

Abstract 1: Monday 4 July, Session 2, 10:45AM

Reversal theory as a superordinate theory of motivation

Michael J. Apter, Apter International

One of the principle ways in which reversal theory differs from other theories of motivation is in the comprehensiveness of the motivational structure which it claims underlies behaviour of all kinds. Wherever we look in psychology, reversal theory provides a form of motivational analysis which, in its inclusiveness, goes well beyond that of other approaches. For example, in dealing with depression, with peak experiences, with learning styles, with risk-taking, and many other topics, the theory discerns a range of underlying motives, many of which are missed in more traditional approaches. If we look at the well-known theories of motivation that will be found in any textbook, we can see how each theory has a certain validity, but is only part of the more general picture presented by reversal theory. For example, the three forms of need studied by McClelland represent only the telic, mastery and sympathy states. Adler's theory is really all about the mastery-sympathy dimension. Lacan's approach concerns only the autistic-alloic pair of states. In a similar way, all the major management theories of the last hundred years can be shown to have a place within the reversal theory model, from McGregor's theories X and Y to more recent ideas of transformational leadership. In this way, reversal theory is a theory "in a new key" - a new kind of superordinate theory which shows where other theories fit into a larger scheme of things.

Abstract 2: Wednesday, 6 July, Session 9, 9:30AM

Going beyond the dominance concept

Michael J. Apter, Apter International

The concept of dominance has been central to the reversal theory approach to personality, and has helped to distance it from trait-based theories by emphasizing how people change in the course of everyday life. The concept continues to be useful, and the various psychometric tools that have been derived, have proved to be unusually useful both for research into, and applications of, reversal theory. However, the degree to which people have a general innate tendency to spend time in one rather than the other of each pair of metamotivational states is only one feature of changeability. If reversal theory is to have its full impact on psychology, some of these other features also need to be explored. They include: state-balance (the time actually spent in one state rather than the other in different specific situations), reversibility (the frequency with which a person tends to move from one state to another over time), and tendency to induce certain states in others (e.g. as a leader in inducing microclimates). Innovative measures have now been devised for all of these, although more work will be needed to develop them fully. Other features that reversal theory brings to light, and that could in the future generate new tools and research methods, include: salience (tendency to be differentially aware of different pairs of states), trajectories (tendencies to follow certain personal sequences of change), combinations (tendencies to combine certain states), and motivational intelligence (which would include ability to control reversals and to match states to situations).

Abstract 3: Thursday, 7 July; Session 13, 14:30PM

Peak Experiences

Michael J. Apter, Apter International

The idea of a peak experience, as formulated by Abraham Maslow, has been one of the founding concepts of Humanistic Psychology. Generally speaking, it has been assumed that all peak experiences take essentially the same form and represent the peak of Maslow's famous motivational pyramid. The aim of the present paper is to show that there are in fact a number of contrasting types of peak experience, rather than the single kind implied by Maslow, and that the different types can be understood in terms of the motivational structure postulated in reversal theory.

An examination of the literature on peak experiences, and in related areas such as mystical states, shows that such a subjective state can be seen as an unusually intense experience of the satisfaction of one or another of these eight basic motivations. For example, some experiences are described in terms of enormously satisfying achievement that makes life meaningful, others refer to ecstatic sensual pleasure. This means that peak experiences not only come in different, but also in opposite, forms. If we look at what might be termed "abyss experiences," which are the opposite of peak experiences, we find that the same structure applies, as it does for both mania and depression. Furthermore, dramatic reversals are possible between peak and abyss experiences.

Abstract 4-5: Monday, July 4; Session 2, 11:15AM

**Reversal theory in the light of Charles Peirce's theory of chaos
and in the light of modern chaos theory**

Randall Braman Sr., University of Guam (USA)

Jay Lee, Stephen F Austin State University (USA)

Around 1900, Charles Peirce presented the radical idea that ultimately the universe is chaotic, and the seeming order in the physical universe is the product of natural selection. In examining how natural selection could produce such order, it is suggested that three kinds of events would of necessity take place: (1) stronger phenomena will annihilate weaker incompatible phenomena, (2) incompatible phenomena will coalesce or merge, (3) incompatible phenomena of near-equal strength will alternate. Thus a seeming order is achieved. In the light of Peirce's idea, therefore, though nature is basically chaotic, increased orderliness is produced by natural selection. This accounts for the order found in biological species, and also for the orderly physiological and psychological functioning of the individual. Especially important for the health and survival of the individual is that forces of near-equal strength alternate. Reversal Theory insists alternating psychologically, that is, "reversing" is not only natural but beneficial. It is argued that this conclusion follows logically from Peirce's theory of chaos.

Efforts to apply chaos theory and models based on nonlinear dynamics have been increasing within the social sciences (Elliot, 1997). The social sciences have traditionally followed the methodologies of the natural sciences and the application of chaos theory is no exception. Indeed, the structure of RT reflects elements of a cybernetics tradition. Recent

developments in the natural sciences have included the use of chaos theory to challenge notions of certainty, linearity, and predictability. This challenge has also extended to the social sciences. Murgatroyd (1993) described Reversal Theory as a shift from a classical, static and reductionist approach to psychology toward a dynamic one. Reversal theory is easily represented as a dynamic system where the various mechanisms, relationships, and processes of RT are equitable to dynamic systems theory. RT, like chaos theory, also challenges psychological dogma such as certainty, linearity, and predictability. Parallels between criticisms of RT and of chaos theory suggest that RT should be viewed as a nonlinear model rather than as a static, linear model.

Abstract 6: Monday, July 4; Session 3, 14:00PM

**Academic Performance and Metamotivational Profile of
Hong Kong Secondary School Students**

Randall Braman Jr., National University of Hawaii (USA)

Koenraad Lindner, The University of Hong Kong (China)

John Kerr, Kokushikan University (Japan)

Cindy Sit, The University of Hong Kong (China)

Differences in MSP-derived metamotivational characteristics were examined in 1500 Hong Kong secondary school students grouped according actual (AP) and perceived (PAP) academic performance, and by school band (academic track).

Male high academic achievers were significantly more telic, arousal avoiding and conformist, while female high achievers were less alloic than low achievers. There were no significant differences among AP groups for the saliences. Male high and medium PAP groups were significantly more telic, arousal-avoiding, conformist and optimistic dominant than the low PAP group, while the female high PAP students were less alloic than the medium group and both the high and the medium groups more optimistic dominant than the low PAP group. High PAP groups generally had significantly greater salience scores than the medium and low groups.

Students in the high band, regardless of their academic performance, scored significantly higher on arousal avoidance (males and females), conformity and autistic (females only) than medium and low bands. The male medium band group scored higher on all saliences, while the female high band attached significantly greater importance to all saliences than the low band.

These results provide evidence for a link between metamotivational dominances/saliences and academic achievement, generally indicating a more serious, arousal-avoiding, conformist and optimistic outlook for the better performing student.

Funded through an RGC (Hong Kong) earmarked grant.

Abstract 8: Monday, 4 July; Session 4, 15:30PM

Identifying Reversal States by Cluster Analysis in Three Canadian Samples

*Kenneth M. Cramer, Kathryn D. Lafreniere, & Jessica Sartori,
University of Windsor (Canada)*

The Motivational Style Profile (MSP, Apter, Mallows, & Williams, 1998) uses 70 items to determine respondents' various reversal states (e.g., telic/paratelic, arousal avoidance/seeking, negativism/conformity, autic mastery/sympathy, alloic mastery/sympathy, optimism/pessimism, arousability/effort). As a test of the scale's psychometric integrity, a cluster analysis was conducted using three independent Canadian samples of university undergraduates ($Ns = 169, 334, 526$). Cluster analysis groups respondents with similar item scores so that members of any given family or cluster are alike but unlike members of other clusters. We hypothesized that an internally consistent instrument would reliably identify individuals in various reversal states. Using squared Euclidian distances and Ward's estimation algorithms, the solution was forced to four clusters to identify state pairs (e.g., telic vs. paratelic). An analysis of variance was then conducted with the four clusters as the grouping variable and the reversal subscales as the dependent variables. Results showed that for all three datasets, the four empirically derived clusters reliably identified individuals in unique reversal states. For instance, respondents in Cluster-A were significantly more paratelic than respondents in Cluster-B, who in turn were significantly more paratelic than respondents in Clusters C and D. Implications for the psychometric properties of the MSP are discussed as well as directions for future research.

Abstract 9: Thursday, July 7; Session 11, 9:00AM

Reversal Theory Construct Psychometrics by Respondent Trait Self-Focus

*Kenneth M. Cramer and Kathryn D. Lafreniere,
University of Windsor (Canada)*

One of the underlying tenets of trait theory assumes that questionnaire respondents have access to their thoughts and feelings addressed by construct personality items. The same tenet underlies the various reversal theory states (e.g., telic/paratelic, arousal avoidance/seeking, negativism/conformity, autic mastery/sympathy, alloic mastery/sympathy, optimism/pessimism, arousability/effort), so that an individual who is more internally focussed should have better access to their internal states and have higher internal consistency ratings across all measures. There were 212 male and 408 female members of the Windsor community in Southwestern Ontario Canada who completed a questionnaire that included the Motivational Style Profile (MSP, Apter, Mallows, & Williams, 1998) and three self-focus measures, namely self-monitoring, identity formation, and private self-consciousness. For each of the three measures, participants were divided by median split into low vs. high self-focus categories (0-1), and then summed to yield a global self-focus categorical measure (0-3). Greater self-focus yielded significantly higher mean scores for all constructs but conformity. In addition, self-focussed individuals had significantly higher internal consistency estimates. Implications for the psychometric properties of the MSP are discussed as well as directions for future research.

Abstract 10: Thursday, July 7; Session 13, 14:00PM

The AMSP as a tool for counseling

Mitzi Desselles, Apter International

An expert computer system has been developed for providing narrative feedback for people who take the AMSP for purposes of personal development, and this has been used in the organizational context for counseling, coaching, mentoring, team building and other related purposes. Among other things, the report highlights the states that are reported as being rarely experienced, and asks the individual what he or she might be missing - both in terms of personal satisfaction and of contribution to others. A more recent and elaborate form of this feedback (the AMSP Extended Version) has also been developed and includes a separate report for the counselor containing suggestions for further exploration with the client. The aim is not to categorise the client in a static way (which is what happens with other trait and type approaches) but to lead to action for change. For example, clients may be encouraged to undertake "personal experiments" in which, in the course of everyday life, they deliberately attempt to experience their low scoring states more frequently. In this paper, two individual cases of such self-exploration and change will be presented, as a concrete illustration of the way in which the AMSP can lead into a process of self-development.

Abstract 11: Monday, July 4; Session 3, 14:30PM

**Fostering ecological understanding and affinity toward nature in fourth grade students:
An application of reversal theory and a generative teaching method.**

Briget Tyson Eastep, St. Cloud State University (USA)

Edward J. Ruddell, University of Utah (USA)

Environmental educators strive to increase their students' ecological knowledge and affect toward nature. Guided Reciprocal Peer Questioning (GRPQ) has been a successful review method in classrooms to increase knowledge, and may be effective in environmental education. Furthermore, educators may foster an affinity toward nature by setting a tone based on reversal theory's metamotivational states. A playful (paratelic) tone versus a serious (telic) tone may lead to an enjoyable experience and an affinity toward nature. The purpose of this study is to examine the effects of GRPQ and a metamotivational tone on students' understanding of ecological concepts and affinity toward nature.

Ninety-five fourth graders volunteered for this study. Groups of 10-14 students were randomly assigned to one of four conditions: GRPQ + telic verbal directions; GRPQ + paratelic verbal directions; regular review + telic verbal directions; and regular review + paratelic verbal directions. At the end of the 2 hour session, students' situational affinity and metamotivational states were assessed and students took an ecological understanding quiz. Metamotivational states were assessed using an instrument based on Calhoun's (1996) Telic/Paratelic scale.

No significant findings were found between groups. Results revealed 76.8% of students were in a paratelic state regardless of the instructor's tone. One explanation is the field trip setting may have affected the students' metamotivational state more than the instructor's tone. Follow-up analysis revealed that telic students scored higher than paratelic students on the

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understanding quiz ($r_s = .332, p=.01$). There was an association between students' affinity scores and feeling "interested" ($r_s = .505, p<.01$), "adventurous" ($r_s = .379, p<.001$) and "excited" ($r_s = .430, p<.001$). Future studies can investigate these relationships to determine how different events (instructor's tone versus field trip setting) compete to affect metamotivational states. Environmental educators can consider their setting, content, teaching style, and audience to create meaningful experiences.

Abstract 12: Tuesday, July 5; Session 6, 11:00AM

Stress, Emotions, and Metamotivational States in Canadian and Japanese Soccer

Guido Geisler, University of Tsukuba (Japan)

John H. Kerr, Kokushikan University (Japan)

This cross-cultural study used a reversal theory framework to examine the competition stress and emotions of 65 *futsal* (small-sided soccer) players in Canada and Japan. The Tension and Effort Stress Inventory (TESI) was administered to four teams, pregame and postgame for three games each, at a futsal tournament in both countries. A mixed between-subjects and within-subjects repeated measures MANOVA was used to analyze the data, and revealed a significant three-way interaction for Time x Game Result x Country. Many significant pregame and postgame differences were found between the Canadian and Japanese players. Most notably, Canadian participants experienced more pleasant emotions after wins than after losses, and more unpleasant emotions after losses than after wins. However, the opposite occurred for Japanese players. They reported more unpleasant emotions after wins and more pleasant emotions after losses. Reversal theory's metamotivational states and the level of competition are enlisted as a means of explaining these unique and unexpected results. The State of Mind Indicator for Athletes (SOMIFA) was also administered to the 33 Canadian participants, and a follow-up examination of this data should identify the most salient metamotivational states of these players. Subsequent administration of a Japanese version of the SOMIFA is recommended to assess the dominant metamotivational states of futsal players in Japan.

Abstract 13: Tuesday, July 5; Session 6, 11:30AM

New perspectives on aggression and violence in sport.

John H. Kerr, Kokushikan University (Japan)

This presentation marks a further stage in the unraveling of the psychology of particular topics in sport using reversal theory as an underlying conceptual framework. The session's main aim is to re-examine psychological aspects of aggression and violence in sport through the concepts of 'play', 'anger', 'power' and 'thrill' violence (Apter, 1997). Part of the session will involve a discussion of sanctioned and unsanctioned violence in sport including some of the 'grey areas' concerning the inconsistencies, for example, in the borderline between sanctioned and unsanctioned aggression and violence between different sports, and differences between

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official rules and athletes' unofficial rules or norms'. Team contact sports like ice hockey and the various codes of football (e.g. rugby, Australian Rules, American Football, soccer) will be the particular focus of the session and numerous examples from these sports will be used to illustrate theoretical arguments. A stance will be taken to show that contemporary attitudes to aggression and violence in sport by sport psychologists are erroneous and a realistic understanding of the pleasure and satisfaction that can be gained from participating in aggressive and violent sports will be put forward.

Apter, M.J.(1997). The experience of being violent. Paper presented at the Eighth International conference on Reversal theory. University of East London

Abstract 14: Tuesday, July 5; Session 5, 9:00AM

Development of Three Tension Measures—Overeating, Exercise, and Esteem

*Kelli Lee Kramer and Sue Popkess-Vawter
Kansas University Medical Center(USA)*

Long-term weight management outcomes usually focus on dietary intake, energy output, and ultimate weight loss. Outcome measures that focus on precipitating causes of overeating, lack of exercise, and poor self esteem are lacking. According to preliminary research based on Reversal Theory, increased tension can precipitate overeating (Popkess-Vawter, Gerkovich, & Wendel, 2000). Tension results when a discrepancy occurs between what individuals are feeling and what they prefer to be feeling; the greater the discrepancy, the more tension is experienced. When individuals feel extreme unpleasant feelings but they want to feel pleasant feelings, they experience high levels of tension. The Overeating Tension Scale (OTS), developed in four instrument development studies (N=373, 208, 330, 130), is a semantic differential scale that consists of 32 items, four pairs of feeling words for each of eight motivational states. The scale has three subscale scores (telic/paratelic, conformist/negativistic, masteryalloic / masteryautic / sympathyalloic / sympathyautic) and a total tension score. Studies yielded evidence for reliability (alpha coefficients = .70-.93) and construct validity based on hypothesis testing; subjects in an overweight group reported higher levels of total overeating tension than normal weight subjects [$F(1, 126) = 7.12, p < .009$]. Clinical evidence, consistent with increased tension that precipitated skipped exercise and poor self-esteem, led the investigators to develop the Exercise Tension and Esteem Tension Scales, adapted from the original OTS measure. Instrument development procedures and adaptations for computer applications will be explained for the three measures.

Abstract 15: Wednesday, July 6; Session 10, 11:30AM

Telic/Paratelic Dominance and the Perception of Health Risks

*Kathryn D. Lafreniere, Kenneth M. Cramer, & Jennifer W. Out
University of Windsor (Canada)*

Despite the proliferation of health information available, people often make irrational decisions about their health. Recent research on risk perception (Sjoberg, 2003), for example, has suggested that people often overestimate their degree of risk from technological sources and industrial activity, but underestimate the more probable role of lifestyle in influencing their health. This line of research suggests that the commitment required to achieve long-term changes in favour of healthier lifestyles is often in conflict with short-term pursuit of pleasure. Reversal theory seems particularly well suited to the study of such paradoxical thinking and behaviour.

The present study examined the relationship between telic/paratelic dominance and risk perception in an experiment in which undergraduate students were presented with various health scenarios that varied in risk probability (high incidence vs. low incidence health risks) and health risk latency (imminent vs. long-term health threats). Risk perception and intention to engage in preventive behaviours to avoid the risk were assessed as outcome measures. Telic/paratelic dominance was measured by the Paratelic Dominance Scale (Cook & Gerkovich, 1993). Measures of health values (Lau, Hartman & Ware, Jr., 1986) and optimism (Scheier, Carver, & Bridges, 1994) were also administered, since previous research has shown these constructs to relate to health risk perception. Findings will be discussed in relation to the role of reversal theory in enhancing our understanding of the seemingly irrational biases inherent in the perception of health risks.

Abstract 16: Tuesday, July 5; Session 7, 14:30PM

What is 'psychodiversity' and how will we recognize it?

Jay Lee, Stephen F Austin State University (USA)

The reversal theory concept of 'psychodiversity' (Apter, 2001) refers to a kind of 'motivational richness'. This has been described as psychologically healthy. An individual capable of psychodiversity can experience a full range of motivations. This present study presents data (n = 2463) useful for exploring psychodiversity and several related issues. In this study, participants in an exercise adherence program responded to a reversal theory-based survey of their exercise motives. The resulting optimal state array where ten states are profiled is used to represent 'psychodiversity'. The level of endorsement for each state is compared across three groups, non-exercisers, moderate exercisers, and chronic exercisers. For example, individuals who are chronic exercisers score higher for all metamotivational states than do the other two groups, and moderate exercisers endorsed all states at higher levels than non-exercisers. However, the state array that emerged is structurally the same for all three groups. The suggestion is that psychodiversity could be structurally specific for a situation. Potential explanations describing the interactions among the profile structure and the situation and the level of endorsement are presented.

Abstract 17: Thursday, July 7; Session 12, 11:00AM

**Cognitive and affective interactions of elite female foil fencers:
A Reversal Theory Approach**

Jay T. Lee, Dale G. Pease, Stephen F Austin State University (USA)

Lee Branum-Martin, University of Houston (USA)

John Heil, Lewis-Gale Clinic (USA)

This study compared the cognitive and affective substrates of psychological states during competition in ranked international women's-foil fencers at the same international event. During interview sessions, each fencer, facilitated by a researcher, reviewed videotaped bouts in order to stimulate recall and to process thoughts, feelings, and emotions. The recall sessions were conducted within a few hours of the actual bouts. The recall sessions were also videotaped to produce transcripts for further analysis. The recall session transcripts were examined for mental states and their changes during the fencing bouts and interpreted based on reversal theory (Apter, 2002). Among the resulting data, researchers identified situational state-balance (relative preference for one state of a pair versus the other state in given situations) and position on the motivational variable associated with each state for each fencer. For this study the metamotivational pairs included; 1) telic/paratelic; 2) arousal-avoiding/seeking; 3) negativism/conformist, and; 4) autic/alloic mastery/sympathy. Respectively, the motivational variables associated with these states are; 1) felt significance; 2) felt arousal; 3) felt negativism; and; 4) felt transactional outcome. Some interesting results revealed that for all fencers, especially between points, the telic, conformist, autic mastery profile (TCAuM) was most common and was associated with winning. The top fencer's profile did not vary from TCAuM, but two of the developing fencers occasionally exhibited a telic, negativistic, autic mastery profile (TNAuM). The associated variable, felt negativism, had a significant, detrimental effect on at least one of these fencer's performance. The motivational variables (significance, negativism, transactional outcome) were also examined with regard to point spread (PS). The PS variable was scaled to produce a negative value when behind on points and positive values when ahead, so that PS produce direction and magnitude. Causal interpretation should be cautious as the elite fencers were more likely to lead in scoring than the developing fencers. However, the pattern shows that as the point spread positively increased (winning), felt significance increased. This was true for all the study fencers. Felt arousal was fairly unchanged for any of the fencers. From the transcripts it appears that the fencers prefer the telic state (associated with arousal-avoiding), but will tolerate or seek arousal to achieve significant goals. However, the fencers attempted to reduce arousal between points and while waiting during breaks and time outs. The last, felt transactional outcome, increased with resulting increase to positive emotions and feelings when winning. Additionally, elite fencers exhibited more effective cognitive strategies for any particular state. Specific transcript comments will be presented in support of these conclusions.

Abstract 18: Tuesday, July 5; Session 5, 10:00AM

Analyzing MSP data sets: The Good, the Bad and the Ugly
Koenraad Lindner and Cecilia Au, The University of Hong Kong (China)

Seven large data sets derived from the administration of the full MSP and the 50-item version of the MSP both in general and sport & exercise formats, and the 50-item MSP-C, were analyzed to examine correlation patterns and factor loadings. While a number of orientations emerged strongly as single or combined factors, other expected item loadings did not materialize. Some MSP items failed to load in all or most of the data sets, while others consistently loaded on factors representing different orientations. Items representing the arousal-avoidance and arousal-seeking orientations did not generally load onto telic and paratelic factors, respectively.

Possible implications of these findings for the psychometric viability of the instrument and/or for some of the basic tenets of reversal theory are discussed.

Abstract 19: Monday, July 4; Session 1, 9:15AM

Personal Projects and Reversal Theory: Itching, Switching and Twitching
Brian R. Little, Harvard University (USA)

Reversal Theory and Personal Projects Analysis have been intimate strangers for many years. We haven't actually colluded not to interact, but the occasion has never arisen in which we have been able to explore some intriguing possibilities for intellectual exchange. These have been itches I have wanted to scratch for decades. I am deeply honoured to be offered this opportunity in my presentation.

Personal projects are extended sets of personally salient action ranging from the mundane tasks of Monday mornings ("put out the cat, quickly") to the overarching commitments of a lifetime ("transform Western Thought, slowly".) In between, in the middle range, we pursue projects that bring meaning, structure and a sense of community to our lives. We have argued that human flourishing comprises the sustainable pursuit of core projects. This requires two adaptive tasks, the management of internal resources by self-regulatory skills and the management of the dynamic social ecology within which projects are pursued. Reversal theory has important things to say about both of these issues. Because personal projects are the means through which personal ends get accomplished, I will focus primarily on the Telic-Paratelic domain. I will discuss how professorial performance is a dance that switches between whimsy and gravitas. I will explain how such reversals have profound implications for human flourishing. I will also explain how, if mismanaged, they can make us twitch with disingenuousness and, at worst, how they can bring us to our knees.

Abstract 20: Tuesday, July 5; Session 8, 15:30PM

Switch to Better Behaviour Management: Reversal Theory in Practice.

Denny Mallows, York St John College (England)

All of us who work with a responsibility for others need to have good management skills. This need becomes most evident when working with young people who may present a range of challenging behaviours. Here, based upon my research and work with students, teachers, assistant teachers and children in Britain, I am applying reversal theory as an optimistic approach to change through using the idea of reversing or switching to better behaviour. Reversal theory is concerned with the subjective meaning of behaviour, especially the intention behind the behaviour (Apter, 1989). Learners, both pupils and teachers, are seen as able to increasingly make sense of situations and problems through self awareness, good communication and self-motivation. This is in contrast to the behaviourist approach in which poor behaviour is seen as maladaptive learning to be changed through reward systems and reinforcement programmes (Merrett 1993, Wheldall, 1992).

This paper will present the findings from a small research project using the AMSP with teachers of varying experience and the development of positive and creative strategies for the classroom. Reversal theory is not a simple theory, but used as a framework it is a practical theory. It can support educational professionals not only to understand and interpret behaviour but also to develop a broad range of skills to handle problems and challenges. It draws attention to important unexamined assumptions, raising a number of critical issues, stimulating new thinking and action.

Abstract 21: Thursday, July 7, Session 11, 10:00AM

The Motivational Style Profile for Children – the UK experience

Richard Mallows, York St John College (England)

The Motivational Style Profile for Children (CMSP) was presented at the 11th International Conference on Reversal Theory (Sit, Lindner & Apter, 2003) and it was suggested that further piloting of the profile would be appropriate with western samples. A sample of children between 8 – 12 years of age across the United Kingdom completed the CMSP and this paper will describe the UK experience and present some preliminary data.

Sit, C., Lindner, K., & Apter, M. (2003) Development of the Motivational Style for Children. Paper presented at the 11th International Conference on Reversal Theory, York, England. (July 2003).

Abstract 22: Tuesday, July 5; Session 5, 9:30AM

Overeating, Exercise, and Esteem Tension in Weight Management

*Sue Popkess-Vawter and Kelli Lee Kramer
Kansas University Medical Center (USA)*

Obesity in the US has reached epidemic proportions. Almost two-thirds of all adults and one-fourth of all children are overweight or obese. The investigator's preliminary descriptive and instrument development studies focused on tension as a precipitating factor of overeating. Clinical evidence led the investigator to view tension not only as a precipitating factor for overeating, but also for decreased regular exercise and poor self-esteem. A pilot test of three tension measures was conducted with 16 normal weight and overweight female volunteers from a professional nursing continuing education program focused on weight management. The purpose of this pilot test was to determine the feasibility of administering the three tension measures (paper and pencil version). Tension was defined as subjects' self-reported preferred and actual feelings when responding to specific incidences of overeating, skipped planned exercise, and feeling bad about self. Also the pilot test sought to explore linear relationships among self-reported frequency of overeating, exercise, and esteem; tension scale scores; and body mass index (BMI; weight [kg]/height [m²]). Relationships demonstrated by Pearson correlations will be described. The long term goal of planned research is to provide evidence that tension precipitates overeating, decreased exercise, and poor self esteem in overweight individuals and to develop measures for monitoring weight management progress over time. Ultimately, cognitive restructuring weight management strategies designed to decrease tension may be more effectively tested with reliable and valid measures derived from theoretical and evidence-based concepts.

Abstract 23: Thursday, July 7; Session 12, 11:30 AM

Metamotivational Dominance in Military Personnel and Sports Students

*Paul Robinson, Beverley Hale, Terry McMorris, Tim Holder and Iain Greenlees
University College Chichester, (England)*

The aim of this study was to investigate metamotivational dominance in military personnel and sports students. The Telic Dominance Scale (Murgatroyd, Apter, Rushton and Ray, 1978) was administered to (n = 82) male military personnel and sports students. It was hypothesised that the military personnel would be more telic dominant than sports students. Mann Whitney U with transformation to normality (z) was used to test the data for group differences. Results showed significant differences (p < 0.005) suggesting that military personnel are more telic dominant, serious minded and avoid arousal more than sports students, supporting the initial hypothesis. The potential exists for further exploration of military personnel in comparison to other groups.

Abstract 24: Thursday, July 7; Session 11, 9:30AM

Reliability of the MSP-C and initial comparison of French and Hong Kong data

Cindy Sit and Koenraad Lindner, The University of Hong Kong (China)

Gregory Michel and Eloïse Etave, Université Elsass (France)

The Motivational Profile for Children (MSP-C) was developed and pilot-tested in 2003 (Sit, Lindner, & Apter). In this paper, the results of subsequent reliability testing of the instrument are presented as well as comparisons between a Hong Kong and a French sample of 11-14 year olds with regard to differences in orientations, dominances and saliences, and the factor structures for both samples.

(M)ANOVAs indicated no differences between the 25- and 50-item versions of the test, and test-retest reliability coefficients generally ranged from acceptable to very high. The factor structures for the two nationalities were quite similar with clear telic, alloic, arousal-avoidance/seeking, and negativistic factors. Hong Kong children were significantly more arousal-avoidance ($p < .0001$) and less sympathy dominant ($p < .05$) than the French respondents, and had a tendency to respond more strongly to the instrument's items as evidenced by significant differences in the orientations and saliences.

These initial results suggest that the MSP-C is a viable and reliable instrument for the measurement of metamotivational characteristics of children between 11 and 14 years of age, but somewhat susceptible to geographic differences. Further testing needs to be done to ascertain whether these differences are due to translation or cultural factors.

Abstract 25: Tuesday, July 5; Session 7, 14:00PM

Mortality and sense of humor as paratelic coping: five-year prospective study of survival in a non-selected adult county population and in a sub-population diagnosed with cancer

Sven Svebak, The Norwegian University of Science and Technology (Norway)

This project is part of one of the largest population health surveys in the world (the North-Trøndelag Health Survey: 1995-97). All county inhabitants aged 20 and above (N=approx. 92.000) were invited to take part. Overall compliance was 70 %. More than 52.000 gave estimates on their sense of humor by scores on three items that best reflected the cognitive (N=53.546), social (N=52.198) and affective (N=53.132) facets of sense of humor in the Sense of Humor Questionnaire (SHQ: Svebak, 1974, 1997). The four-step scoring format of the original SHQ was adopted. Scores were related to national mortality statistics updated in 2001, and prospective hazard ratios (HR) were calculated using Cox survival regression statistics. Results from unadjusted analyses stated that mortality was highest among those with lowest SHQ scores in all three dimensions (overall trends: $p < .001$). Scores on the cognitive SHQ-item predicted survival also after correction for age and gender ($p < .015$), education/social network ($p < .03$) and health status (cancer, cardiovascular diseases, diabetes mellitus: $p < .012$). Scores on the social and affective facets failed to predict five-year survival after correction for all these potentially confounding variables. A separate approach to survival was applied to the sub-population with any cancer diagnosis in 1995-97 (N=2.015). The linear trends for unadjusted HR scores were significant for the cognitive and social facets, but not for the affective facet. A non-

linear trend was significant in the cognitive facet also after correcting for age, gender, health-related lifestyle, education, social network, and health status (cardiovascular disease, diabetes mellitus): Those with the lowest SHQ-score were at higher risk than others. These findings suggest that the cognitive facet of sense of humor is a playful coping resource that may reduce mortality risk over a five-year period in the adult population at large and among individuals diagnosed with cancer.

Abstract 26: Wednesday, July 6; Session 10, 11:00AM

A reversal theory interpretation of psychological and emotional responses to sports injury

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John Kerr, Kokushikan University (Japan)

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Sports injury can result in significant psychological and emotional distress for competitive athletes (Gould et al., 1997). Few studies have examined the psychological and emotional processes involved in injury rehabilitation from a longitudinal, theoretically framed perspective. This study employed Reversal Theory to examine these processes in three competitive athletes. Participants were purposely sampled and included if they were severely injured, determined by rehabilitation personnel using pathological criteria (cf. Flint, 1998), they had a strong athletic identity, indicated by Athletic Identity Measurement Scale score (Brewer et al., 1993) and, rated rehabilitation as important, indicated by one item from the Sports Injury Rehabilitation Beliefs Survey (SIRBS: Taylor & May, 1996). Two were female (karate and judo) and one was male (hockey), aged between 20-28. They completed the Motivational Style Profile (Apter et al., 1998) and were interviewed every two weeks, beginning after their initial consultation with a sports therapist until their complete physical rehabilitation. Interviews were unstructured, employing an existential phenomenological approach (Dale, 1996) in line with the Reversal Theory tenet of subjective phenomenology. The initial interview focused on the injury occurrence. In subsequent interviews, participants discussed their experiences in the two previous weeks. This resulted in five interviews for one participant and seven for the remaining two. Interviews were transcribed verbatim and checked for accuracy by participants. Interviews will be deductively analysed using Reversal Theory definitions of metamotivational states and associated emotions. This analysis will focus on patterns of metamotivational state salience and state balance at both inter and intraindividual levels.

Abstract 27: Wednesday, July 6; Session 9, 10:00AM

Reversing Disciplines: Reversal Theory as a New Tool for Sociologists

Jennifer Tucker, Booz Allen Hamilton & Virginia Polytechnic Institute (USA)

This presentation will take Reversal Theory out of the psychological sciences and consider it through the lens of Science and Technology Studies (STS). STS is a multi-disciplinary field using historical, sociological, and philosophical frameworks to examine the

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development of science and technology. Two topics will be considered: (1) Reversal Theory as a case study for understanding scientific theory emergence and change; and (2) The use of Reversal Theory as a new tool for mapping and aligning diverse and seemingly incompatible social theories.

Reversal Theory as Case Study - STS scholars often use case studies to learn about scientific theory emergence and change. How do new theories and frameworks emerge and stabilize within an established discipline, and what challenges emerge during that process? This presentation will consider Reversal Theory's development in this light, focusing upon the growth of its underlying ideas, the communities of interest involved in its use, its publication history, the role of quantification, and the interplay between the science and various technologies of Reversal Theory.

Reversal Theory as Sociological Framework – This presentation will also consider how Reversal Theory could serve as a framework for “mapping” seemingly incompatible social theories. Different social theories often reflect an emphasis on different values – which often appear to align with specific motivational states proposed by Reversal Theory. This topic reflects early dissertation research on the role of subjectivity, motivation, and emotion in scientific and technical decision-making. My hope is that this theoretical exercise will open the door for applied social research using Reversal Theory. How could Reversal Theory supplement other sociological tools in understanding the role of subjectivity and emotion in scientific and technical work?

Abstract 28: Monday, July 4; Session 4, 16:00PM

Measuring Reversal Theory States in Real Time: Developing the Reversal Theory State Inventory

Tony Young, Louisiana Tech University (USA)

Mitzi Deselles, Apter International

Jay Lee, Stephen F. Austin State University (USA)

Michael Apter, Apter International

A 40-item inventory, the Reversal Theory State Inventory was developed and administered to 180 undergraduate students. The participants completed the questionnaire 5 times per day on a handheld computer they carried for 7 days as they went about their lives. The participants were asked to respond to the items of the inventory as they were at the moment. The manner of data collection is best seen as ecological momentary assessment. The participants also completed the Apter Metamotivational Style Profile and a Big-5 personality inventory at the briefing session. Data are being analyzed for validity and reliability of the instrument and to document state changes as are expected per Reversal Theory. Times of day and day of the week changes in state are also assessed for patterns. Initial data analyses show significant correlations between the scores on the AMSP and the RTSI week long averages.