, developmental process that requires a long-term commitment and is achieved over time. Interculturally competent organizations and individuals:

- value diversity;
- have the capacity for cultural assessment;
- are aware of intercultural dynamics;
- develop cultural knowledge; and
- adapt services to reflect an understanding of cultural diversity.

At the individual level, this competence requires an understanding of one's own culture and worldview as well as those of others. It involves an examination of one's attitudes, values, and beliefs, and the ability to demonstrate values, knowledge, skills, and attributes needed to work sensitively and effectively in multi-cultural situations (Goode et al., 2001).

At the organizational and programmatic levels, intercultural competence requires a comprehensive, coordinated plan that cuts across policymaking, infrastructure building, program administration, evaluation, and service delivery.

Interculturally competent organizations and programs acknowledge and incorporate the importance of culture, assess intercultural relations, are aware of dynamics that can result from cultural differences and ethnocentric attitudes, expand cultural knowledge, and adopt services that meet unique cultural needs.

Intercultural competence is not a matter of being politically correct or of assigning one person to handle diversity issues, nor does it mean simply translating materials into other languages. Rather, it is an ongoing process of organizational and individual development that includes learning more about our own and other cultures; altering our thinking about culture on the basis of what we learn; and changing the ways in

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which we interact with others to reflect an awareness and sensitivity to diverse cultures. This is more so when it comes to the issue of soldiers within international operations.

When conveyed by tradition and sanctioned by cultural norms, characteristic modes of expressing suffering are sometimes called "idioms of distress" (Lu et al., 1995). Idioms of distress often reflect values and themes found in the societies in which they originate.

Jacques Mylle

Assessment of Personality in a (P, E)-fit Approach to Cultural Differences in Service Components

In line with Lewin's approach that a behavior (B) is the result of an interaction between the person's characteristics (P) and the situation (S) – in short B =f(P,S) – there is a large body of research in organizational psychology showing that performance depends on the fit between the person P and his work environment E, often labeled as (P,E)-fit (for an overview, see Kristof-Brown, 2006).

This means that performance is optimal when the person's characteristics (personality, capabilities) equal or exceed (sufficiently but not too much) the environmental demands. Performing well will lead to a feeling of self-efficacy and contributes that way to a subjective feeling of well being. On the contrary, when the situational demands exceed the person's capacities, performance will be suboptimal, which leads to dissatisfaction and in turn to a lack of subjective well being (Figure 1). Taken the other way around, given that human beings are driven by expectations, we can hypothesize that people search for a professional environment that fits with their characteristics.
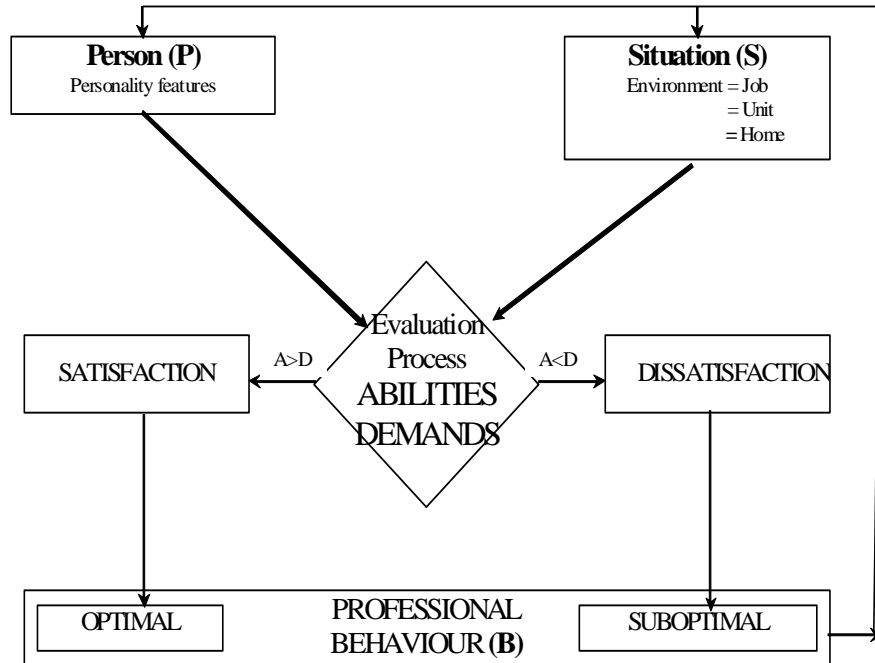
Figure 1: The (P,E) fit concept.

An important part of the person's characteristics is his personality. A fruitful approach to personality is the Big Five concept, originally developed by two US Air Force researchers, Tupes and Christal (1961); it says that personality is determined by the "position" the person holds on five bipolar dimensions, each of which encompasses a (large) number of traits that are to a certain extent prototypical for that dimension. These dimensions are Extraversion, Agreeableness, Conscientiousness, Neuroticism and Openness.

According to Schein (2004), organizational culture is determined by a "pattern of shared basic assumptions that the group learned as it solved its problems of external adaptation and internal integration, that has worked well enough to be considered valid and, therefore, to be taught to new members as the correct way you perceive, think, and feel in relation to those problems". Moreover, organizational culture is expressed at different levels of concretization. Aside those fundamental beliefs and

values workers have to "espouse" a number of values and norms to be accepted as a member of a given community. Both "layers" influence work behavior and are particularly put in the foreground through rituals and symbols. E.g. in Defense, values like honesty, respect and (self)discipline are core values; particular values are expressed in the motto; parades and medals of honor are typical rituals and symbols in Defense. These different levels are represented in Figure 2.
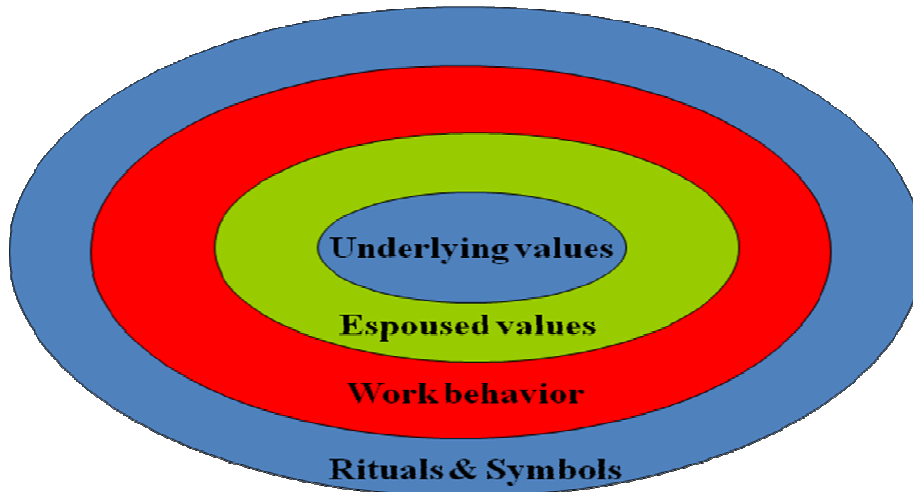
Figure 2: Organizational culture according to Schein.

Large organizations do not have only their culture, but each of its larger components has its own subculture, depending on its mission related peculiarities. E.g. within Defense, Army, Air Force and Navy differ from each other based on their particular contribution to the overall goal of Defense and, hence, show a different subculture; in the same vein, the Polytechnic Faculty and the Social and Military Sciences Faculty at the Royal Military Academy of Belgium have different vocational objectives, with emphasis on the applied sciences and the human sciences respectively. Thus, those subcultures determine the "social identity" of the component considered.

Two hypotheses will be investigated in two military samples. 1a: Officers belonging to a different service component show differences in personality. 1b: Students at the Royal Academy show differences in per-

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sonality according to their service component and to the faculty they belong to. 2: The longer officers stay in the military, the less pronounced these differences become within the group (2a) and the bigger the differences are between groups (2b).

In this paper we focus only on the impact of personality and not of other person characteristics like intelligence or physical skills, for example.

In the remainder of this paper, we follow the classic structure of empirical research. First, we describe the instrument; second, the participants and the data collection; third, the results and its discussion; and finally, we draw some conclusions for future research.

Instrument

To assess the five dimensions of personality (and their subdimensions) we use the Trait Self Description Inventory (TSD), developed by Collis and Elshaw (1998). The TSD is a self administered paper-and-pencil questionnaire and is normed among others for the US Air Force cadets and UK Navy cadets[26] respectively.

The TSD is composed of two parts. The first part consists of 64 adjectives, distributed over the five dimensions, which have to be rated on a 9-point Likert scale ranging from "extremely uncharacteristic for me" (1) to "extremely characteristic for me" (9), e.g. talkative (Extraversion), dependable (Conscientiousness), jealous (Neuroticism), considerate (Agreeableness), creative (Openness.) The second part encompasses 99 behavior statements, which are evaluated on a 7-point Likert scale, ranging from I very strongly disagree (1) to I very strongly agree (7). E.g. I speak up when I feel I can make a contribution (Extraversion), If I commit myself to do something I always carry it through (Conscientiousness), I get along with almost everyone (Agreeableness), Sometimes I get so upset I feel sick inside (Neuroticism), I find intellectual things more interesting than sports (Openness).

Given that there are a variable number of items per scale and subscale, the maximum scores vary too. Hence, a particular individual mean

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[26] It is probably therefore that the test is often labeled OCEAN, referring to the first character of each of the five dimensions.

score or group mean can only be interpreted in the light of that maximum. The same reasoning holds across scales, if not standardized.

Participants

Participants belong to two different personnel categories. The first subsample is composed of 355 students in their basic education at the RMA; i.e. bachelor-master studies. They are divided over the Polytechnic Faculty (POL) and the Social and Military Sciences Faculty (SSMW) with 30 and 325 students respectively. The second subsample is composed of 41 captains and senior captains[27] attending the common part of the major's course in the Continuous Education Directorate of the RMA. This group is divided into 23 Army officers, 13 Air Force officers and 5 Navy officers.

The test has been taken within the framework of the Military Leadership course, under the motto "know yourself". For reasons of simplicity in data collection, data have been collected using an Excel format instead of paper-and-pencil. Analyses have been performed with the Statistical Package for the Social Sciences, version 17 (SPSS17).

Results

Basic Education

Although the students in the basic education belong to one of the classic service components, we do not consider this criterion so important given that they have no experience with the peculiarities of their component and that their daily life is largely dominated by the study orientation they have chosen. Hence, we test hypothesis 1 based on the Faculties.

At the level of the five dimensions of personality, we found only a significant difference (p= .05) for Neuroticism; i.e. POL students score higher (mean: 145.2) than SSMW students (mean: 135.9).

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[27] The Belgian Armed Forces have a rank between captain and major, called "captain-commandant". These officers are considered as OF3 in the NATO categorization.

However, when we look at the level of the subscales, differences are found for Conscientiousness, Neuroticism and Openness but not for Extraversion or Agreeableness. With respect to Conscientiousness, POL students tend to score significantly higher than SSMW students (mean 7.03 vs. 5.97; p=.10) on the set of 5 particular items that do not belong to a subscale like sloppy, I am willing to work for good grades at school. POL students tend to be more neurotic than their SSMW counterparts for two particular aspects; i.e. they are more "irritable" (mean 34.23 vs. 32.03; p= .08) and more envious/jealous (19.47 vs. 17.69; p=.08). Regarding Openness, POL students tend to be more Philosophical (mean 50.87 vs. 48.77; p=.08) and show more Interest in Science (mean 29.73 vs. 27.46; p= .03). On the contrary, they are significantly less cultured (10.50 vs. 11.55: p=.02).

Continuous Education

Surprisingly, we did not find any difference across service components except for one subscale of Openness; i.e. on Philosophical: Air Force officers are significantly more "philosophical" than Army officers (mean difference 7.36; p=.009) but the Navy officers do not differ significantly from both other service components.

Discussion

POL students do not differ from their SSMW colleagues on four out of five dimensions of personality, and within the dimensions only on a few subscales. I.e. POL students are more philosophical and show more interest in science; at the same time they are (slightly) more worrying, more irritable and more envious/jealous. Hence, hypothesis 1 is not validated.

Several reasons may account for that result. The low number of POL students in the sample (n= 30) can explain the lack of statistical power. Furthermore, the RMA focuses on (career) officers' values from the beginning on in the development of their social identity, and cadets go through the same military training and physical education. Thus, they differ only with respect to the academic component.

Trainees in the majors do not differ from one other in personality regarding the service component they belong to. Hypothesis 2 is thus rejected. This subsample is also rather small (n=41) and can thus explain the lack of statistical power in discriminating between the three service components. In line with the reasoning about the students in basic education, Defense is probably an organization with a "thick and strong" culture (Hahn, 2007). I.e. Defense has a rather large number of values and norms, and the centripetal forces working toward a unique organizational culture are stronger than the centrifugal forces, emphasizing the specificity of the subgroups.

Conclusions

On average, officers – whether young or with some seniority - do not differ in personality, irrespective of their service component, except for some particular aspects.

When looking at the P factor in a (P,E) fit approach to performance, it is not enough to look at personality only. Other characteristics like cognitive abilities and professional experience play probably a significant role too and should be taken into account as covariates.

Even if the hypotheses are not validated, assuming that the major cause is a lack of statistical power due to the limited number of participants, it would be worthwhile to do a cross-sectional comparative study in which the personality of the students of both Faculties in the RMA is compared to their counterparts in civil universities and the personality of the continuous education trainees with civilian cadres of other public services like police and having the same seniority.

On the other hand there is a need for a longitudinal study to verify if the person characteristics evolve during a career under influence of the organizational culture.

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Merle Parmak

Soldiers' Moral and Psychological Well Being after eight Months of Military Service: Does Ethnic Nationality Matter for the Psychological State?

Summary

Researchers have not shown much interest in how the ethnic nationality of soldiers could be related to their coping or motivation to cope in a specific military environment. However, especially in organisations or societies where different ethnic nationalities are present the aspect of ethnic nationalism should not be overlooked. This longitudinal research is intended to explore the dynamics of conscripts' moral and psychological well being across compulsory military service in the Estonian Defence Forces based on their ethnic nationality, i.e. Estonian vs Russian roots. Data were collected from infantry recruits (n=142), when they were in their 3rd and, respectively, 11th month of service. A tendency towards statistically significant differences between the nationality groups regarding well being and moral was detected at the beginning of their service period, and an indication for statistically significant differences at the end of the conscription. The general dynamics of changes revealed that, during conscription, enthusiasm and motivation gets higher for Russians and lower for Estonians. It can be concluded that, in some way, the military environment or the society in the broad sense has a divergent influence on our ethnic nationalities serving their time in the Armed Forces.

Nowadays military operations are multidimensional in multiple ways: multinational forces are composed of soldiers with multi-ethnic backgrounds conducting operations in a multicultural environment and under multi-situational conditions. While studies are available about soldiers' coping in intercultural (Euwema & Van Emmeric, 2007) and inter-organizational contexts (Ramarajan, Bezrukova, Jehn, Euwema & Kop, 2004) as well as with international assignments as a whole (van Emmerik & Euwema, 2009), not much emphasis has been put on the

ethnic nationality as a potential factor for the soldiers' "survival" in the service-related environment. However, this question seems to be worth exploring because the so called dual nationalism has proved to have an impact on an individual's attitudes and behaviour towards the country's political system (Staton, Jackson & Canache, 2007). Moreover, the pattern of values in various sub-cultural groups within one society may differ significantly (Realo, 1999).

Related to the late history of Estonia, there is a certain fraction of the Estonian population consisting of Estonian citizens with different ethnic roots. According to the population indicators and composition data by Statistics Estonia, in 2008 the majority of non-native populations by ethnic nationality are Russians, who compose approximately 26% of the total population while all others together form less than 6% of the total population.[28] According to the Constitution of the Republic of Estonia military service in the Defence Forces is compulsory for all physically and mentally healthy male citizens. As they have full citizenship, the obligatory conscription applies to all Estonian ethnic sub-populations. The duration of the compulsory military service is 8 or 11 months, depending on the education and position provided to the conscript by the Defence Forces.[29]

When focussing on ethnic nationalities, the situation is complicated by the ambivalent state of national identity and patriotic feelings, which are closely related with the meaning of conscription. Even if that patriotism can be generally endorsed among the youth, the ethnic minorities are still more committed to their own ethnic group (Flanagan, Syvertsen, Gill, Gallay & Cumsille, 2009). Building a strong national identity and a patriotic attitude in a multicultural society is not easy. The balancing between ethno-cultural self-determination and universal citizenship is complicated for both the ethnic groups and the nationals (Codagnone & Filippov, 2000).

This research is intended to explore the dynamics of conscripts' moral and psychological well being across compulsory military service in the Estonian Defence Forces based on their ethnic nationality. Relying on observations and literature, we assume that different ethnic groups of

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[28] http://www.stat.ee/34278
[29] http://www.mil.ee/index_eng.php?s=ajateenistus

the Estonian society (i.e. Estonians and Russians) engaged in compulsory military service diverge in their dynamics of subjective well being and enthusiasm across the conscription service. As national identity should be stronger for nationals, we hypothesise that Russians enter military service with the lower moral as compared to the Estonian counterparts but their moral as well as their subjective well being will increase during the service, while for the Estonians the level of both characteristics will decrease.

Method

Participants and procedure

Our sample consisted of Estonian males (n=142) recruited for 11 months of compulsory military service in an Estonian infantry battalion. The sub-sample of ethnic Estonians consisted of 119 recruits and the ethnic Russian subsample of 23 recruits. The age of our participants ranged from 18 to 24 years (M = 21.2, SD = 1.1), and the education expressed in years from 9 to 17 (M = 13.7, SD = 1.4). A first wave of data was collected after two months of service and took place during the Stress Debrief lecture presented by the unit psychologist. A second wave of data was collected after 11 months of service, just before the conscripts were leaving for the reserve. The participation was voluntary and the importance of their participation for exploring the relations between personality dispositions and military performance was explained to the conscripts.

Measures

To assess subjective well being, we used an Estonian version of the 5-item instrument World Health Organization-Five Well-Being Index (WHO-5) which has been proven to be reliable and valid in the general population (Bech, Olsen, Kjoller & Rasmussen, 2003) as well as in clinical samples (De Wit, Pouwer, Gemke, van de Vaal & Snoek, 2007). The reliability of this scale in our sample was acceptable (α = .84).

To measure moral, we used an Estonian version of the Moral Questionnaire (Van Boxmeer, Verwijs, de Bruin, Duel & Euwema, 2007).

This 16-item instrument contains two scales (Moral and Burnout) with 8 items each. The Moral scale is composed of two subscales (Dedication, Vigour) and the Burnout scale is divided into two subscales (Cynicism and Exhaustion). The instrument is intended to assess the positive or negative pole respectively of well being (Schaufeli, Salanova, Gonzalez-Roma & Bakker, 2002). The reliability in our research was at least sufficient for the different scales and subscales: the Moral scale ($\alpha = .82$): Dedication ($\alpha = .82$), Vigour ($\alpha = .69$); and the Burnout scale ($\alpha = .77$): Cynicism ($\alpha = .60$), Exhaustion ($\alpha = .71$).

Results

Between ethnic nationalities

A T-test for dependent samples (between groups design) was used for comparing ethnic groups. Although not significant, Moral ($t= 1.77$, $p= .08$), and especially Dedication ($t= 1.81$, $p= .07$), at the beginning of the conscript service were higher among ethnic Estonians as compared to ethnic Russians. The expected differences among groups were detected also at the end of the conscripts' service, where Well Being was found to be higher for Russians than for Estonians ($t= -2.57$, $p= .01$). Burnout ($t= 1.92$, $p= .06$), especially Cynicism ($t= 2.65$, $p= .01$), was lower for Russians than for Estonians (Table 1).

	Mean Estoni-ans	Mean Russ-ians	t-value	p	Levene F(1,df)	p Levene
Beginning the servi-ce						
Well Being	14.21	14.00	0.20	.84	0.28	.60
Moral	21.62	19.77	1.77	.08*	0.67	.42
Dedication	10.57	9.36	1.81	.07*	2.69	.10
Vigour	11.09	10.41	1.25	.21	1.70	.19
Burnout	18.03	18.86	-0.82	.41	0.04	.85
Cynicism	9.36	9.23	0.25	.80	0.09	.77
Exhausti-on	8.66	9.64	-1.61	.11	0.22	.64
Ending the servi-ce						
Well Being	14.86	17.32	-2.57	.01**	0.05	.83
Moral	20.20	21.90	-1.43	.16	2.20	.14
Dedication	9.31	10.43	-1.53	.13	1.01	.32
Vigour	10.89	11.48	-1.00	.32	1.39	.24
Burnout	19.34	17.29	1.92	.06*	1.42	.24
Cynicism	10.14	8.57	2.65	.01**	0.03	.86
Exhausti-on	9.21	8.71	0.76	.45	0.03	.86

Table 1: Well being and moral of ethnic groups before and after the con-script service

Note. Beginning the service – assessed in the 3rd month of conscrip-tion; ending the service – assessed in the 11th month of conscription
* $p < .10$. ** $p < .05$.

The Levene test revealed that the homogeneity of variances within ethnic groups was not significant for any assessed variable, and the post-hoc test (Tukey's HSD for unequal N) confirmed that Russians felt bet-ter and less cynical ($p < .05$) than Estonians after the service; suggesting that an unequal group size is not responsible for the differences found.

Within ethnic nationalities

Exploring the dynamics of moral related changes within the groups, using the T-test for independent samples (within groups design), the differences between ethnic nationalities were confirmed. Table 2 shows that Well Being (t= -2.46, p= .02) and Moral (t= -2.33, p= .03) among ethnic Russians were significantly higher at the end of the service compared to the beginning of the service period. For Moral, a tendency for difference (p< .10) was seen in both sub-scales. Although the mean of scale- and sub-scale scores goes down, nothing significant was detected with respect to the Burnout indicators in the Russian group.

| | Ethnic nationality | | | | | | | |
| | Russians | | | | Estonians | | | |
	T1	T2	t-value	p	T1	T2	t-value	p
Well Being	14.14	17.33	-2.46	.02**	14.19	14.86	-1.59	.11
Moral	19.65	21.90	-2.33	.03**	21.67	20.16	2.99	.00**
Dedic-ation	9.30	10.55	-1.75	.10*	10.61	9.31	3.97	.00**
Vigour	10.35	11.35	-1.84	.08*	11.09	10.88	0.91	.36
Burn-out	18.15	17.20	0.86	.40	17.98	19.35	-3.23	.00**
Cynic-ism	8.90	8.50	0.61	.55	9.33	10.13	-3.12	.00**
Exhau-stion	9.25	8.70	0.68	.51	8.65	9.22	-2.18	.03**

Table 2: Differences in mean in the 3rd and 11th month of service within ethnic groups

Note. T1 – means in the 3rd month of conscription, T2 – means in the 11th month of conscription
* p< .10. ** p< .05.

The results in the Estonian ethnic group were somewhat surprising. While Well Being remained basically the same at the beginning and at the end of service, native Estonians were significantly more cynical (t= -3.12, p= .00) and exhausted (t= -2.18, p= .03) at the end of their service period as compared to the beginning of their military service. Also, dur-

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ing their service time Moral (t= 2.99, p= .00), and especially Dedication (t= 3.97, p= .00), decreased significantly.

Discussion

Taken together, the results support our hypothesis. We indeed found that, as compared to ethnic Estonians, Russians express a tendency to lower moral (especially lower dedication) at the beginning of their conscript service. We found also, according to our expectations, positive dynamics in the Russians' moral and well being during their military service. This is concordant with previous findings that military service has positive implications for the social integration and the cultural identity, and draft experience promotes acculturation and cultural awareness within minorities, as well as intercultural learning for majorities (Leal, 2003). The general dynamics of changes across the ethnic groups show that, during conscription, enthusiasm and motivation get lower for Estonians but higher for Russians. It may well be so that the found differences between our ethnic nationalities are related with the expectations and the psychological meaning of the conscription setting, which differ across these two subcultures. Military service and military status in general, is evaluated positively among the Russian sub-population[30]. After their service, Russians may appraise their successful completion higher and consequently feel better than Estonians. Also, as the military service promotes the acculturation and cultural awareness of minorities (Leal, 2003), the Russians' social solidarity and their sense of citizenship may become stronger; they are more acculturated. Compared to Russians, the moral of ethnic Estonians was higher at the beginning of the conscript service but decreased during the service while the values of the burnout indicators increased. Conscription is not an easy experience and for draftees life in the Armed Forces may appear hard to cope with, and the training, as well as whole idea of conscription may be perceived meaningless (Clemmesen, 1999). Estonians as ethnic nationals may be more patriotically oriented than Russians, and may have idealized expectations about the military service. Excessive job demands and perceived opportunities for development have been found to be inversely related to

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[30] Opinion based on personal observations.

burnout and moral indicators (Bakker, van Emmerik & Euwema, 2006). Becoming aware of a different and demanding reality may decrease the moral and cause cynicism and exhaustion in the mind of Estonians while for Russians the service may be perceived more as an opportunity which works as a moral booster.

Matsumoto (2007) has pointed out the existence of multiple sources for explaining human behaviour and emphasized the moderating role of the situational context. It can be concluded that, in some way, the situational context in the military environment or the society in the broad sense has a divergent influence on our ethnic nationalities serving their time in the Armed Forces.

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Ilfira Temirbulatova

Armed Forces in Peace-Making Missions in Central and South Asia: Problems of Adaptation

Background

Between December 1991, when the Soviet Union collapsed, and October 2001, when Operation Enduring Freedom (OEF) and the International Security Assistance Force (ISAF) started their missions in Afghanistan, the fundamental strategic realities that had shaped the U.S., NATO and European defense policies changed completely. Particularly the "out-of-area" perception started, posing a practical challenge for Western armed forces operating in the region of Central and South Asia called Afghan-Pak by the new American administration.

The international coalition in this area has highly-advanced weapons, hi-tech information capabilities, strategic mobility, etc., but is short of defining the accurate balance between military and non-military activities and is not fully aware of the cultural and religious diversity and complexities of ethnic politics in this area.

Culture, identity, and ethnicity are central to understanding the political behavior of civilian actors and the complex questions of building cooperation between military and civilian actors in peace support operations. The military are often unaware of the culture and psychology of their civil partners. In most cases, the approach to civil-military cooperation has been spontaneous and improvised. When building partnerships and strategic alliances with the civilians, Western militaries often see their partners as an abstract business organization that needs to be dealt with in order to implement a particular task. This "business approach" in dealing with local people leads to paternalism, commoditization of loyalties, and the creation of a political economy of dependency, and clientalism at all levels of the Afghan society. It prevents the creation of long-lasting partnerships, full-hearted cooperation and the enhancement of local capacities needed to build peace in the region.

In the opinion of the applicants, the Western militaries have shown a lot of enthusiasm when bringing peace, stability and development to

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Afghanistan, but failed to secure support among the local population. Western military personnel involved in civil-military cooperation have little experience with, and training in, the history, culture of the region, as well as with the psychology of various state and non-state, armed and non-armed actors in the region of Central and Southern Asia.

Aims

The program can help the international coalition in Afghanistan through the implementation of academically advanced, culturally sensitive, politically sound and economically inexpensive programs aimed at training military personnel involved in the peace-making mission in Central and South Asia in order to extend their knowledge and understanding of the Afghan society and help them adapt to the Afghan social, political, cultural, and economic realities. In particular, the authors are going to use the lessons and experiences of the Soviet policies of the (successful) elimination of Basmachi (Muslim) guerillas in Central Asia in the 1920s and the Soviet Army's operations in Afghanistan during the Afghan-Soviet war between 1979 and 1989. The authors hope that their program will help the international coalition to reduce civil and troop casualties and to mobilize armed forces in civilian activities.

Adaptation program

If September the 11th 2001 marked the beginning of the international war on terrorism, in Kyrgyzstan the war on terrorism had started in the mid-1990s, when the Taliban started moving from the South of Afghanistan to the North. The time from the summer of 1999 until into the year 2000 was the most troublesome for the armed forces in Kyrgyzstan, when terrorists from Afghanistan tried to get to Uzbekistan via Tajikistan and southern Kyrgyzstan. During those difficult times Kyrgyzstan got the help of countries like Russia, the USA, Turkey, Germany, and others. Therefore I am not impartial to what is going on in Afghanistan now, when the Coalition of Peace Forces is experiencing difficulties.

The reality of the modern world is that the military personnel have to have the role of fighters and peacekeepers at the same time, which is very difficult. Therefore one of the most important things in preparing

military personnel for service in Afghanistan is the adaptation program which contains some experience gained by the Red Army fighting Basmach guerillas in the 1920s / 30s and the experience of the Soviet Army between 1979 and 1989 in Afghanistan.

The idea of the adaptation program was born during my trip to the United Sates. There I met a taxi driver, Jamal, who drove me from the airport to the hotel. We agreed that he was going to take me back to the airport. Jamal is a Muslim name. I was thinking a lot of a way to win his favor and gain his trust in a short period of time. On the day of departure Jamal picked me up. I greeted him with the words "Salam aleikum"; he replied "Maleikum Assalam" and was astonished that I knew such a greeting. On the way to the airport I asked questions about his family, his future, and his dreams. He told me that he wanted to become a teacher, and then I said the word "Mughalim", which means "teacher". For the majority of Muslims the word "Mughalim" comes second after the word "Allah" (which means God). And that did it. From Jamal's behavior I could see that I had gained his trust. That experience pushed me towards thinking that the military needs to be given the necessary, key knowledge about Afghanistan and with that knowledge it would be easier for them to gain the hearts and minds of the Afghan people.

The program consists of three parts:

In the first part of the program information is given about the geography, history and state system of Afghanistan, also listing in short the eminent people, the heroes.

The second part is looking at social interaction, rituals, traditions, holidays, dresses, specifics of education, work ethics, the social stratum, etc.

The third part of the program is looking at the qualities, skills, and abilities necessary to be acquired in order to gain the hearts and the trust of the Afghan people.

Every practical lesson consists of theoretical and practical parts. The practical part consists of practicing necessary skills, learning mandatory sentences and words used by the Afghan population in certain situations. Every lesson has got advice and recommendations on behavior and on "gross errors".

Special features of the program: depending on the assigned tasks, composition of the group, level of preparation of personnel and time the program can be expanded or reduced, made more complex or simplified, some parts of the program can be removed or added. In other words, the program can be transformed depending on the conditions.

The lessons are held in an interactive form, in other words not in the form of lectures but in the form of discussions, i. e. talks with the listeners. For example: "What do you know about a Muslim funeral? How does the Muslim funeral ceremony differ from other funeral ceremonies?" The audience discusses this topic. In the end there is a conclusion about the Muslim funeral ceremony:

- The participants of the ceremony wear white garments.
- The burial must be on the second day.
- The body is wrapped in a shroud.
- A special burial niche is built, where the body is buried.
- There are no flowers.
- Women are left at home and do not walk to the cemetery with the body.

What mistakes can be made: when you see a big group of people – it is not always terrorists, it could be participants of a funeral ceremony going back home.

About the authors

Born and raised in Central Asia, the authors have been working in different international, UK and U.S. research projects in the field of history, conflict resolution and military psychology. As representatives of Central Asia, they believe that achieving peace and stability in Afghanistan is a decisive factor for security, which opens up big opportunities to resolve the vitally important problems of sustainable social and economic development of the entire Central Asian region. For that reason, they want to help Western militaries in demilitarizing Afghanistan, reorienting the people towards the peaceful life, resolving the social and economic problems.

The major implementors are two, including:

Ilfira Temirbulatova, expert in military psychology in Central Asia. She is familiar with behavior patterns in relation to military organizations, and the psychology of the peoples of Central Asia.

Dr. Kamoludin Abdullaev, independent expert from Tajikistan, specializing in the history of Central and South Asia. He is one of the leading experts in the history of the Basmachi movement and warlordism in Tajikistan and Afghanistan. As visiting lecturer, he teaches various Central Asian and Russian subjects in American universities. His courses include one on the rise of the Taliban in Afghanistan.

Also, leading experts in the field of Afghan studies and military psychology from Central Asia, Russia, UK and USA will be involved in the project as consultants.

Can Nakkas

The Influence of a Migration Background on Drop-out Rates and Counsel-Seeking Behavior of Swiss Recruits[31]

Introduction

All of Switzerland is divided into four parts, as one might reformulate Julius Caesar's introduction to his "Commentaries on the Gallic War". With its four distinct linguistic regions and a significant percentage of foreign residents, Switzerland is indeed a classic consociational state[32]. Lying at the crossroads of several major European cultures that have influenced the country's languages and culture, Switzerland has four official languages: German (spoken by 63.7% of the population) in the north, east and center of the country; French (20.4%) in the western cantons collectively known as Romandie; Italian (6.5%) in the southern canton of Ticino, and Rumansh, a Rhaeto-Romance language spoken by a small minority (0.5%) in the southeastern canton of Grisons (Lüdi & Werlen, 2005). Rumansh is designated by the Federal Constitution as a national language along with German, French and Italian and as an official language, when the authorities communicate with persons of Rumansh language (Swiss Parliament, 1999).

Swiss national cohesion

These linguistic divisions and a strong regionalism prevent one from speaking of a homogeneous Swiss culture. Yet, despite the influence of the German, French and Italian cultures on their neighboring Swiss ar-

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[31] The following article contains the personal opinion of the author only. It does not necessarily reflect the opinion of the Swiss Federal Department of Defence, Civil Protection and Sport; the Armed Forces College; or the Military Academy.

[32] i.e. a state which has major internal divisions along ethnic, religious, or linguistic lines, with none of the divisions large enough to form a majority group, yet nonetheless manages to remain stable, due to consultation among the elites of each of its major social groups.

eas, a distinctive culture with regional differences and an independent streak has developed over the years. In particular, the Romands (i.e. the French-speaking Swiss) tend to orient themselves slightly more towards the French culture and tend to be more pro EU, while the Swiss German speaking areas, on the other hand, may be seen as more oriented towards the German culture, although German-speaking Swiss people will identify themselves strictly as Swiss because of the difference between High German and the Swiss German dialects. A similar dynamic can be observed in the Italian-speaking areas vis-à-vis Italy. The linguistically isolated Rumansh culture in Grisons is also eager to keep its rare cultural traditions.

Switzerland stands out in its successful political integration of a multiethnic and multilingual population and is often cited as a model for efforts aimed at creating political unification, e.g. in the European Union's frequent invocation of the Swiss Confederate model (Hartley-Moore, 2007). As the various populations of Switzerland share language, ethnicity, and religion not with each other, but with the country's neighboring major European powers, a policy of domestic plurality, federalism and armed neutrality became a matter of self-preservation for Switzerland. The Swiss elite did thus not attempt to impose a national language or a nationalism based on ethnicity during the period of the formation of nation states. Instead, they pushed for the creation of a civic nation grounded in democratic ideology, common political institutions, and shared political ritual, not the least since political allegiance and patriotism were usually directed mostly towards the Cantons and not the federal level, where a spirit of rivalry and competition was prevalent. From the 19th century on there were conscious attempts to foster a federal and national identity that would replace or alleviate this cantonal patriotism. Among the traditions used to this end were federal shooting competitions, as they were one of the few recognized symbols of an overarching Swiss identity prior to the creation of the 1815 Confederation, and because they traditionally involved men from all levels of society (Kohn, 1956).

Military service

Another, more crucial fact was the compulsory military service. In 1848, the militia system was introduced into the newly formed Swiss Army, obliging every able bodied Swiss male to do military service once he had come of age. This system has survived to the present day, constituting arguably the most important element in establishing a Swiss identity in young men and advancing a supra-cantonal, national cohesion. These unofficial goals have meanwhile even become formalized and integrated into the nine official strategic aims of the Swiss Armed Forces. Points 2 and 3 of these explicitly state that the Swiss Armed Forces advance the sense of community and that they unite and link the people (Eidgenössisches Department für Verteidigung, 2009).

One factor that has kept this militia system alive is undoubtedly the Swiss citizens' service motivation, which is defined as the willingness of a serviceman to personally make a contribution to national defense as a citizen in uniform (in the case of the Swiss Armed Forces this means in the immediate situation of military training). This motivation can be both extrinsical and intrinsical, as both one's personal and vocational situation, as well as factors regarding the integration into the military (e.g. group cohesion, credibility of the superiors, quality of training) contribute to service motivation (Oetting, 1988; Stadelmann, 1998). Research literature has revealed that during military training service motivation at the most stagnates, but mostly decreases (Leutenegger, 1986; Stadelmann & Haltiner, 1992), while during military operations it similarly follows the well-known "bath tub" curve (Bennett, Boesch, & Haltiner, 2005).

However, decreased rates of service aptitude of young men, increased dropout rates during basic training, and having its raison d'être been constantly called into question after the end of the Cold War by the media has led to a growing public disaffection towards military service. For example, the perceived necessity of the armed forces amongst the 20 to 29 year olds has decreased from 74% in 1983 to 42% in 2007, and preference for an all-volunteer force has increased from 8% in 1983 to 47% in 2007. Sociodemographic factors associated to higher acceptance of the armed forces, on the other hand, are being Swiss-German, politi-

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cally on the right and of higher age (Szvircsev Tresch, Wenger, Würmli, Pletscher, & Wenger, 2009).

Immigration

One factor that has had and still does have an effect on national identity and cohesion in Switzerland is the factor of immigration. While from a historical perspective Switzerland has always been considered an immigration country, it has experienced a considerable influx of foreigners mostly since the 1950s. In this aspect, the Swiss experience with immigration reflects that of most Western European countries after the Second World War.

Today, resident foreigners and temporary foreign workers make up about 22% of the population. 60% of these are from European Union or EFTA countries, with Italians constituting the largest single group of foreigners with 17.3% of the total foreign population, followed by Germans with 13.2%, immigrants from Serbia and Montenegro with 11.5% and Portugal with 11.3% (Rausa & Reist, 2008).

Like in many other European countries, this demographic change has been fraught with problems. The integration of these foreigners has seldom been fully satisfactory, mostly due to inevitable small-scale "clashes of civilizations". This has been most pronouncedly been so in the case of immigrants from the Balkans and from Turkey (incidentally oftentimes Muslims[33]), as fear of the unknown on the part of the natives, and attempts at overcompensating a sense of alienation by accentuating traditional behaviors on the part of the immigrants has led to both populations living often next to each other, and not with each other.

Integration of immigrants

In the spotlight of these issues stand especially young immigrants, for these adolescents are often socioeconomically disadvantaged. Young Turks, e.g., have ten times more often no professional qualifications than Swiss teenagers, are five times more frequently unemployed, and have the highest segregation and dissimilarity rates amongst foreigners, while

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[33] e.g. Bosnians, Kosovars, Turks and Kurds

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they at the same time unlearn their native Turkish language without improving their German respectively French (Fibbi, Wanner, Kaya, & Piguet, 2003). Also, a study showed that young Turks are discriminated against in the labor market in 30% of the cases, while young Kosovo-Albanians encounter discrimination in 24% resp. 60% of the cases (French- resp. German-speaking part of Switzerland). Adolescents from former Yugoslavia are also more often unemployed than their Swiss coevals (Fibbi, Lerch & Wanner, 2006).

Either as a consequence or as an antecedent, Turks belong to the few minorities that actually prefer separation as much or even more than integration in regard to their private life (Ersanilli & Koopmans, 2009; Phalet & Swyngedouw, 2003). Symptomatic for this isolation is the much criticized speech delivered by the Turkish Prime Minister Recep Tayyip Erdoğan in Cologne in 2008, where he castigated the assimilation of Turkish migrants as a crime against humanity (Erdoğan, 2008). And when a former director of the reputable German Center for Studies on Turkey goes as far as to compare the situation of Turkish migrants in Germany with that of the Jews in the Third Reich, such a hysterical claim only underscores the tenuous bond Turks in Germany feel with their host nation (Şen, 2009).

The effects of lacking integration also seem to take their toll on the mental health of immigrants. Dalgard, Thapa, Hauff, McCubbin and Syed (2006) and Vuille and Schenkel (2001) showed that young immigrants are more pessimistic than their Swiss counterparts, that they have a lower sense of self-esteem and a lower self-efficacy expectation, and that they have experienced more critical life events in their biography. Turkish migrants in Germany also somatize depressive disorders more strongly than German patients (Diefenbacher & Heim, 1994), and they are more likely to exhibit somatic preoccupation and hypochondria (Ebert & Martus, 1994). Similar results were shown in a cross-cultural study, where Turkish depressive patients in Turkey had higher ratings for symptoms reflecting somatization and a tendency to emphasize symptoms than their fellow patients in Great Britain (Uluşahin, Başoğlu, & Paykel, 1994). Other Mediterranean migrants with acute psychiatric problems also tend to show a predominance of dramatic somatization in their symptom patterns compared to natives of their host country, but not due to the prevalence of somatoform disorders but to an idiosyncratic

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way of expressing mental distress (Van Moffaert, 1998; Van Moffaert & Vereecken, 1989).

From a sociological perspective it should thus come as no surprise that amongst this socioeconomically and psychosocially ill-equipped population the crime rate is considerably higher. In 1997, there were for the first time more foreigners than Swiss among the convicts under criminal law. In 1999, the Federal Department of Justice and Police ordered a study regarding delinquency and nationality, which in its final report in 2001 registered a twice as high conviction rate under criminal law of resident foreigners (0.6%) compared to Swiss citizens (0.3%). Amongst the convicted resident foreigners, those from southeastern Europe were prominent (Bundesamt für Migration, 2007). In 2004, 43.7% of all youth offences were committed by foreign nationals, mostly due to the different demographic composition, as the immigrant population consists of a higher ratio of young males (Storz, 2007). Nevertheless, while only 0.8% of all Swiss adolescents received a conviction under criminal law in that year, 2.3% of the foreign residents of that age band did so (Bundesamt für Statistik, 2009).

In short, one may sum up the situation of adolescent migrants from Turkey and the Balkans as follows: they are often less integrated in society, suffer discrimination and feel estranged from their host country, are often psychosocially disadvantaged and tend to express clinically relevant negative effects somatically.

Migration background and the Swiss Armed Forces

These demographic and social developments have also become an issue for the Swiss Armed Forces, as the naturalization rate has successively increased over the last decades. Whereas in 1960 less than 1% of the foreign residents acquired Swiss citizenship, this number rose to over 3% in 2006. In the past few years up to 50% of these naturalized citizens originate from the Balkans[34] or Turkey every year, as Turks, Serbs, Croats and Bosnians are more likely to become Swiss than Italians (Rausa & Reist, 2008). Today, 7% of the Swiss men between 20 and 24 are of foreign extraction, and 11% of that age group have binational parents;

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[34] i.e. Serbia & Montenegro, Croatia, Bosnia-Hercegovina and Macedonia

thus almost one fifth of all young Swiss men have a migration background (Fibbi, Lerch, & Wanner, 2005).

It is against this background of demographic change that discussions about the role of recruits with a migratory background have emerged in the Swiss Armed Forces over the last few years. Even though cross-cultural studies have shown that immigrants who decide to become naturalized are often better integrated than those resident foreigners who don't, research projects conducted by the Austrian National Defence Academy revealed that recruits with a migration background seem to place more importance on discriminating factors such as language, ethnicity and religion than their native Austrian comrades, and that the former encounter both favoritism and discrimination in one way or another. The issue in Switzerland has also been fueled by the above mentioned ongoing debates on draft equity, dropping rates of service aptitude and decreasing acceptance of the armed forces. The question arose whether military service has the same anticipated effect on recruits with a migration background as on autochthonous recruits, i.e. fostering a sense of Swiss identity and facilitating their integration into society, or if they instead exhibit lower service motivation and drop out of service more often than their native Swiss comrades. In the latter case, reasons for such a phenomenon would obviously have to be addressed.

Questions

Bearing these concerns in mind, the Psychological-Pedagogic Service (PPS) of the Swiss Armed Forces conducted its Stressor Study, with the aim of shedding some light on the issue. Of main interest were three questions, in particular whether a recruit's cultural background has an influence on:

1) his service motivation,

2) the likelihood of dropping out of basic training, and

3) the likelihood of seeking psychological counsel with the PPS counselor on site.

Method

In the spring of 2007, 831 recruits[35] (aged 18 to 26, M=20.03) were surveyed in a longitudinal study, with measures taken each week in the first month and a fifth time in the tenth week of basic military training[36] (depending on the branch of service, basic training lasts 18 to 21 weeks).

The sample was drawn from seven different military units located in four different training grounds: anti-tank, disaster relief & rescue, engineers, mechanized infantry, armour, mechanized reconnaissance, and headquarters.

The questionnaires used consisted of items on sociodemographic factors, stress, resources, personality, mood states etc. Service motivation was measured with a scale consisting of seven items derived from exploratory factor analysis; military stress likewise with a 30 item scale. Seeking psychological counsel with the PPS counselor on site, as well as dropping out of basic training for medical (including psychological) reasons was also recorded. The cultural background was operationalised on the basis of the recruits' main language. Thus 74.7% of all recruits were Swiss-German, 15.8% were Romands, 4.2% were of Turkish descent or from the Balkans, and 5.3% were designated as "Other", comprising all other nations.

10.1% of all recruits dropped out of basic training for medical reasons until week 10; 39.3% of them suffered mainly from psychological problems. Around three quarters of all dropouts occurred during the first month of basic training. Since non-responders made up one-third of the sample in week 10, this measure was dropped from the analysis of service motivation. In the first four weeks, however, around 90% of the recruits responded.

Service motivation and military stress were analyzed using ANOVA with repeated measures and cultural background as Between-Subjects-Factor. Medical discharge rates and seeking psychological counseling were examined with Chi2-analyses in order to describe differences regarding cultural background; while binary logistic regressions were used

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[35] 14.1% of all recruits beginning their basic training at that time

[36] 19th March 2007 until 15th April 2007 (weeks 1 thru 4) and 21st until 26th May 2007 (week 10)

to predict the two independent variables with cultural background as a covariate.

Results

Service motivation

Service motivation on the whole decreased significantly during the first month, exhibiting significant repeated contrasts between week 1 and 2, and week 2 and 3 (Fig.1).
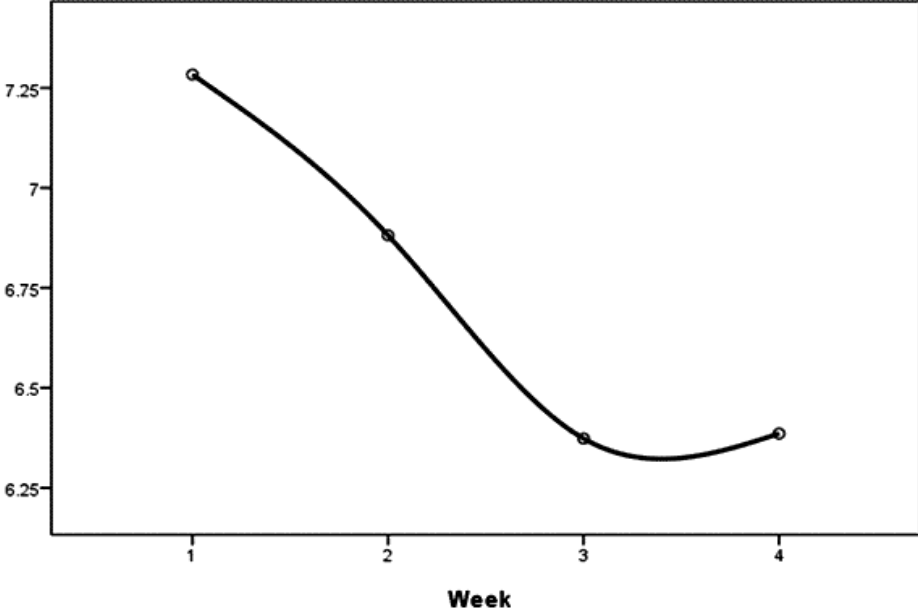
Fig.1: Course of service motivation

Time and ethnicity had a significant interactional effect on the course of service motivation (Fig 2). A significant repeated contrast was only observed between week 3 and 4. Significant simple contrasts were between Swiss-Germans and Swiss-French and between Swiss-Germans and recruits from Turkey and the Balkans. Interestingly enough, there

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were no significant differences between the different groups regarding their service motivation in the first week.
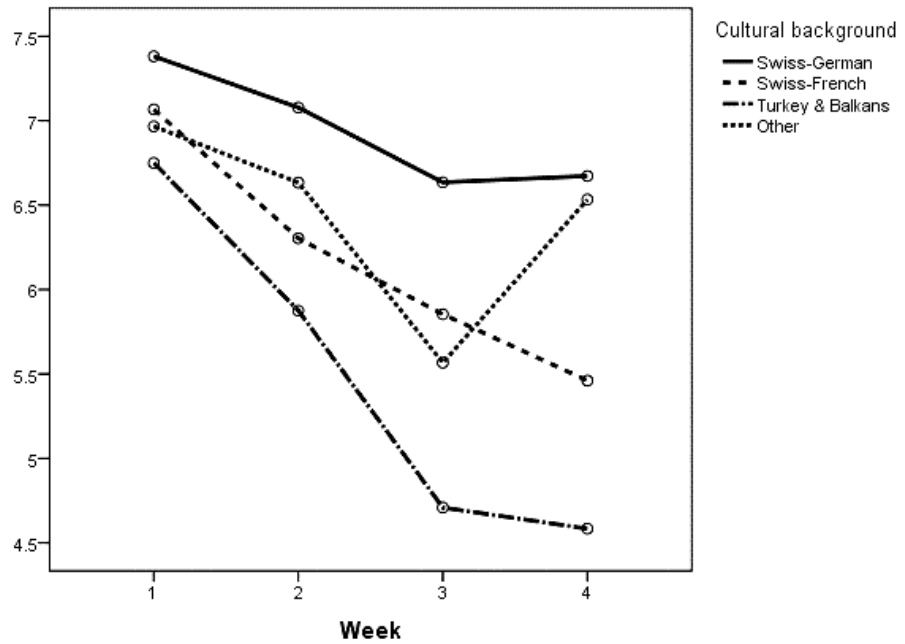
Fig. 2: Course of service motivation during basic training by cultural background

Military stress

On the whole, military stress showed a significant decline during the first month (Fig. 3), with a significant repeated contrast between week 3 and 4.

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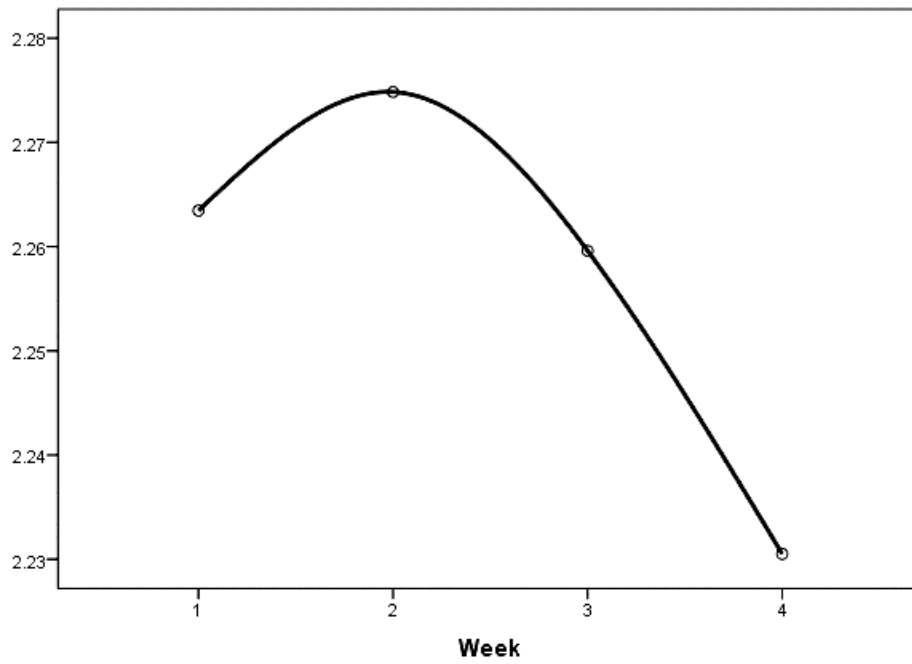
Fig. 3: Course of military stress during basic training

Further analyses, however, showed no significant interaction between time and cultural background (Fig. 4). Nevertheless, a simple contrast between Swiss-Germans and recruits originating from "other" countries turned out to be significant.
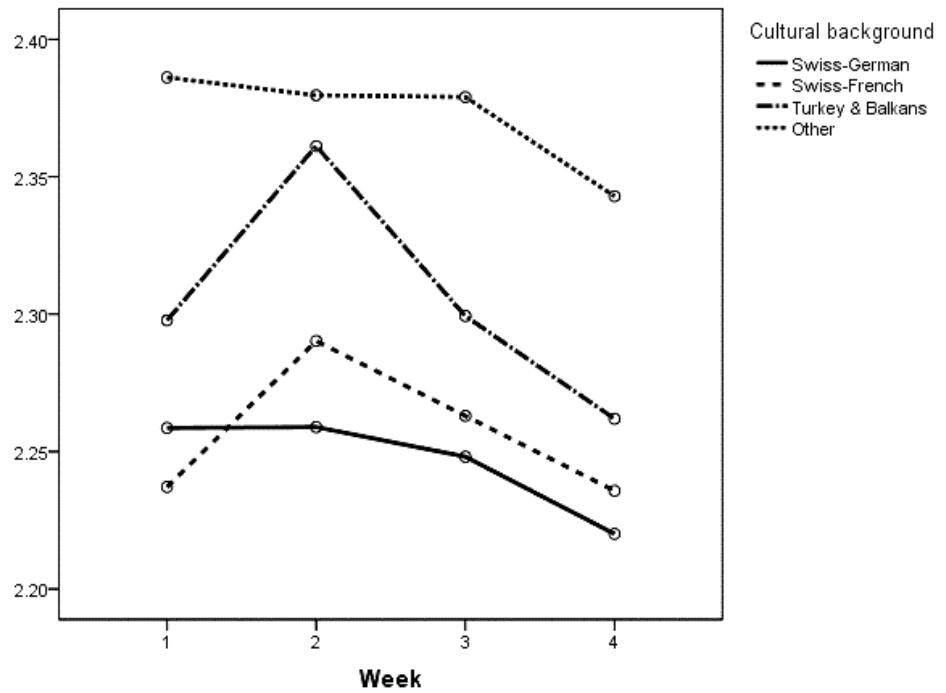
Fig. 4: Course of military stress during basic training by cultural background

Medical discharge

Over one quarter of the recruits from Turkey or the Balkans were eventually medically discharged, i.e. four times more often than Swiss-German recruits. Similarly, Swiss-French recruits were twice as often medically discharged than their Swiss-German comrades (Tab. 1). This difference was significant, with a small to moderate, yet significant association of 17% (Cramér's V) between these factors. An analysis of the standardized residuals revealed that Swiss-Germans were indeed significantly less likely to become medically discharged, and recruits from the Balkans & Turkey significantly more likely.

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Table 1: Percentage of recruits medically discharged by cultural background

	Swiss-German	Swiss-French	Balkans & Turkey	Other
Background of the medically discharged (%)	53.0	24.2	15.2	7.6
% of the entire cultural group	6.5	13.0	27.0	11.4

Using the cultural background as a predictor, regression analysis showed that compared to the Swiss-German majority, being Swiss-French or originating from Turkey and the Balkans significantly increased the likelihood of being medically discharged. The cultural background, however, accounted for no more than 5% of variance (Tab. 2).

Table 2: Binary logistic regression of cultural background on medical discharge

		Regression Coefficient B	Standard Error	Sig.	Odds Ratio	95% Confidence Interval for Odds Ratio	
						Lower	Upper
Step 1	Swiss-German			.000			
	Swiss-French	0.763	0.320	.017	2.145	1.145	4.016
	Balkans & Turkey	1.670	0.409	.000	5.312	2.381	11.851
	Other	0.609	0.506	.229	1.839	0.682	4.959
	Constant	-1.903	0.170	.000	0.149		

Note: R^2 = .023 (Cox & Snell), .050 (Nagelkerke). Model $Chi^2(3)$ = 16.921, $p < .01$

Seeking psychological counselling

Similar to the medical discharge rates, the cultural background distinguished recruits seeking psychological counseling. There were significant differences between the groups (Tab. 3), with a small to moderate, yet significant association of 16% between the variables. Again, an analysis of the standardized residuals revealed that Swiss-Germans were significantly less likely to seek psychological counseling, and both

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Swiss-French recruits and those from the Balkans & Turkey were significantly more likely to do so.

Tab. 3: Percentage of recruits seeking counseling by cultural background

	Swiss-German	Swiss-French	Balkans & Turkey	Other
Background of those seeking counseling (%)	47.6	33.3	14.3	4.8
% of the entire cultural group	3.7	11.4	16.2	4.5

As with the drop-out rates, regression analysis revealed that being Swiss-French, respectively from Turkey or the Balkans significantly increased the likelihood of seeking psychological counseling during basic training. Again, cultural background accounted for no more than 6% of variance (Tab. 4).

Tab. 4: Binary logistic regression of cultural background on seeking psychological counsel

		Regression Coefficient B	Standard Error	Sig.	Odds Ratio	95% Confidence Interval for Odds Ratio	
						Lower	Upper
Step 1	Swiss-German			.001			
	Swiss-French	1.200	0.364	.001	3.320	1.627	6.777
	Balkans & Turkey	1.610	0.501	.001	5.003	1.875	13.353
	Other	0.208	0.759	.784	1.231	0.278	5.446
	Constant	-2.498	0.231	.000	0.082		

Note: R^2 = .021 (Cox & Snell), .059 (Nagelkerke). Model Chi2(3) = 15.563, p < .01

Discussion

The data from our Stressor Study reveal that on the whole, service motivation decreases during the first two weeks of basic training and stabilizes during the third week, which is exactly when the recruits' stress level drops. This suggests that both factors are linked to each

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other; a notion that has been meanwhile corroborated by additional analyses of the data.

Regarding the different cultural groups, recruits from the French-speaking part of Switzerland and those from Turkey and the Balkans develop a lower service motivation in the latter half of the first month of basic training compared to their Swiss-German comrades. This difference, however, seems not to be associated with military stress, as the groups do not differ in that aspect. Furthermore, both Swiss-French recruits and those from Turkey and the Balkans seek psychological counseling more often during that time, while only the latter group is more likely to drop out of service for medical reasons.

These results raise several questions. Methodically, the present sample is quite possibly not sufficiently representative of all Swiss recruits, as issues of feasibility guided the drawing of the sample. However, the percentage of recruits from Turkey and the Balkans in our study reflects the annual naturalization rate of these ethnicities since the year 2000, and the percentage of recruits with a migration background in general is similar to that of the Swiss male civilian population of the same age band according to the latest Swiss census (21% vs. 18%). Furthermore, effect sizes and explained variance are mostly small, since the variance of the immigrant recruits' data are often largely due to the unequal-sized subgroups.

Nevertheless, these differences are at least on a descriptive level visibly significant, even though they are often too small to be used meaningfully as predictors.

The reasons for these differences aren't clear. One explanation might be that recruits from southeastern Europe enter basic training with only vague ideas regarding military service, which eventually doesn't come up to their expectations. Another, more likely one is that even though they enter training as motivated as their autochthonous comrades, they shortly after (either subjectively or objectively) experience discrimination from their peers or their superiors. In both cases their commitment and motivation erodes as they already feel estranged and not integrated in Swiss society. They start developing psychological problems in adjusting to this situation and somatize their distress. Although they subsequently seek out medical attention and/or psychological counseling, they nonetheless eventually drop out of service.

If such should be the case, it is important to examine whether physical stress, discontent with the perceived quality of leadership and feelings of discrimination are higher among recruits with a migration background. Preliminary analyses hint at exactly such.

Whatever the reasons may be for the presented findings, neither the Swiss Armed Forces nor Swiss society itself ought to accept this situation and settle with it. Too much is at stake as that a status quo can be settled for. Every Swiss recruit has the obligation and the right to do military service in an environment that is both challenging and conducive to exploiting his full potential. Only thus will the Swiss Armed Forces be able to assert their claim of training soldiers ready for operations as well as aiding them in becoming valuable members of society.

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Sidney Irvine

Military and Indigenous Cultures –
Wives and Sweetherats?

The construct of a military culture common across nations varying only in degree, but not in underlying dimensions is more than a hypothesis. It is a recognisable fact in history, biography, fiction and film. Metaphors and models of military motivation can be examined to develop a key to understanding the precise nature of a command structure and to predict its psychological and social consequences. Such an examination yields salient characteristics of the necessary psychological adjustments to be made both by recruits and veteran soldiers. These are neither minor nor temporary. In particular, there are constraints and difficulties associated with becoming a severely stressed soldier during training and active service in a continuous command environment for a prolonged period.

The transfer of a military culture to operate within another indigenous system brings predictable consequences for service personnel. If they are perceived as alien invaders and enemies, even the warring factions within the host society will unite to repel them. Threats to life are real and constant. If they should be regarded as allies and/or liberators, resentment will still be present. Strategies for coping with active threat and passive rejection are essential.

To engage in active service against an unseen enemy of resistance, or even benign policing, requires a minimum of cooperation from the host society. This is never easily gained, but some knowledge about how it might be brought about exists. Training can provide an elementary understanding of the lifestyle and values of ordinary people in the theatre of operations. Illustrations of what might be done are drawn from a Central African context.

Of course, the transfer of the operational culture back to its own indigenous domestic culture *has the same underlying framework as that in*

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the paragraph italicised above. The difficult readjustment required will not be made with group training and the support of a homogeneous unit dependent on each other for survival. Social desirability does not embrace the confession of nightmares, traumatic memories, domestic maladjustment or marital breakdown among soldiers living at home. Reintegration will depend itself on the availability of a support context that could prove to be in many ways different from any command environment that finds a sick soldier on active service difficult to cope with.

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Measuring personality traits and cognitive abilities across language barriers:
An illustration of different approaches to test adaptation

Abstract

Research in test adaptation indicates that purely literal translations of psychometric tests are inadequate to ensure the sufficient psychometric quality of the adapted tests. In the last few decades various judgmental and psychometric methods have been developed to circumvent different sources of bias that call into question the validity of adapted tests. In the first section we will outline various judgmental approaches to test adaptation including classic judgmental designs and approaches based on automatic item generation. These different approaches to test adaptation are illustrated by four empirical studies. Because of clients' specific requirements, full-score equivalence was called for in each case. The first study describes the use of a combined forward and back translation design in the adaptation into the Slovak language of a questionnaire measuring traffic-related personality traits. The second and third studies utilize an automatic item generation approach to test adaptation in translating the item pool of an arithmetic flexibility test and a verbal fluency test from German into English. These two studies clearly illustrate the fact that the overall test adaptation endeavor may take different routes depending on item and trait characteristics, even though a common test adaptation process is used. The fourth study deals with the adaptation of a Big Five questionnaire from German into English and combines the two previously discussed approaches to test adaptation. Using these empirical studies as examples we demonstrate the complexities

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involved in test adaptation and outline the relevance of the various judgmental designs in the overall process in order to maintain the psychometric properties of the measures across different language versions.

Introduction

Translating tests from a source to a target language is for various reasons becoming increasingly common. These reasons include lack of experience of developing a new test in a second language, reduction of costs through the adaptation of existing tests, the increased interest in cross-national comparisons and increased fairness as a result of administering psychometric tests in the preferred language of the examinee (cf. Hambleton, 2005; Hambleton & Patsula, 1998; Casillas & Robbins, 2005). The psychometric community is becoming increasingly aware that test translation or test adaptation is far more complex than originally thought and requires considerable conceptual, linguistic and psychometric expertise in order to preserve the psychometric characteristics of the test to be translated. When translating or adapting a psychometric test from a source language into a target language a detailed analysis of the market demands needs to be conducted to specify (1) the objective of the test (e.g. admission, achievement, cognitive abilities etc.), (2) how the test is intended to be used (e.g. high vs. low stakes assessment), (3) the target population (differences in the level of education of the target population in comparison to the population for which the test was originally constructed) and (4) whether there will be a need for cross-lingual comparisons of test performance. Depending on these specifications, different levels of equivalence must be empirically demonstrated before the multi-lingual versions of a psychometric test can be used operationally (cf. Hambleton, 1994, 2005; Hambleton & Patsula, 1998, 1999; Tanzer, 2005; van de Vijver & Poortinga, 1997, 2005; van de Vijver & Tanzer, 1997, 2004).

Construct equivalence and structural equivalence

If the main aim is to have a certain psychometric test available in another language with no intent to conduct cross-lingual score comparisons, one needs to ensure that construct equivalence and structural equivalence of the multi-lingual versions of the psychometric test can be assumed (cf. Greenfield, 1997; van de Vijver & Poortinga, 1997, 2005; van de Vijver & Tanzer, 1997, 2004). While construct equivalence is more concerned with the definition of the latent trait at the conceptual level, structural equivalence concerns the degree of comparability of the instruments used to measure that latent trait. In order to ensure construct equivalence the test author needs to provide evidence that the social relevance and the definition of the latent trait to be measured are identical across the multi-lingual versions. Furthermore, in order to achieve structural equivalence of the multi-lingual test versions, the test author must ensure that the content covered by the test items is culturally and linguistically suitable, relevant and of equivalent familiarity in all languages and cultures in which the psychometric test is intended to be used. The test authors must also provide empirical evidence of the similarity of the dimensionality and nomothetic span (Embretson, 1983, 1998) of the multi-lingual versions of a psychometric test. In other words, the test needs to be similar with regard to its dimensionality and has to exhibit similar patterns of structural relations to other theoretically relevant constructs.

The construct equivalence and structural equivalence of the multi-lingual versions of a test can be compromised by the presence of construct bias. Construct bias refers to cross-cultural differences in the definition or relevance of the latent trait to be measured. In evaluating the presence of construct bias the objective and intended use of the psychometric test needs to be taken into account. Like validity (cf. Kane, 1992, 2001; Messick, 1995), construct bias is not an inherent feature of a test, but arises as a function of the interpretation of the test scores. For instance, African conceptions of intelligence are known to take aspects such as "knowing one's place in the society" and different facets of practical intelligence into account while European conceptions of intelligence focus predominately on scholastic intelligence. However, if the focus is on predicting scholastic and occupational achievement, these

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cross-national differences in the definition of intelligence are not truly relevant since research indicates that scholastic intelligence is a good predictor of educational and occupational achievement in both nations (for an overview: Mada et al., 2008). Nevertheless, one would be well advised to narrow the definition of the latent trait measured to "scholastic intelligence" in the present example. Nevertheless, if construct bias is present and relevant to the diagnostic question under consideration, construct-driven and culture-driven adaptations are required to ensure the relevance and construct validity of the adapted test (for several practical examples: Malda, van de Vijver, Srinivasan, Transler, Sukumar & Rao, 2008). Thus, if the definition of a latent trait to be measured differs in its scope across the cultural groups examined, one may need to extend the scope of the measure in order to fully capture the culturally relevant aspects of that trait. Alternatively, one may also restrict the definition of the latent trait measured to the aspect of the construct that are shared across the different cultures that are compared to each other. However, although there is evidence of cross-cultural differences in the scope of the definition of personality and cognitive ability, several studies indicate that a number of individual cognitive ability and personality traits can be considered to be relevant across different cultures and can be measured in a fair manner (cf. Berry, Poortinga, Segall & Dasen, 2002; Irvine, 1979; De Raad, 2000).

Full score equivalence

If one also intends to conduct score comparisons across the multi-lingual versions of the psychometric test, construct equivalence and structural equivalence are not sufficient. In this case one also needs to demonstrate that the measurement scales of the different language versions have a common measurement unit and origin. This type of equivalence required for valid score comparisons across language and culture is often referred to as full-score equivalence (van de Vijver & Poortinga, 1997, 2005; van de Vijver & Tanzer, 1997, 2004).

The full score equivalence of the multi-lingual versions of a psychometric test can be compromised by three types of bias: construct bias, method bias and item bias (van de Vijver & Poortinga, 1997, 2005; van de Vijver & Tanzer, 1997, 2004). Since problems associated with the

presence of construct bias have already been discussed, we will focus on the latter two types.

Method bias refers to sources of bias that arise from methodological aspects of the assessment process and thus affect all items of a psychometric test in the same way. These nuisance factors comprise differential familiarity with (1) the stimulus material, (2) the response procedure or (3) the general mode of test administration such as time limits on items or on the test as a whole. In order to avoid the detrimental effect of method bias one needs to ensure that the item format and administration mode are equally familiar across the languages and cultures in which the psychometric test will be used. In some cases this may require familiarity-driven and language-driven adaptations to the test content to ensure a sufficient level of conceptual and linguistic similarity (cf. Broer, 1996; Greenfield, 1997; Hambleton, 2005; Malda et al., 2008; Merenda, 1994; Piswanger, 1975; Tanzer, Gittler & Ellis, 1995; Tanzer, 2005; van de Vijver, 1997, 2008; van de Vijver & Tanzer, 1997).

Item bias, on the other hand, refers to item-specific problems in cross-lingual comparisons, such as ambiguity due to poor item translation or language and content-specific elements of individual items. These differences between the items across the multi-lingual versions of a psychometric test give rise to "differential item functioning" (c.f. Holland & Wainer, 1993; Sireci & Allalouf, 2003; Sireci, Patsula, & Hambleton, 2005; Sireci, Yang, Harter, & Ehrlich, 2006) and thus call into question the fair and valid comparison of test scores across the multi-lingual versions of a test. If there is a risk of item bias, the test author needs to make language-, theory- and familiarity-driven adaptations to the content of the individual items to ensure that the individual items of the multi-lingual versions of the test are sufficiently similar in terms of their conceptual and linguistic structure.

However, the aim of establishing a sufficient degree of conceptual and linguistic similarity of the items is often hard to accomplish. It requires a precise definition of similarity as well as means of evaluating the level of similarity on a conceptual and psychometric basis (cf. Hambleton, 2005; van de Vijver & Poortinga, 1997, 2005; van de Vijver & Tanzer, 1997). In the psychometric literature on test adaptation two types of procedure for evaluating the conceptual, linguistic and psychometric similarity of the individual items of multi-lingual tests have been

described: (1) judgmental procedures and (2) statistical procedures. While judgmental procedures attempt to increase the conceptual and linguistic similarity of the items of a multi-lingual test prior to an empirical evaluation, statistical procedures are usually employed to assess the degree of equivalence and identify the presence of item bias once the empirical data have been collected.

In the next section we will thus describe two complementary judgmental approaches that can be used to increase the conceptual and linguistic similarity of the individual items of a multi-lingual test prior to an empirical evaluation of the multi-lingual test versions.

Judgmental procedures

In general, one can distinguish two approaches to defining and increasing the conceptual and linguistic similarity of test items that are intended to be administered in various languages: (1) classic judgmental procedures and (2) (judgmental) procedures based on automatic item generation approaches (AIG: Arendasy & Sommer, 2009; Embretson, 2005; Gorin, 2006; Irvine & Kyllonen, 2002). These two types of procedure should be regarded as complementary rather than mutually exclusive since both have different weaknesses and merits with regard to their applicability in various test adaptation projects.

Classic judgmental procedures

Two of the most commonly used judgmental procedures are (1) forward translation designs and (2) back translation designs. In a forward translation one or more translators adapt a psychometric test from the source language into the target language. The translators must be proficient in both languages and should know the cultures – especially the target culture - very well. Finally, the translators should also receive training in the subject matter of the psychometric tests and basic principles of test construction. The different forward translations produced by the individual translators are then integrated into a unified translation in the course of a so-called harmonization phase during which a team of translators and psychologists discusses differences between the individual forward translations produced in the prior phase of the test adapta-

tion project. In contrast to this, in most versions of a back translation design one or more translators adapt a test from the source language into the target language. The requirements regarding the translators are identical to the ones outlined in the description of the forward translation design. Afterwards another independent group of translators takes the adapted version of the test and adapts it back into the source language. The equivalence of the source and target language versions is evaluated by comparing the original source version with the back-translated psychometric test. Although both approaches have proved to be fairly effective in increasing the likelihood of cross-lingual equivalence, they are rather time- and cost-consuming (Hambleton, 1993, 2005; Hambleton & Patsula, 1998, 1999; Burke, 2009; Sireci et al., 2006; Rebello, 2009). Furthermore, they are also dependent on the level of expertise and proficiency of the multi-professional team, since judgments of conceptual and linguistic similarity are made solely on the basis of the expertise and experience of the team of translators, psychometricians and content-matter experts (Hambleton & Patsula, 1998; Malda et al., 2008; Rebello, 2009). Evaluation of the conceptual and linguistic similarity of the multi-lingual versions of the psychometric test thus involves a high level of inference on the part of the test adaptation team.

Procedures based on automatic item generation

In contrast to classical judgmental procedures, current approaches to automatic item generation (AIG: Arendasy & Sommer, 2009; Embretson, 2005; Gorin, 2006; Irvine & Kyllonen, 2002) enable a more formal and precise definition of conceptual and linguistic similarity. Even though this approach was originally intended to be used for the construction of psychometric tests, automatic item generation also has its merits for test adaptations. In general, the construction of a psychometric test starts with a precise definition of the latent trait to be measured. In a second step a literature review is conducted to identify the cognitive processes, solution strategies and knowledge structures that characterize the latent trait. This process is referred to as the construction of a cognitive model (Embretson, 2005; Gorin, 2006). The psychometrician then chooses an item format for measuring the latent trait. The choice of the item format is based on judgmental evidence of the familiarity of differ-

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ent item formats across languages and cultures. Once the item format has been chosen, the cognitive model is condensed into a more specific cognitive item model (Gorin, 2006), which outlines the item features that are assumed to trigger the cognitive processes and the solution strategies used to solve the given items (e.g. Arendasy & Sommer, 2009; Arendasy, Hergovich & Sommer, 2008; Embretson, 2005; Gorin, 2006). These item features are commonly referred to as radicals (Irvine, 2002) and define the affordance structure of the test items. The main goal in defining and systematically varying radicals is to maximize the construct-related variance in the item parameters (i.e. the item difficulty). Item features that are not related to respondents' cognitive processes and solution strategies, and thus do not influence the item parameter estimates, are referred to as incidentals (Irvine, 2002). The incidentals can thus be essentially regarded as surface features that can be used interchangeably. However, the specification of radicals does not suffice on its own to ensure the sufficient psychometric quality of the automatically generated items. Steps must be taken to ensure that non-construct-related cognitive processes are not triggered by the item material (Arendasy, 2004; Arendasy & Sommer, 2005, 2007, 2009). This is done by defining a set of item features which must be omitted from the item construction process in order to minimize interfering variance in the item parameters arising from non-construct-related cognitive processes. These item features have been referred to as functional constraints (Greeno et al., 1993). Within an AIG approach to test construction each item can thus be characterized by a unique set of radicals, incidentals and functional constraints. This kind of detailed information is particularly useful in adapting a test from a source language into a target language since it provides a formal and precise theoretical and procedural framework for the evaluation of the conceptual and linguistic similarity of the original and adapted test items. Another benefit of these detailed specifications at item level is that they help to avoid misinterpretations on the part of human item writers or translators that might occur if they are required to construct or adapt items that go beyond their own ability level. The finding that both item writers and translators tend to alter the difficulty of items beyond their own competence level has been reported quite frequently in the psychometric literature and is regarded as one of the main issues in test development and test adaptation (for an overview: Aren-

dasy & Sommer, 2009; Hambleton, 2005; Hornke, Habon & Kirchenkamp, 1986). However, there are some limitations to the applicability of automatic item generation approaches to the construction and adaptation of psychometric tests. First and foremost, this approach requires a sufficiently precise theoretical model of the latent trait to be measured. This issue is even more pronounced in case of top-down approaches to automatic item generation (cf. Arendasy & Sommer, 2009) that derive the radicals and functional constraints from a well elaborated and empirically validated theoretical model. Within a top-down approach to automatic item generation the theoretical and empirical foundation from which the radicals and functional constraints had been derived needs to be available in both the source and target languages. Since these prerequisites are often hard to fulfill there are few examples of top-down approaches to test development and adaptation compared to more classical methods. Furthermore, top-down approaches to automatic item generation are currently used predominately in the construction and adaptation of cognitive ability tests (for an overview: Arendasy & Sommer, 2009; Embretson, 2005; Gorin, 2006; Irvine & Kyllonen, 2002). The aforementioned issues are less pronounced in case of a bottom-up approach to automatic item generation that derives the radicals and functional constraints primarily on the basis of prior empirical results without the need to construct a theoretically elaborated cognitive item model (Gorin, 2006). This kind of automatic item generation approach has also been successfully applied to the construction and adaptation of personality questionnaires (cf. Arendasy, 2009). Nevertheless, automatic item generation approaches to test construction and test adaptation require at least a certain extent of prior research in order to be applicable in test adaptation endeavors

Statistical procedures used to evaluate the level of equivalence of multi-lingual tests

Once the test items have been adapted into another language and data were obtained, various statistical methods can be employed to examine the level of equivalence of the different language versions (for an overview: Sireci, Patsula & Hambleton, 2005). The statistical evaluation of the level of equivalence of multi-lingual tests is a multi-stage en-

deavor. The sort of statistical methods employed depends on the level of equivalence of the multi-lingual test versions that needs to be demonstrated and the item format of the psychometric test. Item-Response-Theory (IRT: Embretson & Reise, 2000; Fischer & Molenaar, 1995; van der Linden & Hambleton, 1997) and confirmatory factor analysis (CFA: Byrne, 1989, 2001; Kline, 1998) provide two attractive options for evaluating the dimensionality of multi-lingual psychometric tests.

For instance, if one aims to provide evidence of structural equivalence, one would need to show that the dimensionality of the psychometric test itself is similar across the multi-lingual versions. However, it is not necessary to demonstrate that the item parameters (e.g. item difficulty, item discrimination) are statistically identical. In addition, one would also need to provide evidence that the nomothetic span (Embretson, 1983, 1998) of the multi-lingual versions of the test can be regarded as statistically identical across the different language versions. In other words, the test must exhibit statistically identical relations to other tests in all the languages considered. This can be done by calculating a multi-group confirmatory factor analysis (Byrne, 1989, 2001; Kline, 1998) and restricting the factor loadings so that they are statistically identical across the different language versions of the test considered. If the global fit indices (cf. Backhaus, Erichson, Plinke, & Weiber, 2004; Browne & Cudeck, 1993; Byrne, 2001; Hu & Bentler, 1999; Marsh, Hau, & Wen, 2004) indicate that this restricted model exhibits at least a fair fit to the data and fits the data no worse than the less restricted model, the assumption of structural equivalence of the nomothetic span (Embretson, 1983, 1998) of the multi-lingual versions of the test can be retained. However, if the factorial structure is similar but the multi-lingual test versions differ with regard to their factor loading, one can only claim construct equivalence of the multi-lingual test version.

However, if one wants to conduct valid score comparisons across the multi-lingual versions of the psychometric test, one must also demonstrate that the item parameters of the multi-lingual versions of the psychometric test are statistically identical and that the presence of differential item functioning can be ruled out. Various psychometric methods have been proposed for investigating the presence of differential item functioning in multi-lingual tests (cf. Holland & Wainer, 1993; Sireci, et al., 2005; Sireci et al., 2006). If the psychometric test has been scaled by

means of IRT models such as the 1PL Rasch Model (Rasch, 1980), the Partial Credit Model (Masters, 1982) or the Latency Model (Scheiblechner, 1978, 1985) in the source and target languages, the Likelihood Ratio Test (LRT: Andersen, 1973; Thissen, Steinberg, & Wainer, 1993) represents one of the most attractive options for evaluating the presence of differential item functioning. The Likelihood Ratio Test (LRT: Andersen, 1973; Thissen, Steinberg, & Wainer, 1993) relates the likelihood of the data for the item parameters estimated in the total sample to the likelihoods of the data for the item parameters estimated in predefined sub-samples of interest (e.g. German- and English-speaking respondents). A non-significant result in an Andersen LRT means that the item parameter estimates in the sub-samples do not deviate significantly from the item parameter estimates of the total sample. The item parameters can therefore be generalized over the sub-samples tested and full score equivalence can be assumed.

Illustration of different approaches to test adaptation

It is clear from the introduction above that test adaptation is a complex endeavor that requires a high level of psychological, linguistic and psychometric expertise. Within the process of test adaptation, judgmental evidence on the equivalence of multi-lingual versions of a psychometric test has a central role. This is due to the fact that problems of poor test adaptation cannot be overcome by sophisticated post hoc statistical analyses.

In the next sections we will thus illustrate the different kinds of judgmental procedures discussed in the psychometric literature on test adaptation using data from four different test adaptation projects that aimed to investigate the full score equivalence (van de Vijver & Poortinga, 1997, 2005; van de Vijver & Tanzer, 1997, 2004) of two personality inventories and two cognitive ability tests. These four test adaptation projects were chosen in order to cover as broad a range as possible of the different judgmental procedures that can be used in adapting psychometric tests from a source into a target language.

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Study 1

The test adaptation project described in the first study has been selected to illustrate the application of a classic back translation design. This method was employed to translate the Austrian version of the Inventory of Driving-Related Personality Traits (IVPE: Herle, Sommer, Wenzl & Litzenberger, 2004) into the Slovak language. This standardized questionnaire consists of 39 items measuring four driving-related personality traits: sensation-seeking, social responsibility, self-control and emotional stability. The questionnaire was developed using classical approaches to test construction in the course of a research project investigating personality determinants of accident proneness (Herle, 2004). Prior research had already indicated that the 1PL Rasch model exhibits a fair fit to the data obtained with each of the four subscales and that the questionnaire also has a satisfactory nomothetic span (cf. Herle, Sommer, Wenzl & Litzenberger, 2004). Furthermore, this inventory had already been proved to contribute significantly and incrementally to the prediction of accident proneness (e.g. Arendasy, Sommer, Bognar & Hergovich, in revision; Voglsinger, 2005; Sommer & Häusler, 2005) and safe driving behavior assessed with standardized driving tests (e.g. Sommer, Herle, Häusler, Risser, Schützhofer & Chaloupka, 2008; Sommer, Heidinger, Schauer, Häusler, Schmitz-Gielsdorf & Arendasy, in revision).

Slovakia has implemented legal regulations on traffic psychological assessment akin to the ones used in German-speaking countries. There was therefore an increased interest in importing traffic psychological tests for which the validity of the critical cut-off scores used to identify unsafe drivers has already been demonstrated in other countries. To meet this need the decision was made to adapt psychometric tests developed and validated in Austria and to evaluate the full score equivalence (van de Vijver & Poortinga, 1997, 2005; van de Vijver & Tanzer, 1997, 2004) of the Slovak and Austrian versions in order to be able to generalize the empirically validated critical cut-off scores across the two language versions.

Test adaptation process

Since the content of the individual items and the answer format were deemed to be suitable for the Slovak population in a review conducted by a team of psychologists and bilinguals in the target country, the decision was made to use a classic back translation approach in order to adapt the Austrian version into the Slovak language. The test adaptation process started with the elaboration of test-specific guidelines and working materials for the translators. These guidelines and working materials contained the content of the test as well as a detailed description of how the latent trait is assumed to be measured by each of the items. These test-specific guidelines and working materials were passed on to two professional translators who conducted the forward translation into the target language independent of each other. These two versions were later on compiled into a unified forward translation in the course of an online harmonization meeting. Afterwards, the unified forward translation was submitted to an independent translator, who conducted the back translation. All the translators engaged in the test adaptation process hold a degree in psychology and are bilingual speakers living in the target language country. They had also lived for several years in the source language country. The back translation and unified forward translation were both submitted to the fourth author of this article, who compiled a file containing both language versions for comparison purpose. A team of psychologists and the test authors compared the back translation with the original Austrian version and highlighted items that might be slightly different in terms of their linguistic and conceptual characteristics. This information was later passed on to both translators, who were responsible for making modifications to the forward translation if needed. If the translators disagreed with the reviewers, the translator team provided explanations defending their original translation. The final translation of the questionnaire was then submitted to the fourth author of this article, who initiated the implementation and technical evaluation of the Slovak version.

Procedure

In principle, different research designs can be employed to investigate the cross-lingual equivalence of psychometric tests administered in different languages (cf. Sireci, 2005). In the present case we used a multi-group mono-lingual design in order to maximize the representativeness of the evaluation sample for the target population for which the test is intended to be used. The Slovak sample was collected from 2008 to 2009 at various traffic psychological examination centers in Slovakia. The Austrian data were collected in 2008 at the research laboratory of SCHUHFRIED GmbH.

Samples

The Slovak sample consisted of 100 (49.8%) males and 101 (50.2%) females aged between 17 and 59 years (mean=40.95; SD=10.36). All educational groups are represented (EU 1: 3.0 %, EU 2: 5.0 %, EU 3: 45.3 %, EU 4: 38.8 % and EU 5: 7.0 %).

The Austrian sample comprised 101 (50.0%) males and 101 (50.0%) females aged between 17 and 60 years (mean=38.06; SD=12.07). All educational groups are represented (EU 1: 1.0 %, EU 2: 16.3 %, EU 3: 41.6 %, EU 4: 31.2 % and EU 5: 9.9 %).

Tested models

The first set of models investigated the fit of the 1PL Rasch model within each language version. This was done by a series of Likelihood Ratio Tests (LRT: Andersen, 1973) using the partitioning criteria "median raw score", "sex", "age" and "educational level". If none of these LRTs reaches statistical significance, the assumption of person-homogeneity (Rost, 2004) of the 1PL Rasch model can be retained. The second set of models investigated the fit of the 1PL Rasch model (Rasch, 1980) to the joint Slovak and Austrian data set. The fit of the 1PL Rasch model (Rasch, 1980) was evaluated by means of an LRT using the partitioning criterion "language version". If the LRT fails to reach the significance level, full score equivalence (van de Vijver & Poortinga, 1997,

2005; van de Vijver & Tanzer, 1997, 2004) of the two language versions of the four scales can be assumed.

Results

All calculations were carried out with the software program LPCM-WIN (Fischer & Ponocny-Seliger, 1999) using conditional maximum likelihood (CML) to estimate the item- and basic parameters. The α-level was set in advance at 0.01 due to the number of goodness-of-fit tests carried out. In addition to the classic χ^2 values we also calculated the deviance measure ω suggested by Müller-Philipp and Tarnai (1989) to estimate the effect size of the model deviation. If the model deviations lie below $\omega=.30$, small effects are not exceeded and the psychometric model exhibits a fair fit to the data.

In a first step the fit of the 1PL Rasch model to the Slovak data set was evaluated. The LRTs indicated that the assumption of unidimensionality can be retained for all four scales of the questionnaire (Emotional stability: median raw score: $\chi^2[11]=17.24$, p=0.101, $\omega=0.207$; gender: $\chi^2[11]=17.31$, p=0.099, $\omega=0.208$; age: $\chi^2[11]=19.61$, p=0.051, $\omega=0.221$; educational level: $\chi^2[11]=19.67$, p=0.050, $\omega=0.221$ / Social responsibility: median raw score: $\chi^2[9]=12.00$, p=0.213, $\omega=0.173$; gender: $\chi^2[9]=12.10$, p=0.208, $\omega=0.173$; age: $\chi^2[9]=8.79$, p=0.457, $\omega=0.148$; educational level: $\chi^2[9]=8.03$, p=0.531, $\omega=0.141$ / Self-control: median raw score: $\chi^2[6]=6.90$, p=0.330, $\omega=0.131$; gender: $\chi^2[6]=6.39$, p=0.381, $\omega=0.126$; age: $\chi^2[6]=8.61$, p=0.197, $\omega=0.146$; educational level: $\chi^2[6]=6.75$, p=0.345, $\omega=0.130$ / Thrill and adventure seeking: median raw score: $\chi^2[9]=8.51$, p=0.203, $\omega=0.145$; gender: $\chi^2[9]=8.76$, p=0.193, $\omega=0.147$; age: $\chi^2[9]=10.34$, p=0.111, $\omega=0.160$; educational level: $\chi^2[9]=7.37$, p=0.488, $\omega=0.135$).

Similar results were obtained for the Austrian sample (Emotional stability: median raw score: $\chi^2[11]=15.17$, p=0.175, $\omega=0.194$; gender: $\chi^2[11]=13.99$, p=0.234, $\omega=0.186$; age: $\chi^2[11]=18.84$, p=0.064, $\omega=0.216$; educational level: $\chi^2[11]=19.32$, p=0.055, $\omega=0.219$ / Social responsibility: median raw score: $\chi^2[9]=12.86$, p=0.169, $\omega=0.178$; gender: $\chi^2[9]=13.15$, p=0.156, $\omega=0.180$; age: $\chi^2[9]=6.91$, p=0.646, $\omega=0.131$; educa-

tional level: $\chi^2[9]=7.92$, p=0.542, $\omega=0.140$ / Self-control: median raw score: $\chi^2[6]=5.58$, p=0.472, $\omega=0.118$; gender: $\chi^2[6]=9.91$, p=0.128, $\omega=0.157$; age: $\chi^2[6]=7.44$, p=0.282, $\omega=0.136$; educational level: $\chi^2[6]=6.78$, p=0.342, $\omega=0.130$ / Thrill and adventure seeking: median raw score: $\chi^2[9]=6.53$, p=0.686, $\omega=0.127$; gender: $\chi^2[9]=9.98$, p=0.352, $\omega=0.157$; age: $\chi^2[9]=8.38$, p=0.496, $\omega=0.144$; educational level: $\chi^2[9]=6.77$, p=0.661, $\omega=0.129$). This result is in line with prior analyses conducted by Herle et al. (2004) using the Austrian norm data.

Taken together, the results indicated that both language versions of the four scales of the questionnaire measure a unidimensional latent trait. Based on these results, we investigated the statistical identity of the 1PL item difficulty parameters of each of the four scales across the two language versions to check, whether the assumption of full score equivalence can be retained. We thus combined both data sets and calculated an LRT using the partitioning criterion "language version" to check for the possibility of item bias, which would challenge the assumption of full score equivalence across the two language versions. However, the results indicated that the assumption of full score equivalence can be retained (Emotional stability: $\chi^2[11]=14.92$, p=0.186, $\omega=0.136$; Social responsibility: $\chi^2[9]=9.46$, p=0.396, $\omega=0.108$; Self-control: $\chi^2[6]=7.36$, p=0.289, $\omega=0.096$; Thrill and adventure seeking: $\chi^2[9]=16.04$, p=0.066, $\omega=0.141$).

In sum the present results thus suggest that the implemented judgmental approach indeed contributes to the psychometric quality of the adapted version of the questionnaire. This is in line with prior results reporting an increase in the psychometric quality of the measure and a reduction in the test development cost through the application of current state-of-the-art test adaptation processes (cf. Hambleton, 2005; Sireci et al., 2006; Burke, 2009).

Study 2

The second study describes the adaptation of the Austrian version of the Adaptive Arithmetic Flexibility Test (ANF) into the English language. This test is currently implemented into the Intelligence-Structure-Battery (INSBAT: Arendasy et al., 2004) as a measure of quantitative

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reasoning. This project is primarily of interest because the item pool of this computerized adaptive test was developed using a top-down approach to automatic item generation (for details: cf. Arendasy, Sommer & Hergovich, 2007). Each item of this test consists of a series of unrelated operands to the left of the equals sign and the result on the right (cf. Figure 1). The arithmetic operations relating the operands on the left-hand side of the equals sign are replaced with a drop-down box containing the four basic arithmetic operations (plus, minus, multiply and divide). The respondent's task is to identify the arithmetic operations that are required in order to link the operands in such a manner that the given result on the right-hand side of the equals sign is achieved.
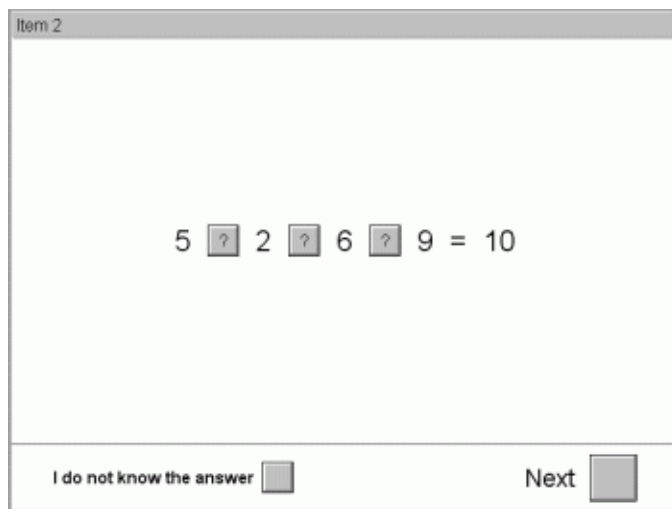
Figure 1: Sample item of the Adaptive Arithmetic Flexibility Test

The test authors specified a cognitive item model of this particular item format that is based on the General Problem Solver model (Newell & Simon, 1972; Newell, 1990) and defined a set of four radicals (Irvine, 2002) and six functional constraints (Greeno et al., 1993) that were implemented into an item generator (NGen: Arendasy & Sommer, 2004). The radicals and functional constraints were derived from the cognitive item model, which specified the cognitive processes and solution strategies respondents use to solve these items and the way in which they are

linked to different features of the items themselves. This process draws on theoretical considerations and experimental research in cognitive arithmetic and algebraic reasoning (for further details on the construction rationale: Arendasy et al., 2007; Arendasy & Sommer, 2008). On the basis of this construction rationale the authors generated the k=80 items of the Austrian version automatically. The resulting item pool was later calibrated by means of the 1PL Rasch model (Rasch, 1980). Furthermore, the authors also empirically evaluated the necessity of the functional constraints implemented into the item generator and evaluated the contribution of the radicals to the prediction of the empirically estimated 1PL item difficulty parameters using the Linear Logistic Test Model (LLTM: Fischer, 1973, 1995; De Boeck & Wilson, 2004).

Test adaptation process

The process of adapting the item pool of this test into the English language was initiated by customer requests. The customers were specifically interested in administering the computerized adaptive test in German and English and wanted to be able to compare respondents' performance across both language versions in the course of high-stakes personnel selection assessment. Thus there was a need to provide evidence of the full score equivalence of the two language versions of the test. At first glance the item format and the content of the test seem quite easy to translate. However, subtle differences in the educational system between the source and target country could give rise to either method or item bias, thereby compromising the full score equivalence of the two language versions of this test.

In order to evaluate the likelihood of method or item bias an expert committee was formed, consisting of the test authors and two bilingual secondary-level mathematics teachers. One of the two bilingual teachers originated from England and was at that time teaching mathematics in a secondary-school in Austria. The second bilingual teacher came from Austria and worked as a secondary mathematics teacher in England for a year prior to returning to Austria. Both bilinguals were proficient in English and German and can be considered to be experts in secondary mathematics teaching. The task of the expert committee was to collect data on the exposure of respondents to this specific item type in both

countries (here: Austria and Great Britain) in order to evaluate the likelihood of method and item bias. In order to accomplish this aim the committee collected several English and Austrian secondary school mathematics textbooks and obtained data on the frequency of the use of this item type in each country. Based on the finding that teachers' estimates of the difficulty of mathematics problems are fairly inaccurate (cf. Nathan & Koedinger, 2000; Nathan & Petrosino, 2003), we alternatively collected judgmental evidence of the comparability of the radicals by comparing the results of experiments (identified in a literature review) that were conducted with German- and English-speaking respondents. Since this survey of the research literature indicated that the ranking of difficulty is comparable within each radical across German and English studies we decided that there is sufficient judgmental evidence to show that item bias should not constitute a major concern. Thus we concluded that the test items do not themselves require any adaptation. The translation of the instructions utilized a classic back translation approach.

Procedure

Based on this initial judgmental evidence obtained within the AIG approach, we decided to use the same item calibration design that had already been used in the Austrian studies (cf. Arendasy et al., 2007; Arendasy & Sommer, 2008) to estimate the item difficulty parameters of the English version of the test. This corresponds to a multi-group monolingual design (Sireci, 2005). The item pool was split into five item sets, each containing 15 new items and five link items at the 4th, 8th, 12th, 16th and 20th positions of the item sets. The five item sets were identical in both languages. The items were administered using TestWeb (Arendasy, 2002). Respondents were automatically randomized to one of the five item sets using a random generator incorporated into TestWeb. The respondents were informed that they were going to see several arithmetical fluency problems and instructed to determine the operator sequence that would enable the operands to be transformed into the number displayed to the right of the equals sign. The test items were presented in a power setting with no time restriction. The respondents were able to correct their answer until they pressed the "next" button to move onto the

next item of the test. They were not allowed to go back to an already solved item to correct their answer or to use paper and pencil.

Samples

The Austrian sample consisted of 890 respondents (49.4 % male and 50.6 % female) in the age range 13 to 64 years (mean: 29.96; SD: 11.45). All educational groups are represented with a majority centering around EU levels 2 and 3 (EU 1: 20.3 %, EU 2: 24.8 %, EU 3: 39.0 %, EU 4: 7.6 % and EU 5: 8.3 %).

The English sample, on the other hand, comprised 989 respondents (48.0% male and 52.0% female) in the age range 12 to 89 years (mean=30.78; SD=11.93). All educational groups are represented with a majority centering around EU levels 2 and 3 (EU 1: 3.0%, EU 2: 17.5%, EU 3: 49.6%, EU 4: 21.8% and EU 5: 8.0%).

Tested models

The first set of models investigated the fit of the 1PL Rasch model within each language version. This was done by a series of Likelihood Ratio Tests (LRT: Andersen, 1973) using the partitioning criteria "median raw score", "sex", "age" and "educational level". In a next step we investigated the statistical identity of the 1PL item difficulty parameters across both language versions by means of an LRT using the partitioning criterion "language version". If the LRT fails to reach the significance level, the assumption of full score equivalence (van de Vijver & Poortinga, 1997, 2005; van de Vijver & Tanzer, 1997, 2004) of the Austrian and English item pools can be retained.

The second set of models investigated the fit of the Linear Logistic Test Model (LLTM: Fischer, 1973, 1995; De Boeck & Wilson, 2004) to the two data sets separately in order to validate the status of the radicals implemented into NGen (Arendasy & Sommer, 2004). The LLTM represents a more restricted version of the 1PL Rasch Model. It replaces the item difficulty parameter with a model of item difficulty that predicts the 1PL Rasch model (Rasch, 1980) item difficulty parameter estimates from a weighted sum $(\theta\iota\kappa)$ of the basic parameter estimates $(\tau\kappa)$ of the radicals (Irvine, 2002). The fit of the LLTM can be evaluated by means

of a Likelihood Ratio Test (LRT) comparing the likelihood of the data according to the 1PL Rasch model and the LLTM. If the LRT fails to reach the significance level, the basic parameter estimates (τ_k) explain the item difficulty parameter estimates sufficiently well. Furthermore, we examined whether the LLTM basic parameter estimates obtained in both data sets are statistically identical across both language versions by means of an LRT comparing the basic parameters (τ_k) estimated separately for German- and English-speaking respondents. From a theoretical point of view this corresponds to an investigation of the hypothesis that the automatically generated arithmetic fluency items require comparable cognitive processes in both languages (cf. Karmer & Smith, 2001).

Results

All calculations were carried out with the software program LPCM-WIN (Fischer & Ponocny-Seliger, 1999) using conditional maximum likelihood (CML) to estimate the item and basic parameters. The α-level was set in advance at 0.01 due to the number of goodness-of-fit tests carried out. We also calculated the deviance measure ω suggested by Müller-Philipp and Tarnai (1989) to estimate the effect size of the model deviation. If the model deviations lie below $\omega=.30$, small effects are not exceeded and the psychometric model exhibits a sufficient fit to the data.

In a first step the fit of the 1PL Rasch model (Rasch, 1980) was investigated for each language version separately using a link design based on the 1PL Rasch model for incomplete data sets. The fit of the model was evaluated by means of several LRTs (Andersen, 1973) using the partitioning criteria "median raw score", "gender", "age" and "educational level". The resulting LRTs and the corresponding effect size estimates (Müller-Philipp & Tarnai, 1989) suggested that the 1PL Rasch model fits the data fairly well for the Austrian version ("median raw score": $\chi^2[79]= 85.01$, p=0.302, $\omega=0.219$, "sex": $\chi^2[79]=98.63$, p=0.067, $\omega=0.235$, "age": $\chi^2[79]=84.70$, p=0.310, $\omega=0.218$ and "educational level": $\chi^2[79]=90.30$, p=0.181, $\omega=0.225$) and English version ("median raw score": $\chi^2[79]=85.50$, p=0.289, $\omega=0.207$, "sex": $\chi^2[79]=95.40$, p=0.101, $\omega=0.220$, "age": $\chi^2[79]=88.39$, p=0.220, $\omega=0.211$ and "educational level": $\chi^2[79]=92.14$, p=0.148, $\omega=0.216$).

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In a next step we therefore investigated whether the 1PL item difficulty parameters can be generalized across the two language versions by combining the two data sets and calculating an LRT (Andersen, 1973) using the partitioning criterion "language version". The result (χ^2 [79]= 89.44, p=0.198, ω=0.154) indicated that the 1PL item difficulty parameter estimates are statistically identical in the two data sets. Based on this result, the assumption of full score equivalence (van de Vijver & Poortinga, 1997, 2005; van de Vijver & Tanzer, 1997, 2004) can be retained. Since the LLTM constitutes a more restricted version of the 1PL Rasch model, the fit of the 1PL Rasch model within as well as across the two language versions is a necessary prerequisite for investigating the construct representation (Embretson, 1983, 1998) of the automatically generated arithmetic flexibility items within and across both language versions (Fischer, 1973, 1995a; Yu, 1994).

We then investigated the fit of the LLTM to the two data sets separately. Following Fischer (1995), the fit of the LLTM was assessed by statistically comparing the empirically estimated 1PL Rasch model item difficulty parameter estimates with those predicted by means of the LLTM basic parameter estimates. The LRT testing this hypothesis resulted in a narrow insignificance at α=0.01 for the Austrian (χ^2[75]=101.173, p=0.023, ω=0.238) and the English (χ^2 [75]=101.648, p=0.022, ω=0.226) data set. Furthermore, the correlation coefficients between the empirically estimated item difficulty parameters and those predicted on the basis of the basic parameter estimates (τ_k) amounted to 0.95 in both data sets. This means that the cognitive item model (Gorin, 2006) on which the radicals in NGen (Arendasy & Sommer, 2004) were based explains around 90% of the variance in the 1PL item difficulty parameter estimates in both language versions.

On the basis of these results we combined the two data sets to investigate the statistical identity of the LLTM basic parameter estimates across the two language versions by means of an LRT using the partitioning criterion "language version". The resulting LRT (χ^2 [74]=88.978, p=0.113, ω=0.154) indicated that the basic parameter estimates of the radicals (Irvine, 2002) implemented into NGen (Arendasy & Sommer, 2004) can be assumed to be statistically identical across the two language versions. Thus, the assumption of the cross-lingual equivalence of the construct representation (Embretson, 1983, 1998) of the automati-

cally generated arithmetic flexibility items can be retained. This means that the English and Austrian respondents process the items in a qualitatively similar manner.

Study 3

The test adaptation project described in the third study utilized a top-down automatic item generation approach (AIG: Arendasy & Sommer, 2009; Embretson, 2005; Gorin, 2006; Irvine & Kyllonen, 2002). In line with a suggestion made by Tanzer (2005) automatic item generation had been used to simultaneously develop an English and Austrian item pool intended to measure word fluency (for details: Arendasy, Sommer & Mayr, submitted). Measures of word fluency are commonly used in neuropsychological assessments to assess aspects of planned retrieval (cf. Lezak, 1995; Strauss, Sherman, & Spreen, 2006). Each item of this test consists of a jumbled sequence of letters. The respondent's task is to transform this jumbled sequence of letters into a meaningful noun by selecting the letters in the correct sequence (cf. Figure 2).
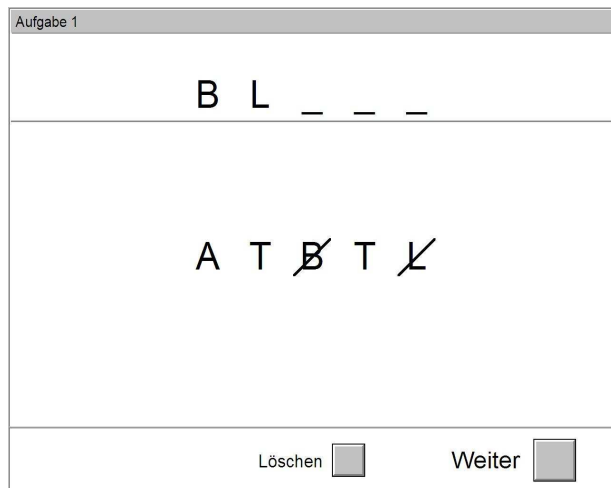

Figure 2: Sample item of the Verbal Fluency Test (German)

Simultaneous construction of the Austrian and English item pool

In line with current attempts to unify neuropsychological assessment across languages and cultures the decision was made that the scores obtained in the Austrian and English version of this test should be comparable to each other, thus requiring full score equivalence (van de Vijver & Poortinga, 1997, 2005; van de Vijver & Tanzer, 1997, 2004). However, previous research on the adaptation of verbal ability tests indicated that the construction of an extended pool of psychometrically, conceptually and linguistically equivalent verbal items that provide little context and vary predominantly with regard to linguistic and morphological characteristics of the individual words themselves is often close to impossible (cf. Allalouf, Hambleton & Sireci, 1999; Allalouf, Rapp, & Stoller., 2009; Beller et al., 2005; Elosua & López-Jaúregui, 2007; Sireci & Allaluf, 2003). Based on this finding Arendasy et al. (submitted) decided to construct two language-specific item pools that share a set of common inter-language anchor items (Allalouf et al., 2009) that can be used to link the two item pools to each other.

Before specifying the cognitive item model and the radicals, incidentals and functional constraints the authors conducted a search on the prevalence of this item format in German- and English-speaking countries. The search indicated that this item format should be comparably familiar in both languages (cf. Arendasy et al., submitted). In the light of this the authors specified a cognitive item model on the basis of the Adaptive Control of Thought – Rational model (ACT–R: Anderson & Lebiere, 1998; Anderson, Bothell, Byrne, Douglass, Lebiere, & Qin, 2004; Anderson, Fincham, Quin & Stocco, 2008) that outlined the cognitive processes and solution strategies needed to solve problems of this particular item type. Arendasy et al. (submitted) also conducted a literature search to investigate whether the core components of their cognitive item model can be assumed to be generalizable across both languages (here: German and English). They consulted experimental and neuropsychological studies conducted in the areas of language processing (for an overview: Harley, 2008), bilingualism (e.g. De Bleser, Dupont, Postler, Bormans, Speelman, Mortelmans & Debrock, 2003) and research on cognitive complexity (Schweizer, 1996, 2007; Stankov, 2000; Stankov & Raykov, 1995) that involved either German- or English-

speaking respondents. The review of the research literature revealed that, on the basis of the available judgmental evidence derived from these studies, construct equivalence can be assumed.

In a next step Arendasy et al. (submitted) specified a more specific cognitive item model (Gorin, 2006) from which a set of five radicals (Irvine, 2002) and three functional constraints (Greeno et al., 1993) was derived. The radicals used by the test authors were: (1) number of letters, (2) cues based on frequent letter combinations, (3) word frequency, (4) commonly shared letter combinations among nouns and (5) number of swaps. These radicals were implemented into an item generator that also contained language-specific components such as language-specific word lexicons (Arendasy et al., submitted). Radical specifications implemented into the automatic item generator (VfGen: Arendasy, 2006) were derived from commercially and publicly available German and English lexical databases (e.g. Hager & Hasselhorn, 1994; Baayen, Piepenbrock, & Gulikers, 1995). In order to make the radical levels comparable across both language versions, non-IRT-based equating (Kolen & Brennan, 2004) was used by the authors in the construction of the bilingual item generator VfGen (Arendasy, 2006). The item generator was used to generate the language-specific items and the inter-language anchor items (Allalouf et al., 2009). The test instructions were first written in German and then translated into English using a back translation design.

Procedure

Arendasy et al (submitted) used the item generator to construct k=10 inter-language anchor items and k=90 German and k=60 English word fluency items that were specific to the respective language version. In constructing the inter-language anchor items using VfGen (Arendasy, 2006) care was taken to ensure that the Austrian and English versions of these items were identical with regard to the levels of the radicals (Irvine, 2002). However, the inter-language anchor items were allowed to vary with regard to their incidentals (Irvine, 2002), such as the actual noun used. The full score equivalence of the inter-language anchor items had already been demonstrated (Arendasy et al., submitted, study 1). The resulting item pool of the German version was split into six item sets containing k=15 newly generated word fluency items and k=10 inter-

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language anchor items. The anchor items were administered at the 2nd, 4th, 6th, 8th, 10th, 12th, 14th, 16th, 18th and 20th positions of the item set. In a similar manner the item pool of the English version was split into four item sets containing k=15 newly generated word fluency items as well as the k=10 inter-language anchor items. The positions of the anchor items in the English version of the four word fluency tests are identical to those in the German version. Each respondent worked on one out of the six (German) or four (English) linear fixed-item word fluency tests. Since the anchor items had been shown to be psychometrically and conceptually identical to each other across as well as within each language version, they served to link the item sets to each other within and across the two languages. The items were presented in a power setting without any time restrictions. The respondents were able to correct their answer until they pressed the "next" button to move on to the next item of the test. The item order was randomized and items were presented in the same order for each respondent.

Samples

The Austrian sample consisted of 721 (43.5%) males and 936 (56.5%) females aged between 12 and 89 years (mean=31.11; SD=12.83). The respondents were from diverse educational backgrounds (ISCED level 0: 3.2%, ISCED level 1: 7.7%, ISCED level 2: 13.3%, ISCED level 3: 52.0 %, ISCED level 4: 13.5%, ISCED level 5: 7.7% and ISCED level 6: 2.6%).

The English sample, on the other hand, comprised 391 (49.0%) males and 407 (51.0%) females aged between 15 and 79 years (mean=31.48; SD=13.07). All educational groups are represented (ISCED level 1: 3.0%, ISCED level 2: 19.5%, ISCED level 3: 47.6%, ISCED level 4: 20.3% and ISCED level 5: 9.5%).

Tested models

We investigated the fit of the 1PL Rasch model within each language version. This was done by a series of Likelihood Ratio Tests (LRT: Andersen, 1973) using the partitioning criteria "median raw score", "sex", "age" and "educational level". Using the Martin-Löf statistic (Martin-

Löf, 1973), we also investigated whether the assumption of item homogeneity (Rost, 2004) can be retained when partitioning the item sets into the k=15 items unique to each item set in each of the two languages and the inter-language anchor items (Allalouf et al., 2009). If the Martin-Löf statistics fail to reach the significance level in all item sets, the anchor items can be assumed to be representative of the entire item pool from a theoretical as well as psychometric point of view. Since the anchor items used to link item sets to each other are required to be representative of the entire item pool in terms of content and psychometric properties (cf. Allalouf et al., 2009; Kolen & Brennan, 2004), a failure to establish item-homogeneity (Rost, 2004) for the unique items and the k=10 anchor items would constitute a serious challenge to the validity of the results.

In a next step we investigated the statistical identity of the 1PL item difficulty parameters across both language versions by means of an LRT using the partitioning criterion "language version". If the LRT fails to reach the significance level, the assumption of full score equivalence (van de Vijver & Poortinga, 1997, 2005; van de Vijver & Tanzer, 1997, 2004) of the Austrian and English item pools can be retained.

We then evaluated the fit of the Linear Logistic Test Model (LLTM: Fischer, 1973, 1995; De Boeck & Wilson, 2004) to the two data sets separately. Since Arendasy et al. (submitted) had already demonstrated that the LLTM fits the two data sets at $\alpha=0.01$, we examined whether the LLTM basic parameter estimates are statistically identical across both language versions by means of an LRT comparing the basic parameters (τ_k) estimated separately for German- and English-speaking respondents. From a theoretical point of view this corresponds to an investigation of the hypothesis that the automatically generated arithmetic fluency items require comparable cognitive processes in both languages (cf. Karmer & Smith, 2001).

Results

All calculations were carried out with the software program LPCM-WIN (Fischer & Ponocny-Seliger, 1999) using conditional maximum likelihood (CML) to estimate the item and basic parameters. The α-level was set in advance at 0.01 due to the number of goodness-of-fit tests

carried out to investigate the fit of the various psychometric models. In addition to the classic χ^2 values of the goodness-of-fit statistics we also provide the deviance measure ω suggested by Müller-Philipp and Tarnai (1989) to estimate the effect size of the model deviation. If the model deviations lie below $\omega=.30$, small effects are not exceeded and the psychometric model exhibits a sufficient fit to the data.

In a first step the fit of the 1PL Rasch model (Rasch, 1980) was investigated for each language version separately using a link design based on the 1PL Rasch model for incomplete data sets. The fit of the model was evaluated by means of several LRTs (Andersen, 1973) using the partitioning criteria "median raw score", "gender", "age" and "educational level". The resulting LRTs suggest that the 1PL Rasch model fits the data fairly well for both the German version ("median raw score": $\chi^2[99]=120.37$, p=0.071, $\omega=0.191$, "sex": $\chi^2[99]=105.83$, p=0.301, $\omega=0.179$, "age": $\chi^2[99]=100.72$, p=0.433, $\omega=0.174$ and "educational level": $\chi^2[99]=120.61$, p=0.069, $\omega=0.191$) and the English version ("median raw score": $\chi^2[69]=84.34$, p=0.101, $\omega=0.230$, "sex": $\chi^2[69]=78.60$, p=0.201, $\omega=0.222$, "age": $\chi^2[69]=74.72$, p=0.298, $\omega=0.216$ and "educational level": $\chi^2[69]=85.30$, p=.089, $\omega=.231$). In addition, the Martin-Löf statistics indicated that the inter-language anchor items (Allalouf et al., 2009) can be considered to be representative of both the German item pool (Set 1: $\chi^2[149]=144.58$, p=0.587; Set 2: $\chi^2[149]=157.92$, p=0.396; Set 3: $\chi^2[149]=151.75$, p=0.422; Set 4: $\chi^2[149]=143.31$, p=0.616; Set 5: $\chi^2[149]=150.73$, p=0.445; Set 6: $\chi^2[149]=152.83$, p=0.398) and the English one (Set 1: $\chi^2[149]=144.75$, p=0.583; Set 2: $\chi^2[149]=149.33$, p=0.477; Set 3: $\chi^2[149]=153.47$, p=0.384; Set 4: $\chi^2[149]=138.43$, p=0.722). This is a necessary prerequisite for using the inter-language anchor items to equate the item pools of the two languages (cf. Allalouf et al., 2009; Kolen & Brennan, 2004).

Based on these results we investigated the fit of the 1PL Rasch model (Rasch, 1980) to the combined German and English item pool. Since the fit of the 1PL Rasch model to the inter-language anchor items had already been established (Arendasy et al., submitted), the fit of the 1PL Rasch model to the entire item set was investigated by means of an LRT using the partitioning criterion "median raw score". The resulting LRT ($\chi^2[159]=187.96$, p=0.058, $\omega=0.196$) indicated that full score

equivalence can be assumed for the Austrian and English versions of this test.

The fit of the LLTM to each of the two language versions had already been demonstrated (cf. Arendasy et al., submitted). The authors showed that all the radicals (Irvine, 2002) implemented into VfGen (Arendasy, 2006) contributed significantly to the prediction of the 1PL item difficulty parameter estimates of the two language versions separately. We therefore investigated the statistical identity of the LLTM basic parameter estimates across the two language versions by means of an LRT using the partitioning criterion "language version". The resulting LRT ($\chi^2[153]=191.46$, p=0.019, $\omega=0.197$) failed to reach the level of significance at $\alpha=0.01$. Furthermore, the psychometric model deviated only slightly from the data. We thus concluded that the basic parameter estimates of the radicals (Irvine, 2002) implemented into VfGen (Arendasy, 2006) can be assumed to be statistically identical across both languages; this argues for the cross-lingual equivalence of the construct representation (Embretson, 1983, 1998) of the automatically generated word fluency items. Thus the data indicated that English and Austrian respondents process the items in a qualitatively similar manner by drawing on the same cognitive resources.

Study 4

The fourth project deals with the adaptation of a German Big Five Structure Inventory (Arendasy, 2009) into English. According to Arendasy (2009) the questionnaire was developed in order to overcome shortcomings in the dimensionality and measurement fairness of facets of the German version of the NEO-PI-R (Ostendorf & Angleitner, 2004) while maintaining the hierarchical structure (cf. Heidinger, 2004; Rost, Carstensen & von Davier, 1999).

Consecutive construction of the German- and English-language versions

The Austrian version of the questionnaire was developed in several phases between 2005 and 2009 using a combined top-down and bottom-up approach. The same method was used for the English version that

was developed consecutively on the basis of the German-speaking original. Based on the definition of the Big Five the author selected six facets that were intended to measure each of the five higher-order personality traits. The selection of the individual facets was based on (1) a review of existing German- and English-language Big Five questionnaires, (2) consideration of the practical utility of the facets in educational and occupational assessment contexts and (3) an attempt to obtain Big Five factors that are comparable in terms of the breadth of the constructs measured. This combined top-down and bottom-up approach was also used in the item generation process itself (for details: Arendasy, 2009). The items were in part constructed using classical approaches to test construction and were in part informed by current approaches to automatic item generation (AIG: Arendasy & Sommer, 2009; Embretson, 2005; Gorin, 2006; Irvine & Kyllonen, 2002). The various development stages involved item revisions and subsequent empirical trials conducted in different research projects and master's theses. This process highlighted potential problems of the item material in terms of its dimensionality and the measurement fairness of the instrument (for an overview: Arendasy, 2009). More precisely, in the course of the different revisions of the questionnaire the author replaced problematic items (e.g. items that overlapped conceptually with those of other facets or that exhibited unsatisfactory psychometric characteristics) with items that were selected on the basis of several word norms, taking into account the connotative and denotative meaning of the words as well as word frequencies and valence values (Arendasy, 2009). Throughout the various phases of construction of the English version of the questionnaire a combination of classic test adaptation procedures and procedures based on top-down approaches to automatic item generation (AIG: Arendasy & Sommer, 2009; Embretson, 2005; Gorin, 2006; Irvine & Kyllonen, 2002) was used, the aim being to ensure as close a correspondence between the two language versions as possible. As the item construction process of the German version became increasingly informed by automatic item generation approaches to test construction in the course of the various revisions, the test adaptation procedure shifted more and more from a classic forward and back translation design to an automatic item generation approach that capitalized on the available information on the semantic characteristics, frequency and valences of the German-speaking items.

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The most recent German- and English-language version of the questionnaire consists of k=10 items for each of the 30 facets used to measure the Big Five dimensions of Emotional Stability, Extraversion, Openness, Conscientiousness and Agreeableness. The respondents are presented with adjectives or short phrases and asked to use a four-stage rating scale to indicate the extent to which they feel that these descriptive terms are typical of them. The items of this version are still constructed partly by means of automatic item generation approaches and partly by means of classical approaches to test construction. Furthermore, there is no strict one-to-one correspondence at item level between the two language versions in terms of the item generation approach utilized because the inability to find an English equivalent of selected items meant that some theory- and language-based adaptations had to be made in constructing the English version.

The dimensionality of the facets of the current German- and English-language versions was investigated by Arendasy (2009) using the Partial Credit Model (Masters, 1982). The results obtained for the two language versions separately indicated that each of the 30 facets can be considered to be essentially unidimensional. Arendasy (2009) also investigated the factorial structure of the 30 facets separately for the two language versions using both exploratory and confirmatory factor analysis. The results obtained in these analyses indicated that the theoretical model is essentially confirmed for the two language versions. In the present study we thus solely investigate the level of cross-lingual equivalence of the two language versions using a random set of data drawn from the Austrian and English norm sample.

Samples

The Austrian sample consisted of 154 (49.5%) males and 157 (50.5%) females aged between 14 and 79 years (mean=37.65; SD=13.10). The respondents were from diverse educational levels (ISCED level 1: 14.1%, ISCED level 2: 24.1%, ISCED level 3: 36.0%, ISCED level 4: 17.0% and ISCED level 5: 8.8%).

The English sample, on the other hand, comprised 145 (48.7%) males and 153 (51.3%) females aged between 14 and 70 years (mean=36.61; SD=12.77). All educational groups are represented

(ISCED level 1: 13.8%, ISCED level 2: 25.8%, ISCED level 3: 31.2%, ISCED level 4: 20.8% and ISCED level 5: 8.4%).

Tested models

In a first step we investigated the statistical identity of the item parameters estimates of the Partial Credit Model (Masters, 1982) across both language versions for each of the 30 facets separately. This was done by means of LRTs using the partitioning criterion "language version". If the LRT fails to reach the significance level for any of the 30 scales of the questionnaire, the assumption of full score equivalence (van de Vijver & Poortinga, 1997, 2005; van de Vijver & Tanzer, 1997, 2004) of the Austrian and English versions of this scale can be retained.

In a next step, we evaluated the statistical identity of the factor loadings of the 30 scales on the five higher-order factors and the statistical identity of the latent factor correlations using a multi-group confirmatory factor analysis (Byrne, 2001, 2003; Kline, 1998). In order to do so, we specified the factor model proposed by Arendasy and restricted the factor loadings and factor correlations so that they were statistically equal across the Austrian and English samples. Following Byrne (2001) we first established baseline models for the two samples separately. In a next step we assumed that the factorial structure is identical in both samples. At this point we did not impose any equality constraints on the factor loadings and factor correlations across the two samples. This model was termed the "equal factor structure" model. Finally, we imposed equality constraints on all factor loadings and factor correlations of the model in order to evaluate the full score equivalence at the factor level. This final model was referred to as the "equal factor loadings" model.

Results

The Partial Credit Model (Master, 1982) was calculated with the software program LPCM-WIN (Fischer & Ponocny-Seliger, 1999). In addition to the classic $\chi 2$ values of the goodness-of-fit statistics we also provide the deviance measure ω suggested by Müller-Philipp and Tarnai (1989) to estimate the effect size of the model deviation. The results of these analyses are summarized in Table 1.

Big Five Factor	Sub-facet	χ^2	df	p	ω
Emotional Stability	Care freeness	13.684	9	0.134	0.106
	Equanimity	15.071	9	0.089	0.111
	Positive mood	14.650	9	0.101	0.110
	Social confidence	16.453	9	0.058	0.116
	Self-control	11.865	9	0.221	0.099
	Emotional robustness	11.452	9	0.246	0.097
Extraversion	Friendliness	12.693	9	0.177	0.102
	Sociableness	15.504	9	0.078	0.113
	Assertiveness	11.420	9	0.248	0.097
	Dynamism	15.034	9	0.090	0.111
	Adventurousness	13.264	9	0.151	0.104
	Cheerfulness	11.713	9	0.230	0.098
Openness	Imagination	15.994	9	0.067	0.115
	Aesthetics	10.467	9	0.314	0.093
	Feelings	12.224	9	0.201	0.100
	Action	14.271	9	0.113	0.108
	Ideas	12.261	9	0.199	0.100
	Values and norms	11.814	9	0.224	0.098
Conscientiousness	Competence	9.932	9	0.356	0.090
	Love of order	14.684	9	0.100	0.110
	Sense of duty	13.408	9	0.145	0.105
	Ambition	9.540	9	0.389	0.089
	Discipline	9.402	9	0.401	0.088
	Caution	11.883	9	0.220	0.099
Agreeableness	Willingness to trust	12.280	9	0.198	0.100
	Genuineness	12.571	9	0.183	0.102
	Helpfulness	11.663	9	0.233	0.098
	Obligingness	14.332	9	0.111	0.108
	Modesty	10.629	9	0.302	0.093
	Good-naturedness	12.261	9	0.199	0.100

Table 1: Goodness-of-fit statistics evaluating the cross-lingual equivalence of the item parameters of the individual sub-scales

As Table 1 shows, the assumption that the Partial Credit Model (Masters, 1982) item parameters are statistically identical across the two language versions can be retained. Taken together, the results argue for the full score equivalence (van de Vijver & Poortinga, 1997, 2005; van de Vijver & Tanzer, 1997, 2004) of the two language versions at the level of the 30 subscales. We therefore investigated by means of a multi-group confirmatory factor analysis whether full-score equivalence can also be assumed at the level of the higher-order factors.

The multi-group confirmatory factor analyses were conducted with AMOS 5.0 (Arbuckle, 2003) using Maximum Likelihood estimation. The global fit of the CHC models in the two sub-samples and the combined sub-sample was assessed using the following cut-off values for the global fit indices: χ^2 not significant, $\chi^2/df < 2$ (Byrne, 1989), RSMEA <0.08 and CFI >0.90 (Backhaus et al., 2004). The fit statistics of the various models tested are presented in Table 2.

Model	χ^2	df	p	χ^2/df	CFI	RSMEA
Austrian sample	766.30	395	<0.001	1.94	0.92	0.05
English sample	776.97	395	<0.001	1.97	0.91	0.06
Equal factor structure	1543.27	790	<0.001	1.95	0.90	0.04
Equal factor loadings	1589.99	825	<0.001	1.88	0.94	0.04

Table 2: Fit statistics for the hierarchical confirmatory factor analysis

In line with the results reported by Arendasy (2009) the theoretically postulated model provided a good fit to the data in both samples. This was also the case with respect to the "equal factor structure" model and the "equal factor loading" model. Furthermore, the "equal factor loading" model fits no worse then the less restrictive "equal structure" model ($\Delta\chi^2[35]=46.72$; p=0.089). On the basis of these results it can be concluded that the factor loadings and factor correlations of the two language versions of the questionnaire can indeed be regarded as statisti-

cally identical, thus arguing for the full score equivalence of the two language versions at the factor level.

Summary and discussion

In the last few years it became clear that test adaptation is far more complex than originally assumed. In order to ensure the suitability of the adapted test for the target population different kinds of adaptations to the original version of the psychometric test may be required (cf. Malda et al., 2008). The main aim of adaptations of this sort is to increase the conceptual and linguistic similarity between the original and the adapted version of the test. The degree of similarity between the original and the adapted version of the psychometric test depends on the objective and intended use of the adapted test. If one merely wants to have a certain psychometric test available in another language with no facility for comparing scores across the different language versions, one need only ensure that the definition of the latent trait (construct equivalence) and the dimensionality of the measures as well as its structural relation to other measures (structural equivalence) is comparable across the two language versions. Although this aim can be compromised by the presence of construct bias, the currently available evidence indicates that various ability and personality traits can be measured reliably across different cultures. However, if score comparisons across the different language versions are required, one also needs to ensure that the item parameters of the measure are statistically identical across the various language versions (full score equivalence). The latter aim drastically increases the demands of the test adaptation process since one has to ensure that the test items are conceptually and statistically similar across the various language versions. This aim can be compromised by different types of bias such as method and item bias. In the present paper we have focused on describing and illustrating two different types of judgmental procedure that can be used to reduce the likelihood of bias in the adapted test: (1) classical judgmental procedures and (2) procedures based on automatic item generation. Although classical judgmental procedures are more general with regard to their applicability, the main problem in applying these test adaptation procedures lies in the need to unambiguously define the conceptual and psychometric similarity of the individual items and provide

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translators with a sufficiently precise specification of item characteristics that can be freely altered and adapted to increase the suitability of the instrument in the new language while also specifying item features that need to be maintained for conceptual and psychometric reasons. The first study presented in this article illustrates how different classic judgmental procedures can be used to overcome this problem to a certain extent. The problem of defining the conceptual and psychometric similarity of items across different languages can be easily resolved within an automatic item generation approach to test adaptation. Within this approach a unique set of radicals, incidentals and functional constraints jointly defines the conceptual structure of the items of a test and provides a conceptual and procedural framework for the evaluation of the conceptual and linguistic similarity of the original and adapted test items. This approach to test adaptation has been illustrated in the second and third studies of this article. The comparison of these two studies is particularly interesting since it reveals that test adaptation can take different routes depending on characteristics of the test items even within one approach to test adaptation. While little to no adaptation was required in translating the items of the Austrian Arithmetic Flexibility Test (ANF: Arendasy et al., 2007), the generation of the English version of the Verbal Fluency Test (VF: Arendasy et al., submitted) required several theory- and language-driven adaptations due to differences in the morphological structure of German and English. The required theory- and language-driven adaptations of the items ultimately resulted in language-specific item pools that are linked to each other using a common set of $k=10$ inter-language anchor items (Allalouf et al., 2009). Despite these item-material-based differences that arose during adaptation of the two ability tests we have been able to demonstrate full score equivalence for both of them. Furthermore, we were also able to show, using the Linear Logistic Test Model (LLTM: Fischer, 1973, 1995; De Boeck & Wilson, 2004), that respondents using different languages process the items in a qualitatively similar manner, thereby providing evidence of the equivalence of the construct representation (Embretson, 1983, 1998) of the different language versions of both psychometric tests. However, the classic and automatic item generation approaches to test adaptation should not be regarded as mutually exclusive but as complementary methods of increasing the quality of the adapted test versions. In the

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fourth study we illustrated how the classic and automatic item generation approaches to test adaptation can be combined in the course of sequentially developing German and English versions of a Big Five questionnaire. Throughout the various cycles of developing, revising and field testing the different versions of the German and English Big Five questionnaire different judgmental designs were used to revise both the German and English versions depending on the empirical results obtained with both language versions in order to increase the conceptual and psychometric similarity of the two language versions. This final empirical example also nicely illustrates the fact that test adaptation constitutes an interwoven cycle of judgmental and statistical procedures that are required to ensure the sufficient psychometric quality of the adapted test that provides the necessary empirical basis for the objective and intended use of the measure.

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Pete Jones

The Use of "Implicit Association Tests" (IATs) to Measure Unconscious Social Bias

Introduction

Implicit Association Tests (Greenwald et al, 1998) have increased in use over the past few years with a growing body of evidence about their predictive capability and utility in overcoming issues associated with traditional self-report personality and attitude tests. Such issues include dealing with attempts to distort responses and lack of self insight in the test-taker. Implicit Association Test (IAT) methodology involves the accurate timing of stimuli responses in a simple sorting task as a measure of the underlying, often unconscious attitude towards a target (often a group of people). IAT methodology has been used to measure unconscious attitudes towards specific groups of people. The most high profile and prolific use has been in the measurement of prejudiced attitudes, and in particular racial prejudice.

Criticism of IATs as measures of prejudice

The use of IAT methodology in practice had been hindered by lingering criticisms and a fierce academic disagreement ignited in 2006 with the publication of a paper in Amercian Psychologist by Hart Blanton and James Jaccard. In this paper the authors point out that academic IAT metrics are essentially arbitrary; they mean very little because of the way the results are interpreted. In particular, Blanton and Jaccard argue that the normative scoring of Greenwald et al's IAT means that the scores have no meaning in terms of the behaviour the test-taker is likely to display; the individual is simply placed along a scale without any evidence to indicate the point at which the attitude becomes an organisational risk due to discriminatory behaviour.

Criticism has also been made of the fact that IATs use time (milli-seconds) as a proxy measure of the underlying construct (in this case prejudice). Blanton and Jaccard argue that although time itself is not an arbitrary measure, academic IAT developers took the fact the test used time as the unit of measurement to bestow upon IAT a belief that the IAT itself was therefore not arbitrary. By treating time as the unit of measurement test developers were also able to apply log transformations and other algorithms to the data including the development of a number of algorithms which used the standard deviation of respondents' scores to account for the base-line response speed of the respondent. In doing this Blanton and Jaccard argued that these transformations were based on the notion of getting a better measure of the unit of measurement in time, and had nothing to do with getting a better measure of the underlying prejudiced attitude. Blanton and Jaccard felt researchers were actually getting further and further from that goal by applying transformations of this sort.

Overcoming the issues

Implicitly (Jones 2009) is a version of an IAT developed specifically to identify the risk of discriminatory behaviour and to overcome the concerns of Blanton and Jaccard by benchmarking the test to real world behaviour.

Methodology

The development of Implicitly began by taking beliefs, feelings, thoughts and behaviours from the literature in the area (e.g. Allport's model of escalating prejudice and discrimination, 1954) and from the web sites of far right wing groups such as the BNP, BPP and Stormfront. These included beliefs about own group superiority in terms of intelligence, cleanliness and competence, and having acted negatively towards the target group by telling derogatory jokes about them, criticising them as a group, avoiding them and abusing them. These behaviours were adapted for reference to a range of groups and were scored using a four-point Likert scaled questionnaire, completed anonymously and in a low stakes environment with paid volunteers. The anonymity was afforded to

enhance disclosure of prejudiced beliefs, feelings and behaviours. In two studies in 2006 and 2007, 1065 respondents completed the questionnaire looking at their attitudes towards others on the basis of Ethnic Origin, and completed a race based IAT. The questionnaire used a traditional Likert scale asking how strongly the test taker agreed with statements about their attitudes towards the target group. The questionnaire was subjected to factor analysis and the scores on a primary Overt Prejudice factor (Factor 1) were examined in relation to the person's Implicitly scores on that test version. Various scoring algorithms were trialled, including the transformed d score used in academic IATs. Multiple regression techniques were applied to identify the algorithm which best predicted the behavioural reports gathered in the questionnaires. It was found that this algorithm did not require log transformations of scores. Transformed d scoring was less predictive of the criterion than an untransformed score. It seemed that by criticising transformed scoring as being conceptually flawed, Blanton and Jaccard had also afforded access to a simpler and more predictive method of scoring the IAT. Having established a predictive scoring algorithm, the next step was to ground the scores arising from that algorithm to be useful in classifying test respondents and providing them with meaningful feedback.

In 2008 a group of 57 paid subjects completed a wide range of IATs based on attitudes towards Age, Disability, Ethnic Origin, Gender, Religion/Faith and Sexual Orientation. This group were supplemented with another group of 47 paid respondents who completed an Ethnic Origin, Gender and Sexual Orientation IAT. All respondents completed a behavioural questionnaire of Likert scaled items based on the factor 1 (overt prejudice) items from the earlier studies.

Factor analysis was undertaken which showed that overall Implicitly scores were independent of the respondents basic processing speed or error proneness and that the algorithm still predicted the outcome of the behavioural questionnaire in a simple correlation. A questionnaire trigger-score was then set as the point at which the person endorsed half of the Factor 1 questionnaire items above the mid point on the Likert scale, thus agreeing with more than half of the prejudiced statement about themselves.

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Working upwards from this point, score label boundaries were adjusted to maximise the predictive capability of the test in assigning respondents correctly. The High group produced a 100% correct assignment such that every person who got that score on the test had disclosed prejudiced beliefs and behaviours. Of those with Elevated scores, 73% had disclosed prejudiced beliefs and behaviours above the trigger point. Of those at the "Mid-range" trigger point 44% had disclosed and below the Mid-range point only 6% had disclosed. These percentages were always going to be an underestimate of the correct assignment because despite the conditions under which they completed the questionnaire, some people may have still been reluctant to disclose. In this process the measure became one of the risks of exhibiting the prejudiced behaviour although the statistically significant correlation between factor 1 (overt prejudice) questionnaire and test scores suggested that higher scores were associated with more prejudiced behaviour.

Implications of criterion scoring for feedback of results

Because Implicitly is criterion scored, the feedback can also be given based on this criterion. Blanton and Jaccard point out that "Moderate" and "Strong" as used by the Greenwald et al IAT have no real world meaning. Without a criterion base Implicitly feedback would be the same. Implicitly feedback tells respondents the strength of the probability that they are exhibiting behaving in a discriminatory manner and makes it clear that the results show a bias or prejudice towards the target group.

The aim of feedback from Implicitly is not only to tell the respondents their criterion based results and where they sit in comparison to other people; it is also designed to motivate them to want to manage or change their prejudice(s). To achieve this latter aim, written feedback was developed based on Cognitive Behavioural Theory (CBT). The process is geared to helping respondents identify the underlying experiences, beliefs and thinking patterns which are feeding the prejudice. Direction is given on what can be done to manage or reduce the behavioural manifestation of the bias.

Because Implicitly works from the trigger point to assign Mid-range, Elevated and High risk labels one might assume that those with a "Low" score (who make up around 75% of respondents) might be given "a clean bill of health" but this is clearly not the case. Those below the trigger point may still have endorsed one or more of the Factor 1 items above the mid point. In addition, recent evidence from the United States (Marx, Jin Ko and Friedman, 2009) suggests that there is a risk in people getting a message that they are free of prejudice when in fact they may have undetected prejudice. The Marx, Jin Ko and Friedman study showed many positive effects in reducing prejudice by the election of the first Black US President in 2008. However, they also noted that some of those who had prejudice but who had voted for President Obama then had a tendency to be more expressive in their prejudice because they felt they had somehow proven their unbiased position in their voting. Feedback to those with Low Implicitly scores therefore is accompanied by a warning that Low scores still carry risks, and that the individual should be guarded against prejudice developing or emerging due to a lack of personal vigilance.

Conclusions

In the development of Implicitly, overcoming the concerns of Blanton and Jaccard has played a central role. Not just because of the very powerful and continuing technical arguments made by them but because of the need for real world application of this test in evaluation, audit, training need analysis, staff development, placement and selection. The criterion base gives a much more useful measure with which test users can make decisions with reassurance that many of the concerns around arbitrary metrics have been tackled.

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Wolfgang Heindl

CHARLY
Preventive Preparatory Psychosocial
emergence care

Psychosocial Support with CHARLY

The military and civil forces deployed on peacekeeping missions and after terrorist attacks, natural disasters or serious accidents and catastrophes are frequently subjected to severe mental stress. The German Federal Institute for Occupational Safety and Health speaks of the "challenge of work-related trauma" in this context. In the second edition of its 2006 publication, the federal institute notes that "images of human suffering are imprinted on the human memory and have a lasting effect. Intense mental reactions, up to and including post-traumatic stress disorder, can occur and may be accompanied by psychosomatic symptoms, anxiety or depression." The need for effective prevention is therefore great.

CHARLY provides an innovative multimedia training platform for the psychosocial support of military personnel and rescue workers. It supplements existing supervisory and pedagogical units and helps to efficiently and sustainably increase the ability of military personnel and rescue workers to cope with psychosocial stress.

With the help of CHARLY, training course participants learn about the connections between traumatic situations and their own stress reactions. They come to recognise the typical symptoms and effects of stress and can practise skills and self-management methods for coping with high levels of mental stress.

The platform helps participants to accept their own limits and promotes the leaders' understanding of work-related trauma. Participants are guided through the system by a virtual coach that encourages them to actively participate from the start. They experience their own stress reactions during an experiment. They participate in case studies that clearly present the cause and symptoms of post-traumatic stress disorders. In the

psycho education unit, participants expand their knowledge of stress and trauma. They practise selected methods for coping with stress and put them to the test by confronting stress scenarios that are realistically demonstrated. The biofeedback interface enables participants to objectively verify their effectiveness. Participants train their self-perception, expand their communication skills and become aware of the need for mutual social support. All participant activities are evaluated using a point system.

CHARLY was commissioned by the German Armed Forces and successfully tested. CHARLY will be integrated into the training and mission preparation process at the German Armed Forces Centre for Explosive Ordnance Disposal.

Benefits of CHARLY

Charly enhances the holistic development of abilities through self-awareness, psycho education and the systematic training of self-monitoring and self-efficacy.

I)   It helps to reduce stress levels and the risk of traumatisation during missions.
II) It increases the ability to cope with mental stress.
III) It improves the ability to act, self-management when coping with acute reactions to stress situations.

CHARLY - Key Features

CHARLY is based on current neuropsychological research on post-traumatic stress disorders(PTSD) and their prevention, and is didactically well-founded.The specific stress area is compiled for each target group and presented to participants by means of sequential multimedia scenes.

CHARLY has a biofeedback interface: skin conductance is the index of subjective tension. It is measured and used as feedback for self-efficacy. An integrated video coach supports participants by moderating and explaining the course content. Being spoken to directly motivates participants and supports their concentration.

CHARLY uses a whole range of multimedia capabilities such as video, animated comic illustrations and various methods of interaction. This vitalises the training course and ensures a sustainable effect.

CHARLY is an integrative training package. As a training unit, the multimedia software is embedded in a blended training concept. Checklist cards that can be taken away by the patients support the transfer from a training situation to the reality of a mission.

Technical requirements:
Windows multimedia PC
USB port for the biofeedback sensor
Server-client network (LAN)

Systematic structure in training units

1. Self-awareness
Skin conductance comparison during states of relaxation, concentration and stress (interactive experiment)

2. Professionalisation (psycho education)
Phenomenology of pyschotraumatic stress disorders
Stress and trauma (phenomena, internal psychological processes)
Potential stress factors during missions

3. Training in areas of stress
Protective mindsets
Self-perception
Self-calming techniques
Finding social support in conversation
Social perception and providing social support

4. Evaluation
The more successfully a training unit is completed, the higher the number of points (high score). Individual feedback by means of biofeedback trains self-perception.

5. Mission kit

Each participant who successfully completes the training course receives a "mission kit" in the form of brief instructions and check lists.

CHARLY, an innovative multimedia training platform, provides psychosocial support for mission and rescue forces. Used in preparatory training for missions, it provides psychosocial emergency care. It complements existing care and training units and helps to efficiently and sustainably increase the psychosocial resilience of mission forces.

Using CHARLY, soldiers and mission forces experience the connections between traumatic stress and their own stress reactions, they recognise the symptoms and effects of stress and learn how to cope with traumatic stress (self management). The platform helps to accept your own limits and promotes leaders' understanding of work-related trauma.

CHARLY has been developed under commission from the German Armed Forces, the initial version is for the Explosive Ordnance Disposal forces, the next one will be for the MPs.

Beatrice Zilian

Intercultural Education in the Austrian Armed Forces -
Mission Preparation for International Operations
Including Intercultural Aspects

The Austrian Armed Forces have been developing into the direction that troops shall be de- and employed to and in countries almost world-wide. Austrian troops have been deployed to UN-missions since 1960. Most of these missions were or have been peace-keeping missions. Since KFOR was established, a PfP-mission has been running and the latest development shows that Austria participates in EUFOR (Bosnia-Herzegovina, Chad – until May 09). International Operations on the European Continent, in the Middle East and in Africa have never been a big problem so far. The Austrian soldier is used to being flexible and ready for new challenges.

The mission preparation is dependent on the mission area and its tasks. It may take between 5 and 12 weeks on average. If there is an AFDRU mission necessary, the prep-phase may just take a few days. The soldiers, who are NBC-experts as well as doctors, nurses and psychologists working for AFDRU, are well prepared for disaster relief; therefore only a short introduction dealing with the country itself is necessary. Nevertheless, any mission area with its population is different in geography, culture and habits from any other one. There can be similarities between the behaviour of several interested parties, even some terrains or regions, but specific tasks in special areas are to be focused on and considered well, before any action is begun.

The main aims of all these missions, done by soldiers of the Austrian Armed Forces, are conflict prevention, peace keeping or disaster relief. One might think that excellent military training covers the needs in a mission area. If military training includes intercultural education, the aim will hopefully be fulfilled pretty well. If there is a lack of intercultural education, the best military training cannot help and will not make the troops achieve the goal.

Intercultural education has become a part of mission preparation yet. Soldiers come in contact with well experienced soldiers who either stay-

ed in the mission area where they gained experience or they are given the chance to get in touch with people who come from the mission area itself (e.g. soldiers with migration-background). The soldiers who are trained and drilled in this manner are taught important signs, good behaviour, etc. During interviews well experienced soldiers have come to the conclusion that mission preparation should even deal more with topics such as behaviour and don'ts. It is sure that well educated soldiers have better chances for survival than badly trained comrades. But interviewed military persons and those who were asked by questionnaire pointed out that intercultural education should become a subject in the curriculum of any soldiers' training. Low and high ranked soldiers should better get important information about several mission areas regarding geography, history, behaviour, customary law(s), neighbour countries, etc.

If a subject "intercultural education" were taught from the beginning of a soldier's training on, it would be easier to tell one in detail about any mission area, later, during a mission preparation phase. But telling and teaching alone never can open one's heart if he/she doesn't accept the content told and the lessons taught. The approach should be begun with any single person him-/herself. As soon as a soldier starts thinking about his/her own identity (as a son, father, comrade, soldier – living in a village/town, region, country – working in a special branch in the forces, etc.), living on a behaviour and culture (including religion) one has ever lived on and was brought up with, the first step is done. At first, one has to "identify" him-/herself, later he/she can move forwards into direction of "others". This development takes time.

The mission preparation phase takes several weeks but offers too short time for identification of oneself and the development of empathy for the others – here especially - for those in the mission area (population – e.g. different ethnic groups, comrades – e.g. multinational task force). Empathy sounds very peaceful, indeed; but that's what soldiers do need for their contact with civilian people on the one hand and soldiers from other countries or continents on the other hand. Specific cultural behaviour also may influence reactions of enemy soldiers or paramilitary troops who Austrian soldiers could meet somewhere in mission areas. Therefore these fighters´ culture (the reason why they fight, the way they fight or in which manner they usually defend themselves)

should be known well. Anticipation because of intercultural awareness can save lives.

The next point should deal with multinational task forces. It is a fact that soldiers sometimes have to work together with comrades from other nations, continents and therefore with different cultures, whenever they stay in several camps or at check-points. Soldiers usually are trained for good cooperation in different teams and crews. If the teams are homogeneous, work can be done quickly and well, but as soon as the group starts turning into an inhomogeneous one, troubles occur. Soldiers with similar cultural roots hopefully can find a solution for their troubles quickly, because they should know how to react. If there are teams who come from different nations and who were brought up in different cultures, finding a solution for a possible problem could turn into a real problem, if cultural awareness about "the others" is missing. A soldier who deploys into a mission area really has to deal with multiple cultural challenges. On the one hand it's the (multi-ethnical) population; on the other hand the (multinational) comrades.

Thirdly, interviews and questionnaires have shown that a soldier never comes back the same he/she had been before he/she deployed. The soldier's intercultural socialization and finally education goes gradually, but the family at home finally gets a different person back from the mission area. If a family is not well prepared for the soldier's remigration because of different reasons (e.g. such as cultural ones), troubles are triggered off within the very first time one has come back, and one was looking forward to so much over months. Strange reactions can converse the feelings immediately, because the influence of other cultures and impressions may have changed the soldier. If the nuclear family, relatives and friends don't get any information by the Armed Forces (which he/she had been serving for as a representative) about the culture the soldier had been living with and staying in over six or even more months, resocialization will become a big problem or even fail.

Sidney Irvine

Item-Generative Tests and the Measurement of Cognitive Deficits: A Major Advance for Military Psychology.

Single participant, repeated measure studies of cognitive performance using multiple parallel forms of reliable and valid psychometrically referenced tests in situations where cognitive deficit is known are extremely rare. This landmark study reveals the nature and extent of individual post-operative cognitive decrements as a function of anaesthesia, and compares them with the effects of aging after a 7 year interval. This approach, simulating brain dysfunction, provided a secure foundation for evaluating the use of multiple forms over time, from an initial baseline.

The results show predictable significant and substantial post-operative effects on perceptual speed, spatial orientation and working memory tests involving calculations, alphabet restructuring and semantic identity. In the 7 year follow-up condition there was also evidence of cognitive performance decrement over time, but not of the same severity as that produced by anaesthesia.

The presentation briefly illustrates the cognitive tests and summarise the results, leaving time for discussion of the implications for military psychology of the success of multiple parallel forms of simple tests in assessment of cognitive deficits following percussive injury. One major advance has been the removal of memory confounds in studies measuring change, an advantage not available through repeated measures using identical test forms.

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Tools for Assessment of Brain Dysfunction and Percussive Injury: Not The Viennese Woman - but The Anaesthetised Male

Summary

The presentation briefly illustrates the nature of multiform computer-delivered cognitive tests, describes their use in determining the extent of cognitive deficits, and summarises the results, leaving time for discussion of the potential of components for assessing percussive effects in deployed military personnel.

Background

The British Army Recruit Battery (BARB) has been operational since 1991: and modern variants of item-generative tests for military use have been used in Germany and in Belgium. These tests have has selected personnel continuously. Although their validity has been established, there has been no published account of their use as a diagnostic tool for describing brain dysfunction. Single participant, repeated measures of cognitive performance using multiple parallel forms of reliable and valid psychometrically referenced tests in situations where cognitive deficit is known to occur are extremely rare. This pioneering study uses multiform cognitive tests to reveal the nature and extent of individual post-operative cognitive decrements as a function of anaesthesia, and compares them with the effects of aging after a 7 year interval.

Method

Following critiques (cf. Irvine and Irvine, 1996; Irvine et al. 1998) of practices in the repeated measurement of cognitive deficit in older people, a single male volunteer aged 65 agreed to complete a battery of tests *for a period of 10 successive days* following minimally invasive endoscopic surgery. Nineteen weeks later the patient repeated the process. Seven years later, the patient agreed to take the tests: once again for 10 successive days.

Results

The results show significant and substantial immediate post-operative effects on perceptual speed, spatial orientation and working memory tests involving calculations, alphabet restructuring and semantic identity. In the seven-year follow up condition there was evidence of cognitive performance decrement over time, but not of the same severity as that produced by general anaesthesia.

Conclusions

In clinical contexts, item-generative multiform tests can be powerful tools in assessing the dimensions and degrees of brain dysfunction; and changes after treatments and intervals. Their great advantages include application on recruitment or on deployment, providing baseline measures, and the removal of memory confounds in measuring change because of its infinite number of parallel forms.

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Irene Kucera & Hans Lampalzer

Easy to Say, Hard to Do -
Insights into the preparation of the workshop on
Intercultural Competence for the General Staff Course

Introduction

The operations preparation in the Austrian Armed Forces includes aspects of Intercultural Competence training. It is not a question of whether or not to raise the issue of culture during the operations preparation of soldiers; rather it is a question of how to do so and where to start. Incontestably, the cultural dimension can have different impacts on the individual, which might significantly affect the work on the ground and eventually contribute to the success or failure of an operation. Experience has shown that even people who received 'intercultural training' may face problems, like stereotyping people, capriciousness, frustration and lack of concentration.

The present article focuses on the challenges identified in the preparation of the workshop on Intercultural Competence for the General Staff Course of the Austrian Armed Forces, held in 2008. It elaborates on different aspects of the planning process, analyses the results of the workshop as well as the students' feedback and describes the lessons learned. Finally, the paper formulates some recommendations for the way ahead.

Context

This chapter intends to enhance the understanding of the context in which the workshop took place. Following a statement by Fowler and Blohm, who underline the influence of culture on intercultural training, the circumstances will be analysed, in order to gain insight into the planning process. Fowler and Blohm[39] stated, "The most significant influ-

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[39] See Fowler and Blohm, 2004, p. 41.

ence on intercultural training is culture. The influence of culture affects all aspects of training, including the trainer, the participant assessment, and both the process and the content."

The Austrian General Staff Course represents the highest and most prestigious Officer Course in the Austrian Armed Forces and lasts for a total of three years. This particular course started in September 2007. Due to the curriculum, the second year (September 2008 – July 2009) was to include several international exercises. The intent of the course commander was to put emphasis on raising the participants' cultural awareness, before being engaged in a multinational environment. For that purpose two workshops on Intercultural Competence were developed and conducted in July 2008. Because of the importance of the issue at hand, it was decided to hold the workshop during the last week of the first year. All examinations were finished by then, which allowed full concentration on the content. Moreover, the course was also intended to 'calm down' the participants a bit, after a very intensive and challenging year.

The course comprised 25 participants and with the exception of one Swiss officer all students were Austrian, which set the premise for preparing the workshop. The audience could be described as nearly mono-cultural and homogenous. Both trainers were experienced in working within the 'subculture' of the military. One of the trainers had graduated from the Military Academy and has worked in the Austrian Armed forces for more than 20 years, while the other trainer had completed an internship at the National Defence Academy and has held lectures for several years at the Austrian Partnership for Peace Training Centre (Centre for Operations Preparation).

Planning process

The planning process started by gathering information about the course participants, which revealed two important facts: Firstly, the audience, whose ranks were ranging from First Lieutenant to Major, had all gained experience in deployments abroad. Most of them had been deployed to the Balkans or the Golan Heights and some had worked as

military observers in various regions in addition. Secondly, all participants will hold key positions, after they finish General Staff Course. They will be leaders, such as Chief of Staff of a brigade or receive equivalent appointments. The trainers, therefore, had to take into account that in two years' time the workshop participants' knowledge and understanding of intercultural issues as well as their attitude towards intercultural competence might, or would most probably, have a direct impact on a lot of people as well as on decision making processes. From these two key factors the trainers derived that they would have to pay attention to both the participants' situation at the time as well as their future positions.

Assessing the personal data collected in the beginning, the workshop participants were marked by three main characteristics: excellent distinctive cognitive abilities, very strong comradeship ties, built during the first year of General Staff Course, while maintaining their individuality by pursuing different interests. The future picture would be one of a commander who has to know about the impact of culture and the possibilities of how to improve and impart knowledge in this area. Therefore, in order to do justice to both pictures, the methods and the content had to highlight specific fields of interest from a future perspective and on a meta-level. The approach of shifting perspectives was to provide a basis for their future appointments (by using the meta-level approach we intended to introduce the participants to different ways of teaching cultural competence, in order to facilitate their choices regarding the teaching of intercultural competence in the AAF in the future).

Shifting perspectives is one of the main tools within the broad spectrum of Intercultural Competence. Its significance is also referred to in military papers, such as for instance the Joint Doctrine Note 1/09 under the heading of "The significance of culture to the military", released in 2009 by the Development, Concepts and Doctrine Centre (DCDC) of the UK Ministry of Defence. The doctrine suggests that shifting perspectives is important. "Knowledge of culture is one of the most important aspects in meeting the challenges of contemporary conflict. Not only may people from different cultures behave in different ways, they may also think

about the world in different ways. To understand why they do what they do, we need to try to see their world in the way that they do."[40]

Before going into detail concerning the content of the workshop, the following short overview should help to understand what kinds of intercultural aspects are addressed during operations preparation in the Austrian Armed Forces. In most cases intercultural knowledge is imparted only on those soldiers whose assignment abroad is pending. It comprises information about the mission, the geography of the target country, historical facts, and the composition of ethnicities. Fact-books and smart cards, containing the most relevant phrases, most often complement this part of mission training. This basic information is undoubtedly a prerequisite for a better understanding of the mission. Yet, at the same time also affective and behaviour-oriented skills play an important role, although they are only trained to a very limited extent during operations preparation.

One example in the direction of affective and behaviour-oriented training is the so-called Force Integration Training (FIT). This kind of training is designed to form one combined task force out of different national elements. Normally it is included in a field exercise which lasts one to two weeks and marks the last preparation step before going abroad. During the exercise, possible mission scenarios are rehearsed. In 2002 one of us underwent such Force Integration Training. The aim was to integrate a Swiss company into the Austrian Task Force for the Mission in Kosovo. When, for the first time, working together with the incoming Swiss contingent, some of the soldiers were, at least to some degree, confronted with relevant intercultural problems. Gaining a positive view of other cultures, reducing mistrust and uncertainty, accepting new ways of thinking and problem solving, reducing stereotyping as well as gaining confidence in getting along with 'your new buddies', becoming aware of different ways of communication and adapting to new rules of co-operation are of utmost importance. Regardless of the positive intentions, the following questions need to be raised: How many soldiers actually make contact with soldiers from other nations during

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[40] Quoted from: Joint Doctrine Note 1/09, p. 1-3.

this last week of operations preparation? Do the scenarios really reflect the situation in the mission area? Is it too late to sensitize the soldiers for these issues during this last phase of preparation?

In a publication on Intercultural Competence within the German Armed Forces Willer[41] stated, that Intercultural Competence should be built continuously and that periods of study rather than operations preparation should be used for this purpose. This model of intercultural training is still poorly developed in the AAF. Nevertheless, country- specific knowledge is indispensable for every mission. However, this knowledge will change constantly, depending on the operation, and cannot replace a general sensitization of the soldiers. It calls for continuous training and periodical re-evaluation of what Intercultural Competence is and why it is important for accomplishing missions abroad. Often enough Intercultural Competence is not regarded to be a military matter at all or a skill relevant for effectively accomplishing military tasks. Military codes of conduct suggest that all soldiers - also those of different cultural backgrounds - are the same. Besides interacting with comrades from other contingents, soldiers also interact with the local population, with international organisations, with humanitarian workers, and last but not least with non-governmental organisations. Winslow, Kammhuber and Soeters[42] stated that, "Traditionally, interactions between the military and humanitarian workers have been characterized by avoidance and antagonism… Each group sometimes holds stereotypes of the other."

"…Military personnel are described by some NGOs as 'boys with toys', rigid, authoritarian, conservative, impatient, arrogant, civilian phobic, homophobic, 'excessively' security conscious and so on. In contrast, battalion commanders have referred to NGOs as 'non-guided organizations'." Winslow[43] also found further stereotypes, such as "…'children of the 60's', 'flaky do-gooders', 'permissive', 'unpunctual', 'obstructionist', 'anarchic', 'undisciplined', 'self-righteous or antimili-

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[41] See Willer, 2006, p. 171 (quoted from Keller/Tomforde, 2007, pp. 161-195).
[42] See Winslow, Kammhuber, Soeter, 2006, p. 400.
[43] See Winslow, 2000, p. 401 (quoted from Winslow, Kammhuber, Soeter, 2006, pp. 395-415).

tary'." Bridging the gap and overcoming such barriers is therefore essential and, from the authors' perspective, training should also focus on these aspects, since the profession of each person can be considered as a kind of subculture.

Expectations and assumptions

From the very beginning of our preparation work for the workshop on Intercultural Competence we kept the aforementioned stereotypes and prejudices in mind, especially, because one of us took part in the International Peacekeeping Training Programme at the Austrian Study Centre for Peace and Conflict Resolution. Some soldiers of the Austrian Armed Forces have quite a negative picture of this Centre and tend to see the students there exclusively as opponents of the military. Therefore, one of us feared to be considered a 'flaky do-gooder'.

Notwithstanding, we were eager to learn more about the expectations and assumptions of the workshop participants, which would help us assess their demands from the very onset and adapt our training content. This method of working in process is in itself part of Intercultural Competence. With regard to their expectations and assumptions, the participants mentioned both content-related issues and didactical approaches. Interestingly enough, they also emphasised the need for "do's-and-don'ts"-guides, which, though only in the beginning, some participants considered to be the first and foremost tool to better communicate and understand other cultures.

Another question we asked the participants at the beginning of the workshop was what their personal understanding of the term 'culture' was. This additional information was important, in order to establish the basis for our training. Already existing cultural experiences and the notions of what culture was varied from participant to participant, which is, of course, not surprising or extraordinary but was pertinent information with regard to the further proceedings of the workshop. Some of the participants showed a rather conservative understanding of culture, basically referring to things like theatre, classical music, cuisine, etc. They were the main advocates of the do's-and-don'ts-guides. Most of the par-

ticipants, however, associated culture with values, norms, ways of thinking, etc. This fact helped us to have open discussions and to come up with a very broad definition of culture, which had no operational character.

Taking this into account, it was easy and at the same time difficult to broaden the 'cultural' horizons of the participants and to gain their full attention and willingness to work with us. Some participants were already very open-minded regarding cultural issues and to a certain extent already sensitized, which made it hard to show them something new. Others expected to broaden their horizon but insisted on their assumption that culture can be summed up in one single definition and/or on one single sheet of paper.

But not only the assumptions and expectations of the participants concerning the content of the workshop were relevant; also our assumptions and expectations of the workshop participants were guiding us, when preparing the structure and content of the workshop. We basically expected to be dealing with tough soldiers who were hard to convince that a so-called soft skill like Intercultural Competence was an important asset. We, therefore, thought that we would have to use didactical tools that were in line with military standards. We were getting ready to teach a very challenging audience in an environment where no or only few mistakes were allowed. To put it in a nutshell, we thought that we would have to be perfect. On the other hand we were, at least to a certain extent, sure that the participants would be interested in learning, though we doubted that they would be willing to work with us on affective and behaviour-orientated issues. So, we assumed to hold a lecture and wondered how our intended exercises (e.g. group work) would work out. Although, we were experienced in working with soldiers in cultural awareness training, we were not sure whether we could motivate the participants to have open discussions.

Also gender played a role in our considerations. As a matter of fact, we both have different gender backgrounds, which we personally regarded to be an asset. We figured that a trainer team made up of a woman and a man would be complementary, in the sense of representing

different points of view. Another consideration was that, on the other hand, a female trainer might not be taken all that seriously, particularly when lecturing on a soft skill, like culture, since experience has shown that, when training soldiers, advice and criticism are more easily accepted when they come from male trainers.

The Content of the Workshop

The content of the Intercultural Competence Workshop can be illustrated as follows:
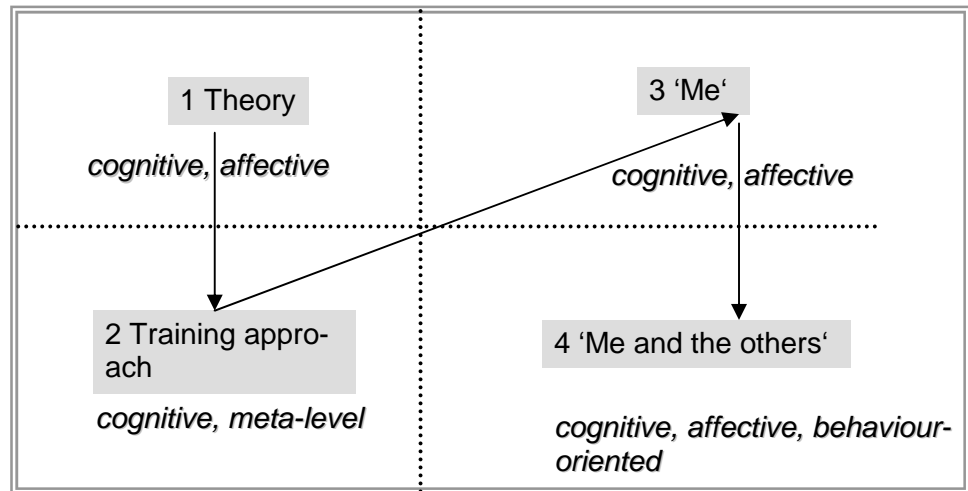

Figure 1: Content of the workshop

We started with the 'theory of culture'. As we were not aware of the different concepts of culture the participants had, we decided to start with a very broad and common approach to culture. In doing so, we always tried to provide examples from African cultures. Various materials on culture, on definitions of culture and Intercultural Competence were presented. What we tried to get across in these initial lectures was a broad approach to culture and the wide range of cultural understanding and competence: What is culture? How do we learn more about culture? Where do we find differences in cultural aspects and what do these differences imply and mean for interacting with other persons?

Although the presentation of this approach was somewhat long and theoretical we considered it essential for, both the cognitive and the affective understanding of culture. We were and are convinced that a theoretical background is indispensable for further sensitization.

In the second part of the workshop we emphasised the fact that there are different ways of 'teaching culture', all pursuing different goals and arriving at different outcomes. In this second part we tried to illustrate how culture can be 'taught' on a meta-level, so that the participants would get aware that there are different ways of imparting that knowledge and that they have a choice when selecting further training in this field. We also emphasised the importance of integrating cultural awareness training into the curricula of military education.

The third part generally dealt with the personal experiences and the personal understanding of one's cultural self. We started out on the premise that we first have to understand ourselves and gain a critical, or reflective, perception of our own culture, subculture of our profession and finally of our organisational culture.

"Cultural Awareness requires individuals to understand that, from their own cultural perspective, they are cultural beings. They must then use this understanding as a foundation to explore the distinct characteristics of other cultures so that they can effectively interpret others' behaviours in intercultural interactions."[44]

This understanding was crucial for the forth and last part of the workshop, which we named 'me and the others'. We were in the fortunate position to invite members of the anglophone African community in Vienna, who agreed on having open discussions with the workshop participants.

There are various reasons why we decided to select the African community:

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[44] See Chen/Starosta, 1999, p. 407

Africa has become an important issue for the Austrian Armed Forces, at the latest since January 2008, when Austrian troops deployed to Chad.

Austria has never had a colony in Africa – so there are no clear historical or political links or traditions between Africa and Austria as there are between Africa and France, for instance.

The African community is a very young community in Austria and it was only during the last few years that more African migrants have come to Austria.

Last but not least, due to shady newspaper headlines, a lot of people in Austria consider all Africans to be drug dealers, so that their reputation in Vienna is not very good. To some extent, we also wanted to improve the image of the Africans living here.

We expected that the workshop participants would not have any contacts with the African community but would be familiar with the aforementioned stereotypes, and we were right. Discussions between the African guests and the participants were conducted in four groups, so that approximately four participants had the chance to talk with approximately four guests from Africa. This forth part of the workshop was the highlight and was intended to give the participants the opportunity to use the skills just acquired.

The question of whether we managed to meet the expectations of the participants or not was of great importance to us, since it had been our intention to design an audience-oriented workshop. Cum grano salis we actually met all the expectations brought up at the beginning of the workshop. In other words we received a positive feedback from the participants.

Lessons learned - conclusion

What are the lessons learned and consequently which conclusions can be drawn from such a workshop? The most crucial thing was to

thoroughly assess the audience's needs, which contributed substantially to the success of the workshop. Because of our concerns when preparing the workshop and due to the comprehensive introduction at the beginning of the workshop – assumptions and expectations – we were able to establish a good relationship with the participants. This was very important to us and appreciated by the participants.

Concerning the duration of such a workshop, two days would be the absolute minimum for a comprehensive approach. In addition, a two-day timeframe is also essential to establish confidence between the instructors and the workshop participants. In order to successfully incorporate exercises, such as e.g. shifting perspectives and self-reflection, confidence is a precondition, so that the more activity-oriented part should be planned for the later phase of the workshop. Our decision to do so turned out to be right and we will also adhere to that model next time.

Derived from our own experience and supported by the students' feedback, emphasis should also be placed on the fact that general cultural sensitization is necessary. As mentioned in various publications, a course, such as the General Staff Course, offers an ideal setting for that. Our workshop and the feedback we received confirmed that there is interest in Intercultural Competence and that there are still many questions and prejudices regarding this issue. Culture-specific sensitization, which in most cases amounts to receiving pertinent information, is necessary during operations preparation for assignments abroad. However, it could be more effective if based on a general intercultural awareness.

Another conclusion we were able to draw from the reaction of the officers was that they found it extremely useful to also have a female trainer involved and get acquainted with a female perspective. It has to be emphasised that the composition of the trainers plays an important role and supports the shifting of perspectives and understanding in a very practical way.

Finally, the importance of the didactical approach has to be pointed out once more. The workshop made it quite clear that even within a nearly homogenous group it is essential to adapt to different styles of

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learning. The participants were an important and rich source of information because of their own individual experiences and it was very important for us to use those experiences in order to show them that we are only using tools to make them visible. The combination of cognitive, affective and behaviour-oriented approaches helped to spark the students' interest in the broad spectrum of issues of Intercultural Competence.

In times of a 'culture shock prevention industry'[45] there is a lot of talk about Intercultural Competence and Communication. Unfortunately, very often the focus is on the differences and problems and one might get the impression that 'othering' is the only way to get people interested in this issue. Contrary to that, we found that reflective thinking and relationship-building was a much more effective way to make our soldiers aware of the importance of intercultural competence.

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Hans Lampalzer holds a Master's Degree in Translation (Russian / German) and Political Science from the University of Vienna and a Master's Degree in Intercultural Competence from the Danube University of Krems (AUT).

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Research interests: test adaptation

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In 2001 he was assigned to the Netherlands Veterans Institute as a senior researcher, to conduct research on early psychosocial interventions after deployment for military personnel and veterans. From January 2004 through December 2005 he chaired the Interservice Focus Group on early psychosocial interventions in redeployment of personnel of the Netherlands Armed Forces. He is a steering group member of the annual International Military Mental Health Conference. In January 2005 he was assigned to the NATO Research and Technology Organisation in Paris, France, as the panel executive for the Human Factors and Medicine panel. From 2008 on he is associate professor at the Netherlands Defense Academy in Breda. His research focuses on moral dilemmas and military health, effectiveness of asymmetrical operations and military mental health care.
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Peter Mulacz, Professor, LTC; studies of biology, philosophy, and psychology at the University of Vienna; specialised in parapsychology. Full member of the Parapsychological Association, international representative for Austria of the Parapsychology Foundation, Vice President of the Austrian Society for Parapsychology and Border Areas of Science, member of several other professional and academic organisations in the field, affiliation with the Institute for Border Areas of Psychology and Mental Health (IGPP) in Freiburg i. Br., Germany; various research projects (IGPP, Bial Foundation); publications in peer-reviewed periodicals and in books, editor, etc. Military career including various courses (staff offrs course, btn cdrs course, logistics course) and since 1981 foreign deployment in five different peace-keeping missions of the UN both with units and as a Military Observer in Cyprus, the Middle East, and Northern Africa (last appointment 1995/96 Cdr/Austrian contingent with MINURSO). Since 2009 member of the Expert Pool at the Institute for Human and Social Sciences at the National Defence Academy, expert for Border Phenomena and Anomalistics.
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Jacques Mylle, Prof., PhD, MSc, MA. After his studies at the Royal Military Academy he started his career in 1969 as an Armoured Reconnaissance officer in the 1 Belgian Army Corps (Germany). After 21 years of service in the Belgian Forces in command- staff- and in trainer jobs, he joined the Royal Military Academy in 1990 as head of the Psychology Section in the Behavioural Sciences Department. Prof Mylle owns, aside a Masters in Social & Military Sciences, and a PhD in Psychology, a special degree in education and a Masters in Quantitative Methods in the Social Sciences.

As for each university professor, his responsibilities are threefold: teaching, research and services to the military community.

Courses taught are Introduction to Psychology, Communication psychology, Personnel and Work Psychology, Crisis Psychology, Military Leadership, and Didactics.

As a researcher, with a background in mathematical and cognitive psychology, he uses his competencies in various domains of application, mostly related to modelling behaviour aiming at optimising the performance of the soldier in a crisis response operations context. He is the chairman of the International Military Mental Health Association and Belgian board member in the International Military Testing Association. Finally, he shares his expertise with military psychological services and military universities or academies in former Eastern bloc countries (e.g. Bulgaria, Czech Republic, Estonia).

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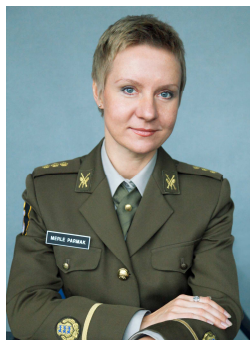
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Chibuese Udeani, Dr., is currently Director of the Institute for Caritative Science at the Catholic-theological Private University Linz, Austria. Prior to this appointment he was assistant Professor for Intercultural Studies, Centre for Intercultural Theology and Study of Religions, Department of Systematic Theology, University of Salzburg, Austria. Outside the above mentioned employment spheres, he was Director of the Caritas Centre for the Integration of Foreigners, Upper Austria; co-founder and -developer, Integration Management for Communities (IMAGE) in cooperation with the Centre for Intercultural Competence and Management, Vienna, Austria. He is also a member of the leadership team for the conception, development and organisation of the inter-faculty post-graduate course – Intercultural Competence (ICC) at the University of Salzburg where he is still one of the directors. Among others he is a member of the academic commission of the Austrian Ministry of Defence in Vienna.

His current areas of research include:

- Intercultural Hermeneutics in Understanding Culture and Religion (Post- Doc. Research)
- Intercultural Aspects within the Deployment-preparations and Reintegration of Soldiers – Research project of the Austrian Ministry of Defence "Intercultural Aspects during Operational Preparation and Reintegration of Soldiers"; research project of the Austrian Ministry of Defence

Beatrice Zilian, Dipl.-Päd., M.Ed. (teacher: English, German as a Second Language, scientist: Intercultural Education)

She has been an English instructress in the Austrian Armed Forces since 2000 (Aviation Brigade, 4th Mechanized Infantry Brigade, NCO-Academy and Territorial Command of Upper Austria).

In 2006 she decided to study Intercultural Education (Postgraduate Master Studies at the Freie Universität Berlin, Department of Educational Science and Psychology) because she felt the urgent need that not only English but Intercultural Education should either be taught cross curricular or as a specific subject in the Austrian Armed Forces. Her Master Thesis dealt with "Mission Preparation for Afghanistan, the Syrian Arab Republic and Kosovo, Focusing Intercultural Aspects".

In spring 2007 she started a project and integrated Intercultural Education in her English-lessons. Afterwards she developed a paper about "Global Learning and Intercultural Education – Integrated in the Austrian Armed Forces´ English Training".

She also wrote a research paper about AAF soldiers with migration background – if they had ever been discriminated against by comrades or institutions and if they were willing to participate in an international operation in their fatherland.

In addition it shall be commentated that she has written about AAF soldiers who gained experience in customary law, called "the Kanun" as well as about multiple intercultural socialisation during international operations. In March 2010 she starts teaching diversity- and anti-bias training at the NCO-academy during ethic-lessons.

Since January 2008 she has been member of the Family Support Group of the 4th Mechanized Infantry Brigade. Before, during and after the mission in Kosovo of KFOR 18 she was responsible for a scientific report (soldiers and their families were interviewed). Conclusions have been drawn which shall be the new basics for improved Family Support at home in Austria and during KFOR 22.

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