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Symposia (In alphabetical order by convenor)

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Abstracts

Symposia (In alphabetical order by convenor)

SYMPOSIUM: Applications of action planning in psychological interventions for healthy eating

Convenor: Adriaanse M.,* & Gawrilow C.; *Utrecht University, Netherlands

Aims: Most studies on action planning in the health domain relate to initiating health-promoting behaviours (Gollwitzer & Sheeran, 2006). As today's most predominant health concerns pertain to health-risk behaviours like unhealthy eating this symposium aims to investigate the effectiveness of action planning for diminishing unhealthy eating. Moreover, we aim to extend previous research by looking at non-student samples and longer time frames. Additionally, the symposium addresses boundary conditions for the effectiveness of action planning by looking at quality of plans and potential ironic effects. **Rationale:** The effectiveness of action planning in promoting goal-directed behaviour is well established. Unfortunately, research assessing the effects of this strategy in the longer term, in non-student samples, or to reduce health-risk behaviours is limited and little is known about its boundary conditions. As the 2009 EHPS conference aims to relate theoretical knowledge to psychological interventions, applications and boundary conditions of action planning is a particularly relevant topic for this years conference. **Summary:** The symposium starts with two talks about applications of action planning in non-student samples and over longer time periods. Specifically, Gawrilow will discuss the efficacy of implementation intentions in promoting healthy diets in overweight children. Stadler will then talk about effects of action planning on long-term diet change in a non-student sample. The symposium continues with two talks discussing boundary conditions of action planning effects. Firstly, Aarts will discuss the effects of hunger on the quality of plans. Subsequently, Adriaanse will discuss potential ironic rebound effects when planning to avoid health-risk behaviours.

Discussant: *Sheeran P.* *University of Sheffield, UK.

Paper 1: Planning of eating behaviour in overweight children

Gawrilow C.,* Sage K., Tabibzadeh P., Oettingen G., & Gollwitzer P.; *University of Hamburg, Germany

A self-regulation strategy that facilitates the translation of goal commitments into goal-directed behaviour is the formation of implementation intentions. We tested the effectiveness of implementation intentions in promoting a healthy diet in overweight children. Thirty-four overweight children were randomly assigned to one of two conditions: goal intention or goal intention + implementation intention. Participants and their parents filled out questionnaires and kept an online eating-diary for a time period of four weeks. Children who were instructed

to form implementation intentions ate healthier than participants in the goal intention condition, $p < .05$. Furthermore, children in the goal intention condition showed enhanced restrained eating in the follow-up ($p < .05$), whereas children in the implementation intention condition did not (ns). We interpret these findings by referring to implementation intention theory: Implementation intentions are thought to convert the top-down control of action into bottom-up control of action.

Paper 2: Intervention effects of information and self-regulation on eating over the course of two years

Stadler G.,* Oettingen G., Gollwitzer P., Gaertner O., & Mueller A.; *Columbia University, USA

The study's primary objective was to test the effects of two brief interventions (information vs. information + self-regulation) on long-term diet change. Participants ($n = 255$) filled out six 7-day diet diaries over the course of the 24-month randomized controlled trial. Participants in both groups ate more fruits and vegetables (0.47 to 1.00 daily servings) than at baseline during the first four months after intervention. Participants in both groups reduced their intake of fat and added sugar and these changes were positively correlated. Two years later, participants in the information + self-regulation group maintained the higher intake of fruits and vegetables whereas participants in the information group returned to baseline levels. Forming action plans was related to diet change. Adding self-regulation to information interventions seems to increase their effectiveness for long-term behaviour change and action planning was found to be a key mechanism.

Paper 3: The influence of hunger on coping planning for the maintenance of weight loss goals

Stock M.,* Aarts F., de Ridder D., & Ouweland C.; *Utrecht University, Netherlands

Background: Coping planning – specifying coping responses to potential goal-threatening situations – can be effective in diminishing unhealthy eating. However, people seem to lack the necessary awareness of potential goal-threatening situations for healthy eating. We tested whether this might be explained by the fact that satiated people underestimate influences of hunger craving on their future behaviour and whether this results in lower quality plans. Methods: A hungry and satiated group were compared on their evaluation of vignettes describing potential goal-threatening situations (Study 1; $n = 73$) and on quality of coping plans for healthy diet (Study 2; $n = 52$). Findings: Compared to satiated participants, hungry participants evaluated the situations as more difficult, ($p = .004$), but made lower quality coping plans ($p = .022$). Discussion: Results indicate that hungry people were more aware of potential goal-threatening situations, but did not construct better coping plans. Possible explanations and implications for interventions are discussed.

Paper 4: Planning what not to eat: Ironic effect of suppression plans

Adriaanse M.,* van Oosten A., de Ridder D., & de Wit J.; *Utrecht University, Netherlands

Background: In contrast to positive findings for initiating new behaviours, results for implementation intentions aimed at changing existing habits are mixed. One explanation could be that planning not to perform an unwanted habit, may lead to a heightened accessibility of the habit and result in ironic rebound effects. Methods: Study 1 ($n = 50$) and 2 ($n = 47$) tested whether suppression plans result in a heightened accessibility of the habit compared to

a control condition in a lexical decision task. Study 3 ($n=51$) then tested the effects on actual food intake. Findings: Study 1 and 2 showed that suppression plans led to a heightened accessibility of the unwanted habit, $ps < .05$. Results from Study 3 indicated that suppression plans increased consumption of the unhealthy food participants planned to avoid, $p < .05$. Discussion: Implications for interventions aimed at diminishing health risk-behaviours and underlying mechanisms are discussed.

SYMPOSIUM: Ethical issues in psychosocial health research institutions and social crisis

Convenor: Battaglia F.; *Berlin Academy of Sciences and Humanities, Germany

Aims: This symposium provides an overview regarding the importance of an ethical approach for researchers that study health promotion in communities, which are living in situations of crisis. In particular, the symposium will show how a bottom-up model is suitable, in which the design of the study is constantly in progress and shaped by the contributions of a “participated approach”. This research will contribute to refine research models, to promote social integration, and will provide a perspective for establishing partnerships, and promoting “lesson-learning” in institutions and agencies of conflict-affected communities. **Rationale:** A multidisciplinary approach to ethical issues is becoming more and more necessary and useful for better understanding social dynamics in communities that are struck by crisis (such as environmental calamity and criminality) in order to promote efficacious health interventions. **Summary:** In the first talk, Dr. Battaglia will give a general introduction to the symposium and introduce ethical dilemmas that are relevant for research on “conflict-situations”. Dr. Pellegrino will explore the feasibility of a bottom-up approach, which analyses the language and the collective imagery of the citizens. Prof. Bosi will propose an overview on the guidelines that should lead this ethical approach in psychosocial research. Dr. Signani will present his original research on psychological issues related to epidemiological studies in biomonitoring and Dr. Bianchi will present his original research on ethical issues related to epidemiological studies in biomonitoring. Finally Prof. Bonito Oliva will address the topic of environmental risks and hazards, elucidating the role of social closeness and responsibility.

Paper 1: Collective imagery the relationship between environment and health from the civic standpoint

Pellegrino V.; *International School for Advanced Studies, Italy

In contexts of social crisis, psychosocial research needs to redefine its methods of investigation. Psychosocial research aims to understand and describe the dynamics of the interaction of the person with her environment. Psychosocial research is concerned with thought, emotion, and behavior of people in their everyday life. Therefore, experimental designs should be created taking into account suggestions by the citizens of the community. The interview is an open questionnaire, that is suitable to modulate the design itself of the investigation.

Paper 2: Recommendations for ethical approach in psychosocial research

Bosi A.; *University of Parma, Italy

The emergency of new needs in peculiar social context, push psychosocial research to redefine its methods of investigations. Thus psychosocial research aims to understand and describe the dynamics of the interaction of the person with her environment simultaneously. Therefore experimental designs should be created taking into account suggestions by the citizens of

the community. This talk provide an overview of the guidelines for an ethical approach to psychosocial research.

Paper 3: Ethical issues related to psychological studies for biomonitoring

Signani F.; *University of Ferrara, Italy

Achieve a good compliance by the participants of bio monitoring research target groups is a fundamental psychosocial-goal. A recommendation list by direct and indirect experiences constitutes the main product of this work. The added analysis of ethical issues combined with specific communicative-psychological-related aspects; the elaboration about the recommended steps forward an empowered citizens involvement, maybe facilitate an bio monitoring research 'psychologically correct'.

Paper 4: Public debate including results from epidemiological studies: The case of waste crisis in Campania region, Italy

Cori L.,* & Bianchi F.; *National Research Council, Italy

A waste management emergency has threatened Campania since the '90s. In 2007 an acute crisis emerged, producing an amount of urban waste. In 2004–2007 epidemiological studies had been conducted by health and environmental services. The presence of an area characterized by elevated cancer mortality rates and occurrence of birth defects, corresponding with the area where most waste disposal sites are concentrated was observed, published and disseminated. Based on the studies' conclusions, a human biomonitoring investigation was promoted to deepen the knowledge on exposure and to collect indications for prevention and reclamation measures. Quantitative analysis of information dissemination, qualitative analysis of information and the following debate, definition of 'conceptual models'. The role of media in fostering debate is unquestionably crucial. The issue of epidemiological studies entered the public debate on waste, and information was used by stakeholders. The epidemiological studies developed in Campania contributed to the debate on environment and health caused by the 'waste crisis'.

Paper 5: Ethical issues in the communication on environmental risks

Bonito Oliva R.,* & Trucchio A.; *University of Naples, Italy

Proposed in this talk is one possible theoretical framework for reflecting on ethical issues in risk communication research and practice to help understand a discussion initiated by Aristotles. Some of the questions that each stage of the process for planning risk communication strategies appears to pose for ethics are discussed (e.g., selecting issues to be communicated, knowing the issue, dealing with constraints). Also discussed briefly are some issues raised by the relation with body, closeness and responsibility. The purpose is to foster knowledge in order to realize better intervention.

SYMPOSIUM: From the “disease model” to the “health model”: The contribution of Psychology to the ongoing paradigm shift

Convenor: Bertini M.; *University of Rome, Italy

Ever since WHO's famous definition of health as a “state of biopsychosocial wellbeing”, health psychologists have dwelt on the systemic biopsychosocial model, as important as it is,

while overlooking the real novelty, i.e. considering health as a “state” rather than a mere “absence” of disease. The relative lack of attention to theoretical and practical issues of positive health, in contrast to the heavy preponderance of disease therapy and prevention research, is apparent: a simple overview of health psychology history reveals the difficulty in moving beyond the domain of medical psychology. Considering the difficulty of a true paradigmatic change it is the aim of the symposium to discuss some critical but perhaps overlooked aspects, such as: the insufficiency of language, strongly biased towards the disease model; the coherence of the training processes with the theoretical requirements of the health model; the need to develop more innovative research methodologies; the need implicit in the health model to acknowledge the fundamental interdependency between individuals toward a “common good”; the approach to research, intervention, and practice for all especially for the marginalised and disadvantaged. As these arguments converge to analyzing the adequacy of our theories and methods for specifically studying and promoting health in the different contexts, we believe that they are timely raised and particularly in tune with the Congress general theme. Since the disease model has been around for about three hundred years, the difficulties to be overcome are obvious, but the challenge should also provide a glimpse of the fascinating road ahead.

Discussant: *Marks D.* *London University, UK.

Paper 1: “Health model” needs new words

Bertini M.; *University of Rome, Italy

The main aim of this presentation is to encourage a reflection on the restraining influence that language has had and continue to have in shifting from disease to health model. To this linguistic negative influence must be added the insufficiency, or indeed absence, of words currently available to support the development of the new model. For example, while the linguistic scenario of illness (*malattia*) has a specific word -“illnesses” (*malattie*), to codify the many dimensions of illness, there is still no plural form of the word “health” (*salute*), although we continue to work on its positive dimensions variously named with strengths, life skills, virtues etc. The relevance of creating new metaphors, new words (such as “*salutie*”; English: “*healths*”), should be emphasized. As Lakoff says- “much of our ordinary conceptual system arises from the introduction of new metaphorical concepts and the loss of old ones”.

Paper 2: “Happiness is only real when shared” dilemmas in conceptualising and promoting health

Cicognani E.; *University of Bologna, Italy

Theoretical perspectives acknowledging the role of the fundamental interdependencies between individuals and the different contexts and relationships in which they are embedded call for an enlarged and multidimensional conceptualisation of health/well being, both in terms of domains and levels of analysis, and in terms of locating the analysis of the phenomenon and the interventions aimed at promoting health within specific settings. Such approaches are explicitly focused on the positive dimension of health and well being, by acknowledging the role of individual health as a “common good”. This presentation will attempt to bring to the discussion this perspective on health and its implications for understanding health determinants and health promotion approaches, with a particular attention to the possible role and contribution of health psychologists in this process.

Paper 3: Enhancing possibilities for a psychology of health

Chamberlain K.; *Massey University, New Zealand

When one discipline undertakes research to inform another (here, psychology informing biomedicine) a range of relationships are possible. As psychology has turned its attention to physical health, the sub-discipline of health psychology has privileged certain stances and directions, particularly in regard to its research practices and knowledge formulations. This has essentially positioned health psychology as a servant to, rather than a partner with, biomedicine, and has also functioned to restrict practices and directions that may be essential to develop more complete understandings necessary for a comprehensive psychology of health. In this presentation, these issues are considered and suggestions for how health psychology could extend its research and intervention practices to achieve a more comprehensive psychology of health are discussed. Such suggestions include taking a more critical stance, a more reflexive approach, developing more innovative research methodologies, and giving greater consideration to the complexities of health evidenced in everyday living.

Paper 4: Health psychology training

Ferri R.,* Braibanti P., Guerra G., Mamone P., & Telfner U.; *University of Rome, Italy

Going beyond the theoretical framework of the biopsychosocial model forces a change also in training methodologies. The aim of this presentation is to explore the coherence between the learning/teaching processes and the theoretical perspectives of the "health model". With respect to some European trainings models, the main characteristic of the Rome University Postgraduate Health Psychology School is the attention to the format of teaching more than to contents and objects of intervention. The crucial element of our training project is the activation of a reflection on the training experience itself, as a coherent and shared construction of a theory of technique which organizes the praxis of future health psychologists. Development of potentialities, work on constraints and possibilities, needs, and quests, more than pre-organized answers and schemata, are the features that characterize both the training processes and the interventions in the field.

SYMPOSIUM: Understanding responses to health threats: A self-regulation perspective

Convenor: Casier A.; *Ghent University, Belgium

Aims: In this symposium, a self-regulation view is promoted to explain a range of different responses to health threats, and the effects of these responses on well-being. The main aims are: (a) to learn more about cognitive processes underlying self-regulation, (b) to explore the potential role of the social context in self-regulation, (c) to demonstrate the benefits of goal flexibility for well-being, and (d) to discuss the negative impact of goal frustration on health. **Rationale:** This symposium demonstrates that a broad application of self-regulation theories in health psychology might provide a powerful framework to gain new insights in how people deal with health threats and how this affects their well-being. **Summary:** The symposium consists of four papers on diverse topics framed within a self-regulation perspective on illness and health. Together these contributions integrate new findings concerning the different aspects and underlying processes of goal attainment in the context of health threats. The first paper focuses on cognitive processes underlying adaptive responses to bodily threat, and presents data from an experimental study illustrating this (Stefaan Van Damme). The second paper reports on the association between cognitive processes in the light of chronic illness and

well-being within a contextual framework (Annabelle Casier). Paper three addresses the influence of goal frustration on aspects of physical well-being (Emma Massey), while paper four reflects on the relationship between flexible goal pursuit and different aspects of well-being in the context of chronic health threat (Emelien Lauwerier).

Discussant: Gebhardt W.A. *Leiden University, Netherlands.

Paper 1: Predicting headache complaints among adolescents: The role of goal frustration and cognitive emotion regulation strategies

Massey E.,* Gebhardt W.A., & Garnefski N.; *Leiden University, Netherlands

This study investigates the prospective relationships between daily goal frustration (negative emotions experienced when goal pursuits are obstructed), cognitive emotion regulation strategies (CERS) and headache complaints among the general population of adolescents. Sixty-two adolescents (76% girls) aged 14–21 ($M = 15.8$, $SD = 1.3$) completed an online diary measuring goal frustration and CERS and a one-month follow-up questionnaire measuring headache complaints. Hierarchical regression was conducted to explore these relationships. Greater frustration of goals related to home-life was related prospectively to more frequent ($\beta = .33$, $p < .05$) and more severe headache complaints ($\beta = .26$, $p < .05$). Cognitive coping strategies in response to goal frustration however were unrelated to headache characteristics. The results suggest that self-regulation skills promoting flexible goal pursuit are important targets for interventions aimed at reducing headache among adolescents.

Paper 2: Coping with chronic pain: Benefits of flexible goal adjustment

Lauwerier E.,* van Damme S., & Crombez G.; *Ghent University, Belgium

Self-regulation models identified two coping responses in chronic pain patients. They seek pain relief in order to restore blocked goals, or they reappraise their initial goals and engage in new goals that are less affected by pain. We examined whether the ability to change goals reduced the impact of severe pain on well-being. Patients with chronic pain ($N = 526$; 63% females; mean age = 50.5) completed measures of goal adjustment and well-being (depression, anxiety, disability). Moderation was tested using regression analyses. Flexible goal adjustment moderated the relationship between pain severity and depression ($\beta = 0.08$, $p < .05$). At high pain severity, depression scores were lower in patients scoring high on goal adjustment. No moderation was found for the other outcomes. The results show the benefits of disengaging from unattainable goals in chronic pain patients, as flexible goal adjustment buffered the relationship between pain severity and depression.

Paper 3: Illness representations in adolescents with cystic fibrosis and their parents: A contextual approach

Casier A.,* Goubert L., Huse D., Theunis M., & Crombez G.; *Ghent University, Belgium

This study examines the role of adolescent and parental illness representations in explaining several aspects of well-being of adolescents with cystic fibrosis (CF). Forty adolescents with CF completed the Illness Perception Questionnaire-Revised, Illness Cognition Questionnaire-Revised, Cystic Fibrosis Questionnaire and Hospital Anxiety and Depression Inventory. Parents ($N = 34$) completed a battery of questionnaires including the caregiver version of the Illness Perception Questionnaire-Revised and the Illness Cognition Questionnaire.

A set of hierarchical regression analyses were performed to examine the role of illness perceptions. As hypothesized, both adolescent and parental (un)favourable illness perceptions were related to several aspects of well-being (e.g., anxiety, $\beta = -.49$, $p < .05$; social functioning, $\beta = .65$, $p < .05$). These results provide new insights in the influence of parents on their child's adjustment, and suggest that illness representations should be taken into account in the multidisciplinary treatment of those individuals with CF who exhibit low well-being.

Paper 4: Bodily threat and self-regulation: An information processing view

van Damme S.,* Vogt J., & Crombez G.; *Ghent University, Belgium

Bodily threat is often a key feature of chronic illness. Self-regulation theories describe how patients deal with this threat. Aim of this study was investigating self-regulation during bodily threat on a cognitive level. We examined whether the goal of controlling bodily threat enhanced processing of goal-relevant information. Information processing during experimentally induced pain was measured using an attention task in 16 undergraduate students. We used both information related to the goal of pain control (goal-relevant trial) and neutral information (goal-irrelevant trial). Attention scores (accuracy) were calculated for each trial type. As hypothesized, the attention index was significantly larger in goal-relevant ($M = 49$, $SD = 21$) compared to goal-irrelevant trials ($M = 41$, $SD = 16$), $t(15) = 2.24$, $p < .05$. Attention was biased to information related to the goal of controlling bodily threat. This research furthers understanding of cognitive mechanisms underlying self-regulation. Self-regulation theories might offer a powerful framework in understanding different aspects of chronic illness.

SYMPOSIUM: Exploring how self-affirmation works: Methods and mechanisms

Convenor: Cooke R.; *Aston University, UK

Aims: Self-affirmation has emerged as a successful way to combat defensive processing of health threatening information, and increase health cognitions and behaviour. However, less is known about how self-affirmation works. This symposium aims to address this issue by bringing together experimental and survey data that (a) contrasts manipulations and measures of self-affirmation and (b) examines the cognitive processes which underpin self-affirmation. Rationale: There are applied and theoretical reasons for discussing these issues. First, to increase application of self-affirmation, it is crucial to consider methodological issues such as whether or not self-affirmation has to be manipulated, or can it be measured, and does this affect how self-affirmation impacts on health cognitions and behaviours. Second, for theory refinement, it is critical to consider the psychological mechanisms that account for the changes associated with self-affirmation. Summary: The first paper by Cooke reports a study testing the impact of self-affirmation on memory for health information. The second paper by Epton and colleagues outlines two studies testing the possibility that self-affirmation may not always produce beneficial effects. The third paper by Schuez and colleagues reports a study assessing the impact of dispositional self-affirmation on health cognitions and behaviour. Finally, Pietersma and Dijkstra report four studies that test the effect of a cognitive measure of self-affirmation on health behaviour intentions. Finally, Peter Harris will act as a discussant. The present symposium intends to contribute to the current debate on how self-affirmation affects information processing and subsequent health behaviour.

Discussant: *Harris P.* *University of Sheffield, UK.

Paper 1: Self-affirmation and memory for health information

Cooke R.; *Aston University, UK

Individuals typically defensively process health information about behaviours they do not perform, which impairs memory for this information and may prevent health behaviour change. Because self-affirmation has been shown to reduce defensive processing, the present study tested the impact of self-affirmation on memory for health information. 59 participants were randomly allocated to either self-affirm (SA) or not self-affirm (NA) before completing measures of health behaviours that they do or do not perform. A 2×2 ANOVA tested the impact of self-affirmation and performance on recall of health information. SA participants showed increased memory for behaviours they do and do not perform compared with NA participants ($F(1,55)=25.12$, $p < .001$). This study suggests that self-affirmation improves memory for health information regardless of whether or not individuals perform the behaviour. Therefore self-affirmation could be used to supplement information designed to motivate health behaviour change.

Paper 2: Limits to the beneficial effects of self-affirmation

Epton T.,* Harris P., & Webb T.; *University of Sheffield, UK

Recently, self-affirmation (SA) manipulations have been successfully used to change cognitions and health behaviour (Epton & Harris, 2008). However, it has been proposed that SA can backfire under conditions of high threat. Female participants ($N=80$) were randomly allocated to an SA or control task prior to reading a high-threat health message (risk of breast cancer from alcohol consumption). Study 2 ($N=91$) compared the effect of SA on high and low threat messages. SA increased implicit threat ($p < .05$) and alcohol consumption at follow up ($p < .001$) (Study 1) and perceptions of severity and response-efficacy in the low-threat condition; however, SA decreased perceptions of severity and response-efficacy in the high threat condition ($ps < .05$, Study 2). SA may only be effective with health-risk messages that are low-threat. These studies suggest that there may be limits to the effect of SA manipulations when the threat is high.

Paper 3: Dispositional self-affirmation, health cognitions and health behaviours in multimorbid older adults

Schuez B.,* Wurm S., Warner L., & Ziegelmann J.; *German Centre of Gerontology, Germany

Self-affirmation theory proposes that individuals who affirm their self-system react less defensively to health-related risk information. While previous work has been mainly laboratory-based, this study focuses on dispositional self-affirmation in coping with health threats in a real-world setting. 104 multimorbid individuals (age 60+) completed a questionnaire on physical activity and dispositional self-affirmation scales. Hierarchical regression analyses were conducted to examine moderating effects of dispositional self-affirmation on health cognitions and physical activity. Dispositional self-affirmation moderates the effects of health status on risk perceptions, coping plans for barriers and health behaviours (all Interactions $p < .05$). Individuals high in dispositional self-affirmation show less defensive reactions to health-related information by basing risk perceptions more on current health status. Additionally, dispositional self-affirmation facilitates adaptive responses to challenged health status (intentions and plans for physical activity and actual behaviour).

This points to the potential of self-affirmation to help understanding motivation for health behaviours.

Paper 4: Cognitive self-affirmation inclination: An individual difference in dealing with threatening health messages

Pietersma S.,* & Dijkstra A.; *University of Groningen, Netherlands

People are inclined to process threatening health messages defensively. Self-affirmation, however, forces people to be open-minded. Mostly self-affirmations are externally provided (giving positive feedback). The current research shows that people can have continuous access to self-generated positive self-images – defined as cognitive self-affirmation inclination (CSAI). This individual inclination is also expected to induce open-mindedness towards health threats. CSAI is measured as the subjective frequency of reacting with “pop-ups” of positive self-images in the face of a threat. We conducted an experiment to show the meaning and effects of CSAI (N=90). Participants read a moderately or severely threatening text about the consequences of stress. CSAI was determined at pretest. Having a strong CSAI resulted in the same pattern of persuasion as found in studies that externally provided self-affirmations (significant interaction; $p < .05$). Having a strong CSAI resulted in increased intentions to alter health habits in accordance with health recommendations.

SYMPOSIUM: Self-control and health-related behavior: Is high self-control always beneficial?

Convenor: de Ridder D.; *Utrecht University, Netherlands

Aims: To discuss the impact of self-control on health-related behaviors, the possibilities for increasing self-control, and the beneficial effects of low self-control under specific conditions. Rationale: Many of our long-term strivings depend on the capacity to refrain from acting on impulses for immediate gratification. Research on self-control has flourished in the past decade, presenting self-control as a crucial variable in the capacity for self-regulation of health-related behavior. Still, little is known about whether self-control affects different kinds of health-related behavior to the same extent. In addition, it is uncertain which conditions foster self-control. This symposium brings together new and intriguing findings on the role of self-control in health-related behavior. Summary: The symposium starts with a presentation by Wilhelm Hofmann who will discuss data showing that individual differences in executive control moderate the extent to which individuals are able to pursue health goals. Next, Floor Kroese will present data showing that exerting self-control in response to weak food temptations is, counter-intuitively, easier than when exposed to strong temptations. Bob Fennis will present result from three studies showing that low (instead of high) self-control can promote health-related behavior. Finally, Denise de Ridder will present data from two studies, showing that exerting self-control with a personal goal in mind is related to higher scores on variables relating to healthy eating behavior than when self-control is motivated by near future or practical considerations.

Discussant: *de Wit J.* *University of New South Wales, UK.

Paper 1: Three ways to resist temptation: Separable executive functions moderate the impulse control of health-related behavior

Hofmann W.; *University of Wuerzburg, Germany

From a dual-systems perspective, health behavior may be regarded as the outcome of a struggle between automatic influences triggered by tempting stimuli and controlled dispositions in the service of long-term goals. In two studies on men's viewing time of erotic stimuli ($N = 50$) and on the consumption of tempting food ($N = 119$), we show that the relative influence of these two factors is moderated by individual differences in executive control. In a third study from the eating domain ($N = 122$), we assessed inhibitory control with a stop-signal paradigm and spontaneous affect down-regulation with an adaptation of the affect misattribution procedure in addition to WMC. The results show that WMC, inhibitory control and spontaneous affect down-regulation all reduce the relationship between automatic affective reactions and consumptive behavior independently from each other. These findings suggest that separable executive functions enable the control of impulsive influences on health-related behaviors.

Paper 2: The weaker may be stronger: The effect of temptation strength on self-regulation

Kroese F.,* Evers C., & de Ridder D.; *Utrecht University, Netherlands

People frequently encounter temptations that need to be resisted for the sake of long-term goals. The relation between temptations and the conflicting long-term goal has been studied extensively, but no straightforward conclusions can be drawn. The current studies put forward temptation strength as a factor of influence on self-control. Though counterintuitive, it was expected, based on a critical level model, that weak temptations yielded worse self-regulation outcomes as compared to strong temptations. Three experiments in which participants (total $N = 200$) were confronted with either weak or strong temptations showed that, indeed, weak food temptations significantly ($p's < .05$) inhibited the mental accessibility of diet-related words, whereas strong temptations did not. Findings of the studies contribute to our understanding of self-control processes and implications will be discussed in the light of both theoretical and practical perspectives.

Paper 3: Impaired self-control can promote prosocial and health-fostering behavior

Fennis B.,* Jansen L., & Vohs K.; *Utrecht University, Netherlands

Research suggests that self-control failure may result in egocentric and unhealthy behaviors. In contrast, we argue that many of these findings are attributable to features of the influence setting rather than an invariant consequence of self-regulation failure per se. We demonstrate that low self-control will increase reliance on simple decision-making heuristics and that the valence of these heuristics will determine whether egocentric and unhealthy, or prosocial and health-promoting behavior will result. Three studies found support for this contention. Experiment 1 showed that low self-control resources increased health-fostering behavior (willingness to keep a health and food diary) when people were presented with a health-promoting heuristic ($N = 39$; $p < .05$). Experiments 2 and 3 extended these results to prosocial ($N = 108$; $p < .01$) and charitable behaviors ($N = 84$; $p < .05$), indicating that low state and trait self control can elicit beneficial types of behavior, both in relation to others and in relation to the self.

Paper 4: Why am I doing this? Effects of construal level on the exertion of self-control

de Ridder D.; *Utrecht University, Germany

Self-control that is inspired by considerations about the future or why one is exerting self control may lead to better outcomes than self-control in the service of inhibiting one's

immediate impulses with a focus on how one should do this. This hypothesis, derived from Construal Level Theory, was tested in the domain of healthy eating with many people experiencing difficulties in restraining their impulses. In two studies ($N = 150$), we examined whether participants who were instructed to consider why vs how (Study 1) or with a future vs. near temporal focus (Study 2) they exerted self-control, were better able to regulate their subsequent food intake. Findings supported the hypothesis that both a future temporal focus and a focus on why increase the capacity for self-control. Altogether, it appears that exerting self-control with a personal goal in mind leads to better outcomes than when self-control is the result of considering the here and now.

SYMPOSIUM: Computer tailored interventions: Results and new directions

Convenor: de Vries H.; *Maastricht University, Netherlands

Aims: Computer tailoring is a relatively young technique within health psychology to motivate people to adopt health behaviors. Rationale: The rationale for this symposium is to outline potential and working mechanisms of computer tailored interventions and to discuss new directions for health psychology research with respect to this field. Summary: The presentation of De Vries and colleagues will depict basic mechanisms of computer tailoring and the results of four different second generation studies. The presentation of Hazel Gilbert and colleagues will discuss the potential of CT in the GP setting. The contribution of Wayne Velicer and colleagues is to demonstrate the application of CT using relational agent technology and describe user satisfaction and utilization of the interventions during the first six months and its potential for future health psychology interventions. The contribution of Katajun Lindenberg and colleagues will discuss the findings of their individually tailored internet-based program on eating disorder prevention. The contribution of Arie Dijkstra and colleagues will discuss the role of personalization and conditions under which personalization is beneficial and the conditions under which it may be even detrimental. In the final discussion implications of the findings for developing health psychology interventions will be outlined and discussed.

Paper 1: Computer tailoring: New directions tested by RCT's

de Vries H.,* Mesters I., Kremers S., Lechner L., & Candel M.; *Maastricht University, Netherlands

The goal of this presentation will be to outline basic mechanisms and assumptions of computer tailoring interventions (CTIs). Four second generation RCT studies will be presented outlining several innovations of computer tailoring. Study 1 resulted in effects of CTIs on multiple lifestyles. Significant effects (all p 's $< .05$) were found for physical activity, fruit and vegetable consumption. Study 2 compared the effects of CTIs with motivational interviewing, showing significant effects (p 's all $< .05$) for both interventions. Study 3 added tailored environmental feedback resulting in significant changes ($p < .05$) with respect to environmentally related activity behaviors. Study 4 assessed the effects of adding action planning for CTIs. Finally, the results of all process evaluations showed support for the assumption that tailoring leads to more personalization and appreciation. Implication of the findings and challenges for future studies will be discussed.

Paper 2: Using computer-tailoring to engage with smokers unmotivated to quit: Results from the ESCAPE trial

Gilbert H.,* Sutton S., Nazareth I., & Morris R.; *University College London, UK

Computer-tailored interventions have the potential to engage with smokers with no intentions to quit in the near future. The ESCAPE trial aimed to assess the effect of computer-tailored feedback reports, sent to smokers with varying levels of motivation, on quit rates and quitting activity. Smokers identified from GP records were sent an assessment questionnaire. Those returning the questionnaire were randomised to receive standard materials or individually-tailored feedback reports. Smoking status, cognitive change and perceptions of the feedback were assessed at a 6-month follow-up. A large proportion (86%) of the 6,900 participants were smokers not planning to quit in the near future. Quit rates at 4-week follow-up were associated with readiness to quit, but indicate some activity in less motivated smokers. The 6-month follow-up will be completed by June. Proactive recruitment methods can engage smokers not motivated to quit in reflection about their smoking behaviour.

Paper 3: Relational agent interventions for multiple risk factors: Demonstration and results

Velicer W.,* Bickmore T., Blissmer B., Reading C., Johnson J., & Meier K.; *University of Rhode Island, USA

Multimedia computer-based multiple risk factor interventions using the internet represent low cost, easily disseminated methods of reaching a general population. However, such interventions have produced only small effect sizes. Two multiple behavior interventions (sun protection and exercise adoption) combine multimedia expert system interventions with the addition of Relational Agents, a computer-based virtual person who can establish a continuing personal relationship. The design is a 3 Group (Control, Internet, Internet plus Relational Agent) \times 3 Occasions (0, 12, 24 Months) with intervention occurring during the first 12 months. A representative national sample of 1639 individuals at risk for both behaviors will be recruited. The goal of this presentation is to demonstrate the relational agent technology and describe user satisfaction and utilization of the interventions during the first six months. Internet interventions, enhanced by a relational agent, have the potential to greatly increase subject engagement and intervention effectiveness.

Paper 4: Individually tailored internet-based eating disorder prevention: A program for high-school and college students

Lindenberg K.,* Bauer S., Möbner M., & Kordy H.; *University of Heidelberg, Germany

Individually tailored stepped-care programs appear useful to prevent rare but serious diseases. Es[s]prit is an internet-based program for prevention and early intervention of eating disorders containing modules of increasing intensity (i.e. psychoeducation, peer support, monitoring, consultation-chat, face-to-face counseling). Healthy students remain on low-intense levels, whereas automated monitoring and alarm-systems identify deteriorations and indicate referral to more intense modules. Es[s]prit was found to be feasible for large populations (Nscreening = 1934, Nregistered = 226) and well-accepted in a college-age sample. Its efficacy is currently being studied in a RCT assessing incidence rates in high-school students as primary outcome. Our experiences indicate that information and communication technologies enable time and cost efficient implementation of a stepped care approach from universal to targeted prevention up to early intervention and thus, allowing individualized support according to participants' needs. This technology-enhanced prevention strategy appears promising for the prevention of behavioral disorders such as eating disorders.

Paper 5: Personalization in computer-tailored persuasion

Dijkstra A.; *University of Groningen, Netherlands

Personalizing persuasive information by explicitly referring to the recipient is a commonly used strategy in computer-tailored persuasion. Personalization may also have negative results, however, given defensive reactions in high involved recipients. Two laboratory experiments are presented that test the effects of personalization of persuasive messages to motivate smoking cessation in smokers. Study 1 showed that when perceived relevance was low, personalization induced a defensive reaction ($p < .05$) but when perceived relevance was high, it lowered defenses and increased persuasion ($p < .05$). The dose-response design in study 2 showed a curvilinear effect of personalization in the case of low personal relevance ($p < .05$) and a linear effect in the case of high personal relevance ($p < .05$). The results show the conditions under which personalization is beneficial and the conditions under which it is detrimental. Together, the experiments provide new insights into the psychological processes that are involved in personalization in persuasion.

SYMPOSIUM: Depressive symptoms and poor prognosis in cardiac patients

Convenor: Doyle F.; *Royal College of Surgeons in Ireland, Ireland

Aims: Depression is associated with a two-fold increased risk of morbidity/mortality in patients with coronary heart disease (CHD). We propose to demonstrate to the broader health psychology community that what initially appeared to be a simple association may actually be far more complex. We will highlight issues of psychometric measurement, timing of measurements, and other neglected potential influences on depression and behaviour in this population, thus demonstrating the difficulty of designing interventions. **Rationale:** The issues to be presented potentially highlight some of the reasons why a number of recent, large, randomised trials have failed to demonstrate cardiovascular benefit from psychological or pharmacological interventions in depressed cardiac patients. It is possible that the wider medical community may have decided that this topic is concluded, and that research funds will be increasingly difficult to commandeer in the future. A more sophisticated understanding of these issues can lead to more precise pinpointing of the 'cardiotoxic' aspects of depression and more refined interventions. **Summary:** We propose to delve into the depression-CHD area to highlight the following: the heterogeneity of depression, the differential association of different symptoms with prognosis, the importance of timing of onset of depressive symptoms for prognosis, and the potential impact of depression on self-efficacy and secondary preventive behaviours. For health psychologists, it is important to consider more critically what is measured by psychometric scales, and the mechanisms behind the depression-outcomes association (i.e. behaviour or physiology, or bi-directional disease severity associations), before moving to intervention studies.

Discussant: *Steptoe A. *University College London, UK.*

Paper 1: Symptom dimensions of post-myocardial infarction depression, disease severity and cardiac prognosis

Martens E.,* Mittelhaeuser M.A., Hoen P., de Jonge P., & Denollet J.; *Tilburg University, Netherlands

Individual symptoms of post-myocardial infarction (MI) depression may be differentially associated with increased cardiovascular risk. We examined the relationship between depressive symptom dimensions following MI and both disease severity and cardiac prognosis. A prospective study followed 473 MI patients (mean = 2.8 years) for cardiovascular events. Patients completed the Beck Depression Inventory (BDI) within the first week of hospital admission for acute MI. Depressive symptom dimensions were associated with baseline left ventricular ejection fraction (LVEF) and cardiac death and/or recurrent MI ($n = 49$).

Factor analysis revealed two symptom dimensions – somatic/affective and cognitive/affective – in the underlying structure of the BDI. Somatic/affective ($p=0.010$) but not cognitive/affective ($p=0.153$) symptoms were associated with LVEF and outcome. When controlling for the effects of previous MI and LVEF, somatic/affective symptoms remained predictive of outcomes (hazard ratio=1.31, 95% CI 1.02–1.69). Interventions to improve cardiovascular prognosis by treating depression should be targeted at somatic aspects of depression.

Paper 2: Depressive symptoms predict morbidity and mortality in cardiac patients: But which symptoms?

Doyle F.,* Conroy R., McGee H., & Delaney M.; *Royal College of Surgeons in Ireland, Ireland

Depression is associated with increased risk of morbidity in patients with acute coronary syndromes (ACS). Yet, depression is a heterogeneous disorder, so specific symptoms – rather than the global syndrome – may be more pertinent for prognosis. We aimed to determine which particular depressive symptoms predicted prognosis in ACS. A prospective study followed 408 ACS patients (median=67 weeks) for major cardiovascular events. Patients completed depression questionnaires during hospitalisation. Non-parametric Mokken scaling derived underlying symptom(s) scales, and Cox regression determined the hazard ratio (HR) for poorer prognosis. Symptom scales reflecting fatigue-sadness, anhedonia and depressive cognitions were derived. Only fatigue-sadness predicted prognosis in multivariate analysis (HR=1.8, 95% CI 1.1–2.9, $p=0.025$), when controlling for other significant demographic and cardiovascular disease severity indices. Specific depressive symptoms of fatigue-sadness, rather than the overall syndrome, may need to be targeted to improve prognosis in persons with ACS.

Paper 3: Depression that starts after myocardial infarction is predictive of subsequent cardiac mortality

Dickens C.,* McGowan L., Tomenson B., Cotter L., Heagerty A., & Creed F.; *Manchester University, UK

Depression increases risk of cardiac death following myocardial infarction (MI), though the size of this effect observed in previous studies has varied considerably. We investigated whether the timing of depression determined its effect on survival. 588 subjects were recruited after MI and followed for 8 years. Depression was assessed for the period preceding MI and at 12 months after MI, using a standardised questionnaire. At follow-up cause and date of death were recorded using population records. Those subjects who developed new episodes depression in the 12 months following MI had higher cardiac mortality during follow-up (hazard ratio [HR]=2.33, $p=0.038$), even after controlling for socio-demographic, and medical covariates. Depression beginning before MI was not associated with increased cardiac mortality (HR=0.31, $p=0.12$). The timing of onset of depression influences its impact on cardiac survival over subsequent years, which might explain the variability of previous findings.

Paper 4: What predicts post-discharge self-efficacy for illness management in acute coronary syndrome (ACS) patients?

Molloy G.,* Randall G., Wikman A., Perkins-Porras L., Messerli-Bürge N., & Steptoe A.; *University College London, UK

Patients with higher levels of self-efficacy (SE) are more likely to have optimal secondary prevention behaviour following the onset of coronary heart disease. Therefore understanding the clinical antecedents of post-discharge SE for illness management can help identify patients that might be at risk. Design: A single-centre prospective cohort study, 301 Acute Coronary Syndrome (ACS) patients. Patients were interviewed during hospitalisation and 2–3 weeks post-discharge. Older patients and those with more practical social supports had higher SE. ACS patient's level of negative mood during admission was associated with SE. In multivariate analysis, younger patients (Std Beta = 0.31, $p < 0.01$) and those experiencing greater negative mood (Std Beta = -0.29, $p < 0.01$) were independent predictors of lower SE ($R^2 = 0.29$, $p < 0.01$). Younger patients experiencing greater negative mood during admission have lower SE for illness management following discharge. Such patients may require more support with optimising secondary prevention behaviour.

SYMPOSIUM: Consequences of child cancer for families and health care services

Convenor: Eiser C.; *University of Sheffield, UK

Aims: raise awareness of consequences of surviving child cancer, promote multi-disciplinary care, consider relevance of Health Psychology models to care of children with cancer, discuss special case of children rather than adults with chronic illness. Rationale: increasing awareness of psychological consequences of surviving child cancer; national and international guidelines emphasising need for psychological care. Summary: This symposium includes 5 presentations drawn from across Europe (Italy [2], UK, Czech Republic, France). Survival rates in child cancer are now very good (approximately 85%), but treatment can be lengthy (up to 3 years) and acute side-effects are common. Some 60% of children who survive treatment experience 'late-effects'; physical, cognitive and social problems. Presentations span the range from diagnosis to survivorship, and include quantitative and qualitative analyses. Blatny considers the meaning of quality of life to children, and how their experience differs from adults. Tremolda used narratives to determine parents' concerns on diagnosis, with aims to improve communication and focus therapy. Scrimin's paper looks at cognitive function in children diagnosed during infancy and toddlerhood. Speyer compares child and parent report at home or in hospital, emphasising that parents report the disease affects children more than children themselves. Finally, Eiser describes late effects in survivors, again emphasising how children's reports differ from others. In this case, from information in medical notes.

Paper 1: Important life domains of school-aged children in the Czech Republic

Blatny M.,* Jelinek M., Slezackova A., Betlach J., Kepak T., Vlcková I., & Pilat M.;
*Academy of Sciences of the Czech Republic, Czech Republic

To determine subjective importance of life domains in children 11 to 15 years. Children from Brno and Southern Moravia (N = 506, 50% girls). We used SQUALA adapted for children. The method inquires 28 domains of life (e.g. health, relationships, hobbies). Children answer on five point scales (1 – not important at all, 5 – entirely necessary). We analysed data according to gender, grade and urban vs. rural area. Most important domains include: interesting job in the future, good family relationships, friends, and health. Girls consider family more important than boys, boys value money more than girls. Older children emphasize the need to spend time according to their own wishes/interests. No differences were found between children from urban vs. rural area. These data are useful when considering how far chronic illness or disability impacts on the lives of children of different ages.

Paper 2: Parental narratives of health-related quality of life in children with leukaemia: An empirical model

Tremolda M.,* Bonichini S., Altoè G., Pillon M., Carli M., & Weisner T.; *University of Padova, Italy

This study aims to describe parents' perception of their child's quality of life at the time of diagnosis using an empirical model of psycho-social variables. 128 leukemic children and their families were recruited at the Pediatric Oncologic Clinic, University of Padova. The families were interviewed by a clinical psychologist during the first hospitalization using the Ecocultural Family Interview-Cancer. Child's QoL is predicted by parental trust in the medical staff, child coping and child adaptability. These last two predictors are in turn moderated by the fixed factor child age and mediated by parenting. All the coefficients were significant for $p < .005$. The model presented good fit indices ($\chi^2(4) = 5.03$; $N = 128$; $p = 0.28$; $RMSEA = 0.045$; $NNFI = 0.99$; $CFI = 1$). A better knowledge of parents' views and expectations regarding their children's QoL may help to improve psycho-social care for the child during leukaemia first treatments.

Paper 3: A prospective study of cognitive and motor functioning in young children with cancer

Scimin S.,* Moscardino U., Capello F., Pillon M., Bornstein M., Axia V., & Carlo M.; *University of Padova, Italy

This longitudinal study aimed to investigate neuropsychological functioning among infants and toddlers with cancer. Participants included 30 children newly diagnosed with cancer (mean age = 21.84 months) and 30 healthy children matched by age and gender. The pediatric cancer patients were assessed after the first cycle of therapy and one year later using the Bayley Scales of Infant Development; parents completed a set of questionnaires at both time points. Procedures and measures were identical for the two groups. Results indicated that, compared to controls, children with cancer displayed a significantly lower performance in the mental ($F(1,29) = 24.04$, $p < .0001$) and motor subscales ($F(1,29) = 37.52$, $p < .0001$). These children significantly improved over time (mental scale, $F(1,29) = 2.79$, $p = .005$; motor scale, $F(1,29) = 3.19$, $p = .001$), but still scored below the average norm. The findings suggest that early and effective interventions are needed during treatment to lessen the impact of childhood cancer on young children's cognitive and motor development.

Paper 4: Parent-child agreement reporting the HRQoL of child with cancer

Speyer E.,* Vuillemin A., Chastagner P., Briançon S., & Herbinet A.; *University of Nancy, France

We aimed to determine the level of agreement in reports of health-related quality of life (HRQoL) between children with cancer and their parents during a hospital stay and a stay at home. The sample consisted of 28 children (9–18 years old) hospitalized and treated for cancer. The child's HRQoL was assessed by the parent and child versions of the Child Health Questionnaire. Parent-child agreement was estimated by intraclass correlation coefficients. Parents reported a lower HRQoL than children themselves. HRQoL was lower during the hospital than the home stay. The parent-child agreement was better concerning the child's behaviour/psychological life during the hospital stay (range 0.32 to 0.66) but was better concerning the child's physical life during the home stay (range 0.45 to 0.71). Parent-child agreement in reporting the child's HRQoL differed by location of stay. Parents have different perceptions of physical and psychological capacities of their child.

Paper 5: Under-diagnosis of morbidity in survivors of childhood cancer: Implications for follow-up care

Eiser C.,* Taylor N., Absolom K., & Michel G.; *University of Sheffield, UK

We report morbidity experienced by a cohort of survivors of childhood cancer by i) comparing late-effects (physical and psychological) in medical records with self- (or parent-) report and ii) incidence of post-traumatic stress disorder (PTSD). Survivors of childhood cancer (diagnosed under 16 years) treated between 1990 and 2005 were identified from hospital records. Eligible survivors (108 over 16; 39 aged 12–16 years) completed questionnaires (self- or parent- reported late effects; PTSD). Information about late effects was taken from medical notes. Survivors and parents reported significantly more late effects (mean = 3.5; (SD = 2.9; range 0–16) than recorded in medical notes (mean = 1.3; SD = 2.0; range 0–7; $t = -8.61$, $p < 0.001$). Likely PTSD among survivors over 16 (13.9%), and adolescents (7.7%) was reported. Follow-up care needs to take account of the greater number of late-effects experienced by survivors compared with recorded in medical notes, and psychological consequences of surviving childhood cancer.

SYMPOSIUM: Positive health psychology

Convenor: Espnes G.A.,* & Byrne D.; *Norwegian University of Science and Technology, Norway

Aim: The aim of this symposium is to present state of the art and invite to a Cross-European and broad international research collaboration that will address health promotion research from a positive health psychology perspective. **Rationale:** Positive health psychology is the scientific study of optimal human functioning and aim to enlarge the approach to health research from the more traditional bio-medical disease oriented focus. It is time to examine and learn from groups of people who stay healthy and to apply this knowledge to help others who come within the band-width of illness risk, or simply to develop better health for all. By identifying factors that predicts positive health outcomes, and also which the health resources leading to this are, a more holistic understanding of the health panorama will be obtained. It is important to strengthen both the theoretical and empirical base for health promotion research and practice (primary health care and health services) and to broaden the health concept towards the focus on health assets, resources, capabilities and competencies instead of solely risks for diseases. The papers in this symposium will describe “state of the art” of positive health psychology research in (areas like) (positive health psychology in) the workplace, (positive health psychology) in children, and (positive health psychology) in rehabilitation. **Summary:** This health psychology symposium will clarify the present knowledge in particularly important health promotion areas, and further, stimulate to a network of researchers on positive health psychological and health promotion research in order to form an international research group.

Paper 1: Focusing on resources for health: Salutogenesis as the theoretical base of health promotion

Lindström B.,* & Eriksson M.; *Folkhlsan Research Centre, Finland

This presentation focuses on how the theoretical foundation of health promotion is explained through the development of the salutogenic theory for health. A. Antonovsky formulated his salutogenic theory “sense of coherence” (SOC) as a global orientation to view the world as comprehensible, manageable and meaningful, claiming that the way people view their life has

a positive influence on their health. The HPRP is running a systematic review of the empirical findings of Salutogenesis. The findings from the systematic review (about 800 papers) reveal the SOC to have a main, moderating or mediating role in the explanation of health. SOC is strongly related to perceived good health, especially mental health, and QoL. SOC predicts good health and QoL. The SOC scale is a reliable, valid, and cross culturally applicable instrument measuring health. The applicability of the SOC concept in practice on an individual, a group and a societal level is discussed.

Paper 2: For a healthy future: Positive health psychology in children

Byrne D.G.; *Australian National University, Australia

In the Lifestyle of Our Kids Study, a cohort of almost 900 young children were identified in 2005 and examined both bio-medically and psychologically; from the health psychology perspective, measures of stress, body image, self-esteem, and mood provided baseline data. Results of extensive follow-up show that by eight years of age, a large number of children showed poor body image, and that this was closely related to body mass, poor mood, early depression, and the beginnings of health risk behaviours. Early exercise had a significant impact on the promotion of a positive body image, and elevated mood to a noticeable degree. The flow-on effects to lowered body mass and positive health perceptions is becoming apparent in later follow-up. This work underscores the significant advantages attached to the early application of positive health psychology for children and can serve as a seminal example of positive health psychology in practice.

Paper 3: Positive occupational health psychology

Christensen M.* & Innstrand S.T.; *Research Centre for Health Promotion and Resources, Norway

In previous research there has been an imbalance with a focus on what is wrong and how it can be fixed (risk prevention), instead of a focus on developing optimal functioning and positive health (health promotion). In this presentation we will present the state of the art of positive occupational health psychology: the applicability of different theoretical models, e.g. the JD-R model and the COR-model, investigating predictors for healthy employees and healthy organizations. Through a focus on the use of positive occupational health psychology in health promotion, new aspects of what constitute good health might emerge. The field of positive occupational health encompasses the concepts of work environment, health and productivity in which well-being of the employee coexists with efficient and productive organizations. Whereas excessive demands predict burnout and ill health, a focus on presence of various resources in a work organization predict employee health and well-being.

Paper 4: Health promotion in the ill

Rannestad T.; *Sør-Trøndelag University College, Norway

Extraordinary progress in curative and preventive medicine has increased survival rates dramatically for a wide range of previous lethal diseases. The group of cancer survivors is growing rapidly, yet, little is known about the long-term impact of the disease and/or the cancer treatment on the survivors' lives. Some studies report on good to excellent quality of life despite ongoing physical and psychosocial sequelae, and an enriched appreciation for life and relationships, personal growth, and a reordering of those things valued in life. A re-orientation from the bio-medical disease approach towards a

bio-psycho-social-existential health-promoting approach will be illuminated as beneficial for the growing numbers of people living further with a history of cancer or other diseases.

Paper 5: Promoting positive health psychology in diabetes management in Australia: The role of hardiness

Reddy P.,* Alvarenga M., & Dunbar J.; *Deakin University, Australia

Diabetes prevention and management are among the top national health priorities in Australia. Hardiness encapsulates a positive orientation to life that helps people stay healthy under stressful circumstances. We examined hardiness in sample of 560 patients with type 2 diabetes, median age 68 years (308 men, 252 women) in primary care practices in southeast Australia. Hardiness was unrelated to education or duration of diabetes. Individuals with high scores on hardiness showed good mental health (low anxiety, low depression), fewer diabetes complications, accurate knowledge of current health and targets (levels of HbA1c, cholesterol, blood pressure), and practice of healthy lifestyles (exercise, diet) in the management of diabetes. The commitment and challenge components of hardiness were related to greater help-seeking and greater perceived support from health professionals in diabetes care. Hardiness is a positive health psychology concept that should be developed in training models for clinical and self management of diabetes.

SYMPOSIUM: Health and consciousness: From psychophysiology to psychopathology

Convenor: Gentili C.; *University of Pisa, Italy

Aim: Exploring the boundaries of the concept of consciousness and state of consciousness merging theoretical and neurobiological aspects of consciousness in normal and pathological conditions. In this framework the symposium will assess the concept of health and well-being. Rationale: A multidisciplinary approach to psychological issues is becoming more and more necessary and useful to better understand the mind-brain-body interaction and to provide objective bases on psychological interventions. Summary: In the first talk Dr. Gentili will give a general introduction to the symposium and introduce the principal methods to study neural correlates of psychological functions. His talk is oriented to achieve a broad definition of “health” and “well-being” in the brain. Dr. Battaglia will explore the theoretical approach to consciousness as phenomenal consciousness and its consequences on the concept of health and well-being. Dr. Gemignani will propose frontiers researches on effects of environmental stress on sleep and their relationship with well-being. Finally Dr. Monti and Dr. Tomaiuolo will present their original research on minimal state of consciousness. In particular they will show how is it possible to communicate with locked-in patients through EEG and fMRI in order to assess their needing and their psychological states.

Paper 1: Can we define health and wellbeing in the brain?

Gentili C.,* Rota G., Del Carlo A., Cetani F., Pennato T., & Guazzelli M.; *University of Pisa, Italy

How does our brain react and change to stress, and diseases? Physical pain and frustration have been assessed by fmri and PET studies, suggesting the possibility of assess the brain correlates of emotions and suffering. This is true also for depressive and anxiety conditions. It is interesting to note that brain structures involved in physical and mental suffering are largely overlapping. In our hypothesis this is a possible neural correlate of frequent association and mutual vulnerabilty between somatic painful conditions and depression. Moreover we are able to assess the effect of stress on brain and can therefore beginning to bridge normal

psychological reactions to environment and abnormal psychopathological reactions which affect mental health and quality of life.

Paper 2: Functions of consciousness

Battaglia F.; *Berlin Academy of Science and Humanities, Germany

The issue consciousness gathers the attention of several disciplines. The questions range from “What is consciousness?” to “What makes some mental states conscious and other unconscious?” to “Are there the neuronal correlates of consciousness?” to “How can we explain that the living stuff rises to an internal perspective, which is conscious experienced?” and again: “How can we explain that every one of us is faced with a single and personal point of view?”, “Has subjective experience causal efficacy, has an effect on other processes of a cognitive system causally arranged, and in particular has an effect on the formation of the identity and his health and well-being? Or is instead a phenomenon that appear with cognitive processes i. e. an epiphenomenon?” The purpose of this talk is to show the functional character of the experience on the health feeling.

Paper 3: How stress affects slow oscillatory patterns during sleep

Menicucci D.,* Gemignani A., Pierulli A., & Bedini R.; *University of Pisa, Italy

The sleep slow oscillation (SSO) is a common EEG pattern of spontaneous activity during NREM sleep. This phenomenon is of notable relevance since recent studies have highlighted a strong relationship between SSOs and neural plasticity. More, SSO is thought to play a functional role in the consolidation/selection of information in the brain. In this work we evidence a link between daytime physical and psychological stress and night expression of the SSO. Indeed, investigating by EEG recordings sleep prior and after a huge psycho physical stress, we found that stress highly affects the quality and expression of SSO: while in baseline conditions SSO activity appears in line with that of normal subjects, in post-stress sleep recordings the rate of occurrence of SSO results greatly reduced and the single waveforms distorted and with generally lower amplitudes. These results indicate SSO as a reliable marker of allostatic conditions.

Paper 4: fMRI and disorders of consciousness: Assessing cognition and awareness in the absence of behavior

Monti M.; *Cambridge University, UK

Assessing awareness in vegetative state patients is difficult and frequently depends on subjective interpretations of observed spontaneous and volitional behavior. Establishing the prognosis about recovery of consciousness is important for patients, their families and facilitates the selection of appropriate therapies. The aim of this study is to integrate clinical-behavioral observation and instrumental EEG and/or fMRI indexes for the assessment of consciousness and of prognosis of recovery. EEG is used to assess response to nociceptive and acoustic stimulation. fMRI is used to detect brain response to linguistic stimuli and to complex motor imagery. Instrumental method of assessing the EEG reactivity presented false negative when trying to formulate a prognosis in cases of EEG reactivity absence. In a patient who did not show any variation of the EEG pattern, a different kind of fMRI activation were detected according with the different linguistic stimulation. After few weeks this patient recovered from vegetative state.

Paper 5: Looking for instrumental indices of consciousness in vegetative state: Diagnosis and prognosis. Preliminary observations

Tomaiuolo F.,* Logi F., Monti M., Oliva M., Malasoma F., Cozza S., & Posteraro F.;
*Ospedale di Volterra, Italy

Assessing awareness in vegetative state patients is difficult and frequently depends on subjective interpretations of observed spontaneous and volitional behavior. Establishing the prognosis about recovery of consciousness is important for patients, their families and facilitates the selection of appropriate therapies. The aim of this study is to integrate clinical-behavioral observation and instrumental EEG and/or fMRI indices for the assessment of consciousness and of prognosis of recovery. EEG is used to assess response to nociceptive and acoustic stimulation. fMRI is used to detect brain response to linguistic stimuli and to complex motor imagery. Instrumental method of assessing the EEG reactivity presented false negative when trying to formulate a prognosis in cases of EEG reactivity absence. In a patient who did not show any variation of the EEG pattern, a different kind of fMRI activation were detected according with the different linguistic stimulation. After few weeks this patient recovered from vegetative state.

SYMPOSIUM: Psychological measures in health and disease

Convenor: Gremigni P.; *University of Bologna, Italy

Aims: The aim of this symposium is to discuss crucial aspects of measurement in health psychology: (1) development of new questionnaires, (2) cross cultural adaptation, (3) testing validity and reliability, (4) usefulness of application. **Rationale:** Whereas biomedicine is interested in medically derived outcomes, health psychology emphasizes the patient's own personal assessments of broader health status, including emotional state, behaviours, and management of illness, to come closer to the WHO concept of health. Researchers interested in establishing the role of psychosocial factors in health and diseases face the challenge of precise and valid measurement of concepts. Since questionnaires are the most common form of measurement in health psychology, it is worth considering issues related to them. **Summary:** The symposium will illustrate practical examples of common areas of investigation where measures are used, with a focus on psychometrics: Assessment of healthy individuals, measures used with people who are ill, and measures adopted with providers of care. Lombardo will describe a recent construct referred to an adaptive eating behaviour, and discuss the criterion validity of a new questionnaire developed to measure it. Gremigni will report the internal construct validity of a new scale to measure positive mental wellbeing, using the Rasch model, in two samples from Italy and UK. Turner will address self-management of diseases in 4 groups of patients with different long-term health conditions discussing the usefulness of a specific questionnaire. Anderson will describe the validity and reliability of a new questionnaire to assess clinician's practice of supporting patients' self-management.

Discussant: *Di Nuovo S.* *University of Catania, Italy.

Paper 1: Measuring adaptive eating practices: Intuitive eating and its relationships with cognitions, behaviours and symptoms

Lombardo C.,* Battagliese G., Baglioni C., & Violani C.; *University of Rome, Italy

In several areas there is still a need to define psychological health through the affirmative presence of capacities and strengths rather than the mere absence of symptoms (e.g., Seligman & Csikszentmihalyi, 2000). In the domain of eating behaviour, research has traditionally

addressed disorders and symptoms rather than adaptive eating practices (e.g., Lombardo & Lucidi, 2003). The presentation will describe a recent construct, named intuitive eating (IE; e.g. Tylka, 2006), defined by the self reported capacity to regulate eating based on internal hunger and satiety cues. A sample of 234 female students filled questionnaires on IE, eating behaviour and symptoms. IE is negatively correlated to eating symptoms (highest $r = .71$) and positively correlated with self-efficacy (lowest $r = .21$). The findings and other results will be discussed to illustrate how the IE construct may help to understand and foster healthy eating.

Paper 2: A short measure of mental well-being: A Rasch analysis using data from Italy and UK

Gremigni P.,* Tennant A., & Stewart-Brown S.; *University of Bologna, Italy

There is a growing demand for measures to monitor positive mental health at the population level. We report here the internal construct validity of the Warwick-Edinburgh Mental Well-Being Scale (WEMWBS) using the Rasch model on data from Italy and UK. Data from Italy ($N = 325$, mean age 39 years) were pooled with a similar sample of data from the UK ($N = 383$, mean age 48 years) for comparison of cross cultural difference. Fit to the model was good in the Italian group using a 7-item version of the scale ($\text{Chi}^2 = 75.5(63)$, $p = 0.15$), and remained good ($\text{Chi}^2 = 73(63)$, $p = 0.18$) in the combined Italy-UK sample. There was no indication of local dependency (Pearson residual = -0.43 ± 1.26) and the strict unidimensionality expectations of Rasch model were satisfied (t-test: $CI = 4.8-8.0$). Item bias by age, gender, and country was absent. Robust measurement properties combined with brevity make the short-WEMWBS a useful measure for monitoring positive mental well-being in populations.

Paper 3: Patient activation among patients with long-term health conditions

Turner A.,* Ahmad N., Wallace L., Kosmala-Anderson J., Bishop A., & Pooley H.;

*University of Coventry, UK

Most long-term health conditions (LTHCs) are amenable to being self-managed and studies have shown that most patients want to be active self-managers. The Patient Activation Measure (PAM) assesses knowledge, skill and confidence for self-management. The purpose of this study is to describe patient activation among 4 LTHC groups (depression, pain, COPD & diabetes). The PAM is administered to LTHC patients in an evaluation of a self-management initiative. To date over 400 patients have completed the PAM. The PAM produces a score between 0 (no activation)–100 (high activation). One-way ANOVA (controlled for age, sex, comorbidity) showed depression (50.7, $SD = 13.13$) and pain (52.5, $SD = 11.9$) patients scored significantly lower than COPD (59.5, $SD = 14.6$) and diabetes (59.7, $SD = 15.1$) patients ($p < .001$). Patient activation varies among LTHCs and the pattern of scores across the 4 conditions are broadly consistent with those reported in a large scale telephone survey (Ellins & Coulter, 2005).

Paper 4: Development of a psychological measure: Clinicians' practices to support self-management of long-term conditions (PSM)

Kosmala-Anderson J.,* Wallace L., Turner A., & Ahmad N.; *University of Coventry, UK

Measuring the practices to support self management of clinicians (PSM) is a prerequisite for developing and evaluating training interventions. A literature review revealed 6 measures with partial relevance to practices relevant to long term conditions (LTC). 154 items were reviewed by 8 clinical experts, creating 30 items for Q-sort by 8 experts. 67 clinicians rated 40 items

for (a) practicality (b) effectiveness of supporting self management (PSM). Factor analysis produced a 25 item scale comprising three subscales: Clinical self management support (14 items), Patient centeredness (4 items), Organization of services (7 items) with good reliability (Cronbach's Alphas 0.94, 0.78 and 0.85. Item-total correlations above 0.50). A further 360 clinicians completed it; factor analysis confirmed three scales and similarly high reliability: Cronbach's Alphas: 0.94; 0.81 and 0.82, item-total correlations >0.50. Results will describe validity. The PSM shows good psychometric properties and is suitable for testing interventions to improve clinician's practices.

SYMPOSIUM: Theoretical integration in health psychology: Unifying ideas and complimentary explanations

Convenor: Hagger M.; *University of Nottingham, UK

This symposium aims to provide contemporary views on integrative theoretical research in the health psychology with a view to furthering the understanding of the processes that lead to health behaviour and outcomes by eliminating gaps in theories, reducing redundancy, and increasing parsimony. A series of articles (empirical, narrative review, and meta-analytic) will illustrate the advantages of integration and how it can offer a 'streamlined' view of the processes underpinning health behaviour. While such parsimony is desirable theoretically, it is also salient from a behaviour change and intervention perspective. Through the elimination of redundancy, integrated theories highlight the essential psychological variables and processes that do most of the 'work' when it comes to predicting and explaining behaviour. These variables and processes will then become targets in integrated theory-based interventions in health psychology. The symposium begins with Armitage's critique of the transtheoretical model and contends that while the TTM has its limitations it also serves as a precursor to current thinking on integrative models to understand health behaviour. Richert, Lippke, and Plotnikoff's study provides complimentary explanations by testing whether discontinuity patterns could be found variables in protection motivation theory across the stages in the health action process model. Ntoumanis, Edmunds, and Duda present an integrated model of stress, coping, and motivation adopting hypotheses from Deci and Ryan's (1985) self-determination theory (SDT) and Lazarus' (1991) cognitive-motivational-relational theory. Hagger and Chatzisarantis' meta-analysis of 32 empirical studies examines how the theory of planned behaviour and SDT can be integrated to provide complimentary explanations.

Discussant: *Sniehotta F.* *University of Aberdeen, UK.

Paper 1: Is there utility in the transtheoretical model?

Armitage C.; *University of Sheffield, UK

The transtheoretical model (TTM) is arguably the dominant model of health behaviour change, yet has simultaneously attracted criticism. Criticisms have been directed largely at the stages of change, which may have diverted attention away from more fruitful avenues of research based on processes of change. Methods: Narrative review. Evidence suggests flaws in the stages of change as articulated in the TTM. Studies incorporating the five stages point to a model that better fits Heckhausen's (1991) idea of a motivational phase followed by a volitional phase. The processes of change components may prove most useful, yet have been under-researched. Three studies that successfully utilise the processes of change to reduce alcohol consumption, encourage smoking cessation and increase physical activity are described. Elements of the TTM offer promise in developing behaviour change interventions, but the question arises as to whether extracting these elements undermines the idea behind the TTM.

Paper 2: The protection motivation theory within the stages of the health action process approach

Richert J.,* Lippke S., & Plotnikoff R.; *Freie Universität Berlin, Germany

Two health behaviour theories were integrated: a continuum theory (Protection Motivation Theory, PMT) and a stage model (Health Action Process Approach, HAPA). This appears to be the first study testing whether discontinuity patterns could be found in means and trends across HAPA stages analysed with test variables from the PMT. In a cross-sectional sample of N = 569 internet-users, PMT variables (threat and coping appraisal, motivation), behaviour and HAPA stages were assessed. Polynomial-based contrast analyses using ANOVAs employing stage were carried out. Significant quadratic and cubic trends were found for all tested PMT variables across the four HAPA stages. It appears advantageous to group people into stages (as HAPA suggests) as these stages differ with regard to specific social-cognitive profiles (e.g., as measured by the PMT). The discontinuity patterns across the means indicate that stage groups are not arbitrary sub-divisions of linear increases but rather psychologically relevant categories.

Paper 3: Understanding the coping process from a self-determination theory perspective

Ntoumanis N.,* Edmunds J., & Duda J.; *University of Birmingham, UK

To explore conceptual links between the Cognitive-Motivational-Relational Theory of coping (Lazarus, 1991) and Self-Determination Theory of motivation (Deci & Ryan, 1985). We present a very brief overview of the two theories. We also discuss how components from the two theories can be examined together to facilitate research in the health/exercise domain. We offer a preliminary integrated model of stress, coping and motivation, based on the two aforementioned theories, in an attempt to illustrate and instigate research on how motivational factors are implicated in the coping process. We believe that the proposed model can serve as a platform for generating new research ideas which, besides their theoretical relevance, may have important applied implications.

Paper 4: Integrating the theory of planned behaviour and self-determination theory in health behaviour: A meta-analysis

Hagger M.,* & Chatzisarantis N.; *University of Nottingham, UK

This meta-analysis aimed to provide cumulative support for a motivational sequence in which self-determined motivation from self-determination theory (SDT) acts as a distal influence on the proximal predictors of health-related intentions and behaviour from the theory of planned behaviour (TPB). A literature search identified 41 tests of effects between TPB and SDT variables. Meta-analytic methods were used to correct effect sizes for statistical artifacts and test 6 moderators. A path-analysis using the meta-analytic correlations was conducted to examine the proposed motivational sequence. Path analysis revealed that the effects of self-determined motivation on intentions and behaviour were partially mediated by TPB constructs. Only six effect sizes were moderated by the proposed moderators. The synthesis supported the theoretical integration and proposed motivational sequence. Results support complimentary nature of the TPB and SDT and the need for integrated experimental or intervention studies on a broader range of health behaviours.

SYMPOSIUM: Recent developments in research on illness representations

Convenor: Hickey A.; *Royal College of Surgeons in Ireland, Ireland

Aims: The importance of illness perceptions for individuals' coping and emotional responses to health threats has been widely reported. More recently research has focussed on the potential for intervention with illness perceptions to improve recovery and outcome. This symposium focuses on recent research that highlights areas where such intervention efforts may usefully be targeted. **Rationale:** The studies in this symposium highlight potential areas for intervention in different aspects of illness cognitions. Three of the studies are prospective, examining implications for outcome of changes in illness perceptions over time; the fourth a qualitative study examining the influence of language on the structure of illness perceptions. **Summary:** The first paper addresses self-regulation in the context of heart failure, examining the mediating role of adaptive strategies (selection, optimisation and compensation model) in a prospective study over one year. The second paper highlights discrepancies in illness perceptions in patients with stroke and their carers, and examines the predictive value of these discrepancies for one year stroke outcome and carer well-being. The third presentation addresses illness perceptions prior to heart valve replacement and one year post surgery, examining the impact of negative versus positive illness perceptions (stable or unstable) on outcome at one year. The final paper examines methodological issues in the structure of illness perceptions through three qualitative interview studies, using patient narratives to examine the influence of language on patient perceptions in acute and chronic conditions.

Discussant: *Weinman J. *King's College London, UK.*

Paper 1: Self-regulation in the context of heart failure: The mediating role of adaptive strategies

Morgan K.,* McGee H., & Shelley E.; *Royal College of Surgeons in Ireland, Ireland

This study examined psychological adaptation in the context of heart failure. The Common Sense Model (CSM) of self-regulation and illness was used as the study framework. Coping was operationalised using Baltes' Selection, Optimisation and Compensation model. Patients were recruited from three teaching hospitals (n = 161). Illness perceptions, use of adaptive strategies, psychological well-being, self-care behaviour and health-related quality of life (HRQoL) were assessed. Data was analysed using hierarchical regression and bootstrap analysis. More variance in outcomes was explained by illness perceptions than illness and demographic variables. Adaptive strategies were found to partially or fully mediate the relationship between a number of illness perceptions and the outcomes of psychological well-being and HRQoL. The CSM is a useful framework for considering psychological adaptation in the context of heart failure. Results also provide support for the mediation hypothesis of the CSM.

Paper 2: Do discrepancies in patient and carer perceptions of stroke predict recovery?

Donnellan C.,* Hickey A., & McGee H.; *Trinity College Dublin, Ireland

This study examined whether stroke patients and their informal caregiver held similar representations of stroke and whether discrepancies in representations predicted recovery one year later. 88 patient-carer dyads of patients admitted to hospital with primary diagnosis of stroke participated and were interviewed during acute hospital care and one year later. Measures included the Orpington Prognostic Scale (stroke severity) and Illness Perceptions Questionnaire-Revised. Carers were significantly more negative than patients regarding all aspects of stroke, including number of associated symptoms ($t = -5.29$, $p < 0.0001$); chronicity of sequelae ($t = -9.347$, $p < 0.0001$); lack of personal control ($t = 4.74$, $p < 0.0001$); efficacy of treatments ($t = 3.43$, $p = 0.0001$); and experience of emotional distress ($t = -4.1$, $p < 0.0001$). No relationship was found between patient or carer perceptions of stroke and stroke severity.

Predictive value for one year outcome will also be addressed. Patients and carers have significantly different perceptions of stroke in the acute stage following stroke. These perceptions are independent of stroke severity.

Paper 3: Clustering illness beliefs to identify patients at-risk after heart valve replacement

Kohlmann S.,* Weinman J., & Rimington H.; *University of Marburg, Germany

The influence of negative illness perception on physical quality of life (QOL) and NYHA-status was investigated in patients with heart valve replacement. Two cluster analyses were performed before and one year after surgery. According to their illness beliefs cluster membership over one year patients (N = 136) were grouped: (a) stable positive, (b) stable negative, (c) changing from positive to negative, (d) changing from negative to positive. One year after surgery patients holding negative illness beliefs showed a lower physical QOL and higher NYHA-status than patients changing to positive and patients with stable positive illness beliefs ($p < .001$). Physical QOL and NYHA-status one year after surgery was predicted by cluster membership ($p < .05$). Changing to negative illness beliefs was associated with higher NYHA-status ($p < .1$) and lower physical QOL ($p < .05$). Patients could benefit from an early screening as negative illness beliefs are modifiable risk factors.

Paper 4: Methodological issues about the structure of illness perceptions – Findings from qualitative studies in illness perceptions

Rudell K.,* & MacInnes J.; *Pfizer, UK

Recent publications present more findings on quantitative assessment of illness perceptions. However qualitative research can offer further insights into the structure of the internal representation and the associations between language, perception and behaviour. Three qualitative interview studies will be presented using patients who experienced an acute physical health threat – myocardial infarction, a chronic severe health care problem – heart failure patients; and a general population sample who encountered a mental health threat. Narratives are examined to explore similarities and differences between these conditions. Differences were found in perceptions and language used by patients to describe these acute physical, mental and chronic illnesses, offering new insights into the structure of illness perceptions and their effects on behaviour. Qualitative research using patient narratives has much to offer to unravel the influence of language on patient perceptions, but difficulties with gathering and documenting interview data need to be overcome.

SYMPOSIUM: Planning health behaviour change: Mediation and moderation effects

Convenor: Luszczynska A.,* & Schwarzer R.; *Warsaw School of Social Psychology, Poland

Aims: Applying Theory of Planned Behaviour, Implementation Intention Approach and Social Cognitive Theories, the symposium discusses the mechanisms which enhance the effectiveness of forming action plans as well as conditions which reduce the efficiency of planning. Rationale: Although there is a large body of evidence indicating that forming action plans results in health behaviour change, recent research has indicated that effects of planning may be limited in some populations. This variability of results may depend on social, cognitive or behavioural mediators and moderators. Finally, the role of planning in the context of dominant health behaviour models requires more in-depth analysis. Our symposium addresses these burning issues. Summary: The effects of a planning intervention may depend on

characteristics of its participants, such as BMI and age. The first presentation examines results of a RTC, indicating that the effects of planning may emerge after longer time and that they may be larger among overweight (but not obese) respondents. The second presentation discusses another RCT, suggesting that the influence of planning may be restricted to self-reported behaviour and it may be moderated age, with younger adolescents benefiting less than older adolescents. Action planning may be integrated into the Theory of Planned Behaviour as a mediating and/or a moderating mechanism. The third presentation provides empirical evidence for planning in the TPB context, derived from two prospective studies. The last presentation, based upon three longitudinal field studies, finds that self-efficacy beliefs can moderate the intention-planning-behaviour relationship.

Discussant: *Abraham C. *University of Sussex, UK.*

Paper 1: Reducing fat consumption in overweight and obese individuals: Results of a randomised controlled trial

Scholz U., & Hornung R.; *University of Zurich, Switzerland

This randomised controlled trial tested whether a planning intervention was successful in changing fat consumption in overweight and obese individuals after four and twelve months. Overall, 116 overweight and obese individuals (70.7% women; mean age = 54.05, SD = 12.82) were randomly allocated to a control or a planning group. Participants of the intervention group formed weekly action and coping plans on their low-fat diet for nine weeks. Socio-cognitive variables and fat consumption were assessed at baseline, and four and twelve months later. Twelve but not four months after baseline the intervention successfully promoted lower fat consumption in overweight, but not in obese individuals. Moreover, the intervention displayed positive effects on self-efficacy, coping planning, and intentions. The intervention successfully resulted in long-term effects on behaviour change in overweight individuals. Future studies should focus on how obese individuals can better be supported in their behaviour change.

Paper 2: Planning intervention, adolescents' physical activity, and body fat tissue: The role of age and perfectionism

Luszczynska A.; *Warsaw School of Social Psychology, Poland

The study investigated the effectiveness of a standard planning intervention in the context of age, self-reported frequency of planning, and perfectionism. Adolescents (N = 522; age 15–19) were randomly assigned to a planning intervention or a control group and followed-up for 3 months. Outcomes included physical activity (self-report), BMI, and body fat tissue (bioelectrical impedance analysis method). The effects of the intervention on BMI and body fat tissue were non-significant; small effects were found only for moderate physical activity, with age and perfectionism playing a moderating role. Self-reported planning predicted body fat tissue and physical activity. Younger participants formed plans less frequently. Among adolescents, standard planning interventions protocols may result in negligible or small effects (these effects are more salient if participants are older or strive for perfection).

Paper 3: Intention and planning in the theory of planned behaviour

Conner M.; *University of Leeds, UK

The potential role of planning as a mediator and moderator of the impacts of intentions on behaviour has been shown by several authors. The present research assessed these effects

in two studies. Two prospective questionnaire studies ($N_s = 125, 346$) assessed components of the theory of planned behaviour (TPB), planning, past behaviour and later behaviour in order to test the mediating and moderating effects of planning on intention-behaviour relations. The TPB was highly predictive of intentions (R square values = .37, .48) and future behaviour (R square values = .43, .36). Planning was found to mediate the impact of intention on future behaviour (Study 2) and to moderate the intention-behaviour relationship (Studies 1 and 2). The results are discussed in relation to recent models of health behaviour that focus on the volitional (i.e., post-decisional) phase of health behaviour.

Paper 4: Self-efficacy can moderate the planning-behaviour relationship

Schwarzer R.; *Free University Berlin, Germany

Planning is supposed to mediate between intentions and exercise as well as dietary behaviours. However, if a person lacks self-efficacy, this mediation might fail. Three studies ($N = 245$, $N = 358$, $N = 812$) examined the role of self-efficacy in the intention-planning-behaviour relationship. Moderated mediation models were specified in which planning served as a mediator between intentions and behaviour. Self-efficacy was specified as a moderator of the intention-planning-behaviour relationship. Intentions were translated into behaviour by planning. However, levels of self-efficacy moderated this mediation process: Significant planning x self-efficacy interaction terms accounted for behaviour variance. The strength of the mediated effect increased along with levels of self-efficacy, even when accounting for baseline behaviours. For planning to mediate the intention-behaviour relation, people must harbor sufficient levels of self-efficacy. If they lack self-efficacy, either intentions are not well translated into planning, or planning is not well translated into behaviour.

SYMPOSIUM: Posttraumatic growth: Toward a positive perspective on posttraumatic experience

Convenor: Magrin M.E.; *University of Milan, Italy

Symposium aims to present the posttraumatic growth construct as a paradigm shift for the field of traumatic stress and its relevance for health psychology. PTG refers to the experience of positive change resulting from the struggle with major life crisis. There are many empirical evidences of healthy strength of PTG in enhancing psychological well-being (Calhoun & Tedeschi, 2006; Joseph & Linley, 2008). A year got by from the publication of the volume "Trauma, Recovery and Growth" (Joseph & Linley, 2008) that summarizes the most important theoretical and methodological issues on PTG. Therefore it seems relevant to offer a symposium on this topic that could discuss the unsettled matters and the future research. To achieve this purpose, two contributions present the perspective of the Positive Psychology on this topic, showing the effectiveness of Organismic-Valuing Theory in explaining the processes of growth in a sample of cancer patients and highlighting the fruitfulness of engagement and resources development in promoting growth among individuals with physical constrains and disability. The other two presentations integrate the qualitative and quantitative approaches to PTG. The former present a meta-analytic review of 103 studies on this topic. The latter underlines the relevance of qualitative method in a narrative review of a cross-cultural validity of the concept of benefit finding. All findings will be discussed by Stephen Joseph from the Centre of Trauma, Resilience and Growth of Nottingham, author of the Organismic-Valuing Theory of adversarial growth.

Discussant: *Joseph S. *University of Nottingham, UK.*

Paper 1: The organismic-valuing theory of adversarial growth: A longitudinal study on cancer patients

Scrignaro M.,* Magrin M.E., Bonetti M.L., & Barni S.; *University of Milan, Italy

The aim of the research is to test the Organismic Valuing Theory of adversarial growth (Joseph & Linley, 2008) that integrates the previous growth's model into a positive perspective. Participants were 41 cancer patients (90% female), prevalently diagnosed with Stage I (31%) or Stage II (29, 3%) breast cancer (70%) or colon-rectal cancer (20%). Measures: Impact of Events Scale (IES; Horowitz, 1979); Impact Scale (adapted from Bellizzi & Blank, 2006); BriefCope (Carver et al., 1997); Post Traumatic Growth Inventory (PTG; Tedeschi, Calhoun, 1996). GLM confirms the theoretical model: intrusion predicts the impact of illness on personal purposes and aims ($\beta = .56$ $p < .01$, $R^2 = .32$); the impact on aims supports a problem focused coping ($\beta = .43$ $p < .05$, $R^2 = .18$) that, in turn, exerts a direct influence on PTG ($\beta = .56$ $p < .000$, $R^2 = .45$) six months later. Results highlighted the role of intrusion in starting the processes toward growth and raise a clinical question concern the symptoms reduction.

Paper 2: Disability and eudaimonia

Bassi M.,* & Delle Fave A.; *University of Milan, Italy

Health professionals are becoming increasingly aware of the necessity to improve patients' long-term quality of life through the promotion of their autonomy and well-being, but also of their responsibility and active adherence to treatments and to healthy lifestyles. Nevertheless, the strictly biomedical approach is still prevailing in most countries and health services. Within the eudaimonic perspective in positive psychology, researchers have identified several key components of well-being, such as daily opportunities for optimal experiences, commitment to the pursuit of life goals, cultivation of skills and competencies. Our research group has investigated these topics among people with sensorial and motor disabilities, varying in age, educational level, and culture. The findings showed that the eudaimonic perspective is particularly suited in promoting well-being among individuals who have to cope with physical constraints and disability. The operationalization of related constructs can provide suggestions for designing and evaluating interventions in the domain of health promotion.

Paper 3: Optimism, social support and coping strategies as factors contributing to posttraumatic growth: A meta-analysis

Prati G.,* & Pietrantoni L.; *University of Bologna, Italy

This meta-analytic review examines the role of optimism, social support and coping strategies in contributing to posttraumatic growth. Results from 103 studies showed that all three systems of variables yielded significant effect sizes. Religious coping and positive reappraisal coping produced the largest effect sizes. Social support, seeking social support coping, spirituality and optimism were moderately related to posttraumatic growth. Acceptance coping yielded the smallest effect sizes. Moderator analyses showed that effect sizes did not differ according to time elapsed since trauma, gender and the type of posttraumatic growth measure (posttraumatic growth vs. benefit finding). Age and gender were significant moderators of religious coping whereas study design (longitudinal vs. cross-sectional) significantly moderated the effect of positive reappraisal coping. The results are consistent with stress appraisal theories. Implications for theory and practice are discussed.

Paper 4: Psychological benefits following adversity: Cross-cultural perspectives

Splevins K.,* Cohen K., Joseph S., & Bowley J.; *University of Lancaster, UK

Benefit finding following adversity is a concept which has been established within a Western cultural framework. As such the concept, process and outcomes of benefit finding may represent inherent cultural biases which may also be reflected related psychometric tools, and the application of such instruments to diverse cultures. This narrative review explores the possibility of cultural biases in the concept, processes and outcomes of benefit finding following adversity. It is concluded that while at the broadest and most abstract level the concept of benefit finding seems valid cross-culturally, its operationalisation has potentially been biased in favour of cultural assumptions associated with Western individualistic society. Further idiographic research exploring cross-cultural differences in benefit finding is recommended in developing the concept.

SYMPOSIUM: Health maintenance during pregnancy and post-partum period: Risk factors and prevention strategies

Convenor: Mauri M.,* & Guazzelli M.; *University of Pisa, Italy

Aims: To make an update and further evaluations on the psychopathology during the perinatal period, focusing not only on postpartum period, but even on pregnancy. To assess the prevalence of Axis I disorders, socio-demographic correlates, and functional impairment during the perinatal period. To evaluate the efficacy of Interpersonal Psychotherapy (IPT). To assess factors of vulnerability for depression during pregnancy and postpartum, medical and psychosexual comorbidity and the consequences for the child. **Rationale:** Up today, research has been mainly focused on postpartum mental disorders. Consequently, little is known about mood and anxiety disorders during pregnancy, even if a growing body of evidences underline their epidemiological and clinical relevance. The few studies available suggest that depressive symptoms are more frequent during pregnancy than in the postpartum, and a more recent review indicates that the prevalence and 12-month incidence of mental disorders during pregnancy are similar to those of age-matched nonpregnant women. For these reasons, further investigations on this subject are necessary. **Summary:** Clinical experiences and literature underline that perinatal Psychopathology is often underestimate, with negative impact on the woman, the outcome of pregnancy, the newborn and mother-child relationship. For these reasons it is important to focus the attention of clinicians on these subjects and a multi-disciplinary approach is necessary.

Discussant: Guazzelli M. *University of Pisa, Italy.

Paper 1: Prevention health: Perinatal screening & research

Mauri M.,* Graziottin A., Spinelli M.G., & Righetti P.L.; *University of Pisa, Italy

The aim is to assess the prevalence, sociodemographic correlates, and functional impairment associated with Axis I disorders in women at the third month of pregnancy. 1066 women presenting at the Department of Obstetrics and Gynecology of the Azienda Ospedaliera Universitaria Pisana (Italy) for the first ultrasound examination between the 12th and the 15th gestational weeks were recruited for participation in the Program "Perinatal Depression-Research and Screening Unit" and were administered the Structured Clinical Interview for DSM-IV Axis I Disorders and the Work and Social Adjustment Scale. One in 5 women presented with a current Axis I disorder, and a higher percentage met criteria for a lifetime Axis I disorder. Early detection of psychopathology at the beginning of pregnancy may help

to plan an adequate treatment in order to achieve a better postpartum adjustment and to reduce the risk of adverse obstetrical and psychopathological outcome.

Paper 2: Predictors, challenges and caring strategies for teen mothers during pregnancy and post-partum period

Graziottin A.; *University of Milan, Italy

Firstly, to analyze predictive factors for depression in the perinatal period, secondly to study co-morbid medical and psychosexual conditions in comorbidity, thirdly to analyze the risks for the newborn baby, in teen mothers. Literature review and clinical experience of the author. The strongest risk factors for postpartum depression are: previous history of depression; depression during pregnancy; pre-menstrual syndrome; the medical conditions in comorbidity with depression are iron deficiency anaemia; the effects on children are: an increase in physical abuse ($p < 0.001$), an increase of 44% of pediatric accidents, a reduction of 20% of pediatric periodic checks. In the long term the child may develop cognitive and emotional problems and less social skills. It is important treat depression, helping the mother in child care, in order to facilitate the process of attachment and to minimize the damages of maternal depression on children.

Paper 3: Interpersonal psychotherapy for health of antenatal women

Spinelli M.G.; *Columbia University, USA

Antenatal depression, a substantial risk factor for postpartum depression, occurs in 10% of pregnant women, but no clinical treatment trials of antenatal depression exist. In an effort to establish treatment guidelines for depression during pregnancy, the author reports on a treatment program using interpersonal psychotherapy for antepartum depression. A 16-week bilingual controlled clinical trial compared a group receiving interpersonal psychotherapy for antepartum depression to a parenting education control program. Interpersonal psychotherapy is an effective method of antidepressant treatment during pregnancy and should be a first-line treatment in the hierarchy of treatment for antepartum depression.

Paper 4: Prenatal psychology and antenatal death: Some possible maternal and paternal psychopathological predictors

Righetti P.L.; *University of Pavia, Italy

Firstly, to analyze the prenatal psychology, secondly to increase knowledge about psychological repercussions due to antenatal death. Literature review and clinical experience of the author. Our data suggest that the psychological competence of the fetus, and the attachment before the pregnancy are important predictors for the psychopathology; the prenatal attachment to the foetus in women who choose prenatal diagnosis is significantly lower in comparison to women who did not choose prenatal testing; Relatively the abortion it will be presented an empirical research, oriented to deepen the impact at a psycho-physiological level of the decision to abort. The abortion doesn't induce severe psychological and psychiatric consequences, nor in short and long terms. Intrinsic purpose of the treatment is also to pick and evidence the different blends that characterized the answers to three interruption types of pregnancy above-cited and compare them.

SYMPOSIUM: Emergency psychology

Convenor: Meringolo P.; *University of Florence, Italy

This symposium is aimed at reviewing the issues of Emergency Psychology, observing the main activities carried out in this field in the background of studies in Health Psychology, and examining prevention and promotion interventions, in order to highlight their importance for health systems and local communities. Emergency situations are quite common in our countries, involving different communities for different reasons. The symposium will show to European Health Psychology Conference some of these situations and the experiences in leading psychological interventions. The Health's emergencies are often identified with the rescue interventions following from environmental or human problems. In these events emergency physicians, health operators, volunteers or dispatchers of emergency numbers are working. Their work, their role and their psychological health are very important for their selves and for the local communities. The symposium will examine therefore the psychological and psychosocial conditions of operators working in Emergency situations, suggesting solutions, instruments or skills for individuals and groups who have to face emergency situations and to work or live in different emergency conditions. Researches and interventions in Emergency Psychology could help Public Health Systems to improve their efficacy.

Paper 1: Emergency psychology

Berliner P.; *University of Copenhagen, Denmark

The presentation will focus on the psychosocial aspects of disaster response, recovery, preparedness and risk reduction. Emergency psychology includes designing, implementing, and evaluating support for individuals, families and communities exposed to disaster or critical incidents and thus being in risk for developing trauma-related psychosocial problems. Focus of this presentation will be on capacity building and organizational development in four areas: risk reduction, disaster preparedness, disaster response, and recovery. Examples will be given on how needs assessment can be applied in finding the particular psychosocial needs of impacted groups and how these needs can be met through psychosocial programmes. Current research within the field and a research-informed model for a comprehensive psychological emergency response will be presented. The model will address psychosocial support for large population groups and mental health programmes for people with specific needs. The short and long term impact of disaster and critical incidents on mental health will be described.

Paper 2: Stress and burnout by SAMU staff

Laurent A.; *Université de Bourgogne, France

In this study, conducted by the emergency medical staff (SAMU) in Paris, we asked the question of whether this specific professional activity has emotional and psychological consequences which may have an effect on the physical health of such emergency medical staff. The study involved 69 SAMU staff: doctors, nurses, ambulance staff and medical students. Our research made use of a qualitative study (clinical interview, discourse analysis) to address the psychological experiences resulting from medical interventions as well as a quantitative study with 6 clinical scales. This study revealed that emergency medical staff exhibit low levels of professional stress, professional burnout, acute stress and psychological distress. The identification of defensive strategies during the clinical interviews shed some light on this question. There are many such strategies which operate at group level and seem to be essential in enhancing the response to stress situations.

Paper 3: An analysis of emergency calls at the emergency dispatch centre

Pietrantoni L.,* Prati G., & Petroncini S.; *University of Bologna, Italy

The operators at emergency dispatch centers are responsible for obtaining necessary information and for allocating resources in response to calls in about one minute. The aim of this explorative study is to analyze the characteristics of communication during emergency calls. To this end, 244 emergency calls have been collected from an health emergency dispatch centre 118 in Italy. Results showed that operators' and callers' characteristics are associated with different length of the call, mode of communication and ways of getting necessary information. Content analysis showed the most popular requests request to intervene and revealed that operators used specific categories of pre-arrival instructions and multiple communication strategies aimed at relieving caller's anxiety. The results of this study stress the heterogeneity of callers' demands for intervention. Moreover, the efficacy of specific categories of operators' pre-arrival instructions and communication strategies are also discussed.

Paper 4: Operator's wellbeing in a public health emergency dispatch center: A qualitative research in Tuscany

Meringolo P.,* & Minacci S.; *University of Florence, Italy

This study examine some aspects of "118" Italian Public Health Emergency Service. The theoretical framework refers to Emergency Psychology, Empowerment theory and researches about health operators' stress. The aim is to describe the dispatcher's perceived wellbeing during their work. 40 emergency calls, analyzed with T-Lab; 18 semi-structured interviews, analyzed by Grounded Theory. The calls focus on emotions or information's exchange, with some difference in different years. The content analysis of the interviews shows that "organizational work aspects" and "negative communications" with callers are the main difficulties. Also Emotional Coping and Emotional Exhaustion are highlighted. Results underline an operators' lack of perceived self-efficacy, the presence of burnout and the attempt to manage stress and to improve colleagues' support. Developing empowerment could be a strategy in operators' training, in order to improve Health Services for the local communities.

Paper 5: Working in emergency: Resilience and burnout in public service for health emergencies (118)

Taddei S.,* Vieri Cenerini M., & Vanni D.; *University of Florence, Italy

The inquiry examines some aspect of public service for health emergencies (118) of Italy. Literature is demonstrating that resilience is protective from burnout. We find few studies in Italy on 118, where work stress conditions seem extremely hard. The theoretical references include the emergency psychology, the health operator's stress symptoms, Maslach's studies on burnout and resilience as a health prevention strategy. Aims are to check if resilience could be a protective factor from burnout in operators of Health Emergencies Service. The volunteer sample included 130 operators and call-takers. The analysis involves measures of resilience (CD-RISC), personal skills, health habits, stress and burnout (OCS-MBI). Findings include relative high score in resilience and low scores in burnout. Resilience seems correlate positively with health habits. Correlate negatively with several subscales of OCS-MBI. The results corroborate previous studies suggesting resilience as protective factor. Findings suggest that the operator's skill to manage stress may protect themselves from stressful events their job face them.

SYMPOSIUM: Psychological principles underpinning interventions for smoking prevention and cessation

Convenor: Michie S.,* & West R.; *University College London, UK

Aims: This symposium aims to (1) outline the psychological principles underpinning interventions for smoking prevention and cessation (2) identify effective behaviour change techniques within interventions (3) present different methods of investigating smoking cessation strategies and (4) present cutting-edge research from three European countries. **Rationale:** Smoking continues to be the second largest preventable cause of mortality in Europe (after high blood pressure). Whilst interventions have been shown to have a small effect which is highly cost effective in saving lives, no progress has been made in improving success rates over the past 25 years. Although interventions incorporate some psychological principles of behaviour change, these are often not explicit and do not, in general, reflect recent developments in health psychology. Progress could be made by incorporating theoretical and methodological advances in health psychology into the design and evaluation of interventions. **Summary:** The symposium will be opened by Ari Haukkala (Finland) outlining the principles behind a successful school-based programme to prevent smoking uptake. Robert West (UK) will report data from the Smoking Toolkit Study demonstrating strategies that the general population use in attempting to, and succeeding in, quitting. A study of the English Stop Smoking Services analyzing their component behaviour change techniques will be presented by Susan Michie (UK). The psychological principles and behaviour change techniques in an internet-based intervention will be presented by Hein de Vries (Netherlands). Possibilities for advancing the psychological basis of smoking interventions will be addressed by the discussant, Marie Johnston.

Discussant: *Johnston M.* *University of Aberdeen, UK.

Paper 1: Challenges for school-based smoking prevention programs: Experiences from programs in Finland and Russian-Karelia

Haukkala A.; *University of Helsinki, Finland

The effectiveness of school-based smoking prevention programs has been moderate or absent in the most of the studies. Social influence model was the major component in two intervention studies; three-year Finnish ESFA study with 14 lessons (14 intervention schools $n = 950$, 13 control schools $n = 871$) and one-year program with 10 lessons in Russian Karelia for 6th and 7th grade (intervention $n = 252$, controls $n = 142$). The Finnish ESFA program had a significant effect on weekly smoking but not through attitudes and norms related to smoking. The pilot study in Russian Karelia had similar short-term results but did not have power to detect significant program effect. Recommendations for running programs in the context of high smoking prevalence (males 65%) are presented. Smoking prevention remains a task for schools but challenges to improve the effectiveness of the programs include targeting high risk groups and applying models of non-intentional behaviors.

Paper 2: Stop smoking methods used by smokers: A population-level study

West R.; *University College London, UK

There is a need for better data on rates of different methods of quitting and their success rates in general population samples. A representative sample of English adults took part in face-to-face interviews. Data are reported from 5201 smokers who reported having made a quit attempt in the preceding 12 months. Questions were asked about smoking patterns and

methods of quitting. Sixty percent of quit attempts were made without cutting down first and 58% involved no pre-planning; 31% of those making quit attempts used nicotine replacement therapy bought over the counter, 13% used medication obtained on prescription without behavioural support while 6% used group or one-to-one behavioural support. Use of behavioural support and medication on prescription, and quitting abruptly rather than gradually were independently associated with higher success rates. It is important to determine how to encourage more smokers to use the optimum cessation strategies.

Paper 3: Smoking cessation services: Understanding their content and impact

Michie S.,* Hyder N., Walia A., & West R.; *University College London, UK

UK smoking cessation services are free, provided in individual or group sessions and associated overall with a four-fold increase in long-term cessation compared with no support. However, there is a wide variation in content and success rates. We report a method for investigating (i) associations between recommended practice, actual practice and outcome for individual interventions, and (ii) mechanisms of action. A taxonomy of defined component techniques was developed to specify the national recommendations and the protocols of 90 services. Reliability was assessed using independent raters. 43 component techniques were reliably identified and categorised into 6 types (e.g. incentives/ rewards; develop appropriate beliefs) and 7 mechanisms of action (e.g. maximise motivation not to smoke, maximise self-regulatory capacity). This method is being used to ascertain which services best implement recommended practice and which technique types and mechanisms of action best predict 4 week quit rates.

Paper 4: Predicting smoking cessation initiation and maintenance

van den Putte B.,* Yzer M., de Bruijn G., & Willemsen M.C.; *University of Amsterdam, Netherlands

A comparison is made of determinants of smoking cessation initiation and maintenance. In a five-wave longitudinal study on an initial sample of 3,373 smokers, linear and logistic regression was used to examine the effect of variables of the theory of planned behavior, self-identity, social environment, smoking history, and demographic variables on smoking cessation intention, initiation, and maintenance. The first phases of the smoking cessation process, forming a quit intention and initiation, are primarily related to sociocognitive variables whereas the last phase, maintenance, is more strongly related to social environment and history variables. On average, 29% of initiation and 29% of maintenance is explained. Self-efficacy has no direct effect on initiation but is an important determinant of maintenance. Many smoking cessation campaigns focus on increasing self-efficacy. They should continue to do so, but more emphasis is needed on negative social influences and how to deal with them.

SYMPOSIUM: Dissomnia and distress

Convenor: Murri L.,* & Guazzelli M.; *University of Pisa, Italy

Aim: provide a complete state of the art on the relationship between normal/pathological sleep and health. Rationale: All the evidences provided by research in the field of physiology, psychology and psychiatry are consistent in claiming a strong relationship between the homeostatic function of sleep and wellbeing. Perturbation of sleep is almost ubiquitous in patients with mood disorders as well as in patients with chronic neurological and physical illness who in turn are more at risk of developing a psychiatric disorder. In this symposium

the linkage among sleep, mental and physical health and wellbeing will be explored from psychological, physiological and psychiatric point of view. Summary: In the first intervention Prof. Violani will evaluate the association among stress, distress and sleep quality across the life span. Dr. Bonanni will discuss insomnia as a residual symptoms of somatic disorder through the paradigmatic case of the Restless Leg Syndrome. Dr. Gemignani will show the physiological underpinnings of the close relationship among stress, insomnia and psychopathology. Prof. Ferini Strambi will present the original results of his research on efficacy of cognitive behavioral therapy of insomnia

Discussant: *Murri L. , Violani, C. *University of Pisa, Italy.*

Paper 1: Distress and sleep quality across the life span

Violani C.,* Grano C., Lombardo C., Battagliese G., Lucidi F., & Miraldi M.; *University of Rome, Italy

The association between stress distress and sleep quality was investigated in different short term prospective studies in adults and in the elderly. Personal characteristics, number of stressful life events, perceived stress, negative affect (depression, anxiety and vital exhaustion) and measures of quality of sleep were evaluated through self-reports at time 1, then, at time 2, after at least three month, measures of stressful events, negative affect and quality of sleep were obtained. Different structural equation models have been tested and compared. As an example, in the elderly, when negative affect is assessed as a variable mediating the effect of perceived stress on quality of sleep, the model fits adequately the data (CFI = .95; NNFI = .94; RMSEA = .06; CI = .04-.08) with important contributions in the explained variability.

Paper 2: Cognitive-behavioral therapy for insomnia (CBT-I): Group CBT-I effects on emotional distress and perception of sleep

Ferrini-Strambi L.,* Kuo T., & Castronovo V.; *Università San Raffaele, Italy

CBT-I is recognized as a first-line treatment for chronic insomnia. As clinicians who are trained to deliver CBT-I are still limited, group-format is a cost-effective approach. We report changes of sleep and daytime symptoms following CBT-I in 175 consecutive patients (mean age 41.8 years) that received 8-week, 7-session group CBT-I. Patients completed sleep log daily from baseline (BL) through the end of treatment (ET). Questionnaires completed at BL and ET were the following: ISI, POMS-37, BDI, Beliefs and Attitudes about Sleep (BAS), Glasgow Sleep Effort Scale, ESS, Perceived Stress Scale. Significant improvement was observed for all measures on the sleep logs and all questionnaires from BL to ET. All components of BAS significantly improved with ES. In conclusion, group CBT-I is associated with significant improvement of sleep as well as mood and daytime symptoms. Emotional distress reduction and perception of sleep become more predicable were the most improved outcomes.

Paper 3: Residual insomnia in patients with restless legs syndrome after treatment

Bonanni E., Maestri M., Di Coscio E., Choub A., Tramonti F., & Murri L.; *University of Pisa, Italy

Patients with Restless Legs Syndrome (RLS) after the treatment still present residual insomnia than can emerge in follow up visits: about 5% of patients treated manifests symptoms of insomnia that can persist after one year. A differential diagnosis with an inadequate treatment

of RLS or augmentation should be done. Moreover, comorbidity with other sleep disturbance like Obstructive Sleep Apnea Syndrome (OSAS) or with general medical conditions such as chronic renal insufficiency has to be considered and properly treated. As far as the treatment of residual insomnia is concerned, it has to be underlined that SSRI can foster the worsening of RLS symptoms, while the use of trazodone and benzodiazepines can be more appropriate and helpful in such clinical conditions. Furthermore, the use of psychotherapy for the treatment of insomnia can be extremely important, in particular if we consider the limits of pharmacological intervention described above.

Paper 4: Sleep, stress and psychopathology: From psychophysiology to clinic

Gemignani A.,* Gentili C., Pennato T., Del Carlo A., Cetani F., & Guazzelli M.;

*University of Pisa, Italy

Sleep has a profound link with physical, cognitive and emotional wellbeing. Recent research has shown the possibility of correlate objective and subjective stress indices with specific sleep parameters. Particularly sleep slow oscillations (SSO), which are probably involved in the homeostatic function of slow wave sleep decrease after an extreme acute stress, suggesting a failure in homeostatic mechanisms. On the other hand stressful conditions affect also REM sleep by decreasing the REM latency. The shortening of this REM parameter is also a common alteration in psychiatric disorders, in particular in depression. A possible crucial target of stress-related-hormones and sleep alterations is the hippocampal neurogenesis. Indeed hippocampus undergoes to a reversible volume decrease during depression and post-traumatic stress disorder. These psychophysiological data are in line with clinical and epidemiological data on sleep and psychiatric disorders which univocally indicate a reciprocal vulnerability among stress, insomnia and mood disorders.

SYMPOSIUM: Cravings and how to control them: New approaches to motivational processes

Convenor: Papies E.K.,* & van Dillen L.; *Utrecht University, Netherlands

Aims: This symposium will present innovative research on the nature of cravings for food and alcohol and will provide insight into state-of-the-art tools to effectively overcome such cravings and increase successful self-regulation. The symposium will foster understanding of the nonconscious motivational mechanisms that underlie the consumption of food and alcohol, and we hope that it may inspire researchers by demonstrating the effectiveness of new intervention techniques that tackle these nonconscious mechanisms. **Rationale:** Cravings reflect a strong motivation to consume a certain substance and are therefore important predictors of actual (over)consumption. Understanding the mechanisms behind the development and regulation of cravings may therefore be a central concern for researchers studying health behaviour. **Summary:** First, Graham Finlayson will report recent advances from his research into liking and wanting for food and their separate roles in the motivation underlying (over)eating behaviour. Then, Lotte van Dillen will show how working memory load can automatically decrease the motivational significance of attractive food stimuli. Next, the research of Esther Papies illustrates how dieters' tendency to overconsume attractive food can be prevented by an unobtrusive diet prime in the environment. Reinout Wiers will present the most recent findings of his research program for retraining automatic associations with alcohol in order to reduce the motivation to drink as well as actual drinking behaviour. Finally, Hugo Alberts will share recent results of an acceptance-based intervention for dealing with emotions as well as food cravings and show how accepting, rather than controlling such experiences can effectively reduce their motivational impact.

Paper 1: Food hedonics and human appetite: Explicit and implicit measurement of liking and wanting for food

Finlayson G.; *University of Leeds, UK

Recent advances in the study of food hedonics have defined separate roles for 'liking' and 'wanting'. A further distinction between explicit and implicit responses to food may help us understand how processes of liking and wanting influence the motivation to eat in humans. We report recent progress in the development of an experimental procedure to evaluate the strength of liking and wanting using implicit and explicit measures for a range of visual food stimuli. Studies (N=24/32/70) from our food intake laboratory will be presented that demonstrate how explicit liking and implicit wanting can be dissociated, and that separate modulation of liking and wanting are associated with susceptibility to overconsume. Liking and wanting in conjunction with homeostatic processes may provide new insight to the determinants of unhealthy food choice and bring together the sensory and metabolic influence of foods on appetite control – a major factor in obesity.

Paper 2: Mind over mouth: Cognitive load reduces attention bias towards desirable food items

van Dillen L.,* & Papies E.K.; *Utrecht University, Netherlands

Cognitive load has been found to reduce attentional interference of task-irrelevant emotional stimuli. The present research extended these findings to the processing of food cues. 87 participants performed a speeded categorization task with task-irrelevant desirable (high calorie) and neutral (low calorie) food items, while we concurrently varied cognitive load by means of a digit span task. As expected, high load reduced attentional interference of desirable compared to neutral food items on the categorization task. In addition, self-reported susceptibility to desirable food items, as assessed by the Power of Food Scale, predicted participants' attention bias to these items, but only when cognitive load was low. The present findings suggest that people direct their attention to motivationally salient cues in their environment, but that this attention bias is contingent on cognitive capacity. Thus, cognitive load might serve as a strategy to prevent the development of cravings for attractive food stimuli.

Paper 3: With a little help from a prime: Successful self-regulation in chronic dieters

Papies E.K.,* Ouwehand C., & Hamstra P.; *Utrecht University, Netherlands

Chronic dieters have been found to automatically activate hedonic, eating-oriented cognitions when confronted with attractive food. In addition, they display more "wanting" for such foods. The current field experiment was designed to test the effects of an environmental diet prime to foster more successful self-regulation in chronic dieters. Chronic dieters and non-dieters were exposed to attractive food cues in a small neighbourhood store, and the amount of free bite-size snacks eaten was measured. Half of the participants were unobtrusively primed with the goal of weight control before entering the store. Chronic dieters in the control condition consumed more snacks than non-dieters, but their consumption was reduced in the diet-prime condition, $F(1, 84) = 6.58, p = .01$. This effect was especially pronounced for men. An unobtrusive goal prime was effective in helping chronic dieters to shield their dieting goal against palatable food temptations.

Paper 4: Re-training automatic approach tendencies in heavy drinkers and alcoholics

Wiers R.,* & Rinck M.; *University of Amsterdam, Netherlands

The first study tested a training version of a the alcohol approach-avoidance test (alcohol-AAT, Wiers, Rinck et al., 2009). After a pre-test assessment, half of the participating students were implicitly trained toward alcohol and half of the participants away from alcohol. This resulted in congruent changes which generalized to new pictures in the same test and to an entirely different test (an approach-avoidance IAT, using words rather than pictures). Moreover, heavy drinkers successfully trained to avoid alcohol, drank significantly less beer in a taste-test after the experiment. Discussion: In an ongoing second study (Wiers, Hesse, Rinck, Schuck, Becker, & Lindenmeyer, in preparation), we apply varieties of these training-techniques to alcohol-dependent patients in treatment. We compare two experimental intervention groups (the difference was whether training was explicit or implicit) with two control groups (placebo-training and no training). I will present preliminary results.

Paper 5: Efficiently dealing with emotions: Investigating the potential of acceptance-based strategies

Alberts H.,* Martijn C., & Schneider F.; *Maastricht University, Netherlands

An alternative to control-based strategies for dealing with emotions are acceptance-based strategies, a component of mindfulness-based interventions in which inner states are dealt with not by control or avoidance, but instead by fostering willingness to experience them. The present study investigated the cognitive costs of acceptance. Participants were asked to suppress or accept their emotions while watching an emotional video, or received no instructions. Next, their performance on a self-control task (stop signal task) was measured. Participants who accepted their emotions outperformed those who suppressed their emotions, $F(1,39) = 5.06$, $p = .03$, as well as control participants, $F(1,38) = 4.73$, $p = .04$. These findings demonstrate that acceptance is an efficient strategy to deal with emotions. Another study was conducted to address the effectiveness of acceptance-based regulation of food cravings. This study revealed that acceptance of cravings resulted in less attention for craving-related stimuli than suppression.

SYMPOSIUM: Emotion and cognition: A neuroscientific approach in health psychology

Convenor: Pietrini P.; *University of Pisa, Italy

Aims: The symposium aims to present novel research on cognition and emotion, including aspects on the mental representation of the surrounding world, empathy to pain, pain coping, as well as lie detection. Rationale: Human beings are by their very nature social. At their birth their survival is bound to the social support that they receive from the environment. As they grow up, they usually structure their life according to the systems of rules and social conventions that they have learnt from their environment. Understanding the way the brain makes sense of the surrounding environment and the social world is an important topic of investigation. Research in neuroscience is beginning to shed light on the neuronal underpinnings of the ability to process social information, which is at the very core of human interaction in society. Summary: In the first talk, Dr. Rota will describe new evidence on the neural correlates of forgiveness, and talk about the relevance of this coping-process for the wellbeing of the individual. In the second presentation Dr. Sitaram will describe findings that link meditation to health. Prof. Sartori will present research on the validation of a test that was proven to be a useful tool for detection of deception in psychiatric patients. Prof. Vecchi will talk about mental representation and perceptual experience. Dr. Bufalari will present findings on the neuronal correlates of empathy for pain. Dr. Babiloni will present novel findings regarding “optimal” functional cortical organization in elite athletes.

Paper 1: How does the brain heal moral pain? The neural basis of forgiveness

Rota G.,* Ricciardi E., Sani L., Gentili C., Vanello N., Guazzelli M., & Pietrini P.;

*University of Pisa, Italy

Forgiveness is a coping-process that allows individuals to overcome emotionally detrimental thinking engendered by past hurtful events. In the present study, we used functional magnetic resonance imaging (fMRI) to uncover the neuronal correlates of this process. Subjects engaged in the imagination of hurtful offenses and they were instructed to forgive the imagined aggressor and to rate their efficacy and affective state. Forgiveness elicited activity in the dorsolateral prefrontal cortex and regions of the inferior parietal cortex. These results indicate that forgiveness recruits a brain network responsible for regulation of emotion through cognition and extinction of affective pain. The involvement of loci of the inferior parietal cortex suggests that putting oneself into the perspective of the offender and empathizing with him/her might be crucial mechanisms for the ability to forgive. All together, our results provide a neural basis to previous findings showing that forgiveness positively affects the individual's affective state.

Paper 2: Neuromaging monks and nuns: New findings in meditation research and its clinical benefits

Sitaram R.; *University of Tuebingen, Germany

The word meditation describes practices that self-regulate the body and mind. Meditation is widely believed to have beneficial effects: relaxation, calmness, regulation of emotion, compassion, improved immune system, and so forth. Neuroelectric and neuroimaging correlates of meditation are gradually becoming better understood. There is evidence that experienced practitioners are able to produce repeatable and reliable cognitive, emotional and perceptual states during meditation. However, meditation research has been largely exploratory rather than hypothesis driven. Studies to-date have thrown up apparently conflicting results as due care has not been taken to understand differences between a variety of meditation methods. Here, we will review the current state of research, focusing on the neuroelectric, neuroimaging and physiological effects of meditation. In this talk, we will present results of the combined EEG and fMRI experiments on meditation conducted in Tuebingen. Finally, we will propose a framework for meditation research for future research.

Paper 3: Subjective experience and deception in psychopathology

Sartori G.,* & Agosta S.; *University of Padua, Italy

Psychiatric symptoms may be intentionally altered and techniques based on the clinical interview fail in detecting reliably such intentional, marginally intentional or unintentional distortions. A tentative solution based on specific scales of psychometric tests, such as the MMPI-2, are a step-forward but can only spot the existence of a malingering attitude in the respondent. These techniques fail in the diagnosis of specific symptoms such as retrograde amnesia or depressive symptoms. Lie detection techniques, originally developed for forensic purposes, may help in spotting malingered psychiatric symptoms. We will report the validation studies of the autobiographical Implicit Association Test (aIAT) which has been used successfully in the detection of malingered whiplash syndrome, malingered depression and malingered amnesia.

Paper 4: Mental representation of the surrounding world

Vecchi T.,* & Cattaneo Z.; *University of Pavia, Italy

Vision plays indeed a major role in the generation of mental representation of the external world, in order to plan movements, grasp objects, orientate or drive a car. However, several studies also show that vision is not a necessary prerequisite for the generation of visuospatial mental representation that are present in subjects with visual impairments, i.e. blindness, low vision, monocular vision, etc. Mental representation is then a multisensory product originating from sensory inputs – vision, touch, audition – as well as long term memory information. Interestingly, data also indicate that the available perceptual experience contributes to shape cognitive functioning and to model the development of underlying neural structures.

Paper 5: Neural correlates of empathy for pain

Bufalari I.; *University of Ferrara, Italy

Current neuroscientific models of empathy postulate that attending to others' emotions and feelings automatically activate a representation of that state in the observer. Pain consists of affective and sensory-discriminative components, mapped in emotional and sensorimotor structures of a complex neural network (pain matrix). Studies showed empathy for pain relies on activation of the affective division of the pain matrix. In a series of transcranial magnetic stimulation and somatosensory evoked potentials studies we proved that empathy for pain also imply the sharing of fine-grained somatomotor representations, according to the sensory qualities of others' pain and interestingly also to onlookers' personality traits. Therefore, empathic resonance for pain is a multifaceted phenomenon characterized by the complex interaction of affective and sensory components, social and personality variables. Although philosophers emphasized that our bodily sensations are intrinsically private, neuroscientific results suggest that the social dimension may extend to the basic sensorimotor level of neural processing.

Paper 6: Brain responses related to cognitive-motor processes in elite athletes

Babiloni C.,* Del Percio C., Marzano N., Iacoboni M., Infarinato F., Fiore A., Aschieri P., & Eusebi F.; *University of Foggia, Italy

To investigate “optimal” functional cortical organization in elite athletes, cortical activity was indexed by the reduction of electroencephalographic alpha power at 8–12 Hz (event-related desynchronization, ERD). Centroparietal alpha ERD during upright standing with eyes open was stronger in karate and fencing athletes than in non-athletes (Del Percio et al., 2007), whereas the opposite was true for difficult upright standing (Del Percio et al., 2009a). Frontoparietal alpha ERD during movement understanding was lower in gymnasts than non-athletes (Babiloni et al., 2008a). Frontal alpha ERD was stronger in expert golfers in successful than unsuccessful putts (Babiloni et al., 2008b). Parietal-occipital (inhibitory) alpha power was higher (inhibitory control) in successful shoots in elite air pistol shooters (Del Percio et al., 2009b). In conclusion, optimal cortical functional organization flexibly depends on external demands and performance rather than on “efficiency” strategy (i.e. reduced cortical activity in experts).

SYMPOSIUM: Shared cognitions in clinical settings

Convenor: Pravettoni G.; *University of Milan, Italy

The medical context in which the physician encounter the patient may be thought as a complex communication exchange. We can figure out at least three critical nodes in this exchange: the hospital organization, the health personnel and the patients. These three nodes must contribute, given their specific features and aims, to give rise to a shared cognition of the situation. Physicians have to give rise to a cognitive model of the situation so to trigger specific actions aimed at helping patients to solve their health problems. Patients, however, convey not only signs and symptoms, but also needs, preferences and psychological features. All this complex matter should contribute to the treatment process, but it is possible only if patients have the possibility to be informed and to express their instances; physicians, by their side, need proper tools, instruments and protocols to accurately interact with patients, to collect their needs and to integrate patients perspective with his one. During this process the hospital organization play a key role in structuring the patient-physician encounter and establishing the features (resources allocation, timing and son on) of the decisional context. This symposium moves within this theoretical background aimed at describing some of the most relevant concerns of this essential issue. In particular, the symposium will offer the opportunity to discuss recent contributions about the shared information model and shared cognition in clinical contexts, so to give rise to a significant discussion around the role of each of the three nodes of the medical decision network.

Discussant: *Vago G. *Clinical Sciences University of Milan, Italy.*

Paper 1: Shared mental models in medicine: Cooperation of specialists with different expertise and roles

Hanssen C.,* Zijlstra F., van de Wiel M., & Koopmans R.; *Maastricht University, Netherlands

Working in a highly dynamic clinical environment requires medical professionals to make fast decisions, take efficient actions, and inform and consult colleagues with respect to diagnosing and treating patients. The present field study investigates whether communication and information exchange during regular staff meetings leads specialists to construct shared mental models (SMMs) regarding patient cases and whether all attending specialists construct similar and accurate SMMs. Staff meetings where patient-cases are presented and discussed were observed at different departments of Internal Medicine. To determine whether or not SMMs are constructed and how accurate and similar SMMs are, the recalled information are compared to what has been discussed, as well as among staff members. In routine cases, team member easily understand each other and automatically retrieve and build accurate and similar SMMs. In contrast, complex case need more questioning and in-depth analyses, appealing to specific expertise.

Paper 2: Shift changes and shared cognition in the emergency department

Wears R.L.; *University of Florida, USA

The clinical work of emergency departments (EDs) has no natural breaks, but is continuous 24 hours per day, 7 days per week. Therefore, the clinicians working in EDs must work in shifts, and must transfer information, authority, and responsibility to new sets of clinicians at shift changes. In healthcare, these transitions in care have been little studied, and have been viewed within a very narrow, information-processing paradigm. In addition, they are widely considered to be points of danger to patients. We carried out ethnographic observations on shift change turnovers in several North American hospitals to better understand the risks and rewards of turnovers. We found that, rather than being simple information transfers, shift change turnovers are occasions for shared sensemaking, and that

the turnover involves a “joint cognitive system” spread over people (the oncoming and offgoing shifts, physicians and nurses), and technological artefacts (the chart, the status board, the computer).

Paper 3: Shared cognition in the emergency department

Pravettoni G., & Vago G.; *University of Milan, Italy

Maintaining a shared cognition is considered the key to success in dynamic environments where professional equips work together to achieve complex targets. The proposed contribution addresses this issue by reporting and discussing data collected in an empirical study. Through observations and interviews, it has been analysed how shared cognitions is maintained. To do this, physicians and healthcare personnel need to integrate pieces of information they may receive from different sources, over a period of time, and through different modalities. The decisional flow may be affected by various sources of potential errors, both, in the presentation, the recording, and the exchange of information. The study allows to describe in detail the dynamic nature of decision-making in emergency medicine and the crucial role of a shared situation awareness. Results indicate that tools for supporting situation awareness are needed to enable the emergency staff to complete their work efficiently.

Paper 4: Physicians attitudes toward shared decisions at the end of life: A survey on Italian doctors

Lucchiari C.,* & Masiero M.; *University of Milan, Italy

Shared decision-making is generally considered the ideal model in patient-physician encounter. The physician must inform the patient of all information that is relevant to making the decision, the benefits and risks of each and potential effects on the patient’s psychological and social well being. The patient needs to provide information to the physician on issues raised above. Establishing a shared decision process, hence, would be a considered as a desirable state to improve safe and quality of care. However, several factors contribute in raising barriers against this process. The survey was conducted in Italy, through e-mailed questionnaires. Eighty physicians, working at end of life contexts, took part to the survey. Our findings suggest that some subjective features, such as gender and self-confidence, are active in influencing the communication exchange with patients. Often the shared decision model is not considered a valid option, but the underling motivations may be substantially different.

SYMPOSIUM: Personality traits and cognitive factors facilitating the development of multiple chemical sensitivity (MCS)

Convenor: Ricci Bitti P.E.; *University of Bologna, Italy

Multiple chemical sensitivity (MCS) is a syndrome that appears to be triggered by low-level exposure to multiple chemical substances commonly found in the environment. The incidence of a initiating event is rather frequent; 80% of people claiming to be “chemically sensitive” assert that they know when, where, with what and how they were made ill; however the evidence does not support a significant precipitating exposure to chemicals as a necessary defining prerequisite. The most frequent reported symptoms are: headache, weakness, inability to concentrate, memory problems, low energy, nasal congestion, throat soreness or tightness, and joint discomfort. Other symptoms affecting most body systems include: abdominal pain, nausea, muscle discomfort, skin rash, sleep disturbance, urinary disturbance....

The diagnosis, based on the symptoms, is supported if the symptoms recur after repeated exposure to the chemical substance; recur after exposure to levels much lower than those that have been tolerated previously or that are commonly tolerated by others; subside when the person leaves the offending environment and develop in response to a wide variety of unrelated chemical substances. Many theories have been proposed to account for MCS, some biological (allergic reaction; immunological deficits; respiratory disorder...), some psychological (conditioned response; anxiety disorder; depression; somatisation...) and some a combination of both. The purpose of the Symposium is to analyse and discuss the role of personality traits and cognitive factors in facilitating the development of attribution of health complaints to environmental factors.

Discussant: *Di Nuovo S.* *University of Catania, Italy.

Paper 1: Does cognitive factors and sensitization matter for MCS?

Eriksen H.R.; *University of Bergen, Norway

In the Cognitive Activation Theory of Stress, sustained activation and sensitization are suggested as explanations why some people are more sensitive than others to a variety of stimulus. Being sensitive to chemicals is one of many conditions that overlap in symptom reporting with conditions like fibromyalgia, chronic fatigue, irritable bowel syndromes etc. Subjective health complaints have been suggested as a neutral term for multiple conditions like muscle pain, gastrointestinal problems and pseudoneurological conditions and cover most of the symptoms reported by patients with MCS. It is suggested that MCS are based on sensations from what in most individuals are normal physiological processes. Individuals that report high demand and low levels of coping, report more complaints. Low coping is related to sustained activation and ill health. It is suggested that psychobiological mechanisms is sensitization in neural loops maintained by sustained attention and arousal, and that these mechanisms contribute to MCS.

Paper 2: The possible role of trait anxiety and learning mechanisms in the onset and maintenance of multiple chemical sensitivity

Österberg K.; *Lund University Hospital, Sweden

Odor hypersensitivity is found not only in multiple chemical sensitivity (MCS) but also among patients with solvent-induced toxic encephalopathy (TE). However, our chemical challenge studies demonstrated that the annoyance and cognitive performance of TE and MCS patients were unrelated to the neurotoxicity of challenge substances. This suggested a learned/conditioned response to odors. Anxiety might be a key factor in this learning process. Experiments have shown that annoyance can be easily conditioned to odors and that high arousal/anxiety facilitates conditioning. In TE, elevated anxiety/neurasthenia probably reflects neurotoxic brain damage, while the anxiety/neurasthenia in MCS is possibly constitutional. In support of this, we found elevated anxiety/neuroticism also among non-patients from the general population with incipient environmental attribution. Also among healthy persons we have found a relation between trait anxiety and annoyance during chemical challenge. This presentation reviews the possible role of anxiety and learning mechanisms in the onset and maintenance of MCS.

Paper 3: Abnormalities in selective attention and implicit evaluation in idiopathic environmental intolerance

Witthöft M.,* Rist F., & Bailer J.; *University of Mainz, Germany

Idiopathic Environmental Intolerance (IEI) refers to a puzzling condition with unknown etiology. IEI is marked by medically unexplained complaints that are attributed to substances in the environment. Since the complaints in IEI resemble those of somatoform disorders (SFD), we investigated attentional processes in IEI compared to SFD. Attentional focus and implicit evaluations of bodily complaint and IEI-trigger words were investigated two times (t1, t2) with the emotional Stroop (t1) and the Extrinsic Affective Simon task (t2) in IEI (N = 54), SFD (N = 44), and controls (CG; N = 54). At t1, results revealed stronger attention allocation to symptoms, but not IEI-triggers in IEI and SFD compared to CG. At t2, the findings of increased attention allocation to symptoms in IEI and SFD could be replicated. Additionally, IEI was specifically associated with stronger negative implicit evaluations of IEI triggers. These findings of alterations in attentional and evaluative processes support cognitive-behavioral models of IEI.

Paper 4: Cognitive representations of illness, emotional state, and quality of life in idiopathic environmental Intolerance (IEI)

Ricci Bitti P.E., Di Cosmo C.,* Struffi M., & Gremigni P.; *University of Bologna, Italy

Idiopathic environmental intolerance (IEI) is marked by an unspecific pattern of various medically unexplained complaints. This study investigates the role of cognitive and affective representations of illness in the maintenance of psychological symptoms and quality of life in a group of putative patients. Forty self-identified IEI patients, aged 32 to 78 (mean age 50.70) years, 95% female, completed IPQ-R, HADS, and SF-12. A relevant comorbidity (73%) of IEI with clinical anxiety and depression emerged. Very low quality of life (<25^o percentile) characterized more than 70% of patients. Regression analyses showed that perceiving illness as cyclic and/or incurable affects anxiety ($R^2 = 0.14$, $p = .03$), depression ($R^2 = 0.21$; $p = .002$), and physical quality of life ($R^2 = 0.09$; $p = .03$). The present study supports the notion that specific, cognitive aspects of illness representation influence emotional status and quality of life in IEI patients. IEI sufferers may benefit from cognitive approaches addressing those attributions.

SYMPOSIUM: International intervention trials: Theory, methodology and findings in diverse populations

Convenor: Rini C.,* & Dunkel Schetter C.; *Mount Sinai School of Medicine, USA

Aims: Compare different theory-based intervention approaches for diverse patient populations – Consider similarities and differences across patient populations – Demonstrate benefits of matching interventions to the needs of patients – Illustrate challenges in health intervention research. Rationale: Psychological theory provides a rich basis for developing interventions that address the unique needs of different patient populations. For instance, cognitive-behavioral interventions typically address a range of issues. As demonstrated by Antoni's talk, focusing on the stress management component of cognitive-behavioral interventions may be advantageous for patients undergoing stressful treatments. Alternatively, it may not be the content of these interventions that are best adapted, but their delivery. Patients with physical limitations may need to participate from home, as discussed by Redd. Moreover, other theoretical approaches can provide an excellent basis for psychological interventions. Dunkel Schetter discusses how to adapt mindfulness interventions to benefit pregnant women, for whom stress in pregnancy is a risk factor for adverse birth outcomes. Petrie discusses a self-regulatory approach that emphasizes changing illness perceptions. and Rini describes an intervention that applies research on helping and social support provision to improve self-concept and meaning among cancer survivors. Attendees get a valuable overview of

interventions that are theoretically based, rigorously tested, and illustrative of the benefits and challenges of matching the intervention approach to the needs of patients. Summary The diverse approaches discussed by this international panel of speakers demonstrate both the flexibility of psychological health interventions and the benefits of selecting an approach that targets the unique needs of a patient population.

Paper 1: Using stress management intervention to improve psychosocial adaptation and modulate biobehavioral processes in breast cancer

Antoni M.,* & Carver C.; *University of Miami, Sylvester Cancer Center, USA

We demonstrate health psychology research in oncology progressing from observational work to theory-guided efficacy and effectiveness trials. Our program first identified predictors of psychosocial adaptation to breast cancer (BCa) treatment and then tailored a cognitive behavioral stress management (CBSM) intervention to address psychosocial processes relevant for quality of life and health outcomes. Two randomized controlled trials (RCTs) tested the efficacy of CBSM in women with Stage I–III BCa recruited up to 8 weeks after surgery just before beginning adjuvant therapy. Women assigned to CBSM revealed improvements in psychosocial adaptation and biobehavioral parameters. A third ongoing RCT experimentally separates CBSM intervention processes in abbreviated form (5-wk relaxation vs. 5-wk CBT vs. 5-wk health education) for women 4–8 wks post-surgery. To address timing a fourth RCT tested CBSM delivered 3–12 months post-adjuvant therapy. A fifth RCT tests CBSM tailored for lower-income community settings using community-based participatory research methods.

Paper 2: Challenges in prenatal intervention research to improve birth outcomes

Dunkel Schetter C.,* & Robbins C.; *University of California, USA

Prenatal maternal stress and anxiety are potent factors influencing preterm delivery. Research also suggests that social support in pregnancy predicts birth weight. Both birth outcomes, in turn, are associated with maternal and child outcomes after birth and over the course of development. For years, researchers have tried to design prenatal interventions with psychosocial components to improve birth outcomes. Large-scale studies have been conducted in the United States, Europe, and South America. However, controlled trials providing support in pregnancy have not been effective with a few, modest exceptions (Lu, Lu & Dunkel Schetter, 2006). Prenatal stress management has not been studied extensively as yet. We present a pilot study on mindfulness meditation in pregnancy and discuss some of the challenges in conducting controlled trials of this kind.

Paper 3: Telephone-based cognitive behavioral therapy for survivors of hematopoietic stem cell transplant

Redd W.,* Labay L., & DuHamel K.; *Mount Sinai School of Medicine, USA

A substantial proportion of survivors of hematopoietic stem cell transplantation (or bone marrow transplantation) report psychological difficulties, including posttraumatic stress symptoms. These difficulties likely reflect the stresses of facing a life threatening illness combined with undergoing a grueling and risky treatment. Cognitive behavioral therapy (CBT) is well suited to addressing symptoms among transplant survivors. However, because of their lengthy recovery period and compromised immune function, attending in-person treatments is difficult for them. We developed a telephone-based CBT intervention to address

the unique needs of this population and tested it in a randomized controlled trial. Findings indicated significant improvement among patients who received the intervention compared to wait-list controls, including reduced intrusive thoughts. We will discuss the adjustments that needed to be made to traditional CBT to accommodate its translation for delivery via telephone and patients' reactions to the approach, as well as pros and cons of telephone CBT.

Paper 4: Further development of an illness perception intervention for myocardial infarction patients and their spouses

Petrie K.,* Broadbent E., Ellis C., Thomas J., & Gamble G.; *University of Auckland, New Zealand

To further develop and trial a brief in-hospital illness perception intervention for myocardial infarction patients and their spouses. 103 patients admitted with acute MI were randomised to receive either standard care or standard care plus an illness perception intervention. 57 spouses also participated. Patients were followed up to six months. The intervention group had a faster rate of return to work than the control group. Intervention patients also reported lower anxiety about returning to work, greater increases in exercise and made fewer phone calls to their GP about their heart condition. Intervention group spouses had lower anxiety about the patient doing physical activity and were less worried about the illness at three-months. This study replicates and extends the findings of an earlier trial that a brief in-hospital illness perception intervention can change perceptions and improve rates of return to work in myocardial infarction patients.

Paper 5: Helping others helps oneself: A novel intervention for survivors of hematopoietic stem cell transplantation (SCT)

Rini C.,* Austin J., Wu L., Chee-Chait J., Basmajian K., & Valdimarsdottir H.; *Mount Sinai School of Medicine, USA

Many SCT survivors report survivorship difficulties long after treatment ends, yet there are few interventions for this population. To fill this need, we developed a novel intervention called Expressive Helping (EH), which leverages research showing that people who help others benefit psychologically (e.g., the Helper Therapy Principle) and our observation that SCT survivors report an intense desire to "give back" by helping fellow patients. EH provides an outlet for this desire by having them write the "story" of their SCT experience and share it as an informational resource for SCT patients. We are currently testing two forms of EH in a randomized control trial, one of which is based on Pennebaker's expressive writing paradigm and is hypothesized to activate mechanisms related to helping as well as those related to emotionally expressive writing. Psychological and physical outcomes measured at follow-up will be discussed, along with potential benefits of this unique approach.

SYMPOSIUM: Having a baby: The childbirth experience between health and illness

Convenor: Saita E.,* & Molinari E.; *Università Cattolica del Sacro Cuore, Italy

Pregnancy and delivery are moments of delight and self-realization. However they involve so deep implications that we can depict them as extremely delicate situations, dense of anxiety, worry and anguishes. The literature has emphasized how the causes of possible psychological disorders, also of high intensity, can't be addressed only to the vulnerability of the mother, but they should be linked to dysfunctional relational dynamics and to the lack of an adequate support for the women, especially for emigrant women, who are without the support given by

the family and by the social context. Aim of the symposium is to draw attention to the risk factors as well to the protective ones, which defend women from psychological disorders. This is possible considering a bi-dimensional matrix, with two levels: a diachronic one (the pregnancy, the features of the delivery and the peculiarity of the first weeks with the baby) and a dynamic one (that is made up by subjective – i.e. personality structure- and social elements – i.e. the received support-). Furthermore we propose a reflection on the scales used in the clinical practice to diagnose psychological disorders after childbirth and on possible indirect and less obvious markers of psychological disease. Few are, for now, the indications about support training for women and couples that are facing the changes due to the birth of a son, although what can be done in this peculiar phase of the life span represents a preventive intervention, which has consequences for the social and community well-being.

Paper 1: The evaluation of fear about childbirth: The W-DEQ factor structure in an Italian sample

Wijma K.,* Fenaroli V., & Saita E.; *University of Linköping, Sweden

Experiencing fear about childbirth is a common phenomenon for pregnant women, but it could have significant consequences for the women's health. The primary aim of this study is to investigate the factor structure of Wijma Delivery Expectancy Questionnaire in an Italian sample of pregnant women. In particular we had two main goals: first to verify if fear correlates with the lack of social support and with a poor relationship with partner, second to verify if fear can predict the type of childbirth the woman is going to experience. Two hundred Italian pregnant women answered: W-DEQ, Social Support Scale, Edinburgh Postnatal Depression Scale, a questionnaire about delivery at time 1 (7th month of pregnancy) and time 2 (1 month after delivery). The analysis reveal one-factor structure of W-DEQ and the scale correlates with women's depression. Moreover it negatively correlates with the social support offered by partner and by women's parents.

Paper 2: Becoming parents: Functioning models and adjustment trajectories

Saita E.,* Fenaroli V., Molgora S., & Cigoli V.; *Università Cattolica del Sacro Cuore, Italy

The birth of a child is a significant critical event not only for the mother, but also for the couple in itself. This study aimed to find how couples can be matched together coping this challenge. Specifically, we proposed to study more in depth the "slippery" (not clearly definable) couples beyond the traditional distinction between functional and non functional ones. Thirty couples were conjoint interviewed using a semi-structured interview (ad hoc). Every couple completed also the Dyadic Adjustment Scale. These instruments were administered at baseline (7th–8th month of pregnancy) and 4–6 weeks after the birth. The interviews were coded using a specific coding system (based on grounded theory and the theoretical background) and were analyzed using a qualitative software (Atlas.ti). Findings revealed different ways by which couples match together at time 1 and time 2. Furthermore, comparing the two times different adjustment trajectories emerged.

Paper 3: Pregnancy and childbirth in a foreign country: The French experience at Jean Verdier Hospital

Serbandini N.; *Università Cattolica del Sacro Cuore, Italy

Pregnancy and childbirth are private, social and cultural events. When you are an emigrant, the support given by the family and by the social context is absent. The woman is alone facing

practices and techniques very different compared with the ones of her country. We are going to examine two different elements: the possible traumatic aspect covered by the exile and the previous traumas experienced in the country of birth, the second one takes place after the delivery, when the woman has to face the situation alone in a foreign country. Both these life experiences should be risk factor for psychological distress. Starting from the clinical experience with immigrant women, we are going to highlight the indicators which should have a key role in the occurrence of a disturb and to describe the peculiar kind of psychological intervention offered to this group of women.

Paper 4: Giving birth in a foreign land

Romanini L.E.,* Gennari M.L., Vanetti S., & Accordini M.; *ASL Cremona, Italy

The childbirth experience might be experienced both evolutionary and time of crisis; for immigrant women that event is more complex and more easily connotation as a traumatic experience due to the deep split as regards to culture of origin. The aim of this contribution is to shed light on the elements of greater difficulties and meanings related to childbirth in the stories of four immigrant women, coming from a very different culture: Japan, Morocco, Albania and China. In particular, the cases were compared according to: social support wanted and received, meanings and expectations of childbirth and post-partum (through semi-structured interview) and quality of family relationships (Family System Test, Gehryng, 1998). Record analysis shows how childbirth in immigrant women is a critical event that triggers contrasting feelings and experiences problems related to feeling alien (language and cultural context) and unrecognized in their own ways living childbirth.

Paper 5: Psychological distress in pregnancy and puerperium: An experience of integrated intervention in the hospital

Dolce R.,* Beggio V., Mazza U., & Rezzonico G.; *University of Milan, Italy

The “Centro Ascolto Mamme” welcomes women who experience psychosocial distress during pregnancy and after delivery, which offers personalized support and care. The patients patients are in majority women in first pregnancy (59%), with difficulties related to anxiety (40%) and depression (27%). The request for help, often after childbirth (81% from the third to sixth month), often occurs in connection with a hardship that already lasts for months (66%). The issues addressed relate to certain emotional states experienced so problematic (70%), relationship with the partner and family, a sense of inadequacy to tend the baby. This intervention highlights the vulnerability factors, that influence the pathogenesis, and personal resources, family and social factors that are most significant to address it through clinical interventions and prevention.

SYMPOSIUM: Social identity, wellbeing, & health

Convenor: Sani F.; *University of Dundee, UK

In recent years, a small but growing body of research has demonstrated that shared identification with a group has positive implications for health (Haslam et al., 2009). This research is important because it offers a distinctively social psychological account of the positive effects of group membership on health, thereby complementing and enriching the existing sociological and social epidemiological literature on this topic. In this symposium, we (i) offer an overview of the social identity approach to health, (ii) present empirical studies demonstrating the impact of membership in diverse groups on a range of health issues, such as

stress, illness, impairment, and psychological wellbeing, and (iii) discuss the capacity for a social identity perspective on health to play a crucial role in shaping health-related policy and practice. The first paper by Haslam and colleagues demonstrates the positive effects of group reminiscence therapy (GRT) on older adults in care. Then, St. Claire and colleagues show that identification with the group of older people makes it possible for elderly people to acknowledge hearing loss and need for auditory rehabilitation. Subsequently, Gleibs and colleagues discuss the results of an intervention study demonstrating that a hydration intervention in care homes produces better health outcomes when recipients participate as members of a group rather than as individuals. The last paper by Sani and colleagues shows that identification with the family group, as well as the perception of the family as cohesive and continuous, enhance mental and physical health. Finally, Alex Haslam reviews and discusses the contributions.

Discussant: *Haslam A. *University of Exeter, UK.*

Paper 1: The social treatment: Benefits of group interventions in residential care settings

Haslam C.,* Jetten J., Haslam A., Bevins A., Ravenscroft S., & Tonks J.; *University of Exeter, UK

We report findings from an intervention study investigating the impact of group reminiscence therapy (GRT) and individual reminiscence therapy (IRT) on older adults in care. The research aimed to provide a theory-driven evaluation of reminiscence based on a social identity framework, which predicts better health outcomes for group-based interventions due to their capacity to create a sense of shared social identification. 73 residents were randomly assigned to one of three interventions: GRT (N=29), IRT (N=24) and a group control activity (N=20). These took place over six weeks and cognitive screening and well-being measures were administered both pre- and post-intervention. Only the group interventions produced effective outcomes: collective recollection of past memories enhanced memory performance ($p = .006$) and engaging in a shared social activity enhanced well-being ($p = .04$). Theoretically, these findings point to the important role that group membership plays in maintaining and promoting health and well-being.

Paper 2: How do I know if I need a hearing aid? Self-categorisation and self-esteem in older people

St. Claire L.,* Coyle C., Dunkerley K., El Refaie A., & Syafira W.; *University of Bristol, UK

Subjective hearing loss of older people underestimates objective hearing loss. Consequently, up-take of auditory rehabilitation is low. We showed older people who self-categorised as “individuals” as opposed to “older group members” had lower subjective, but not lower objective hearing loss. This research tests whether older people who self-categorise as “individuals” also have higher self-, but not higher age-group esteem. Older participants were randomly assigned to one of two conditions: salient individual self-categories (N=28) or salient age-group membership (N=27). They completed audiometry, subjective hearing and esteem measures. Self- was higher than age-group esteem ($p < .0001$). Participants who self-categorised as “individuals” had higher self-, but lower age-group- esteem than “older group members” but only if aged above the median (58 years) ($p = .003$). Old age is stigmatised in the UK. Hence older people might self-categorise as individuals to preserve self-esteem. This might explain underestimated hearing loss and low rehabilitation up-take.

Paper 3: Using a social intervention to counteract dehydration in residential care

Gleibs I.,* Haslam C., & Haslam A.; *University of Exeter, UK

We report findings from a quasi-experimental intervention study examining the impact of a hydration intervention in care homes. People were encouraged to drink water regularly either on the basis of one-to-one discussions or within a specially created 'Water Club' (relative to social or individual-focused control groups). Over an 8-week period we assessed the impact of these treatments on perceived cognitive ability, well-being, and general cognitive ability. Measures were administered pre-, mid-, and post-intervention. Preliminary analyses revealed differences between conditions (after controlling for baseline measures, age, and gender and care home) on perceptions of cognitive ability, $F(3, 23) = 4.15$, $\eta^2 = .35$, and quality of life, $F(3, 23) = 2.66$, $h^2 = .26$, with superior outcomes observed in the 'Water Club' condition. These results point to the benefits of group-based engagement that builds a sense of shared social identity as a vehicle for the efficacy of health interventions.

Paper 4: Group identification and perceived group cohesion and continuity enhance mental and physical health

Sani F.,* Herrera M., & Bowe M.; *University of Dundee, UK

We argue that subjective identification with a social group, coupled with perceptions of the group as cohesive and continuous, may enhance mental and physical health. This is because group identification and perceived group cohesion and continuity (i) afford a sense of transcendence and meaning, (ii) foster positive social relationships with group members, and (iii) enable a sense of collective agency. In accordance with this contention, we present the results of a number of studies showing that the subjective identification with a group (e.g., the family, the nation, the professional group), and the sense that the group is cohesive and continuous, have a positive impact on a range of well-being and health indicators (e.g., satisfaction with life, depression, perceived stress, and pain). We also demonstrate that such impact is independent from extroversion, socio-economic status, and life-style, which are known to exert strong effects on well-being and health variables.

SYMPOSIUM: Developing effective internet interventions

Convenor: Yardley L.,* & Crutzen R.; *University of Southampton, UK

Aims: The aim of this symposium is to present and discuss new research that can inform the development of effective Internet-delivered health management interventions. By considering empirical studies of intervention development and implementation we aim to derive more general principles for guiding future interventions. **Rationale:** As a result of technological development it has recently become possible to use the Internet to deliver tailored interactive interventions to promote self-management of health behaviours. There is consequently a rapidly growing interest in using the Internet as a cost-effective way to provide easy access to support for health-related behaviour in a large population. There are important differences between interventions delivered by the Internet and traditional methods of delivery, and so there is an urgent need to develop our understanding of how to optimise internet interventions. **Summary:** This symposium brings together papers that address every stage of developing and implementing an Internet intervention, and provide examples of very different kinds of interventions. The first paper describes how qualitative studies can be used iteratively in the 'theoretical modelling' stage of developing an intervention to promote self-care for minor symptoms. The second paper analyses data from several large samples of Internet

intervention users in order to develop a conceptual framework for increasing uptake. The third and fourth papers investigate what intervention elements and patterns of website usage predict better outcomes in interventions to promote smoking cessation, physical activity and improved diet. The discussant will consider the wider implications of these papers for developing effective, theory-based Internet interventions.

Discussant: *Sutton S. *University of Cambridge, UK.*

Paper 1: Developing complex internet interventions to change behaviour: Using think aloud studies for theoretical modelling

Yardley L.,* Andreou P., Joseph J., Morrison L., & Michie S.; *University of Southampton, UK

A theoretical modelling approach is optimal for developing complex internet-delivered healthcare interventions. The Internet Dr website was developed drawing on three theories: the common sense model; social cognitive; and Fogg's 'persuasive technology' principles. To inform development of the website we then interviewed 19 people simulating the use of draft webpages to manage their cold/flu symptoms (the 'think aloud' method). The first version of the Internet Dr website was then developed and piloted in a 'think aloud' study with a further 24 participants. Thematic analysis revealed that some participants preferred in-depth information about symptoms and treatment, whereas others simply wanted concise advice. The website was therefore designed with options to obtain more detailed information, but the second study revealed that users (especially if less educated) encountered navigational difficulties. Theoretical modelling helped to identify fundamental differences in whether users expected a 'consumerist' or 'traditional' relationship with internet-delivered healthcare.

Paper 2: Hard to get, hard to keep: Dissemination of and exposure to internet-delivered interventions aimed at adolescents

Crutzen R.,* de Nooijer J., & de Vries N.; *Maastricht University, Netherlands

It appears that in practice exposure to Internet-delivered interventions (I-DIs) is quite low. The studies conducted in this project aim to understand dissemination of and exposure to I-DIs and therewith provide opportunities to improve this. Besides explorative studies and a systematic review, quantitative (multilevel) analyses of existing I-DIs' user data (e.g. E-MOVO, N = 35104) were conducted within this project to reach its aim. After triangulation, a conceptual framework has been proposed which can serve as a useful tool in the development process to optimise user experience in such a way that it increases the likelihood that visitors stay and eventually revisit the intervention. Furthermore, the potential of tracking multiple exposure measures and linking them to variables at the individual level has been explored. The findings of this project serve as a handle for ideas and opportunities to explore in future research and practice concerning the development of I-DIs.

Paper 3: Predictors of effectiveness of a tailored behaviour change programme with multiple delivery modes

Jacobs N.,* Claes N., van Mierlo J., Thijs H., Dendale P., & de Bourdeaudhuij I.; *Hasselt University, Belgium

The aim of the present study was to determine the predictors of surfing depth and changes in weekly physical activity and daily fat intake after 6 months. 208 highly educated adults

received access to a website (with tailored feedback) and individual coaching. Website logs and linear regression analyses were used. Positive changes were found for physical activity and fat intake. Surfing depth (visiting deeper laying pages of the website) was predicted by individual coaching and not being in line with the norm for sports ($p < .001$; $p < .05$). An increase of physical activity and a decrease of fat intake were predicted by online tailored feedback ($p < .01$; $p < .05$). Individual coaching for nutrition was effective in reducing fat intake ($p < .05$). Online tailored feedback for physical activity was effective in changing both behaviours; individual coaching was more important for nutrition, independent of the delivery mode (telephone, e-mail, face-to-face).

Paper 4: The online stop smoking coach: Predicting behavioral change

Meganck J.,* & Put C.; *BrandNewDay, Belgium

This study identifies predictors of progress in stages of change regarding cessation of smoking amongst users of the StopSmokingCoach, a web-based health behavior change program. 8639 Belgians registered on the StopSmokingCoach (mean age = 36; 56% male). After assessment based on the transtheoretical model, users were offered free access to tailored feedback, advices and tools to assist behavioral change. Stepwise linear regression analysis was used to determine predictors of change for users who visited the site at least two times ($n = 2589$). Amongst returning visitors 37.5% moved at least one stage ahead. Stage progress was predicted by number of advices read, lower stage at start, duration of activity, visits to forum, allowing e-mail tips and being younger (all $p < .01$) and visits to personal charts ($p < .05$). The StopSmokingCoach was effective in assisting smokers to move ahead in the process of change. The results of this study will be used to improve the coach further.