



Listing of Conference Papers

Title of Paper: Conceptual developments in reversal theory

Author: Michael J. Apter

2. # Title of Paper: Gender Differences in Motivational Style Profile (MSP) and Motivational Style Profile for Sport and Exercise (MSP-SE) Responses of University Entrants

Authors: Cecilia Au, Koenraad Lindner and John Kerr

3. # Title of Paper: Seasonal Variation to Motivational Style in Seasonal Affective Disorder and Controls

#Authors: Margaret Austen and George Wilson

4. # Title of paper: The Motivational Style Profile for Sport and Exercise of eating-disordered and exercise dependent participants.

Authors: Michelle J. Blaydon and Koenraad J. Lindner.

5. # Title of Paper: Rorschach Responses as Indices of Telic/Paratelic States and Dominances

Author: O. Randall Braman

6. # Title of Paper: Metamotivational States in Smoking Cessation among Adolescents.

#Author: Rebecca Burris

7. # Title of paper: Using the Apter Motivational Style Profile

Authors: Mitzi Desselles, Marie Shelton, Stephen Carter and Michael J. Apter.

8. # Title of Paper: Psychological Benefits, Motivational Needs and Preference in Exercise Participation.

Author(s): Judy Frith, George V Wilson and John H Kerr

9. # Title of Paper: Metamotivational state: Its relationship to risk taking, negative feedback and viewing of pornography

Authors: Rick Howard, Koh Yun Tzy and Goh Kaur Kheng

10. # Title of Paper: Reversal Theory and Motivational Factors for Exercising

Author(s): Rebecca S. Keele-Smith and Kathleen O'Connell

11. # Title of Paper: Sport fans' experience with winning and losing teams

#Authors: John H. Kerr and George V. Wilson

12. # Title of Paper: A comparison of classical test theory and item response theory of the Paratelic Dominance Scale and implications for Reversal Theory.

Authors: Jay T. Lee and Lee Branum-Martin

13. # Title of Paper: The Art of Reversal: The Application of Reversal Theory within the domain of Visual Art Theory
Author: Julie Lee

14. # Title of Paper: Comparing Motivational Style Profile (MSP) and Motivational Style Profile for Sport and Exercise (MSP-SE) Responses of University Entrants
Authors: Koenraad Lindner and John Kerr

15. # Title of Paper: Metamotivational Profiles of Physically Active and Inactive University and Secondary School Students
Authors: Koenraad Lindner and John Kerr

16. # Title of Paper: The Application of Reversal Theory for Trainee Teachers
Author: Denny Mallows

17. # Title of Paper: Reversal Theory, athletes and eating behaviour
Author: Richard Mallows and John Kerr

18. # Title of Paper: Reversal Theory States Versus Negative Affect in the Prediction of Lapses During Smoking Cessation.
Authors: Kathleen A. O'Connell, Joseph E. Schwartz, Mary M. Gerkovich, Marjorie J. Bott, and Saul Shiffman

19. # Title of Paper: Motivational Orientations in Youth Sport: Comparing Achievement Goal Theory and Reversal Theory
Authors: Cindy H. P. Sit & Koenraad J. Lindner

20. # Title of Paper: Emotional and Physiological Reactions to Affective Stimuli in High and Low Anxious Subjects
Authors: George V Wilson and Marc Hood.

21. # Title of Paper: Trainers' Self-Perceived Competence, Arousal Discrepancy and State Self-Esteem in Preferred and Non-Preferred Metamotive States: A Reversal Theory Perspective
Author: Lizbeth Luther Wilson

Poster Presentation.

Title of Paper: Reversal Theory as a Model of Intra-Individual Conflict
Authors: Lee Branum-Martin, Jay T. Lee, Michael J. Apter

Abstracts of Conference Papers

Conceptual Developments in Reversal Theory

Michael J. Apter
Georgetown University, Apter International
Presenting Author: Michael J. Apter

This paper will introduce some new concepts and terms that have been developed recently. These do not contradict any previous tenets of reversal theory, but rather refine some of its central ideas, and provide a vocabulary for describing experience more precisely and systematically. It is suggested that the aspect of experience that each pair of states operates on should be known as the *domain* of that pair. At any one moment, one domain is likely to be more *focal* than the others, and if this focality represents a general tendency, then the domain is *salient*. Also at any one moment there will be four states operating (one from each domain), and we can refer to this subset of active states as an *array*. We also need to distinguish between various ways of aggregating states over time in our analyses. In particular, we should distinguish *state balance*, *situational state balance*, and *event state balance*. Estimates of state balance will normally give a good indication of *current dominance*. This should be distinguished from *constitutional dominance*, which is the innate dominance that the individual is born with and which may become modified over time. *Self-pattern* is the individual's profile of current dominances over all four pairs of states. Individuals may also display *key states*, these being states which are frequently active for that person and which tend to be focal when they are active. These new terms, and some others (like chronotyping, and motivational richness) will be described and illustrated in this paper.

Gender Differences in Motivational Style Profile (MSP) and Motivational Style Profile for Sport and Exercise (MSP-SE) Responses of University Entrants

Cecilia Au ¹, Koenraad Lindner ¹ and John Kerr ²
¹ The University of Hong Kong and ² University of Tsukuba
Presenting Author: Cecilia Au

One-half of a sample of university freshers (706 males and 956 females) completed the MSP and the other half the MSP for Sport and Exercise (MSP-SE). Nine months later, a subsample of these (154 males and 239 females) responded to the instrument that they had not completed earlier. Gender differences in metamotivational orientations, dominances and saliences were examined from the MSP and compared to those obtained from the MSP-SE responses.

With regard to metamotivational orientations, males were significantly more arousal-seeking, negativistic, autic-mastery, autic (MSP-SE only), and mastery (MSP-SE) than females. In contrast, the female respondents had significantly higher alloic-sympathy, alloic (MSP only), sympathy (MSP) and arousability (MSP) orientations. Males showed significantly higher autic and mastery dominances (MSP) and situational state balances (MS-SE), while females were more arousal-avoiding dominant, but only in the MSP responses. Telic dominance was significantly higher for the males in the MSP whole sample only.

Gender differences in saliences were more pronounced in the MSP-SE, where males rated the arousal, the negativism-conformity, and transactional saliences higher. In the MSP only the negativism-conformity salience was significantly higher for the males. There were no significant gender differences for telic, paratelic, alloic-mastery, optimism and pessimism orientations, in negativism and optimism dominances, and in telic-paratelic salience in any of the samples.

The results showed that while some orientations (arousal-seeking, negativism, autic-mastery, alloic sympathy) and dominances (autic, mastery) are consistently different between males and females across samples and instruments, other results show differences only in the MSP scores (alloic, sympathy, arousability, telic dominance, arousal-avoidance dominance, and negativism-conformity salience), or only in the MSP-SE scores (e.g., autic, mastery, effort).

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Seasonal Variation to Motivational Style in Seasonal Affective Disorder and Controls

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Presenting Author: Margaret Austen

Seasonal Affective Disorder (SAD), is characterised by recurrent autumn/winter depressive episodes, with spring/summer remissions or hypomania, hypersomnia, overeating with carbohydrate craving, weight gain, social withdrawal, fatigue, and loss of energy. To determine any personality traits in SAD, the Motivational Style Profile (Apter, Mallows, & Williams, 1998) (MSP) was administered to three groups (control: $n = 22$, subsyndromal SAD: $n = 22$; and clinical SAD, $n = 19$) in summer, and in winter. Data were analysed using $2 \times 2 \times 3$ (season \times motivational state, \times Group) ANOVAS for each DV (Telicness, Arousal, Emotionality, Conformity, and Optimism). The transactional variables used a $2 \times 2 \times 2 \times 3$ (Season \times Mastery \times Auticism \times Group) ANOVA. Main effects for all motivational state pairs showed participants were significantly more Telic, Arousal Avoiding, Effortful, Compliant, Optimistic, Sympathetic, and Alloic than the corresponding state. Season main effects for several motivational state pairs with higher ratings for summer than for winter suggest that caution is required when administering the MSP. A significant Group \times Season interaction for Emotionality showed higher ratings for summer than for winter for controls but not for the SAD groups. A significant Season \times Optimism interaction shows higher summer ratings for optimism only, whilst pessimism does not differ between seasons. Optimism and Conformity both interacted significantly with Group: Controls rate pessimism significantly lower than both SAD groups, and optimism higher than clinical SADs only. Results will be discussed with a view to understanding SAD and implications for therapy and susceptibility.

The Motivational Style Profile for Sport and Exercise of eating-disordered and exercise dependent participants

Michelle J. Blaydon and Koenraad J. Lindner.
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Presenting Author: Michelle J. Blaydon

After establishing the prevalence of primary and secondary exercise dependence, eating disorders and no dependence in 395 highly active participants, differences among these groups were examined with regard to metamotivational state balance characteristics derived from the Motivational Style Profile for Sport and Exercise (MSP-SE).

Canonical correlation analysis revealed a significant relationship between the dependent instruments (EDQ, Ogden et al. 1997, and EAT, Garner & Garfinkel, 1979) and the situational state balance scores derived from the MSP-SE. As a whole, dependent behaviour showed a strong positive relationship with telic and arousal avoidance, as well as a negative association with optimism and the mastery state balance. A specific positive association between exercise dependence and the autic state balance was also found.

Follow up (Multivariate) Analysis of Variance revealed significant dependence group, competitive level and sports type differences (all $p < .0001$). The secondary exercise and eating dependence groups showed significantly higher telic and arousal avoidance, but lower optimism and negativistic scores than the primary and no dependence groups. The eating dependence group also showed a higher optimism balance than the secondary exercise group. The only difference between the primary and no dependence group appeared in the mastery state balance measure where the no group revealed higher scores than both the primary and eating dependence groups.

The results indicate that compulsive exercising and eating disorders are associated with specific combinations of situational state balances in line with RT predictions. Based on these findings, it is also suggested that RT is a better approach for defining distinctive characteristics of the various forms of dependence when compared to other research methods used in this area.

Rorschach Responses as Indices of Telic/Paratelic States and Dominances

O. Randall Braman
University of Guam

Presenting Author: O. Randall Braman

A group of 12 professional educators in Hawaii were tested for the purpose of confirming or disconfirming previous findings involving the relationships between the Rorschach and telic/paratelic states and dominances as measured by the Telic State Measure and the Telic Dominance Scale. Special emphasis is on comparisons of results obtained with this group and those reported in 1999 with students at the University of Tsukuba in Japan. Thus the purpose is not only to report on a single sample of subjects of a given age-range sharing a common culture, but also to discover how this sample compares with a sample of subjects from a different age-range and culture.

Twelve hypotheses and sixty specific predictions concerning the relationships between the Rorschach and telic/paratelic states were generated from previous studies, most of them from the study with the Tsukuba students. Of the sixty predictions, fifty (83%) proved to be accurate, with fifteen (25%) being significantly so. The fourteen Rorschach signs of telic/paratelic dominance, originally suggested in 1990, were also reviewed and tested. In contrast to the overwhelmingly positive results involving Rorschach indices of telic/paratelic states, of the fourteen signs of telic/paratelic dominance, only one sign shows robust validity, this being a sign of paratelic dominance.

Rorschach responses may reflect states more than dominances. In any case, the goal of indentifying Rorschach responses which are indicative of telic/paratelic dominances remains largely unrealized, while many of the indices for telic/paratelic states have been identified, and seem effective even across age and cultural limits.

Metamotivational States in Smoking Cessation among Adolescents

Rebecca Burris
Arkansas Tech University
Presenting Author: Rebecca Burris

Background. Although 67% of adolescent smokers say they want to quit, five million of today's young smokers are expected to die as a direct consequence of tobacco use because smoking prevention and cessation programs for adolescent smokers are not working.

Objectives. The purpose of this study was to predict whether adolescents who are trying to quit smoking will lapse (smoke a cigarette) or resist (not smoke a cigarette) during highly tempting situations using the metamotivational states described in reversal theory.

Methods. This descriptive study addressed the problem of tobacco use among adolescents ages 14 - 19 using a demographic questionnaire and in-depth semi-structured interviews with participants who had participated in a smoking cessation program. Interview data from 62 subjects was coded with the "Metamotivational State Interview and Coding Schedule" and analysed using chi-square and logistic regression.

Results. Adolescents in the paratelic metamotivational state or with cigarettes readily available were more likely to lapse than adolescents in the telic state ($p < .001$) or those requiring effort to obtain cigarettes ($p < .001$). Knowledge of telic/paratelic metamotivational state and cigarette availability accurately predicted the outcome of highly tempting situations 77-89% of the time.

Conclusions. Using reversal theory constructs to develop state-specific strategies shows promise as an additional tool for coping with temptation to smoke episodes in this age group.

Using the Apter Motivational Style Profile

Mitzi Desselles, Marie Shelton, Stephen Carter and Michael J. Apter.
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Presenting Author: Michael J. Apter

The Apter Motivational Style Profile (AMSP) is a shortened version of the Motivational Style Profile (MSP) and was initially developed for use in such applied settings as counselling, mentoring and workshops. It consists of forty items that can be administered through the Apter International web site. The resulting profile displays the relative importance in an individual's life of each of the eight metamotivational states identified in reversal theory. It also provides a profile of the individual's four dominances. The AMSP is supported by an expert system that allows individual narrative and graphic reports to be generated automatically, these being based on standardised norms. This is administered to respondents through licensed users. A second expert system, the AMSP-R, has been developed to allow researchers rather than practitioners to score the AMSP and produce subscale, dominance, salience and other raw (i.e., non-standardised) scored data in spreadsheet form, amenable to further statistical analysis. The aim of this workshop is:

1. To describe how the AMSP is grounded in the concepts of reversal theory, and how it was developed.
2. To demonstrate the counselling version of the AMSP, including the narrative reports, and discuss the uses to which it has been put in management consultancy.
3. To demonstrate the AMSP-R.
4. To describe the practical steps involved in registering for, setting up and using the AMSP-R.

Psychological Benefits, Motivational Needs and Preference in Exercise Participation.

Judy Frith¹, George V. Wilson¹ and John H. Kerr².

¹ School of Psychology, University of Tasmania, and ² University of Tsukuba.

Presenting Author: Judy Frith.

It is widely accepted that regular exercise participation improves physical and psychological wellbeing. The primary purpose of this study was to investigate the proposition that the effectiveness of exercise in promoting psychological wellbeing is linked to its capacity to modulate arousal and induce psychological reversals (Kerr, 1997). A second aim was to explore the relationship between metamotivational dominance and exercise preference. Individuals ($N = 93$) who had exercised for a period of six months or more, were recruited from three different exercise activities, circuit training, aerobics and Tai Chi. The Telic State Measure (TSM) and the state version of the Tension and Effort Stress Inventory (TESI) were used to assess psychological state, including stress and arousal, just before and immediately after exercise participation. Additionally, the Motivational Style Profile (MSP) was used to measure dominance. TSM results revealed that pre to post exercise: there was a significant increase in overall felt arousal; aerobic participants experienced a significant decrease in telic state; and a significant increase in playfulness. In comparison to the aerobics group, the Tai Chi group was significantly more telic post exercise. TESI results showed significant decreases in all four unpleasant somatic emotions and three unpleasant transactional emotions (humiliation, resentment, guilt) pre to post exercise. Implications of these findings, and data from the MSP (currently being analysed) will be discussed.

Metamotivational state: Its relationship to risk taking, negative feedback and viewing of pornography

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Presenting Author: Rick Howard

This paper will review results of three studies that have used the Telic/Paratelic State Instrument with negativism items added (T/PTSI++). The first examined state correlates of risk taking behaviour in experimental-analogue and real-life situations. The second studied state changes consequent upon negative feedback in the context of administering the Gudjohnson Suggestibility Scales (GSS). In the third study, measures of mood (using a mood checklist) and state (T/PTSI++) were taken while telic-dominant and paratelic dominant participants viewed videos depicting violent sex, consensual sex, or a travelogue. Results of the first study (Howard et al., *Personality & Individual Differences*, in press) found risk taking to be most strongly associated with a metamotivational blend of negativism and arousal seeking, in both a real-life scenario (rock-climbing) and in an experimental-analogue task involving risky and non-risky response options. Results of the second study showed that negative feedback induced a switch in the interviewee to a negativist/telic state. When feedback was administered by an interviewer who was socially distant from the interviewee (in terms of age, ethnicity, social status, etc) and was perceived by the latter as *stern*, a telic state was more likely to be induced in the interviewee. Results from the third study showed that the travelogue induced a paratelic state in all participants, while the video depicting violent sex induced a telic/negativist blend accompanied by arousal of negative moods (anger, sadness, boredom, disinterest). There was also a gender difference in reaction to the different types of pornography, with females showing a stronger negative reaction than males to the video depicting consensual sex.

Reversal Theory and Motivational Factors for Exercising

Rebecca S. Keele-Smith¹ and Kathleen O'Connell²

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Presenting Author: Rebecca S. Keele-Smith

Even though consistent physical activity has been shown to result in many physiological and psychological benefits, approximately 50% of individuals who start an exercise program drop out before any of these benefits have been realised. The purpose of this study was to develop an instrument (Exercise Motivation Questionnaire) to assess motives for exercising using reversal theory which shows promise in explaining the problem of exercise adherence and in developing strategies to promote adherence. Exercise motives differ between individuals and the telic/paratelic and mastery/sympathy pairs of metamotivational states appear to be the most relevant to exercise adherence. For instance, telic motives include exercising for health reasons, to lose weight or inches, or to increase productivity. Paratelic motives include exercising because it is fun, because of the enjoyment of the sensations that go along with the experience, or the joy of being with other people.

A study was performed to determine the validity and reliability of the Exercise Motivation Questionnaire (EMQ). Participants (N=382) completed the EMQ, a General Information Questionnaire form to collect descriptive data, Dishman's Self-Motivation Inventory, and Markland and Hardy's Exercise Motivation Inventory. Exploratory factor analysis of the EMQ produced four factors which accounted for 48.7% of variance and allowed a reduction of total items from 71 to 55. Factor 1 (experience of exercise) was a paratelic/mastery subscale: exercising to get a high from exercise and exercising because it is a challenge could both be salient at the same time. Factor 2 (social support) contained all sympathy items and seemed to reflect support or lack of support from others to exercise. Factor 3 (prevention of negative feelings) contained mostly telic/mastery items: motives for exercising on this factor have to do with the goal of prevention of negative feelings and/or promoting feelings that make one feel good about self. Items on factor 4 (planning/commitment) reflected the planning/goal-oriented dimension of the telic state. Subscale reliabilities using Cronbach's alpha, were all at an acceptable level ranging from .75 to .95. Current exercisers scored significantly higher than former exercisers on the experience of exercise subscale and prevention of negative feelings subscale.

The EMQ contributes significantly to the understanding of exercise behaviour. Significant areas of motivation include truly enjoying the exercise activity and exercising to prevent negative feelings. Appropriate interventions include identifying individual motivational factors for exercising using the EMQ, tailoring strategies based on these motives, and reducing the number of perceived barriers for maintaining adherence.

Sport fans' experience with winning and losing teams

John H. Kerr ¹ and George V. Wilson ²

¹ University of Tsukuba and ² University of Tasmania

Presenting author: John H. Kerr

Two professional soccer games in the 1997 Japanese J-League playing season were the focus of this study. Two groups of five previously-instructed researchers were randomly assigned to sections of fans in the areas behind the respective goals at each game to undertake data collection pre-, mid- and post-game. Researchers administered a specially designed questionnaire on a 'one to one' basis with fans. The questionnaire consisted of questions concerned with biographical and fan information and a Japanese state version of the Tension and Effort Stress Inventory (TESI; Svebak, Ursin, Endresen, Hjlmen, & Apter, 1991). A total of 333 male and female Japanese soccer fans took part in the study which sought to investigate the emotional responses of fans associated with winning and losing teams. A 3 x 2 independent groups MANOVA (supported by ANOVA and t-test techniques) for positive emotions, negative emotions, and pressure/effort was used to analyse data from winning and losing fans. These analyses produced a series of significant results which showed distinct differences in the experience of winning and losing fans. For example, all positive emotions (except provocativeness) were rated higher by winning fans than losing fans after the game. For losing fans, all negative emotion scores (except shame) increased over time. Winning fans' experience of pressure and effort did not change over time, but for losing fans' pressure increased over the game and post-game levels were greater than winning fans' scores. The results will be discussed in the light of pre-study reversal theory-based expectations.

A comparison of classical test theory and item response theory of the Paratelic Dominance Scale and implications for Reversal Theory

Jay T. Lee and Lee Branum-Martin
Lamar University and University of Houston
Presenting Author: Jay T. Lee

Classical test theory (CTT) approaches to personality research are largely based on statistical methods that depend on correlation and covariance. As an example, the development of the Paratelic Dominance Scale made extensive use of factor analysis. Both as an adjunct and as an alternative to CTT, the use of item response theory (IRT) is increasing in personality research. According to several researchers (Steinberg et al., 1995; Embretson, 2000) IRT can provide a framework for examining: "(a) the relationship between the item response and the construct(s) being measured, (b) the informativeness of item response formats, and (c) group differences in item responses to detect differential item functioning due to item context or respondent group membership (e.g., cultural, ethnic, gender)." In this presentation the dimensionality of the PDS is re-examined using Comrey's method of correlated group common factor analysis. The results of the factor analysis are presented beside a two-parameter IRT model of the PDS. The implications of IRT for reversal theory including item analysis and scale construction, and assigning scores will be discussed.

The Art of Reversal: The Application of Reversal Theory within the domain of Visual Art Theory

Julie Lee

University of South Australia/South Australian School of Art

Presenting Author: Julie Lee

This paper will present my findings pertaining to the relevance and application of the Reversal Theory within the domain of Visual Art theory and endeavour to establish that the Reversal Theory has potentially far reaching implications within the area of Visual Arts. Philosophical and psychological inquiry has largely formed and expanded our understanding of art and aesthetics, contributing to the development and promulgation of theoretical artistic discourse, which is currently predominantly informed by theories allied with Freud and the post modern (structuralist, post-structuralist and deconstructionist) schools of thought. I shall endeavour to demonstrate that the Reversal Theory has the capacity to significantly broaden our knowledge and advance our perception of art theory, art practice and art appreciation. The author's central area of research to date has focused upon art (visual, performing and conceptual) that may be deemed humorous and/or grotesque. The fine aesthetic line between the phenomenon of humour and the grotesque is fascinating, alluring and complex, and yet, scholarly investigation of this area of aesthetics has largely been ignored in recent history, particularly within the domain of Visual Art. The concept of the telic and paratelic modes, and the Reversal Theory elucidation of arousal, humour, and the protective frame, combined with the concept of identity and cognitive synergies manifest within the construct of the Reversal Theory have proven to be an inestimable method of analysing art, particularly art that integrates elements of phenomenon that is frequently deemed problematic within an aesthetic rationale, such as humour and the grotesque.

Comparing Motivational Style Profile (MSP) and Motivational Style Profile for Sport and Exercise (MSP-SE) Responses of University Entrants

Koenraad Lindner¹ and John Kerr²

¹The University of Hong Kong and ²University of Tsukuba
Presenting Author: Koenraad Lindner

To examine specificity effects in metamotivational orientations, the MSP was administered to one-half of a large sample of newly admitted university students (N=1710), and the MSP-SE to the other half. Six months later, a subsample of 349 responded to the instrument that they had not completed earlier. Differences between the instruments were examined in an independent mode (gender by instrument [M]ANOVA) for the total sample, and in a repeated measures design (gender by repetition) for the subsample.

In the whole sample, MANOVAs showed significant instrument and gender differences (all $p < .001$), but no significant interaction effects, for orientations, dominances and saliences. MSP variables generally were higher than the corresponding MSP-SE variables, with exception of mastery dominance which was higher in the MSP-SE responses ($p < .0001$). In the subsample, the MSP response strengths were significantly greater for arousal-avoidance and negativism orientations (both $p < .001$), for telic, arousal-avoidance and negativism dominances, and for negativistic/conformity salience (all $p < .01$) than in the MSP-SE, but the latter had significantly higher strengths for optimism, optimism dominance and telic paratelic salience (all $p < .01$) than the former. Significant sex by instrument interactions were found for autic-sympathy, autic and sympathy orientations (all $p < .05$) in the whole sample, and for effort in the subsample ($p < .05$). The results show that metamotivational orientations vary significantly between the MSP and the sport- and exercise-specific MSP, and thus support the contention that individuals' situational orientations, state balances and saliences are not the same as their general motivational styles.

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Metamotivational Profiles of Physically Active and Inactive University and Secondary School Students

Koenraad Lindner ¹ and John Kerr ²

¹The University of Hong Kong and ²University of Tsukuba
Presenting Author: Koenraad Lindner

One-half of a sample of secondary school students (1777 boys and 1196 girls), and one-half of a sample of university freshers (712 males and 964 females) completed the Motivational Style Profile (MSP). The other halves of the samples completed the Motivational Style Profile for Sport and Exercise (MSP-SE). Respondents were grouped according to their replies to a physical activity participation questionnaire into very active (VA), active (A) and inactive (InA) groups. Differences among these activity groups were determined for MSP and MSP-SE dominances and saliences. VA and A respondents were found to be significantly less arousal-avoiding and more optimistic-dominant than InA respondents in both instruments. In addition, VA school boys were more telic- and negativistic-dominant than A boys in the MSP. VA school girls were more mastery-dominant than A and InA girls in both instruments, but InA university females were more mastery-dominant than A females in the MSP-SE.

All saliences were rated significantly higher by the VA and A than the InA school group, which was ascribed to a general response bias. A similar bias was found for the university females (except for negativism-conformity salience), but the VA university males rated telic-paratelic and transactional saliences significantly higher than the A and InA male groups. There were notable differences in the dominance and salience profiles between the university and school samples, but little variation between males and females and between MSP- and MSP-SE-based profiles.

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The Application of Reversal Theory for Trainee Teachers

Denny Mallows
College of Ripon and York
Presenting Author: Denny Mallows

Student teachers are very concerned about managing children's behaviour although there is limited time available for training in this area. The first stage of this research project, undertaken with primary undergraduate student teachers, was to identify those students most in need of support. This work, presented at the Ninth International Conference on Reversal Theory, showed that those students with behaviour management strengths have elevated scores for telic, autic sympathy and effortfulness whereas those students who have behaviour management weaknesses are characterised as being high on conformity as assessed by the Motivational Style Profile (MSP) (Apter, Mallows, & Williams, 1998).

This paper presents the second stage of the research which looks at the potential of reversal theory as a basis for training in behaviour management. The September 2000 cohort to a primary Post Graduate Certificate in education course (N = 97) were given the MSP and randomly divided into two groups. One group was given the usual curricula training in assertive discipline whilst the other group were given training based upon reversal theory. Following a subsequent teaching practice in school the effectiveness of each student's behaviour management was assessed through triangulation by the student, their class teacher and a mentor. An evaluation of the written reports from the triangulation, the MSP scores and personal statements will be considered in relation to the data collected in the previous research project. Consideration will also be given to the possibilities for future selection and training based upon the evidence presented.

Reversal Theory, athletes and eating behaviour

Richard Mallows ¹ and John Kerr ²

¹ College of Ripon and York and ² University of Tsukuba

Presenting Author: Richard Mallows

The primary objective of the study to be reported is to extend the application of reversal theory for understanding the relationship between sports participants and eating behaviour. A secondary objective is to compare data obtained from an Asian population with a Western population. A sample of female Japanese sports students (N = 516) completed the Motivational Style Profile (MSP) (Apter, Mallows, & Williams, 1998), The Eating Attitudes Test (EAT) (Garner & Garfinkel 1979) and the Yale Eating Patterns Questionnaire (YEPQ) (Kristeller & Rodin, 1989). A mixed sex sample of British sports students (N = 147) completed the MSP and the YEPQ. Early analyses of the data show no strong indicators for eating behaviour directly related to reversal theory constructs. Negativism and pessimism are related to a variety of eating behaviours. There is a particular relationship between alloic sympathy and satiation. There are differences in eating behaviour for different sports and for the British sample between males and females. Detailed comparisons within and between the Japanese and British samples will be reported.

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Reversal Theory States Versus Negative Affect in the Prediction of Lapses During Smoking Cessation

Kathleen A. O'Connell ¹, Joseph E. Schwartz ², Mary M. Gerkovich ³, Marjorie J. Bott ⁴, and Saul Shiffman ⁵.

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Presenting Author: Kathleen A. O'Connell

Negative affect is a consistent predictor of lapsing during a smoking cessation attempt. Our prior work has shown that negativistic states, which are usually correlated with negative affect, and paratelic states, which are usually correlated with positive affect, have also predicted lapsing. This study uses Ecological Momentary Assessment techniques to compare the effects of paratelic and negativistic states to those of negative affect in predicting the occurrence of both highly tempting episodes and lapses.

During the first two weeks of a cessation attempt, 63 smokers provided data on cigarette availability, affect, reversal theory states, and coping strategies at randomly-sampled moments and at assessments self-initiated immediately after resisted temptations and lapses. Multi-level, random effects logistic regression analyses were performed using MIXOR (Hedeker 1996).

The analysis comparing 1577 highly tempting situations (lapses and resist episodes combined) with 3732 random prompts showed that paratelic states, negativistic states, negative affect, and cigarette availability independently and significantly ($p < .0001$) predicted a temptation. The comparison of 275 lapses with 1302 resist episodes showed paratelic and negativistic states, and cigarette availability significantly ($p < .0003$) predicted a lapse; negative affect did not. Further analyses showed that paratelic and negativistic states and cigarette availability predict decreased likelihood of coping, thereby increasing the risk of lapsing. However, negativistic states and cigarette availability also continued to exert direct effects on lapsing.

These findings suggest that reversal theory constructs are more useful and specific in explaining the occurrence of lapses during highly tempting situations than a simple conception of negative affect.

Motivational Orientations in Youth Sport: Comparing Achievement Goal Theory and Reversal Theory

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Sport participation motives of youth with different motivational orientations were examined by applying two models, namely, Achievement Goal Theory (AGT; Nicholls, 1989) and Reversal Theory (RT; Apter, 1982, 1989). Senior secondary students ($N=1235$) participating in competitive or recreational sports or physical activities were asked to complete the Task and Ego Orientation in Sport Questionnaire (TEOSQ; Duda & Nicholls, 1992), the Motivational Style Profile for Sport and Exercise (MSP-SE), and the Participation Motivation Inventory (PMI; Gill, Gross, & Huddleston, 1983). Factor analysis with varimax rotation produced seven factors from the 30-item PMI, namely, status (which accounted for 27.9 % of the variance), team/friend (7.6 % of the variance), excitement/challenge (7.1 % of the variance), skill (5.8 % of the variance), energy release (4.4 % of the variance), fitness (3.6 % of the variance), and situational factors such as parents or coaches (3.4 % of the variance).

One-way (M)ANOVAs were conducted to determine differences between groups based on goal orientation (as independent variables) in the seven sport motives (as dependent variables) in each theory. In AGT, youth who were highly task-oriented had significantly higher scores in all sport motives, with exception of the status motive which was rated higher by the highly ego-oriented ones. In RT, youth with a high paratelic orientation had greater motive strengths in status, excitement/challenge, and energy release than those with a high telic orientation. Highly conformist-oriented youth on the other hand scored higher in the team/friend motive than their highly negativistic-oriented counterparts. The high-autic group rated the status, excitement/challenge, and skill motives higher than the high-alloic group; whereas the latter perceived team/friend as a more important motive than the former. The high-arousal-seeking group was also found to score higher in the status, excitement/challenge, skill, energy release, and fitness motives than the high-arousal-avoidance one. When compared to the high-sympathy group, the high-mastery group reported higher scores in the excitement/challenge and situational factors, but had lower rating in the status motive.

The results of this study generally support theoretical predictions of RT, in that individuals with different motivational orientations vary in their specific motives for sport and physical activity participation. AGT only detected a stronger status motive in ego-oriented, and a response bias in task-oriented respondents. RT therefore seems to provide a better articulated theoretical framework for our understanding of participation motivation in youth sport.

Emotional and Physiological Reactions to Affective Stimuli in High and Low Anxious Subjects

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To test the propositions that high anxiety is associated with greater levels of thoracic as compared to abdominal breathing, and that unpleasant or stressful stimuli would produce greater levels of stress in high anxiety subjects, 20 high and 20 low trait anxiety subjects were presented with blocks of pleasant, unpleasant, and neutral visual stimuli. Physiological and emotional responses (somatic TESI items, stress, arousal, and hedonic tone) were measured for each stimulus condition. Thoracic breathing was significantly higher in the high anxiety group as predicted but, contrary to expectation, in the low anxiety group there was a reduction in the thoracic contribution to breathing to neutral and unpleasant stimuli compared to pleasant stimuli. For the pleasant somatic emotions, there was a main effect for condition for relaxation and placidity which differentiated the pleasant and unpleasant stimulus conditions. There was a significant group main effect for relaxation, which was lower in the high anxious group. For the unpleasant somatic emotions, there was a group difference with higher anxiety, anger, and sullenness in the high anxious group and a conditions effect with higher anxiety in the unpleasant compared to the pleasant condition. Stress, arousal, and hedonic tone ratings also differentiated the pleasant and unpleasant conditions, and the high anxiety group was more stressed and had lower hedonic tone. Overall, the psychological indices were more consistent and sensitive to differences between groups and conditions than the physiological measures taken. The emotional ratings were predominantly consistent with reversal theory predictions (except for sullenness) and demonstrated the value of using this type of methodology to establish the validity of experimental manipulations in studies of psychophysiological reactivity.

Trainers' Self-Perceived Competence, Arousal Discrepancy and State Self-Esteem in Preferred and Non-Preferred Metamotivational States: A Reversal Theory Perspective

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Self-perceptions about competence has been shown to influence perceived performance. When a trainer perceives they have performed well, what were the psychological factors contributing to a high level of perceived competence? The hypothesis of this study was that trainer's self-perceived competence could be positively affected by them being in their preferred metamotivational state and arousal level at the time of training. When individuals are in their preferred metamotivational state (ie, telic or paratelic) and at their preferred arousal level, their perceived competence as a trainer is believed to be increased.

The preferred metamotivational state was identified through the Motivational Style Profile and the Paratelic Dominance Scale. Interpretation of trainer perceived performance was also determined by the Telic State Measure, the State Self-Esteem Scale (Heatherton & Polivy, 1991) and self-rated competence. A follow-up interview with trainers was utilised to clarify how reversals induced by satiation, frustration or contingent events influenced their training experience and perceived competence. Self-awareness of preferred metamotivational states, arousal levels and training competence can lead to improvement as a trainer.

Abstract of Poster Presentation

Reversal Theory as a Model of Intra-Individual Conflict

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While it is well known that people differ from each other and even from themselves from moment to moment, reversal theory also allows for people to differ from themselves *in the same moment*. A little-recognised consequence of the propositions (chapter 2 in the new Guide) is that each state deals with not just one motivational variable but two. Each state, therefore, gives rise to a *feeling* which is state-specific, and an *emotion* which is produced in combination with the other state of the somatic or transactional pair. In this way, for example, the paratelic and negativist states can give rise to the unpleasant feelings of being *burdened* and *vulnerable* (at high levels of felt significance and felt negativism), but the pleasurable emotion of being *mischievous* (positive at high felt arousal). *Focality* (salience) therefore becomes key in interpreting the overall phenomenological impression of any experience. Moreover, *emotion/feeling focality* must be considered. Such a multi-state perspective in which both feelings and emotions are considered helps to clarify some previously problematic observations in participant interviews. Such intra-individual conflicts have important implications for counselling and measurement.