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The State of the State: Reversal Theory in 2003

Michael J. Apter

Apter International, Inc. and Center for Professional Development, Georgetown University.

Incredibly, it is now almost thirty years since the beginnings of reversal theory. Despite studied indifference or outright hostility from mainstream psychology, it has survived and continues to flourish and develop. The aim of the present paper is to take a wide perspective and look at where the theory stands now, to assess its strengths and weaknesses, and to pose the telic question: where we are going? This evaluation will be carried out from four perspectives. 1) Theoretical: Recently developed concepts will be described, and attention will be drawn to some important conceptual issues for the future. 2) Research: Past and present studies will be reviewed, and attention directed to areas where research is desperately needed, or where it looks as if it might be particularly fruitful. 3) Psychometric: The range of reversal theory measurement tools will be examined and gaps identified. 4) Applied: The practical applications to which the theory is being put will be documented, especially in management consultancy where the theory can claim to be actually changing people's lives. In conclusion, it will be argued that reversal theory has a unique contribution to make, both to academic and scientific psychology and to helping people to live lives that are more effective and fulfilled.

Reversal Theory, Learning and Development

Michael J. Apter

Apter International, Inc. and Center for Professional Development at Georgetown University.

There are two great principles of change that have been at the heart of psychology in the last hundred years: learning and development. Reversal theory adds a third important principle of change: that of reversal. The aim of the present paper is to explore the relationships between the reversal dynamic and these other two types of change. It will be argued that contingent reversals are subject to a special form of classical conditioning, while action within metamotivational states is subject to operant conditioning - where opposite reinforcers become salient at different times. The practical implications for helping people will be discussed in these terms, especially in relation to workshop techniques. The theoretical implications will be drawn out through the development of a comprehensive model that accounts for the processes that occur between desire and action. It will also be argued that metamotivational states within an individual mature over the period from infancy to adulthood and interact in interesting ways with other developmental processes.

Participation in Types of Physical Activity: Specific Reasons, Life Metamotivational Orientations, and Situational State Balances.

Cecilia Au and Koenraad Lindner
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Respondents were 1616 University freshers with a mean age of 19 years, $SD = 2.48$. Of these 90% stated a main physical activity (PA) that they had participated in in the past year and responded to eight RT-based reason statements for the stated PA. Life metamotivational orientations (LMO) and state balances derived from the MSP-SE were calculated as well. The participants were grouped according to the nature of their PA: high, medium and low risk, and according to the energy expenditure of the activities: explosive, endurance or containing both elements. Comparisons of the male risk-based PA types through ANOVA resulted in a significant difference in the arousal-avoidance LMO: low-risk > high risk; and in three of the state balances: Telic and arousal-avoidance (low > high), and negativism (high > low). No differences were found for the females. However, of the eight PA-specific reason statements all but two yielded significant differences for the males and two for the females. Male high-risk sport participants subscribed to the paratelic statement more strongly than the other groups, and to the transactional and conformity reasons more than the low-risk group. The female low-risk players were lower than the medium and high-risk groups in the autic-mastery and the alloic-sympathy reasons. A similar pattern was found for the comparison of energy expenditure activity types with very few differences in LMOs and state balances, but numerous significant differences in specific participation reasons. The conclusion from these results is that motivational differences among participants of different PAs lie more at a specific, situational level than in their deeper metamotivational characteristics.

Predicting Acceptance and Rejection of Health Promotion Messages about Cannabis Use.

E. L. Boddington* & M. R. McDermott**
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This investigation examined the acceptance and rejection of health promotion messages about smoking cannabis within a Reversal Theory framework. Prevalent use of cannabis by adolescents, the common misconception that smoking cannabis is relatively harmless and recent UK proposals to reclassify its legal status, create an urgent need to explore factors influencing acceptance/rejection of relevant health messages. Three hypotheses were tested: (1) cannabis users will be significantly more rebellious, paratelic and rejecting of health promotion messages than non-cannabis users; (2) will place less value on their health; (3) and, respondents, irrespective of their user status, who are rebellious, paratelic, do not value their health, are autic, mastery orientated, arousal seeking and optimism dominant will be rejecting of cannabis-related health promotion messages.

113 undergraduate students formed the sample in this cross-sectional study. Participants were presented with a health promotion leaflet detailing detrimental effects of cannabis smoking. Nine questionnaire sub-scales measuring acceptance/rejection (a modified and extended version of Lanarch & Brown's 1997 questionnaire), the Motivational style profile (MSP) and the Health Value scale were administered.

Multiple regression analyses found that the most significant and frequent independent predictor of acceptance/rejection sub-scale scores is frequency of cannabis use. Of the psychological variables, proactive rebelliousness, arousability and health value are significantly associated with acceptance/rejection, whilst sex, telic dominance, arousal avoidance and optimism are not.

These findings are discussed within the context of other studies which have examined the role of individual differences in respondent's receptivity to health promotion campaigns. Implications for the design of health promotion materials which take into account such differences are discussed.

Testing a Revised Set of Rorschach Indices of Telic/Paratelic States and Dominances

O. Randall Braman, University of Guam

This is a report of another study aimed at identifying relationships between Rorschach signs and telic-paratelic states and dominances. This study differs from previous ones in that it utilizes a new revised list of Rorschach signs which is the product of analyses of the previous studies. In this revised list, there are 4 telic state Rorschach signs, 6 paratelic state signs, 5 telic dominance signs, and 3 paratelic dominance signs.

Nine professional teachers in Hawaii were administered the Telic Dominance Scale, the Telic State Measure and a Rorschach. There were 4 male and 5 female teachers, with an age range of 26-53. As a control, the scoring, recording and analyses of the Rorschach protocols were completed before the TSM's and TDS's were examined and scored. When everything was scored, each sign was evaluated separately to see how well it differentiated scores on the TSM or TDS.

The individual Rorschach signs of telic/paratelic states failed completely to differentiate self-ratings on the TSM. The individual Rorschach signs of telic/paratelic dominances, however fared much better, with two of the three Rorschach signs for paratelic dominance each differentiating correctly the self-ratings on all four TDS scales, and the third Rorschach sign differentiating correctly the self-ratings on three of the four TDS scales, though none of these differentiations were statistically significant. When the three Rorschach paratelic dominance signs were used in combination, the self-ratings on all four TDS scales were correctly and more distinctly differentiated. Furthermore when using these three signs in combination, the difference on Serious-Mindedness was found to be statistically significant ($p < .025$).

Other aspects of the data will be presented and discussed, along with the suggestion that since older people tend to be more telic (a finding from the literature and from this study), it may be possible to use age as a validity criterion in future studies. Though as yet no simple relationship has been found between the Rorschach and measures of telic/paratelic states and dominances, when one examines the kind of research reported here, one is compelled to conclude that how a person responds to the ink blots must in some way or other reflect his or her metamotivational state and/or dominance. It is only a matter of discovering just how this interaction takes place.

Reversal Theory: Opening the Door to Creativity in Critical Incident Management?

Corinne S. G. Adams & Malcolm J. Cook
University of Abertay Dundee

This paper will consider the theoretical implications of viewing critical incident management from a reversal theory perspective. The very heart of reversal theory lies in the fact that the subjective meaning of a situation will impact upon the behaviour, physiology, performance and interpersonal interactions within that situation. It is a theory that grounds the structural phenomenology on the experience of metamotivational states and that the human will switch between the two opposing components of those states. Thus, by definition, individuals are considered to be inconsistent in the way that they will experience and respond to situations. Applied to the critical incident, it could be anticipated that actions of the perpetrator are likely to be atypical and to a certain extent unpredictable. The actions of responders on the scene are also likely to vary depending upon phenomenological structure and consequently will increase the unpredictability of these situations. With such inconsistency associated with critical incidents there are bound to be situations where there is a need to implement lateral or creative decision-making in order that a successful resolution is reached. However, the current approaches to understanding arousal and decision-making in these contexts do not encourage creativity and there is a tendency for training in critical incident decision-making to focus upon familiarity, through repetition-primed or naturalistic decision-making. From a theoretical perspective, the application of reversal theory principles to this domain would provide the opportunity to introduce creative decision-making, which in turn has the potential to improve the management of novel and unfamiliar incidents.

From Nothing to Something and Back Again: Reversal Theory in the Theatre

Betsy Craig, Grove City College

The more one analyses people, the more all reasons for analysis disappear. Sooner or later one comes to that dreadful universal thing called human nature
---Oscar Wilde from *The Decay of Lying*

In his book, *Backwards & Forwards: A Technical Manual for Reading Plays*, dramatist David Ball suggests that all plays begin in *stasis*, "...a condition of balance among various forces; a standing still; an *unchanging* stability..." If this premise is true, then a play begins when the moment of *stasis* is broken, and does not reach an end until *stasis* is restored. What intervenes between these two moments *is* the play. Because all drama requires action (even if only mental), it follows that it also presents itself as an ideal subject for study by those who are interested in the causes and effects of change. In this paper, the author will reveal how the play director can apply Reversal Theory as a construct to the rehearsal process. The author will show how it can be used to help actors to understand character motivation, how it can be used to establish a positive rehearsal climate, and how it can be used as valuable tool for text analysis.

Assessing Whether Clusters of Reversal Theory Construct Scores are Predictive of Membership to Astrological, Seasonal, or Elemental Sign

Ken M. Cramer, Kathryn D. Lafreniere, J. Stewart Page, Larissa Goertzen, & Bob R. Orr
University of Windsor

Astrological theory (Kemp, 1988) proposes that individuals who share astrological signs should share personality profiles. Previous research has evaluated several tenets of astrological theory; however, more recent analyses have assessed whether patterns of participant responses are randomly distributed across astrological sign. For instance, Cramer and Peterson (under review) collected 460 profiles of Costa and McCrae's NEO Five-Factor Inventory (1992). A cluster analysis forced participants' personality scores into a 12-cluster pattern, so that profiles inside a cluster are reasonably similar to each other whereas profiles outside a cluster are not. Support for astrological theory would be observed in a nonrandom distribution of cluster profiles to the 12 astrological signs (i.e., one cluster overrepresented by Leos). This was not observed. Specifically, there was no relation between astrological sign and cluster membership. Similar results were found using a 4-cluster solution compared to season and element (air, earth, water, fire).

The present study replicated the design of Cramer and Peterson, using the scores from the Motivational Style Profile (MSP; Apter, Mallows, & Williams, 1998), completed by 167 undergraduates from the University of Windsor. A cluster analysis was conducting using the 14 subscale scores of the MSP, forced to a 4- or 12-cluster solution. Using a chi-squared analysis that compared cluster membership to astrological sign, season, and element, results similarly showed no support for astrological theory. That is, there was no greater likelihood of Leos appearing in any one cluster over the other clusters -- they were found rather evenly throughout all clusters.

Psychometric Properties of the Motivational Style Profile in Three Canadian Samples

Ken M. Cramer, Kathryn D. Lafreniere, Jessica Sartori, Larissa Goertzen, & Robert Orr
University of Windsor

A number of recent investigations at the University of Windsor have employed the Motivational Style Profile (MSP; Apter, Malloy, & Williams, 1998) to measure reversal theory constructs. The present paper will report MSP psychometric data from three undergraduate samples: 1) 483 introductory psychology students who completed the MSP as part of a mass-testing data collection exercise; 2) 262 male and female undergraduate students who were tested in small groups and completed the MSP as part of a larger study; and 3) 169 male and female undergraduate students who were tested in small groups and completed the MSP as part of a larger study.

Results of descriptive analyses, internal consistency reliability analyses, intercorrelations among subscales, and confirmatory factor analyses will be reported for each of these samples. In addition, relationships between the MSP subscales and the Rosenberg Self-Esteem Scale (Rosenberg, 1979), subscales of the Interpersonal Adjectives Scales (Wiggins, 1995), and subscales of the Self-Expressiveness in the Family Questionnaire (Halberstadt, Parke, Cassidy, Stifter, & Fox, 1995) will be examined. Results indicate adequate internal consistency for most MSP subscales, with the exception of the Arousal-Avoidance, Conformity, and Autic Mastery subscales. Confirmatory factor analytic findings indicate that the factor structure of paired scales (e.g., arousal-avoidance vs. seeking) were reasonably stable and replicable across the samples, with the exception of telic/paratelic and mastery/sympathy. Construct validity of a number of the MSP subscales is supported by relationships with the measures of self-esteem, dominance and submissiveness on the IAS, and positive and negative self expressiveness.

Putting the Kick into Innovative Leadership

Gene Crozier
Chartered Management Institute

National governments are increasingly concerned to find ways of stimulating 'leadership' in the market as a way of improving competitiveness and sustainability. In the UK, much research has focused on the low quality of leadership in organisations and on ways of creating inspirational leadership. In this paper, we propose that government initiatives are often deeply flawed. They tend to focus on traditional trait theory or on particular models of leadership, rather than the environment in which leadership flourishes. We shall discuss some of the initiatives and thinking taking place in the UK, and how reversal theory provides a practical tool for effective leadership development, as well as providing a useful framework for cross-cultural management issues. We shall also present some of the latest findings from the Apter leadership style research.

Using the Apter Motivational Style Profile

Mitzi Desselles
Apter International Inc.

The Apter Motivational Style Profile is a 40-item personality inventory, developed by Michael Apter from an earlier Motivational Style Profile (Apter, Mallows & Williams, 1998). It measures dominance across all four pairs of metamotivational states identified by reversal theory, and provides respondents with profiles showing the relative importance of the different states in their lives and some of the implications of their profiles. Expert software has been developed by Apter International to generate charts and narrative reports to help in coaching, counselling, personal development workshops, and the like. In the course of using it in various organisations in different countries, it has been possible to collect data allowing comparisons to be made between various groups of people. The present paper will report some of the findings from this research, especially as it relates to managers in the UK and the USA. Mention will also be made of some of the other reversal theory scales that have been developed in relation to organisational change, leadership and the cultural climate of organisations.

The Use of Video Clips in Reversal Theory Workshops

Mitzi Desselles

Apter International Inc.

Video clips have been used as a way of illustrating reversal theory principles in different kinds of workshops that have been developed and used in various organisations by Apter International. These include workshops on personal development, team building and leadership development. We have found that video clips are helpful not only as interesting and even dramatic illustrations but also as a way of encouraging discussion of reversal theory, and of providing practice in thinking about behaviours and interactions from a reversal theory perspective. For example, extracts have been taken from popular movies to illustrate reversals, and their effects, and to demonstrate the way in which a variety of states may be experienced, through reversals, in a relatively short period of time. Again, the way in which leaders can control the metamotivational states of others, through creating "microclimates," is exemplified through the speeches of great leaders in such films as "Henry V" and "Gettysburg." We have also developing a video library of examples of reversal theory principles through interviews with people about their lives and their reactions to the situations they find themselves in (for example in shopping, and in using the products that they have bought). This technique can be supplemented by such related techniques as asking participants to act out, and discuss, short dialogues that have been specially written to provide teaching points, and also to comment on the psychological effects of certain selected photographs, paintings and pop songs.

Understanding Electronic Gaming Machine Play: The Role of Reversals

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Recent research has examined factors involved in the development and maintenance of gambling behaviour. Factors including excitement and arousal have been found to be involved in the development and maintenance of problem gambling behaviour (Anderson & Brown, 1984). Reversal Theory explains the mechanism by which excitement and arousal lead to the gambling behaviour, suggesting that these factors are used to maintain a pleasant hedonic tone (Brown, 2001). It has also been recognised that different forms of gambling may have different psychological effects on different individuals (Dickerson, 1993), varying from conscious excitement to dissociation and numbing. To date, studies applying Reversal Theory to gambling behaviour have focused on games seen traditionally as exciting, such as Blackjack (Anderson & Brown, 1984). It seems, however, that Reversal Theory is likely to be able to explain other forms of gambling, such as electronic gaming machine (EGM) play, that are thought to lead to dissociation in the player. This study examines the role Reversal Theory plays in understanding EGM play. Fifteen problem gamblers, as classified by the South Oaks Gambling Screen, were assessed on the Motivational Style Profile, the Telic Dominance Scale and the Zuckerman-Kohlman Personality Questionnaire. Age matched controls, both regular gamblers and non-gamblers, also completed these measures. Preliminary findings for each of these groups will be discussed.

Anderson, G., & Brown, R. I. F. (1984). Sensation seeking and arousal in real and laboratory gambling. *British Journal of Psychology*, 85, 401-410.

Apter, M. J. (2001). An introduction to reversal theory. In M. J. Apter (Ed.), *Motivational styles in everyday life*. Washington, DC: American Psychological Association.

Brown, R. I. F. (2001). Addictions. In A. M.J (Ed.), *Motivational styles in everyday life*. Washington, DC: American Psychological Society.

Dickerson, M.G. (1993). Internal and external determinants of persistent gambling: Problems in generalising from one form of gambling to another. *Journal of Gambling Studies*, 9, 225-246.

The Reversal Theory Perspective on Stress at Work

Christine Doyle* and Steve Carter**
University of East London* & Apter International**

A number of different models of stress have been applied to an understanding of stress in the workplace. A number of these involve the concept of negative affectivity. One model proposes the high negative affectivity in a person leads to greater stress, another that stressful environments lead to negative affectivity which again leads to stress. It has also been proposed that when stress is severe or prolonged, individual differences in negative affectivity play a lesser role. Reversal theory contrasts with these models in three ways. First of all it moves away from trait interpretations, including the idea of negative affectivity as a trait. Secondly it sees negative affectivity as the final outcome of many more fundamental processes rather than as a fundamental process in itself. Thirdly, it sees negative affectivity as having many forms over and above anxiety. This paper will compare and contrast the reversal theory view with that of other views of workplace stress such as those which are based on the idea of negative affectivity.

Reversal Theory and Children: the Motivational Style of 7 year olds.

Michael Ford, Leeds Metropolitan University

Reversal Theory has made great inroads into motivational thinking in areas such as health, sports and business, but where it has not yet been applied in depth is in perhaps the most obvious area of all: children's education.

The aim of this paper is to report on a study designed to explore children's experiences of motivation at school and interpret them with regard to Reversal Theory. Specific research questions concerned children's motivation, the views of their teachers and parents, and whether aspects of their motivation in Reversal Theory terms could be discerned in the classroom.

Utilising the qualitative methodology of a case study, four children in Year 2, aged 7 years, were observed in the naturalistic environment of their classrooms using time-sampling methods, and individually interviewed utilising multiple methods. To provide triangulation, their teachers and parents were also interviewed using semi-structured interviews.

The results indicated that the children could be successfully differentiated in their classroom behaviour using constructs taken from Reversal Theory, and the theory was supported by the finding that all the children spent time in all of the four metamotivational states examined. There were differences in the amount of time spent in any particular state depending on the subject area. One finding against the theory was the close association between two of the supposedly independent dimensions, telic-paratelic and conformist-negativistic, although this might relate to the constraints of the nature of classrooms. Data from the classrooms were in general supported by the data from the teachers and parents.

Changes in Tension and Effort Stress Inventory Scores Induced by Running and Basketball in Low and High Serious-mindedness Dominance Groups

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Sixty six university students scored the Telic Dominance Scale (TDS) and the state version of the Tension and Effort Stress Inventory (TESI). High and low telic dominance groups were formed by 3-way split for scores on the serious-mindedness (SM) sub-scale of the TDS. The low SM group (N=21, SM mean=3.78, range: 2.5-4.5) and the high SM group (N=20, SM mean=8.5, range: 7.5-10.0) completed the TESI before and after basketball and running (balanced order). Results from MANOVAs stated that positive somatic emotions (relaxation, excitement, placidity, provocativeness) scored higher post than pre sport ($p < .002$). This effect was essentially due to a shift in excitement. The high SM-dominance group experienced significantly higher levels of somatic emotions prior to running than prior to basketball ($p < .037$). In general, the high SM dominance group experienced more negative transactional emotions (humiliation, shame, resentment, guilt) than did the low SM dominance group ($p < .050$). This difference was mainly due to scores for shame. Other effects were blind to the dominance factor and stated that negative somatic emotions (anxiety, boredom, anger, sullenness) was higher pre than post sport ($p < .001$). The experience of positive transactional emotions (pride, modesty, gratitude, virtue) generally decreased from pre to post sport and was essentially due to a decrease in scores for modesty ($p < .010$). Pre-sport stress was on average lower than post-sport stress ($p < .015$). However, this was essentially due to running inducing increases in somatic tension as well as effort stress, whereas basketball on average induced higher somatic effort stress from pre- to post-sport. The findings are discussed within the broader context of sport enjoyment and motivation for exercise among non-competitive amateurs.

Metamotivational States of Adolescents in Aggression Provoking Incidents

Volodymyr Khomyk* & Nadiya Burmaka**

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The study of adolescent aggression has made us acquainted with a great number of metamotivational states, in which the boundary between self and not-self become expressive. It sometimes operates as pathway for aggression expression and sometimes flexibly acts as a barrier. Expressive permeability describes the extent to which boundaries restrict one from sending or transmitting aggression into the external world. A boundary of high expressivity resembles effort-stress. With a boundary of low expressivity, aggression fails to be transmitted to opponent. We cannot fully analyze an adolescent identity and violence without the study of their tendency to articulate the multiple facets of being **against, for**, expression of self **with**, or **despite** others in the losing or winning transactions. The modes are parts of identity in nature if the authorial "self" is an active agent (or reversals are authorless, "just happens").

There are many kinds of adolescent violence. Our empirical results revealed that most often respondents will indeed to be in the **arousal-avoidance state** when found themselves in an aggression provoking incident, $\chi^2 (N = 32) = 18,270, p = 0,01$. Reversals into the **arousal-seeking modes** are rare and most adolescents are metamotivationally "stuck" in the state of arousal-avoidance, which is related more to their past than the present. After a past incident of aggression the person remains in the locked metamotivational state with a certain amount of "emotional charge". This state-charge contains some intention, urge, wishing. The person remains in the period of time defined by that intention, urge. "An incident is so painful, that one tends to **flinch away** from it, not to let oneself be aware of it, or to repress it. It is the subjective flinch and not the "objective" description of incident that makes it a trauma. The only way a person can exit from that period of time and let go of intention is by confronting the incident" (French, Harris, 1999). This trauma makes them telic-traumatic, later **negativistic-traumatic**, $\chi^2 (N = 32) = 13,225, p = 0,01$, for adolescents stay all the time with the unfairness (Apter, 2002). Inappropriate ways of being in the **self-oriented mastery** and **sympathy** are related with feelings of humility and resentment, $\chi^2 (N = 45) = 24,452, p = 0,01$, when tactics for engendering similar affective experiences in their "duellist" include violence. Adolescents stand in a "giving" relationship to their "taking" adversary, recreates emotion-making, and give him a taste of their own medicine (Karcher, 1997).

Relationships among Reversal Theory Constructs and the NEO Five-Factor Inventory and the Consideration of Future Consequences Scale

Kathryn D. Lafreniere, Ken M. Cramer, & Lori Robichaud
University of Windsor

While the Paratelic Dominance Scale (PDS; Cook & Gerkovich, 1993) and the Motivational Style Profile (MSP; Apter, Mallows, & Williams, 1998) have been widely used as dominance measures in a number of reversal theory investigations, the need to continue to examine these measures in relation to other established personality measures has been identified. Two measures that would seem to be relevant to reversal theory are Costa and McCrae's NEO Five-Factor Inventory (NEO-FFI; 1992) and the Consideration of Future Consequences Scale (Strathman, Gleicher, Boninger, & Edwards, 1994). These measures will be administered to a sample of approximately 200 undergraduate students in the spring of 2003.

It is expected that the Consideration of Future Consequences Scale will correlate positively with telic dominance as measured on both of the reversal theory measures, and with telic/paratelic salience on the MSP. A number of relationships among MSP and NEO-FFI subscales are hypothesized, including positive relationships between agreeableness and both autic sympathy and alloic sympathy; openness and paratelic dominance; and conscientiousness and telic dominance. Results will provide useful information about the convergent and discriminant validity of reversal theory dominance subscales. In addition, the strength of relationships between telic/paratelic dominance and theoretically relevant constructs will be compared for the PDS and MSP measures.

A Reversal Theory perspective of person-environment fit: Is mismatch predictive of commitment outcomes in front line housing and social service staff?

Gail Lincoln, University of East London/London Borough of Redbridge

This research is concerned with the impact of person-environment fit on commitment in 130 housing and social services client-assessment staff in a London borough.

Elements of The Apter Work Impact System (AWIS) were used to measure the personal importance to staff and their managers of 40 values and the extent they felt the values were met by the organisation. In addition the same managers were asked, using the same instrument, what they understood the organisation's values to be and the extent the organisation met these for employees. The Apter Motivational Style Profile (AMSP) was used to determine individuals' motivational style dominance. The Organisational Commitment Scale used in the study measures three components, 'affective', 'continuance' and 'normative' commitment and assesses levels of these across four contexts: 'organisation', 'team', 'client' and 'overall'.

Match of values and having these met were independently, significantly predictive of different commitment types across the contexts, as were some motivational styles of individuals. Correlations were strongest between continuance commitment and intention to leave.

This research attempts to define different resultant behaviours of the three types of commitment within a framework of passive or active behaviours which can have positive or negative Organisational Citizenship outcomes. Recommendations include using the AWIS across different sections of the organisation to determine and assist in analysing the reasons for and implications of the value mismatch. Also, to use the behavioural framework together with AMSP data, to design personal-development and other human resource strategies.

Reversal Patterns in Team Sports; Implications for Performance Enhancement.

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Male elite volleyball and players were interviewed after participating in international tournaments that comprised a series of events over a one week period. The interviewer applied a semi-structured approach as described by Males, Kerr & Gerkovich (1998), and the data was analysed by independent raters highly familiar with reversal theory. The interview data was then examined to identify possible reversals in the player's metamotivational state, and for each reversal a likely causal factor was identified. The most prominent cause of reversals was a contingent event arising from the ebb and flow of the match and team's position relative to its opponents and their overall objective for the tournament. Few players consistently demonstrated the ability to maintain their preferred metamotivational state in the face of these events, and in some cases the effect of the reversal was a decline in motivation and commitment to their performance. This raises implications for applied sport psychologists who may need to tailor pre-event psychological skills training and mid-match interventions to develop player-specific strategies that will support players to maintain their preferred state, or to at least manage reversals so that non-preferred states can be used to the player's advantage.

Observation of Arousal Modulations and Reversals using Differential Digital Photoplethysmograms while Listening to Music

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This study attempted to observe metamotivational states associated with listening to music physiologically. For this purpose, the author investigated the relationships between changes in autonomic nervous system arousal and changes in mood. P-wave amplitudes of differential digital photoplethysmograms (?DPG) were used as indices of changes in autonomic nervous system. When improvement in mood accompany with decrement in ?DPG which reflects activation of sympathetic nerve (implying increased level of arousal), this would indicate a paratelic state. Contrary to this, improvement in mood accompany with increment in ?DPG would indicate a telic state. Two men and nine women, ages 19 to 32 participated the sessions of measurements. The participants listened to two musical selections and the tuning noise of the FM broadcast of a radio. While the listening periods, participants rated changes in their mood along seven-point scale. Their ?DPG were measured concurrently. Regression analysis were conducted and relationships between ?DPG and mood showed three types of phenomena which raised in the participants: 1) arousal modulation to preferred level in one metamotivational states, 2) reversal from one metamotivational state to the opposite, 3) no metamotivational states found from analysis. The former two types are consistent with Kerr's (1993) assumption about the role of sports and exercise in relief for mismatch in preferred and actual levels of arousal. It is possible to regard these two types as strategies for regulation of hedonic tone while listening.

The Role of Anger in Negativistic States During Smoking Cessation

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Whether anger is an important component of negativistic states has been controversial among reversal theorists. Apter (1982, p 198) noted that "it is the operation of the negativistic state which transforms anxiety into anger." Our assessment of metamotivational states during smoking cessation has always used anger as an important marker of negativistic states. However, other researchers, especially McDermott and Kerr, have objected to this characterization by pointing out that negativism, particularly proactive negativism, often occurs without concomitant anger. In this study of smoking cessation, we sought to disentangle the effects of anger from negativism. Sixty-one participants entered data in palm-top computers and tape-recorders for the first 14 days of a cessation attempt. Our 3-item measure of negativism included anger, rebelliousness, and defiance. Multi-level, random effects logistic regression analyses showed that paratelic and negativistic states, negative affect, and cigarette availability all significantly influence the occurrence of temptations. Paratelic and negativistic states and cigarette availability, but not negative affect, significantly predict both coping and lapsing during a temptation. We conducted additional analyses to evaluate the effect of negativism when controlling for the effect of anger. These analyses indicated that the removal of the effect of anger from the negativism scale had no effect on the results of our prior analyses; in most cases the effect of negativism became somewhat stronger, not weaker, when the effect of anger was controlled. Examples of participants' descriptions of episodes will be presented along with a discussion of the implications of these findings for reversal theory.

Using State Measures of Motivation to Explore Possible Associations Between Cortisol Reactivity and Task Performance

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Research findings regarding possible associations between cortisol stress responses and personality variables remains inconclusive. One possible reason for this inconsistency may be related to the tendency for researchers to employ trait measures rather than state measures when exploring associations between personality and stress hormone responses. A central feature of reversal theory is its emphasis on understanding personality in terms of intra-individual change over time rather than as sets of fixed traits or characteristics. The purpose of the study was to explore whether state measures of motivation could be shown to demonstrate meaningful associations with cortisol reactivity and performance on tasks measuring declarative and lexical memory following exposure to a laboratory stressor.

Twenty-four undergraduate male students participated in the study. Participants were administered the Paratelic Dominance Scale (PDS; Cook & Gerkovich, 1993) and the Telic/Paratelic State Instrument (T/PSI; O'Connell & Calhoun, 2001) prior to their exposure to a laboratory stressor (i.e., modified version of a fine motor skills task). Prior to and immediately following exposure to the stressor, participants completed a memory test and word recognition task. The T/PSI was again administered at a standard time interval following exposure to the laboratory stressor. At several points during the study, participants provided saliva samples from which cortisol levels were obtained. Blood pressure and heart rate were also monitored repeatedly throughout the study.

The results of the study are discussed with respect to reversal theory. Suggestions for future research involving stress hormones and state measures of motivation are presented.

A Reversal Theory Approach to Predicting and Explaining Attitudes Toward and Use of Marijuana in University Students

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Marijuana use is found among all social castes and occupations in North America (Douglas et al., 1997; Goode, 1993). Nevertheless, there have been attempts to determine the characteristics of 'the marijuana user'. These attempts have been atheoretical applications of various demographics. However, several extensive reviews of the research indicate that the findings from such studies tend to be non- or weakly significant, suffering various methodological weaknesses. The present study considers marijuana use within a reversal theory framework. In reversal theory terms, previous accounts of marijuana use assume that a user would only smoke marijuana in a paratelic negativistic state. Given that marijuana users are a diverse a population, it is conceivable that people who use it are not only paratelic negativistic. For example, an individual using it to relax would have a telic goal in mind; and, depending on the salient social group and on which social requirements one is focused, one might use it to feel conformity rather than negativism. Preliminary analyses indicated that amount of marijuana use was not dependent on any dominant mode from the dominance subscales of the Motivational Style Profile (Apter, Mallows, & Williams, 1998). However, conformist dominant students were more likely than negativistic dominant students to smoke marijuana in a social setting, autic mastery dominant students were more likely than autic sympathy dominant students to smoke it alone, and paratelic and negativistic dominant students were more likely ever to have tried marijuana than telic and conformist dominant students, respectively.

The Search for Control and the Emotions of Change

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Reversal Theory suggests that those finding themselves in situation of high anxiety can cope more effectively by building a 'protective frame'. The creation of this frame helps to build confidence and a sense of control. In turn this allows people to move forward.

This paper looks at the self reported emotional responses of a group of managers impacted by significant change imposed by an organisation, in effect removing the protective frame that existed around their working life. It examines the strategies they adopted to gain control during the early stages of the change and their relative success. Comparison is made to the strategies used by other managers in handling change in which they have greater initial control.

A timeline is used to indicate the reported emotional response to events during the change and move from detachment zone to dangerous edge, and beyond.

Finally there is an exploration of how this means of helping leaders to cope with and manage change compares to other commonly used approaches to understanding the emotions experienced during change activity in organisations.

Development of the Motivational Style Profile for Children (MSP-C)

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The Apter Motivational Style Profile was modified to suit children between 9 and 13 years of age. A paired-alternative design was adopted which reduced the number of items to 25 from 50, and the wording of some statements were altered to suit children's vocabulary. An initial pretrial of a Chinese version of the MSP-C on 136 Hong Kong children of grades 3-6, aged 8-12 years, indicated the need for an example and the rewording and rearrangement of some items. Exploratory factor analysis showed strong factors for autic-sympathy, alloic, negativism, autic mastery, and a weaker telic/ conformity one.

A second trial was conducted on a larger sample of Hong Kong school children (N=544, grades 3 to 6, ages 8 to 13). Statistical treatment of the data included item analysis, age and gender differences, and factor analysis revealing a similar structure to that of the first pilot. The results of these trials suggest that the instrument has potential, and further piloting is recommended on western samples. Full psychometric assessment of the MSP-C would require further trial runs.

A case study of changes in metamotivational state salience and emotion during rehabilitation from sports injury.

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This case study examined changes in metamotivational salience and emotional states during recovery from sports injury. Due to its ideographic, dynamic emphasis, Reversal Theory (Apter, 1982) provided the theoretical framework. The participant was a 21 year old non-elite male footballer with collateral medial knee ligament damage. The study duration was 18 weeks (17 weeks of rehabilitation and 1 week of return to competition). Metamotivational state dominance was assessed in weeks 1, 6 and 18 (Motivational Style Profile, MSP: Apter, Mallows, & Williams, 1998). To measure changes in metamotivational and emotional salience, the MSP (Apter et al., 1998) was shortened to 20 items and administered on 4 occasions, independently from the full MSP. On each occasion, existential phenomenological interviewing was used to provide in-depth information on the athlete's emotional and motivational experiences. Questionnaire data were represented graphically and visually inspected; interview transcripts were analysed deductively using Apter et al.'s (1998) state definitions and the transactional and somatic emotions associated with Reversal Theory states (Kerr, 1997). Optimism/pessimism, telic/paratelic and alloic sympathy/mastery were initially equally salient but, to varying degrees, over time, the former of each metamotivational state pair demonstrated greater salience. Conformity, arousal-seeking, autic sympathy and effortfulness remained relatively stable with these states remaining more salient than their opposites throughout rehabilitation. This athlete experienced changes in motivational and emotional states that match expectations (e.g., increased optimism and telic salience). Future research should verify these preliminary findings and explore the determinants of changes in motivational and emotional state during rehabilitation from sports injury.

Connecting Reversal Theory with Psychological Type: The Apter Motivational Style Profile Meets the Myers-Briggs Type Indicator® Assessment.

Jennifer Tucker, Booz Allen Hamilton & Hile Rutledge, OKA

The introduction of user qualification training for the Apter Motivational Style Profile (AMSP) in the United States has sparked growing interest in reversal theory among trainers and consultants. As these professionals begin to use the AMSP with clients, many are asking how the theory and instrument complement or contradict other popular and researched assessment tools. In particular, many new AMSP users are currently active users of the Myers-Briggs Type Indicator (MBTI®) Assessment and its underlying theory of psychological type. Given the extensive research supporting the MBTI® Assessment, and its popularity among practitioners, connecting reversal theory with psychological type is an important next step in cultivating its acceptance and use. This presentation will discuss this connection. First, we will introduce Jung's theory of psychological type and compare it with the essential elements of reversal theory. Next, we will present preliminary results from a research study designed to investigate correlations between AMSP and MBTI® results. Finally, we will describe ways in which reversal theory and psychological type might be joined in a consulting engagement or training program.

A Method of Responding to Challenging Behaviour: The application of Reversal Theory in the field of Learning Disability

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People with a learning disability do not form a homogenous group. Within this population those who present the extremes of behavioural deficits and excesses require carers who can work in a highly consistent manner within a coherent model.

A large number of clients share characteristics which may stem from personality strength and motivational factors. The use of constructional and functional approaches, based on applied behavioural analysis, seem to "fail" with many of these clients. Staff often find themselves in "competition" with their clients which inhibits the work they are tasked to perform.

A functional assessment of staff behaviour and an analysis of the motivational factors involved has increased our understanding of why expensively resourced programmes of care either break down or are not sustained. The reciprocal relationships that often develops between staff and clients, within this particular group, generates highly functional behaviour in all those involved. As these services generally have a high staff to client ratio, individual staff working to their own personal strengths create high levels of inconsistency. The greater the numbers of staff, the greater the inconsistency.

Work with care teams has shown that the application of Reversal Theory offers an intuitive and acceptable model which staff can use to explain and exploit their own behaviour and that of the clients they work with. Used in conjunction applied behavioural analysis, significant progress has been made in this area of work. The paper will present the working methods used, the results to date and suggestions for development.

Paratelic/Telic States Compared to Mood and Anxiety States: An Experience Sampling Study

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Michael Apter and colleagues have developed Reversal Theory over the past 25 years, which posits that humans reverse or switch between discrete states that can be distinguished by their underlying motivations. Among the pairs of states posited are the telic (serious) and paratelic (playful) states. Dr. Apter has hypothesized that persons in the paratelic state find pleasure in and seek higher arousal and that persons in the telic state seek lower arousal and find more pleasure in lower arousal.

301 undergraduate college students completed questionnaires designed to measure mood and anxiety 3 times per day - 9 am, 2 pm, and 9 pm - using handheld computers. In addition to the 8 clinical items were items designed to measure telic/paratelic states and the level of arousal sought in the moment. The items were: *Playful – serious*, *Wanting to feel calm – wanting to feel excitement*, and *Just having fun – trying to accomplish something*. The response format was Likert type with 1 anchored to the first of the pairs and 6 anchored to the second of the pairs.

A factor analysis was completed that included every item on the survey on the first measured moment. The first and third factors found were made up of 4 clinical items each and were labeled *Depressed Mood* and *Anxiety*. The second factor included the 3 items related to the telic/paratelic state. The loadings for the items were .852, -.391, and .671, respectively. The factor accounted for 11.4 % of the variance. The telic/paratelic factor correlated with factors 1 and 3 at .299 and -.349, respectively. Both are significant at $p < .01$.

Evidence Found for Significant Relationships Between Theoretical Notions of Human States

Tony R. Young, Ph.D, Louisiana Tech University

Several clinicians and researchers have spoken, through the years, of persons' ability and tendency to "be" different from moment to moment. Many researchers and clinicians have explored the various ways human beings differ from moment to moment. A short list would include Paul Federn, Eric Berne, Ernest Hilgard, James Hillman, Jack Brehm, Carol Pearson, John and Helen Watkins, John Rowan, Stephen Wolinsky, and Jeff Young. Michael Apter and colleagues have developed Reversal Theory over the past 25 years, which posits that humans reverse or switch between discrete states that can be distinguished by their underlying motivations. Of the various theories it appears that Reversal Theory offers the most useful model and alone has developed a strong base of research and research questions.

It appears, though, that there are similarities in the conceptions of this feature of human beings and similarities in the types of states or sub-selves that are posited by each of these theorists. The present study is part of a larger project beginning an exploration of the similarities in the systems of thought on ego states, sub-personalities, or meta-motivational states. 300 undergraduate students completed questionnaires measuring the tendency to "be" in the states posited by Schema Theory (Young), Transactional Analysis (Berne), Reactance Theory (Brehm) and Reversal Theory (Apter). Eight correlations were hypothesized to be significant. Each was found to be significant at the .01 level. Several other correlations were of interest and were suggestive of further research.