

Reversal Theory

**The Eighth International Conference on Reversal Theory -
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PROGRAM ABSTRACTS

THEMES

- Measurement issues in Reversal Theory
- Negativism, anger & violence
- Reversal Theory & risk-taking
- Reversal Theory & sports psychology
- Reversal Theory perspectives on optimal functioning
- Reversal Theory approaches to addictive behaviours
- Reversal Theory approaches to health psychology & social behaviour
- Theoretical & practical extensions
- Metaperspectives on Reversal Psychology

THE EXPERIENCE OF BEING VIOLENT

Michael J. Apter, *Georgetown University, U.S.A.*

Some of the main theories of aggression (for example, those of Freud and of Lorenz) posit an aggressive instinct which builds up and needs release from time to time in aggressive behaviour. Reversal theory, in contrast, sees aggressive behaviour as one among a number of possible means for the attainment of metamotivational ends which are not themselves about aggression as such (e.g. power, accomplishment, fun).

The aim of this paper is to explore how violence can arise, in different ways, and for different purposes, in all of the metamotivational states. By 'violence' here will be meant violence in all its forms, individual and collective, planned and spontaneous, legitimate (e.g. military combat) and illegitimate (e.g. murder).

The main thing which emerges from this analysis is that, while it is possible to be violent for the purposes of a single metamotivational state, four major types of violence can be discerned which arise out of four state combinations. Giving each of these a name, they can be listed as:

Anger violence (telic and negativistic)
Thrill violence (paratelic and negativistic)
Power violence (telic and mastery)
Play violence (paratelic and mastery)

These four types of violence can be contrasted in terms of a number of characteristics, such as the desired emotional outcome of the behaviour, the means used, the manner in which anger is experienced, and the way that the victim is perceived. For example, in anger violence the emotional aim of the behaviour is relief/release, the means used is that of punishing the person(s) against whom the anger is directed, anger in this case is experienced as being unpleasant while it lasts, and the subject of the attack is perceived, at least temporarily, as being evil in some respect ('demonization'). The other types of violence can each be similarly described in terms of different versions of these kinds of characteristics, providing a rich set of contrasts to distinguish the different violence types.

A particularly interesting distinguishing characteristic is what one might refer to as type of "inversion principle". In these terms, anger violence displays a "moral inversion" in that behaviour which is normally taken to be immoral becomes felt temporarily to be morally right (since experienced as deserved retribution). Thrill violence, in contrast, involves a "desirability inversion" in which what is bad is experienced as being attractive (and is attractive precisely because it does not have any moral justification, so that the bad becomes good!). In power violence, the principle is that of "justifiability inversion", in which the unjustifiable become justifiable in terms of some 'higher' principle (such as patriotism). Play violence, finally, involves a "prohibition inversion" in which some normally prohibited kind of aggressive behaviour becomes, within limits, and within the bounds of a 'game', an expected and even required type of behaviour.

This structural phenomenology of violent behaviour will be illustrated with examples, including personal accounts, drawn from a number of diverse sources.

THE CHALLENGE OF REVERSAL THEORY

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In order to set the scene for the conference, this paper will attempt to 'take stock' of where reversal theory is now, twenty one years after its inception. Has it, as its chronological age implies, reached maturity? And, as an 'adult,' what does it have to offer to psychology as a whole?

The story so far

The first part of the paper will trace, in outline, the development of the theory, paying tribute especially to some of its early contributors, and reminding delegates of some of the highlights (and lowlights) of previous conferences. It will be pointed out that, taken as a case history in the sociology of science, reversal theory raises some interesting issues concerning legitimacy and visibility.

Where we are now

This part of the paper will examine three questions. Firstly, where can reversal theory (and structural phenomenology) be positioned in relation to the recent history of ideas in the human and social sciences? Secondly, how do the concepts of reversal theory relate to those of other theories in psychology itself especially in the fields of motivation, emotion and personality? Thirdly, how well established empirically may the theory be said to be at the present time? And does it now have an arsenal of reliable techniques and instruments to call on for future research?

Where we are headed

Although the overall conceptual framework of the theory appears to be complete at the present time, modifications to this framework will undoubtedly be called for in the light of evidence and other considerations, as will the need for further distinctions and elaborations. For example, it will be proposed in this paper that three different levels of dominance need to be distinguished. As far as research is concerned, certain areas call out for investigation, or deeper investigation, from the reversal theory perspective.

These areas include, among others, the neurological and endocrinological concomitants of all the different states, the discursive styles of different states, interpersonal and social aspects of the processes highlighted by the theory, developmental aspects of metamotivation, and the relation between metamotivational and performance characteristics. In general terms, too, more attention needs to be paid to states (rather than dominance) and to all the states rather than just the telic-paratelic pair. On the applied side, clinical use of the theory needs to be re-instated as a central concern, and more attention paid to the use of the theory in education and in management.

The promise of reversal theory

It will be argued that the main strength of reversal theory is the way in which it provides a distinctive perspective on a wide range of psychological topics, and in this way offers a potential bridge between them. In general, reversal theory has the potential to provide at least one way of integrating a discipline which is becoming increasingly fragmented, and to fill in the everwidening gap between such opposite approaches as those of neurology and discursive psychology, and of humanistic psychology and psychometrics.

METAMOTIVATIONAL ORIENTATION TOWARDS SPORTS PARTICIPATION AND PERCEIVED IMPORTANCE OF SOCIALISING AGENTS

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University freshman (N=3,151) who responded to a participation questionnaire in which motives for sport and physical activity involvement were phrased in terms of Reversal Theory's (RT) Metamotivational Orientations (MO) were classified according to their dominant somatic and transactional MOs. Somatic MOs could be determined for 75% and transactional MO's for 73% of the respondents. The purpose of the analysis reported here was to determine whether there were differences among MO groups with respect to their ratings of the influence of various socialising agents on their involvement in sport.

Father ($P < .01$) and *mother* ($p < .05$) were perceived to have been stronger in their encouragement by alloic than by mastery MO groups. Among the somatic MO groups, the negativistic orientation had significantly lower ratings for *mother* ($p < .05$). Paratelic ($p < .05$) and undifferentiated ($p < .01$) groups rated *male friends* as more important than did conformist orientated groups. Autic and mastery groups saw the *coach* as more influential ($p < .05$) than did sympathy orientated respondents, who rated *television* higher ($p < .05$) as an influence than the other transactional orientation groups did. There were significant sex by group interactions for *school tradition* and for *male friends*. No significant differences were found for the following socialising agents: *siblings*, *female friends*, *school principal*, *P.E. teacher*, *religion*, *newspaper* and *magazines*.

The discussion will focus on the interpretation, from the RT perspective, of the results of this first application of RT to data on socialising agents.

PSYCHOTHERAPEUTIC AND ETHNIC POTENTIALITIES OF LINGUISTIC-FOLKLORE ANTINOMIES.

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The purpose of this paper is to develop linguistically coherent diagnostic therapeutic techniques, capable of minimizing transfer and shifting emphases in the interface between the psychotherapist and client to the interface between the customer and his/her culture. In Russian folklore almost every saying can be countered by its semantic opposite. Thus, three layers of proverbs are identified which are indicative of human psyche as a dialogue of binary oppositions: (1) proverbs-antonyms; (2) proverbs incorporating in one saying opposite strategies of behavior, and (3) proverbs indicative of mutual identification of opposites.

The concept of psychological structure as a process with a tendency for periodical fluctuations finds expression in the inner logic of the Russian language, which reveals binary sets of psychological manifestations with a gradual transition in each set from a positively assessed opposite to a negatively assessed pole.

The developed antinomical connotative thesaurus and antinomian folklore units are the basis for reversal self-analysis, which enables a person to see oneself in the context of his/her native culture, which implicitly manifests itself as collective psychotherapist. The ability to relate one's inner problems with the semantic constants inherent in a language yields psychotherapeutic effect per se, since it diminishes one's feeling that his or her personal problems are unique, and amplifies one's sense of unity with the whole, of which a person is a part; it strengthens cognitive orientation, trains multicolored thinking along the principle of complementarity; diminishes resistance to psychotherapy, which is fostered by interpreting one's shortcomings as over exaggerated assets.

Diagnostic acts and psychological correction overlap in this technique, for the technique makes recourse to depth motivation, toward balance and the most favorable condition.

Regularities revealed in language and folklore make yet another strong case for reversal theory and may provide an impetus for promising multidisciplinary synthesis and international cooperation in a research about reversibility as a universal psychological characteristic.

TELIC AND PARATELIC RORSCHACH SIGNS

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The Rorschach and the Telic State Measure were administered together twice to 73 subjects for the dual purposes of (1) identifying responses to the ink blots which correlate with telic and paratelic states as measured by the TSM, and (2) identifying telic-paratelic reversals. The first administration of the Rorschach and TSM came about 20-30 minutes before the second, the interval between the two administrations being filled with activities aimed at increasing the probability of telic-paratelic reversals. From an analysis of the resulting 146 Rorschach protocols and TSM's, seven Rorschach signs associated with the telic state, and seven Rorschach signs associated with the paratelic state were identified. Each subject was also administered the Telic Dominance Scale, but only once, and it should be emphasized that only the TSMs were used in establishing the Rorschach signs. (A later study of 8 new Rorschach protocols paired with TSMs found high interexaminer reliability for recognizing these signs, but little correlation between the signs and TSM scores.) The present paper reports on further analyses of the original 146 Rorschach protocols, including examinations of how the Rorschach signs correlate with telicparatelic dominances as measured by the Telic Dominance Scale.

Although the Rorschach signs were selected because each tended to correlate with scores on the TSM, subsequent analysis finds only minimal relationships between the Rorschach signs and scores on the TSM. However, TDS scores which were not employed in the discovery of the Rorschach signs, show statistically significant relationships with these signs. For example, subjects categorized as telic or paratelic on the basis of the Rorschach signs given during the first testing were found most often categorized the same on the basis of the total and subscales scores of the TDS (chi squares range from a low of 4.996 to a high of 16.2426). When subjects were identified as either telic dominant or paratelic dominant on the basis of TDS scores, it was found in the first testing that 4 of the telic Rorschach signs and all 7 of the paratelic signs were made more often by those with the corresponding dominances, and on the second testing, all 7 of the telic signs and 5 of the paratelic signs were made more often by those with the corresponding dominances. Further evidence will be presented which confirms that these particular Rorschach signs, regardless of their effectiveness as indicators of telic and paratelic states, are highly efficient indicators of telic and paratelic dominances.

But do they only identify dominances? Of the 25 subjects who were identified by the Rorschach signs as telic in the first testing, 8 gave predominantly paratelic signs a few minutes later on the second testing. Of the 30 subjects identified by the Rorschach signs as paratelic in the first testing, 4 gave predominantly telic signs on the second testing. Dominances do not change like this. That the Rorschach signs occasionally reverse strongly suggests that they may not merely be indicative of dominances, but may also be indicating states, and their reversals may be indicative of reversals between states.

Evidence and arguments will be offered to support the conclusion that the Rorschach signs reflect basic telic and paratelic *qualities*, which when stable are indicative of dominances, but when unstable are indicative of states, reversing with reversals in these states.

A COMPARISON OF TELIC AND NEGATIVISTIC DOMINANCE, TELIC STATE AND INJURIES AMONG SNOW BOARDERS AND BADMINTON PLAYERS.

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Male risk sport participants (36 snowboarders) were compared with male safe sport participants (26 badminton players) using the *Telic Dominance Scale* (Murgatroyd, Apter, Rushton and Ray, 1978) and the *Negativistic Dominance Scale* (McDermott and Apter, 1988) and the Telic/Paratelic State Instrument. Subjects also completed an *Injury Behaviour Checklist* giving information on the objective risk of the sports pursued.

Risk sportsmen scored significantly lower than safe sportsmen on the TDS total score and on the Serious mindedness and Arousal Avoidance subscales but there were no significant differences in Planning Orientation. Risk sportsmen scored significantly higher than safe on total NDS and on the Proactive subscale but not on the Reactive subscale. Analysis of T/PSI scores showed that both groups remained in their dominant state throughout the time course of the investigation. Risk sportsmen received more frequent and more serious injuries throughout the period of study and both TDS and NDS scores were significantly correlated with number of injuries.

Discussion of high risk sport as a way of meeting arousal needs, and as expressing rebellion is related to implications in preventing injuries.

PREDICTING DELINQUENCY

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'Delinquent' is a legal term used to describe the illegal actions of people under the age of seventeen who have been apprehended, prosecuted and found to be guilty of committing such acts. Psychological explanations of delinquency have been scant perhaps because delinquency has been regarded as an infrequent social phenomenon referring to only a small minority of the population. The numbers of young offenders convicted, however, may mask the true level of delinquency. When looking at self-reported measures of delinquency a different picture emerges regarding high prevalence rates. If it is possible to ascertain predictors of delinquency we may be one step nearer to resolving problems associated with it. The Telic Dominance Scale (TDS) has been shown to be useful in predicting delinquency. Further, Jones and Heskin (1988) suggest that paratelic negativism is an important feature of the juvenile delinquent's frame of mind when they are involved in delinquent acts. Finally, psychopathic behaviour, demonstrated by children and adults often involves law breaking.

101 year eleven pupils at a North London school completed a questionnaire pack. Using a reconstructed and modified version of the Self Report Measure of Delinquency-Revised (SRD-R) predictors of delinquency were analyzed. The predictor measures included: the TDS; the Negativism Dominance Scale (NDS) and Blackburn's Psychopathy Scale.

Results: TDS - arousal avoidance; NDS - reactive negativism and proactive negativism; and the Psychopathy Scale - belligerence were all significantly correlated with the SRD-R. Multiple regression showed that the subscale of the NDS) reactive negativism and the belligerence subscale of the psychopathy measure were independent predictors ($t=3.37$; $P<0.001$; and $t=2.39$; $p<0.02$, respectively).

Discussion: The findings are discussed in relation to possible antecedents of delinquency.

REVERSALS AND PARATELIC DOMINANCE AMONG RAVERS, DRINKERS AND ECSTASY INGESTERS ON A NIGHT'S CLUBBING

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A sample of ravers (54% males and 46% females) were interviewed and tested on the bus on their way to a rave event on the outskirts of Glasgow. Quantitative questionnaire measured socio-demographic characteristics and Paratelic Dominance as the evening began. Drug and alcohol use and changes in metamotivational state were monitored at intervals throughout the night, using the Telic/Paratelic State Instrument (T/PSI), on the bus on the way to the event, one inside the club and one on the bus on the way home.

There was a significant rise in paratelic (T/PSI) state scores as the club was entered ($p < 0.05$) and a drop as they left the club.

Statistical analysis remains to be completed but inspection suggests that all subjects were in a paratelic state even before they entered the club, that entering the club led to still greater rises in paratelic state, although ceiling effects reduced the size of the possible increases, and that the effects of change of atmosphere on entering the club may have been greater than either of the effects of ingestion of alcohol or of ecstasy, amphetamines or other drugs.

Results are discussed in the light of reversal theory, taking into consideration the effects of the drugs, of the environment and of the raver's expectations

REVERSAL THEORY AND FORMING OF CREATIVE ABILITY

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Forming a creative personality is the main purpose of modern education. The aim of this investigation is to study the possible use of Reversal Theory (Apter, 1989) in the process of forming the creative person. This investigation has been conducted over the period of 5 years in various schools in St. Petersburg. The participants were pupils aged 8 to 10 years, together with their parents and teachers.

In the first stage of this investigation teachers and parents were acquainted with the fundamentals of reversive thinking, which was achieved at a primary teaching seminar using the program of S. Bachtiarova: "Diagnostics of personal reversiveness"

The study ensued as follows:-

- group discussions about the heroes of literature and folk tales, about parables, proverbs and sayings. In this way the pupils were acquainted with the elements of reversive thinking;
- the main principles and methods of solving design problems, worked out by G. Altsholler, were tested: syntactic reasoning, brain storming and morphological analysis were used to activate their creative minds;
- elements of sociopsychological training, gestalt therapy, imago therapy, fairytale therapy, art therapy, psychosynthesis.

The basic methods of this work are:

- a diagnostic programme consisting of original and selected tests as well as projective ones which will enable the pupil during the lessons and outside the school to appreciate the effectiveness of each lesson and the programme in its entirety. The generality of the original test methods were developed on the basis of Reversal Theory;
- inquiry of parents and teachers about the results was carried out; individual and group consulting of parents and teachers took place;
- observation of the pupils during lessons and outside of school.

Accomplishing this research which incorporated elements of reversal theory has produced the following results:

- the level of cognitive ability, efficiency and outcome of accomplishing tasks increased;
- children became more independent in individual actions and in the group; their self control increased;
- children become less tired; most of them became better able to regulate their emotions;
- the communicative competence of participants was raised.
- there were several characteristics on which children from the experimental class were superior as compared with the control group.

For example:

1. they were more systematic in solving problems,
2. they perceived unfolding events as a whole,
3. they had high adaptive & reflective abilities,
4. they were inventive when solving problems,
5. they showed flexibility of thinking,
6. they showed a high need for innovativeness;

During this experiment a creative group of teachers was identified. This group had worked out and tried an integrated program on the 5th form of a high school, for such subjects as Russian language, literature, world culture, history and arts. The teachers were more able to pursue their future personal trajectories and professional promotions.

Summarising these results, we can say that reversible psychological analysis in educational settings can be used as a new flexible teaching technology to develop an alternative way of thinking, and thereby of forming and improving creative personality.

THE ART OF EXPERIENCING: REVERSAL THEORY PERSPECTIVES ON OPTIMAL PSYCHOLOGICAL HEALTH

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Reversal theory suggests that personality is the totality of one's metamotivational states and the various ways (both common and unique) in which these states are articulated over time. This definition leads to several radically new perspectives on optimal psychological health.

Specifically, the psychologically healthy person is motivationally inconsistent and protean in nature. The healthy person is better described by the terms 'complete,' 'full,' and 'all-rounded' than by the more traditional term 'stable.' Several new terms will be defined and illustrated, including 'psychodiversity,' 'motivational versatility,' 'temporal coherence,' and 'behavioral competence.' Reversal theory guidelines for the art of experiencing will also be explicated.

ECSTASY AND AGONY: THE EIGHT PEAKS AND DEPTHS OF HUMAN EXPERIENCE

Kurt P. Frey (*Yale University*) and
Michael J. Apter (*Georgetown University*)

Reversal theory posits eight metamotivational states (four of these states are active, and one or two are salient, in the person at all times). These states have also been referred to as modes, ways of being, or 'selves,' and each corresponds to a unique set of motives or desires. More to the point, each self is satisfied, as well as dissatisfied, in unique ways.

"Quintessential satisfactions" represent the complete and utter gratification of the needs and desires of one or a few selves - what one momentarily wants is exactly what one gets, be it deep contentment, exquisite sensory pleasure, rapturous joy, total abandon, heady revenge, superhuman power, poignant love, or some other type of euphoria.

"Quintessential dissatisfactions" represent the condition in which the needs and desires of one or more selves are painfully denied or thwarted: black emptiness, bleak despair, naked horror, uncontrollable rage, excruciating humiliation, miserable loneliness, acidic resentment, paralysing shame, immobilizing grief, and other forms of agony. 'Peak' experiences are a special and extreme type of quintessential experience - a peak experience is unusually intense and memorable, causes the person to view the world or self in a novel or permanently life altering way, and is particularly ineffable. 'Depth' experiences have these same distinctive qualities, except that they are a special and extreme type of quintessential dissatisfaction.

The distinction between quintessential satisfactions and peak experiences is similar to Maslow's distinction between 'high plateau' and peak experiences - the former are pure forms of enjoyment and happiness, while the latter are more climactic, shocking, transient, and elusive. Self-report data will be presented to illustrate the various peaks and depths of experience and make evident an intriguing dialectic, which is that ecstasy for one self can be agony for its opposite self (which might instantaneously become active).

Finally, the adequacy of reversal theory's typology of ecstatic and agonizing experiences will be critiqued.

PROACTIVE AND REACTIVE REBELLIOUSNESS AS PREDICTORS OF OCCUPATIONAL TURNOVER AND ATTITUDINAL ABSENCE

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Levels of rebelliousness (or 'negativism', as the construct is called in Reversal Theory) in amongst 16-17 year-old pupils has been found to be predictive of absence from school. Arising out of rebellion's relationship with truancy comes the proposition that this variable may also predict absence within occupational settings. Allied to absence from work is employee turnover, the two being found to be interdependent.

The current research has assessed over 600 newly recruited retail staff using questionnaire subscales to measure levels of reactive and proactive rebelliousness and the degree to which subjects are collectivistic or individualistic in orientation. The subjects' absence and turnover records have been monitored for one year in order to establish the predictive utility of the variables assessed. Additionally, 500 employees with tenures in excess of one year were randomly selected and assessed with an amended version of the original questionnaire.

It is hypothesised that these 'established' staff will reflect the corporate culture existent within the organization and as such, subjects in the original sample whose 'profiles' are concordant with this culture will display lower levels of absenteeism and turnover. It is also hypothesised that reactive rebelliousness will predict both attitudinal absence and occupational turnover. This poster gives an interim summary of this 'work in progress'.

EXPLAINING HETEROSEXUAL RISK BEHAVIOUR USING REVERSAL THEORY CONSTRUCTS

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Sexual risk behavior is a health issue that concerns both the public and the research community. It is an example of the kind of paradoxical human behavior that has been difficult to understand and predict. People put their health and lives at risk by not following simple precautionary measures. They do this even when they have a high level of knowledge about the health issue and know what protective actions, such as condom use, are effective. Since the identification of the human immunodeficiency virus (HIV) as the cause of acquired immune deficiency syndrome (AIDS), much effort has gone into attempting to understand the factors associated with sexual risk behavior in order to increase protective behavior. While the rate of new HIV infection has decreased in some groups of people (i.e., male homosexuals and intravenous drug users), it continues to increase in the heterosexual population, especially in women.

Several theories or models of health behavior have been used to try to understand sexual risk behavior. In general, these models all assume rationality and logic on the part of the person making a health-related decision. This fails to address the evidence of seemingly irrational decisions concerning sexual risk behavior. Reversal theory, because of its construct of opposing states to explain apparently paradoxical behavior, is especially relevant to understanding sexual risk behavior. In addition, the concept of "state dominance" provides a context for understanding the role of individual differences. Reversal theory, therefore, provides a model for understanding both personality and situation-specific factors that are related to sexual risk behavior.

The purpose of this study was to obtain data from young heterosexuals in order to identify the situational and individual difference factors that are related to sexual risk behavior, and to test a model of sexual risk behavior based on reversal theory constructs. Questionnaire material was obtained from more than 300 college students who were enrolled in an introductory psychology class and who participated in the research study for class credit. Each student completed a questionnaire that contained items pertaining to sexual behavior, beliefs and attitudes, personality characteristics, and demographics.

Results will be reported from tests of the following hypotheses. (1) People who are sexually experienced will score higher on a measure of paratelic dominance than will people who are sexually inexperienced. (2) People who score high on a measure of paratelic dominance, compared to people who score low on paratelic dominance, are more likely to report alcohol and drug use, will report lower levels of feelings of personal susceptibility, report more sexual risk behavior, and will have higher endorsement of reasons to not use condoms than reasons to use condoms. In addition, tests of a reversal theory-based structural model to explain sexual risk behavior will be reported.

Building on previous work, this study will further define the role of reversal theory in understanding sexual risk behavior. This will lead to improved models of intervention programs to encourage sexual protective behavior among young heterosexuals.

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TELIC AND PARATELIC STATES DURING THE FIRST 10 DAYS OF SMOKING CESSATION

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The purpose of this study was to investigate the frequencies of telic and paratelic states during the first ten days of smoking cessation, and to describe the relationships of the serious-minded/playful and the arousal-avoidant/arousal-seeking dimensions of the telic/paratelic pair to (1) the experience of urges to smoke, and (2) the use of coping strategies during urge episodes. Experience sampling techniques consisting of tape-recordings and entries into palm-top computers were used to collect data on coping strategies during urge episodes and on metamotivational states during urge and non-urge episodes.

Thirty-six individuals who were attempting to quit smoking were randomly assigned to one of the five 3-day data collection blocks during the first 10 days of cessation. Data were available on 389 coping episodes and 516 non-urge episodes recorded in response to random prompts by the palm-top computer.

A regression approach using Generalized Estimating Equations, which can handle repeated-measures data with varying numbers of observations per participant, was used to determine the relationship of measures of metamotivational state to the use of the ten different types of coping responses. The expected distribution of the metamotivational states was found in the data set. Seventy percent of the urge and 71% of the non-urge episodes occurred while the subject was serious-minded; 72% of the urge episodes and 73% of the non-urge episodes occurred while the subject was arousal-avoidant. Subjects were more likely to be playful in bars and restaurants and less likely to be playful at work. Drinking alcohol, interacting with others, and being in an environment where smoking was discouraged (but not forbidden) were also related to playfulness. Serious-mindedness was related to using cognitive strategies, especially cognitive distraction. Arousal-avoidance was also related to the use of cognitive strategies, but in this case, self-encouragement strategies were more frequent. Arousal-avoidance was more likely at work and least likely in bars and restaurants. Finally, arousal-avoidance was related to the number of strategies used in an episode.

This study demonstrated that metamotivational state varies over the course of the day, but that adults who are trying to quit smoking experience about 70% of their urge episodes in telic states. In addition, paratelic states appear to be related to the use of fewer cognitive strategies and to fewer strategies overall. This finding is consistent with our previous work showing that individuals in paratelic states were more likely to lapse during an urge episode than those in telic states.

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EVIDENCE FOR METAMOTIVATIONAL REVERSAL IN ELITE CHESS PLAYERS

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This paper describes a study performed with elite chess players at competitions throughout the 1996/1997 season. We were interested to understand something about unforced errors in chess performance. Whilst experiments per se were not performed we tried to marshal evidence to test the following two hypotheses:

- (1) that during the course of a chess match reversals from one metamotivational state to the other (e.g. from telic to paratelic state) occur;
- (2) that unforced errors occur in the telic state.

Amongst other things, we measured Metamotivational state at, and the quality and success of, each move made in the game.

We found evidence to support both of our hypotheses it was especially interesting to note that unforced errors seemed to most often occur after a reversal from the paratelic to the telic state. These results are offered as evidence that in chess performance at least reversals between metamotivational states do occur and that this has an effect on performance

UTILISING THE WORLD WIDE WEB IN REVERSAL THEORY TEACHING, RESEARCH AND MARKETING

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The creation of the World Wide Web (WWW) has revolutionised global communications and created opportunities for individuals and organisations to use innovative ways of communicating to new audiences. This new technology creates opportunities for enhanced teaching methods, collaborative research, and the presentation of newer theoretical ideas to the world.

Publishing domains controlled by traditional and established information services are no longer able to act as exclusive "gatekeepers" of what is made available to the public. Gatekeeping is fuelled by intellectual conservatism, establishment self-interest, the North American tilt of the good ship Psychology and other extraneous market factors. These factors effectively protect the status quo and

relegate alternative theories to, at best, minor roles within a pantheon of theories given wide circulation within established media channels. The immediacy of WWW publishing and the extensive audiences available have altered that basic dynamic, albeit the full force and implications of the change are yet to be fully worked through and comprehended.

The Reversal Theory Society's progress depends on good teaching and research and on effective communication, both among members and between members and the outside world. These new information technologies present opportunities for Reversal Theory to gain ground against more established, alternative theoretical positions that currently dominate the limited conventional channels of publication.

This paper reviews communication resources relevant to RT, which are available on the WWW and addresses the utilisation of these resources in RT teaching, research and marketing. In addition, experiences of WWW-assisted RT teaching are interpreted within the framework of RT itself.

PLAYING FOOTsie: EFFECTS OF TELIC/PARATELIC STATE AND DOMINANCE

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Playing footsie is arguably a high arousal behaviour carried out in a playful, spontaneous frame of mind. Two studies were carried out to test the hypothesis that the quantity and quality of footsie would be greater in: (a) paratelic dominant (PD) vis-a-vis telic dominant (TD) subjects; (b) subjects in whom a paratelic state vis-a-vis a telic state is induced. Both studies used a card-playing game as an icebreaker to induce subjects to communicate readily by foot following which there was a "free-footsie" period (FFP) in which subjects were instructed to communicate their feelings about the interaction to their partner using their feet. This FFP was clandestinely video recorded and the 3-minute segments were subsequently rated blind for: (i) number of contacts; (ii) number of initiations; (iii) a global measure of quality/intensity of contact (Gq/i) on a 1-5 scale; and (iv) number of foot taps. Both studies used Calhoun's Telic/paratelic State Instrument to assess state.

Study A selected extreme telic and paratelic (both Ns of 24) using the Paratelic Dominance Scale of Cook and Gerkovich. Two mixed sex pairs (all either telic or paratelic dominant) performed the game under secret or non-secret conditions. Attractiveness judged from mug shots) of partner was included as a D.V. in this study.

In Study B mixed dominance Ss (20 male 20 female) were randomly assigned to a telic or paratelic state induction and paired such that each mixed-sex dyad comprised one of 4 possible telic/paratelic pairings. State was induced using either (for paratelic condition) a Mr Bean comedy film or an AIDS film. Following this the game was played under either a telic or paratelic instruction in order to maintain the appropriate state. Confirming the main hypotheses, paratelic dominant Ss and Ss in whom a paratelic state was induced showed significantly more initiated footsies and significantly greater G q/i than their telic counterparts. Other interesting findings were:

- (1) both studies (and in Study A, regardless of dominance) Ss became highly paratelic following the footsie experience;
 - (2) in Study A, male Ss became more paratelic after playing footsie under the Secrecy condition, whereas female Ss became more paratelic under the Non-Secret condition, (in).
- In Study A, PD Ss rated their partners as more attractive than did TD Ss, moreover within PD Ss, more footsie was associated with increased perceived attractiveness of partner.
-

AN INVESTIGATION INTO MOTIVATION AND METAMOTIVATION FOR HOBBY DANCING

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Instruments:

The TDS, PDS, a new german Incentive Focus Scale [IFS] (by Professor Falko Rheinberg from Heidelberg University, now Potsdam University), a modified version of Csikzentmihalyi's Experience Sampling Method [ESM] and Bem & Allen's items on cross-situational consistency. The TDS and PDS were used in our own german translation, as no previous german version seemed to be available, and with an expanded set of instructions (which ofcourse produces a small margin of uncomparability with findings in the anglo-saxon area).

The ESM had to be modified because there was no possibility of at-the-moment measurement. So we combined a short set of scaled items and a specific semantic differential.

Test design:

Test and retest after six months. For the retest-run, the PDS was changed to TDS (though, strictly it should have been done the other way because of the different number of items). The IFS was given twice with three focuses: general; occupational; and focused on dancing.

Test subjects:

178 members of dancing-clubs, with a wide spread of age, profession/occupation, dance-modes, partner preferences, and intentions. Spontaneous attrition with the sample reduced available retest-subjects to 79.

Results:

- a highly significant negative correlation between PDS and TDS
 - a good canonical correlation of PDS and TDS with the two IFS-dimensions (purpose versus doing-orientation). It is by no way theoretically astonishing that the dimension of arousal-seeking/arousal avoidance shows the highest correlations.
 - factor-analysis confirms approximately the 3-dimension-proposition of TDS and PDS. But a fine scrutinizing combining factor values and item-content-analysis tends to suggest a 4/5 dimension solution, which should be followed.
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THE SEARCH FOR THE OPTIMAL PERFORMANCE STATE: MANIPULATING METAMOTIVATIONAL STATE AND AROUSAL IN SPORT SKILLS

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There have been frequent references in the reversal theory literature on performance in sport which have suggested that the performance of sport skills may be linked to operative metamotivational state and levels of felt arousal. It has also been suggested that these in turn (i.e. state and felt arousal) may vary depending on the idiosyncratic nature of particular skills. This presentation will report the results of one of a series of what are believed to be the first studies in which metamotivational state and arousal level were deliberately manipulated in a sport performance context.

An ecologically valid field experiment was conducted in which the effect of four different combinations of metamotivational state and felt arousal level (telic-low, paratelic-low, telic-high, paratelic-high) on performance in archery could be investigated. Prior to performance, arousal level (both physiological and felt) were manipulated by either an arousal-enhancing (the Harvard step-up test) or an arousal reducing (quiet relaxation) procedure. In addition, metamotivational state was manipulated by means of verbal instructions given by the experimenters. Volunteer skilled archers ($n=28$), were randomly divided into two groups ($n=12$), each of which performed an archery skills test under two of the four experimental conditions. It was hypothesised that performance would be superior under experimental conditions of telic low arousal.

The results (from Telic State Measure and heart rate measures) indicated that the methodology used for manipulating arousal level and metamotivational state in this field experiment was successful. No significant differences between experimental conditions on archery performance were found. Differences between high and low hedonic tone groups (telic low + paratelic high vs telic high + paratelic low arousal) approached significance ($p=.06$).

The usefulness of the methodology and the implications of the results obtained for possible future work will be discussed.

PARATELIC STRESS: REVERSAL THEORY OR DIFFERENCES IN OPTIMAL AROUSAL LEVELS?

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Previous studies (eg. Martin et al 1987) have demonstrated that there is a curvilinear (U-shaped) relationship between stressful events and stress responses for paratelic dominant individuals. This contrasts with the positive linear relationship found for telic dominant individuals. The authors explain this relationship in terms of the positive relationship between felt arousal and hedonic tone in the paratelic state, and the likelihood of being in the paratelic state at different levels of stressful events and paratelic dominance. However, there is a possible alternative explanation for this pattern or result. If the PDS were measuring something similar to a sensation seeking trait, in which individuals differed consistently in their optimal or preferred level of arousal, the same pattern of results could be predicted. The aim of this study is to clarify the cause of this relationship by looking directly at telic and paratelic states.

Forty-eight subjects participated in a replication of the Martin et al study. In which hierarchical multiple regression was performed on the Daily hassles scale and PDS scores to predict depression (BDI). As in the original study, a significant amount of variance was explained by the interaction between PDS and daily hassles (R^2 increase = 15.8%). A U-shaped relationship was found for the paratelic dominant subjects. Three subjects were then chosen on the basis of their PDS scores as a telic dominant (PDS = 2), a paratelic dominant (PDS = 28) and a neutral subject (PDS = 16). Each subject completed the T/PSI and indicated their level of arousal and hedonic tone on Lickert type scales. They repeated this across many different situations and mood states. In two of the three subjects, there was a significant difference between the correlations (of arousal and hedonic tone) in the telic state and the paratelic state. In the third case, the difference was not significant but was in the predicted direction. These results support a reversal theory explanation over an optimal arousal one.

A MODEL OF MIND WHICH INTEGRATES COGNITIVE AND DYNAMICAL PROCESSES, AND DIFFERENTIATES AUTOPOIETIC AND SOCIAL CONSTRUCTIONS.

Kevin Kingsland, *City University, U.K.*

Using the approach of structural phenomenology Reversal Theory (RT) has provided convincing arguments that a single stable-point account of human arousal is inadequate (e.g. Apter 1989). The notion of bistability has proven valuable in explaining and guiding counselling and a broad range of applications and research (e.g. Kerr, Murgatroyd & Apter, 1993; Apter, Kerr & Cowles, 1988). The characterisation of the metamotivational modes, in particular the Telic and Paratelic states has illuminated the formerly paradoxical experience of high (or low) arousal being felt as either pleasant or unpleasant in apparently the same objective circumstances. However, RT can be greatly expanded by addressing the growing evidence that arousal is not a singular general condition. Rather, the individual seems to encompass a system of modular states at any one moment, each of which may obtain a different degree of arousal. Motor arousal, for example, may be quite independent of conceptual arousal etc. This paper draws upon diverse sources to identify and put into relationship seven qualitatively different (and probably parallel) domains. Lachenicht (1988) noted the need for RT to offer a satisfactory account of the relation of metamotivational states to cognitive processes, and to demonstrate the impossibility of indifference between metamotivational states. This is the central problem addressed in this paper.

When the telic/paratelic pair is expanded to cover a spectrum of domains a great deal of phenomena falls into order. This paper describes an analytical model and the research steps taken to reach a distinctive seven-level cognitive explanatory model which exhibits all the features of RT and links cognitive processes to dynamical states. Arousal is reformulated in terms of specific complexity states and the telic/paratelic modes are shown to be a necessary requirement of the underlying cognitive processes.

Lachenicht (1988) also pointed out the objections of some social scientists (e.g. Harre, 1984) to an individual phenomenologically based approach. They argue that knowledge and experience are shared and may be irreducibly social. Discursive psychological approaches (e.g. Harre & Gillett, 1994; Edwards & Potter, 1992) claim that the person is realised in social discourse rather than existing a priori. This paper addresses the criticism and distinguishes between a realm of socially determined meaning and a realm of autopoietic meanings. Drawing on the work of Varela and Maturana (e.g. 1980), individual cognitive constructions are contrasted with social constructions obtained through "languaging". In doing this the priority of the individual psychological realm is recognised and different metamotivational states may be allotted to the two realms.

The identification of additional metamotivational pairs (conformist/negative pair, mastery/sympathy pair and the autocentric/allocentric pair) has provided a rich framework for understanding and categorising emotions and personality. These pairs, however, must be seen to occupy a social realm. They are, however, shown to be outcomes of attractor states of the cognitive system.

This paper draws upon a largely qualitative research programme that has been pursued for over twenty five years. The findings have been triangulated using a wide variety of methodologies in group studies, counselling and extensive applications in the world of work.

STRUCTURAL PHENOMENOLOGY AND ANGER SITUATIONS

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The purpose of this study was to describe the relationship between a variety of metamotivational states and measures of the degree of anger intensity feeling in provocation situations.

Our research subjects were 46 students of a technical college who were identified as having serious anger control problems. Adolescents have completed the Ukrainian versions of the "Personal Orientation Profile" (M. Apter, 1990) and "Anger Situation Inventory" (Hoshmand & Austin, 1987). The data received from POP and ASI subscales were then analyzed by means of Pearson product-moment correlations.

A great amount of anger that occurred in situations of lowering status, stigmatization of adolescents significantly correlates with states of autocentric mastery ($r = .40, p < .05$) and autocentric sympathy ($r = p < .05$). The denial of their identity by others, "personal devaluation" led to a feeling of being humiliated, weak, resentful and deprived. The autocentric mastery state is likely to occur in situations of "betrayal of trust" and subjects want to demonstrate competence and control in relations with an offender.

Anger which was provoked by "unfair treatment", "goal blocking" and "minor nuisance" induces the reactive negativistic state. Violating of ethic norms in structured social situations is associated with negativistic tension-stress and wishing to do the same.

Anger response to the situation of "seeing others abused" has links with indicators of allocentric sympathy, telic state and effortfulness. Teenagers after exposures to such stressor experiences the need to care about the victim of violence and they don't seem immobilized by anxiety and guilt but provoked to overcome or reduce tension-stress induced by stressors. Transfer of centre of gravity from self to another person and telic contingency are states in which coping with arousal and unpleasant losing comes about.

It was concluded that triggers - the situational events - are provocations to felt arousal and felt transactional outcomes, which are experienced in different somatic and transactional states.

Effectiveness of anger reduction techniques is influenced by interpretation of the provoking experiences by impulsive youngsters, their counterpoint of motives. There is a necessity to combine anger control training with the use of phenomenological "motivational polyphony", metamotivational reversal to maximize the effectiveness of the intervention programs.

Metamotivational diversity is a guarantee of the integrity of an adolescent's extended identity, in contrast with a narrowness and absolutism of consciousness which can lead to violence.

REVERSAL THEORY CONSTRUCTS AND DIMENSIONS OF PERFECTIONISM: A PSYCHOMETRIC INVESTIGATION

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Previous reversal theory research has examined the relationship between obsessionality and telic and paratelic dominance (Fontana, 1981), but no research to date has investigated the relationship between reversal theory constructs and perfectionism. Contemporary research on perfectionism has shown it to be a multidimensional construct that represents three distinct subtypes: self-oriented perfectionism, or holding unrealistically high standards for one's own performance, socially-prescribed perfectionism which reflects the perception that one must continually struggle to meet the high standards of others, and other orientated perfectionism, which reflects a tendency to hold unrealistically high expectations for the behaviour of other people (Hewitt & Flett, 1991).

The present research is an examination of interrelationships among reversal theory constructs (telic and paratelic dominance and negativism/conformity) and these dimensions of perfectionism.

Undergraduate student volunteers will complete a questionnaire measure of reversal theory constructs (the Apter Motivational style profile; Apter, 1995), a multidimensional perfectionism inventory, and measures of daily hassles and perceived stress.

It is hypothesized that telic dominance will be positively related to self-oriented perfectionism, and that conformity will be positively associated with socially-prescribed perfectionism.

Further interrelationships among all reversal theory constructs and dimensions of perfectionism will also be explored. In addition telic and paratelic dominance and dimensions of perfectionism will be examined as predictors of reactions to hassle-based stress.

NEGATIVISM, TELIC DOMINANCE, READINESS FOR CHANGE AND REACTIONS TO HEALTH EDUCATION PROMOTIONS AMONG SMOKERS & NON SMOKERS

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Health Education propaganda against smoking was distributed to 135 students in the University of Glasgow and their reactions to it measured on a reliable ad hoc scale of Openness/Acceptance versus Closedness Critical Rejection. Figures collected for amount smoked allowed for the division of the smoking sample into high and low smokers. Readiness for Change according to Prochaska and di Clemente's stages was estimated using the Rollnick, Heather Gold and Hall Scale (1992) and measures of Telic Dominance using Murgatroyd, Apter, Rushton and Ray's (1978) Telic Dominance Scale and Negativism using McDermott and Apter's (1988) Scale were simultaneously collected on all subjects.

There were no important effects of age, gender or high versus low smoking so the smoking and non smoking samples could each be treated as homogenous wholes. There were no measurable differences in reaction to propaganda between smokers at the various stages of Readiness for Change. Analysis of Variance and Multiple Regression Analysis yielded clear indications that smokers, and especially negativistic but not telic or paratelic smokers were most critical and rejecting of the propaganda.

Results suggest that there is a special kind of challenge for would-be health educators in designing propaganda for that half of the population which is negativistically dominant.

STAGES OF EXERCISE CHANGE, EXERCISE ADHERENCE, AND REVERSAL THEORY

Jay T. Lee, *University of Houston, U.S.A.*;
Michael J. Apter, *Georgetown University, U.S.A.*

Perseverance in a preventive or rehabilitation exercise program is essential for success in decreasing health risk or preventing the recurrence of serious health problems related to a sedentary lifestyle. Yet, studies show that initiating an exercise program and adhering to an exercise program are independent of each other (Dubbert, 1992; Leith & Taylor, 1992). Most fitness or rehabilitation programs report a 50-60% drop-out rate within the first 3-6 months (Dishman, Ickes, & Morgan, 1980; Swan & Carmelli, 1988). Marcus (1992) suggested application of the transtheoretical model to the adoption of a physically active lifestyle. The stage of exercise change questionnaire, developed by Marcus (1993), is used to determine whether an individual is in the precontemplative, contemplative, preparation, action, or maintenance stage of exercise behaviour. Further studies (Prochaska & Marcus, 1994) have suggested that early drop-out may be related to attempting action without being adequately prepared. Dishman (1992) suggested that the solution to the problem of exercise adherence may be in developing personalized interventions. This notion is consistent with one of the basic premises of the transtheoretical model of matching intervention to the stage of change in order to best effect decisional balance. Reversal theory provides an unparalleled psychological structure for exploring this notion of affecting the decisional balance by matching the type of information (i.e., metamotivational appropriateness) with the stage of change. Problematic is the measure of metamotivational states and formulating how the states change. The current study is an analysis of the metamotivational states and how they could be related to the stages of exercise behaviour. A sample of university students (n=730) responded to the recently developed Exercise Motivation Scale (Lee and Apter) as part of a lifestyle questionnaire including the stages of exercise behaviour. The results were explored using a variety of factor analytic techniques to describe static change (states) at different stages. This application of factor analysis is intended to describe which of the thirty items of the Exercise Motivation Scale move through the analysis together allowing the researchers to interpret larger constructs formulated from the dynamic interaction of the metamotivational states within a stage of behaviour. Initial statistical analysis exhibits factorially simple correlations (.50 to .86) of items with 2 to 4 factors at most stages of exercise behaviour. The complete analysis and interpretation will be presented.

THE DEVELOPMENT OF THE EXERCISE MOTIVATION SCALE AS A TOOL FOR UNDERSTANDING PHYSICAL ACTIVITY

Jay T. Lee, *University of Houston*, **M.J Apter**, *Georgetown University*, **D.G. Pease** and **J.D. Goodway**, *University of Houston, U.S.A.*

The adoption of a physically active lifestyle by all people in the United States would have the same effect on longevity as eliminating all deaths from cancer (Jackson and Ross, 1997). The average two year increase reflects an improvement in quality of life rather than longevity. A recent report by the Centers for Disease Control and Prevention (1996) recommend moderate intensity exercise for all adult Americans on most- preferably all-days of the week. Yet, most fitness or rehabilitation programs report a 50-60% drop-out rate within the first 3-6 months, and most (two-thirds) Americans do not exercise at all (Dishman, Ickes, & Morgan, 1980; Swan & Carmelli, 1988). A review of the most prominent theories of exercise adherence (CDCP, 1996) suggested that the issue of adherence to a physical activity program for fitness reasons or as part of cardiac rehabilitation has not been well understood. Studies (Prochaska & Marcus, 1994) have suggested that early drop-out may be related to a failure to match interventions to the subject, and Dishman (1991) wrote that the readiness of individual to change is important. While the use of reversal theory is promising for understanding individual exercise motivation, researchers needed an instrument to identify the salient metamotivational states of an exerciser to develop and test frameworks for understanding the processes of change and implementing individualized interventions based on reversal theory. Apter wrote ten items, one for each of the metamotivational states, and arousal-avoidance and arousal-seeking. Parallel versions of these ten items were produced for three occasions; deciding to exercise, during exercise, and after exercise. Two versions of the thirty item Exercise Motivation Scale (EMS) were developed and submitted for review by four experts, one each from exercise epidemiology, sport psychology, health education, and measurement. Where necessary, the expert panel either selected the best item from each version or suggested alternative items consistent with the area of sport and exercise psychology. Based on 75% agreement among the expert panel members an initial version of the EMS was constructed. The panel examined the second version and minor revisions were made again based on agreement among experts. The third version was then examined for consistency with reversal theory constructs, and after a pilot study, changes were made for readability and consistency. As part of a class exercise behaviour questionnaire, a sample of university students (n=750) responded to the inventory. An analysis of the scale showed modest reliability between each of the three occasions (.66-.83). Initial statistics indicate that subjects responded differently ($p=.0001$) between occasions especially when considering other variables (e.g., stage of exercise behaviour). The presentation will include item analysis relative to stage of exercise behaviour, as well as suggestions for potential use of the EMS to address public health and clinical issues requiring physical activity.

METAMOTIVATIONAL ORIENTATION, FREQUENCY OF SPORT PARTICIPATION, AND PERCEIVED PHYSICAL ABILITY AND FITNESS OF UNIVERSITY FRESHMEN

Koenraad J. Lindner, *The University of Hong Kong*

John Kerr, *University of Tsukuba*

University of Hong Kong freshmen (N=3,151) responded to a participation questionnaire in which motives for sport and physical activity involvement were phrased in terms of Reversal Theory (RT) metamotivational orientations (MO). Respondents were classified according to their dominant somatic and transactional MOs. Somatic MO could be established for 75% of the respondents and Transactional MOs for 73%. While the whole sample predominantly rated Telic and Alloic MOs highest, Chi-square analyses showed that males chose relatively more frequently Paratelic and Mastery, MOs, while females had relatively more Telic and Alloic MOs. Frequency of intended participation in sport and activity was significantly higher (2-way ANOVAs) for Telic than for Paratelic MO groups, and these two groups were significantly higher than the Conformist and Negativistic MO groups (all $p < 0.001$). Alloic and Mastery groups had significantly higher intended participation scores than the Autic and Sympathy groups ($P < 0.001$). There were significant sex by orientation interactions indicating that Negativistic and Sympathy orientated females did not follow the general trend of lower participation rates for females.

Paratelic oriented respondents had significantly higher perceived ability (PA) than Telic ($p < 0.05$) and Conformist ($p < 0.01$) oriented groups. PA was significantly higher in the Autic MO group than in the Alloic, Mastery and Sympathy groups ($p < 0.001$). In contrast, no significant differences were found for perceived fitness (PF) among the somatic MO groups, except when non-participants were deleted from the analysis. For the transactional MO groups the results for PF were the same as for PA.

These results are generally similar to those obtained in a previous study where MOs were imposed on Likert-type statements retrospectively. The supportive nature of the findings for RT, and the importance of linking metamotivational orientations to sport participation are discussed.

A QUALITATIVE ANALYSIS OF METAMOTIVATION AND EMOTION IN ELITE MALE LACROSSE AND VOLLEYBALL PLAYERS

John Males, *University of Nottingham, U.K.*

John Kerr, *University of Tsukuba, Japan*

Reversal Theory (Apter, 1982) suggests that metamotivational states provide a context for emotion and motivation. Reversals between metamotivational states are posited to occur as a result of frustration, satiation or contingent external events. The objective of this study was to establish the nature of metamotivational states experienced within competitive team sports and to identify whether changes in individual's emotional experience occur for the reasons suggested by reversal theory.

Four elite male lacrosse players and five elite male volleyball players were interviewed after pre-season friendly competitions and selected games of major tournaments. Interview data were analyzed using QSR NUD.IST (Application Software Package, Melbourne, Qualitative Solutions and Research, 1995). Subject's reports were first categorised according to a specially developed coding structure that considered factors such as the outcome of the match, state of play, whether the individual was on the bench or on the field, strength of opposition and the stage of the tournament. Their descriptions of affect and motivation were then categorised according to reversal theory constructs to identify the prevailing metamotivational state for a given episode. It was then possible to test for relationships between metamotivation and internal and external events using the facilities of the NUD.IST programme.

Subjects reported experiences consistent with the occurrence of metamotivational reversals. Contingent events accounted for the majority of reversals. For example the commencement of the match typically triggered a telic to paratelic reversal while an adverse change in score tended to proceed a paratelic to telic shift. Conformist to negativistic reversals frequently occurred after an infringement of the rules by opponents or a poor refereeing decision. There were also increases in unpleasant moods over the course of the tournaments related to increased fatigue and frustration. Satiation does not appear to be a relevant trigger for reversals in these sporting environments.

THE DEVELOPMENT OF THE MOTIVATIONAL STYLE PROFILE

Richard Mallows, *University College of Ripon and York, U.K.*

The development of a 70 item measure of a comprehensive set of personality features derived from Reversal Theory (Apter, 1982) is reported. The *Motivational Style Profile* (MSP) measures the dominance of all five pairs of metamotivational states identified in the theory together with tendencies towards arousability, effortfulness and optimism/pessimism. The MSP also measures the overall salience of each pair of states within the individual's conscious experience over time.

The paper describes the development of the MSP subscales through several cycles of item analysis, involving both American and British samples. Data on test-retest reliability for the resulting instrument is also reported together with some concurrent validation data and the results of a factor analysis of the MSP items which suggest a five factor structure.

REVERSAL PROCESSES AND THE ALTERNATION OF THE QUESTIONING & ANSWERING MODES OF BEING IN THE OEDIPUS STORY

Catalin S. Mamali, *University of Iowa, U.S.A* [poster paper].

There is little doubt that the concept of reversal has been expressed in many implicit forms in a number of stories, myths and legends long before it was developed as a systematic psychological theory by Apter (1982, 1985, 1990) and Apter & Smith (1975). One could argue that many critical psychological processes have been intuitively described or used in a number of old stories and legends. It would be a mistake however, to identify such proto-forms with the complex theoretical constructions of scientific psychology. Nevertheless, the pre-existence of such elements may become a challenge for scientific psychological inquiry which may turn them into an object of investigation. Such a case is represented by the very concept of reversal which in itself has a long history - one discovers it, for example, in Aristotle's writings. The question asked here then, is *'what are the theoretical and empirical consequences for reversal theory of the mode in which reversal processes are described in these old stories?'*

The full text of this paper makes explicit a number of motivational issues that are implied in the Oedipus narrative and discusses the meaning of reversal as implicit within his life story. The approach focuses upon the dynamic processes and major shifts between questioning and answering roles over the course of Oedipus's life.

The Oedipus story in terms of life events described and the mode in which he copes with them presents a challenge for the theory of psychological reversals. The challenge concerns the possibility for reversal theory (RT) to integrate a wide range of reversals that mark human existence psychologically, socially and morally across the lifespan. Many reversals produced in one's own life can be either reduced or identified with 'pure' psychological reversals. Indeed, RT in its original form (Apter, 1982) contains an explicit orientation toward cultural processes. Some of the reversals produced in Oedipus's life imply a switch between two or more meta-motivational modes as they are conceived in RT. However, it seems that there are a number of cardinal reversals that cannot be identified with the four essential pairs assumed by RT. Among these reversals, those between questioner and questioned, between observer and observed, inquirer and inquired, have a special importance due to the fact that they may be produced both at the intrapersonal and interpersonal levels. The problem is that in many cases the functions and the causes of reversals may be at the same time social, moral, economic and social-psychological in nature.

The dynamics of questioning and answering processes during Oedipus's lifespan points out a developmental process that is meaningful for RT: reversals between questioning and answering modes have a potentially cumulative effect. So, reversals are produced during an irreversible life process. Thereby, this observation generates an important question: *what are the basic characteristics of the four metamotivational states during different stages of the lifespan?*

Lastly, during the lifespan a person may reverse willingly &/or unwillingly between opposite roles due to a wide range of life events and situations. This observation leads to the following question: *what are the relations between different unexpected and meaningful life experiences on the one hand and reversals between metamotivational modes of being on the other?*

Specifically, what is the impact of such *existential* reversals, such as those extant within Oedipus's life (from 'crime investigator' to 'killer'; from 'non-citizen' to 'hero'; from 'seer' to 'blind man') on the patterning of reversals between the four fundamental metamotivational modes of being as stipulated by RT?

REBELLIOUSNESS AS MANIFOLD PREDICTOR: SOME RECENT VALIDATION DATA ON THE NEGATIVISM DOMINANCE SCALE

Mark McDermott, *University of East London, U.K.*

Though Reversal Theory (RT), unlike other grand theories, is a state-based one, it is concerned also with what it calls 'dominance': spending proportionately more time (though not necessarily preferring to do so) in one metamotivational state (for example, in the 'negativistic' state) than its opposite (ie, in this instance, the 'conformist' state). Despite dominance being a somewhat secondary focus of RT, the investigation of dominance has received considerable attention. Notably much of this attention has focused upon the telic/paratelic pair of metamotivations. The three remaining metamotivational pairs, by comparison, have been investigated less so, perhaps because the playful/serious mindedness distinction has so much resonance and face validity within individualistic, goal-oriented cultures. It is contended here however, that the three remaining metamotivational pairs should receive equivalent attention. Specifically, it is evident that theoretically and in terms of ecological validity, the negativism/conformity pair also are of fundamental importance to an understanding and full delineation of the structural phenomenology of everyday life.

Despite its conspicuousness during the two developmental periods of infancy and adolescence, negativism is a relatively neglected psychological construct. Within the experimental social psychology tradition of post-war North American psychology, relevant work focused primarily upon elucidating the conditions under which people conform. Comparatively little attention however, was directed at those socio-contextual conditions under which people rebel - and, indeed, as to whether a 'disposition' or 'readiness' to rebel could be identified as an individual difference variable.

It was in response to such relative neglect that the Negativism Dominance Scale (NDS) was developed in the mid-1980's. During such development two forms of negativism were identified: proactive and reactive rebelliousness (McDermott, 1987, 1988). These factorally derived subscales of the NDS have been shown to be cross-culturally replicable in North American and British samples and to have construct validity and internal reliability.

This paper seeks to review published and recently generated but unpublished data as collected with the Negativism Dominance Scale and in so doing further illustrate the importance of this construct within the RT framework and more generally within the structural phenomenology of human behaviour.

A CRITIQUE OF REVERSAL THEORY

Eugene J. Meehan, *University of Missouri-St Louis, USA.*

My purpose here is to examine the merit, or lack of it, in what is called 'Reversal Theory' in psychology. Discussion will focus mainly on a volume by Michael Apter entitled *Reversal Theory: Motivation, Emotion and Personality* (1989). In fairness, it should be noted that the details of Apter's analysis, and even the usefulness of the end product for certain academic and other purposes, are largely ignored. The reason for such cavalier treatment of the text is quite simple: on methodological grounds, the whole 'theory' can be rejected more or less out of hand - for reasons to be made clear in what follows.

What is a 'theory' anyhow? Is 'Reversal Theory' really a 'theory'? There is no totally satisfactory way to answer a question of this order at present. For the answer that is regarded as acceptable depends on the conception of 'Theory' that is agreed to by the parties to the discussion. Today, unfortunately, there is very little agreement, among either social or physical scientists, on a precise meaning for 'theory'. What I propose to do, therefore, is to lay out the fundamentals on which a valid or defensible conception of 'Theory' can be built and show the conception of 'theory' that emerges. That point is actually crucial, for without agreement at this fundamental level, there is no possibility of agreeing on any meaning for 'theory', or for any other technical term. Moreover, there is little point in asking whether a particular set of assumptions constitutes a 'theory' unless the importance of the identification can be demonstrated. In these broad terms, the paper can be regarded as a response to the urgent need for a critical apparatus that can be used as a basis for assessing cognitive performance.

AN EMPIRICAL INVESTIGATION OF COMPATIBILITY BETWEEN ADULTS: A REVERSAL THEORY PERSPECTIVE ON HUMAN RELATIONSHIPS

Ophelia Mills & Mark McDermott,
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This study investigated the relative importance of the variables, mode opposition, reversibility and mode dominance with respect to adult relationship compatibility.

One hundred undergraduate psychology students completed the Telic Dominance Scale; thirty-one female subjects were subsequently drawn from this group to form telic dominant, paratelic dominant and highly reversible groups. Three fictitious characters which personified the psychosocial characteristics of each metamotivational mode were composed and each subject rated how compatible these were with themselves: firstly as potential 'friends' and secondly as potential 'lovers'/partners'.

As predicted, subjects felt more compatible with the 'friend'/partner' sharing their own dominant mode. More significantly, however, subjects felt *most* compatible with the vignette describing the reversible 'friend' and 'partner', irrespective of their own metamotivational style.

Together, these findings add a further dimension to the 'intimate relations' literature and to the associated 'similar attract' hypothesis by suggesting that mode reversibility and not mode similarity is the most salient concomitant of perceived compatibility.

DEVELOPMENT OF A SMOKING CESSATION PROGRAM BASED ON REVERSAL THEORY

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Smoking is a habit that is extremely difficult to break. There is a strong need for innovations in the design of smoking cessation programs. The work reported here is targeted toward making improvements in cessation interventions so that more people are successful in their attempts to quit smoking.

Smoking causes changes in the brain and the direction of these changes depends on the dose of nicotine the smoker takes. We reasoned that a smoker in the telic state would smoke in such a way as to decrease cortical arousal, and that a smoker in the paratelic state would smoke in such a way as to increase arousal. In general, these hypotheses were confirmed. The changes in the brain induced by smoking could therefore be one of the factors that maintains the smoking habit. If this is the case, substituting another behaviour that creates the same sort of brain changes should help the smoker quit smoking.

We selected respiratory manoeuvres as the basis of the smoking cessation program because the level of carbon dioxide in the body is altered by changes in the pattern of breathing. Some breathing manoeuvres increase carbon dioxide and some decrease it, and these bidirectional changes in carbon dioxide are associated with changes in cortical arousal. A series of studies confirmed these relationships and allowed us to select two respiratory manoeuvres that appeared to be most effective at increasing carbon dioxide, and two that were most effective at decreasing it.

In order for respiratory manoeuvres to be used successfully to cope with the urge to smoke, it is necessary for the person to be able to identify which type of manoeuvre to use given the state of mind. The Global Assessment of State (GAS) technique was developed and tested for this purpose. The combination of the GAS technique, the breathing manoeuvres, and specific training for smoking cessation will be described, as will the design of the clinical trial that is now underway to evaluate the effectiveness of the program in helping smokers quit smoking.

DEVELOPMENT OF THE GLOBAL ASSESSMENT OF STATE: JUST TELL ME -- ARE YOU TELIC OR PARATELIC?

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Determining whether a research participant is in the telic or paratelic state has been investigated by several researchers. Most recently, Judith Calhoun presented validity data on her 12-item Telic/Paratelic State Instrument (T/PSI). However, under certain conditions, even this reasonably short scale is unwieldy. In laboratory experiments, where rapid and repeated assessments of states are needed and in state-based treatment applications where subjects assess their states to make decisions about how they should cope with their current situation, faster and more convenient assessment devices are needed.

This paper describes the development of the Global Assessment of State (GAS) method for self-determination of telic or paratelic state. Over the course of four studies, a training method was developed and refined to teach subjects how to differentiate between telic and paratelic states. The studies included a test to determine the success of the training. The first two studies used protocol analysis techniques to ascertain how subjects arrived at the answers to specific test items. Results of these studies led to revisions in the training materials and terminology. The third study involved two methods of manipulation of reversal theory states: short video clips that were either humorous or serious, and engaging the subjects in discussions that were either humorous or serious. The Global Assessment of State and the T/PSI were administered to measure subjects' states after the manipulations. The results indicated that the GAS serious-minded/playful item responses were in the expected direction an average of 85% (range 61% to 95%) of the time. The GAS arousal-avoidant/arousal-seeking item responses were in the expected direction an average of 66% (Range 61% to 79%) of the time. The GAS serious-minded/playful item agreed with T/PSI Playful scores 84% (Range 75% to 100%) of the time. The GAS arousal-avoidant/arousal-seeking item responses agreed with the T/PSI Arousal-seeking scores an average of 87% (range 83 to 90%). The GAS arousal-avoidant/arousal-seeking and the serious-minded/playful dimensions matched each other only about 60% of the time.

The purpose of the fourth study was to investigate the effect of combining the serious-minded/playful dimension with the arousal-avoidant/arousal-seeking dimension on accuracy of identifying state. Terms were combined into descriptions of telic or paratelic states. Results of this study showed that combining the dimensions reduced training time without affecting the accuracy of state-identification.

During the course of these studies, several conceptual issues, which might be considered problems with reversal theory, repeatedly surfaced. Arousal-avoidance and serious-mindedness did not correlate as highly as expected. Defining metamotivational states as being concerned with what you want, not what you have, also led to problems in identifying states. Although the GAS method produces relatively accurate assessment of the paratelic/telic pair, some types of situations were frequently misclassified. In addition, because the method involves at least 30 minutes of training time, it is not appropriate for many applications. Both the conceptual issues and the measurement issues arising from these studies will be discussed.

COPING HUMOUR: A PROTECTIVE REVERSAL

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Humour has been identified as a mature coping mechanism. However, beyond being awarded this label, little research has been done to map the workings of the coping humour phenomena. From the research currently in progress, a tentative model of coping humour has emerged. The elements that contribute towards this model include both the processes by which coping humour can be achieved, and the contexts in which this coping strategy is more likely to occur. On reflection, it has become apparent that certain principles operating within the model of coping humour are congruent with the reversal theory. This paper therefore explores how the reversal theory can provide an interpretive perspective on the phenomenology of coping humour. It has been established that humour will almost always occur in the paratelic mode. As such, coping humour can be used to demonstrate how the paratelic mode may assist in one's coping with stressful events or difficulties. In the paratelic mode, one is more able to tolerate, and even enjoy, the arousal of a stressful event due to the protective frames associated with the arousal seeking, playful and moment-focused qualities of this 'way of being'. It has been assumed that a 'shift in perspective', which has been identified as a necessary element in the process of coping humour, is effectively a reversal into the paratelic mode. When operating from this point of reference, an event is still recognised as being stressful, but is not experienced as such. Instead the experience is exciting, challenging, or in this instance, amusing. The tragic affect becomes a comic affect and in doing so it is made safe, the sting is removed, and the coping humour objective of 'protection' has been achieved.

An interpretation of the interview data within the current study, which reports on experiences of coping humour, has revealed that a reversal preceding an episode of coping humour is most commonly initiated by telic satiation. To illustrate, a person reaches a point where either the seriousness, importance or intensity of the event is enough to cause a shift to an alternative perspective where negative affect is replaced with amusement. These seemingly involuntary reversals can be facilitated by certain contextual features, thus one can initiate a climate that supports a protective shift in perspective. The model of coping humour has identified the contextual features as social 'connectedness', an internal sense of 'security', and actual or perceived 'distance', all of which can lubricate the cogs of a reversal, and encourage the flow of humour. These elements, that contribute towards the model of coping humour, will be theoretically explored from the perspective of the reversal theory, thus enabling the protective capacity incorporated within the reversal theory to be seen in action.

TENSION STRESS MEASURES AND INTERVENTIONS FOR WOMEN WHO WEIGHT CYCLE

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Research indicates that nearly one-fourth of all females in the United States are overweight despite many approaches to weight control. Tension stress, the discrepancy between the way we feel and the way we want to feel, has been identified as a stimulus for overeating in women who weight cycle. Weight cycling is the experience of repeated periods of weight loss followed by weight regain. Overweight women who overeat to cope manifest tension stress from negative feelings of anxiety, boredom, anger, and feeling out of control. The Tension stress Scale and the Daily Tension Stress Scale are long-term repeated measures of tension stress related to overeating. Both instruments serve as diagnostic and intervention measures. Reliability and validity information will be presented for both measures. Interventions designed to counter the stimuli of overeating (high tension stress situations) are being implemented in a one-year intervention study for women who weight cycle. Preliminary findings will be presented. The measures and interventions have potential for adaptation to other populations.

METAMOTIVATIONAL STRESS AND EMOTION FOR WINNING AND LOSING GOLFERS IN A MATCHPLAY EVENT

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Competitive pressure influences the nature of skilled performance and its outcomes in sporting contexts. It can act as an important source of stress which facilitates or interferes with the effectiveness of decision making or the successful execution of motor responses. A study will be described which examines the relationship of metamotivation, stress and emotion with golf performance. A feature of this research was the opportunity to map the motivational and affective variables of reversal theory throughout a sporting contest. The self-paced nature of golf skills, performed within the rules of a matchplay competition, enabled the collection of repeated measures.

Fourteen pairs of golfers competed against each other over eighteen holes in a matchplay event at Royal Fremantle Golf Club in Western Australia. The golfers were matched within these pairs for age, golf handicap and years of playing experience. During this competition, self-report measures of stress, arousal and emotion were taken after each hole. The instruments were the Tension and Effort Stress Inventory (Svebak, 1993; Svebak, Ursin, Endresen, Hjelmen, and Apter, 1991) and a modified form of the Telic State Measure (Svebak and Murgatroyd, 1985). In a matchplay event, each hole produces a win, loss or tie. The overall winner of a competition is the golfer who is ahead by a greater number of winning holes than those which are left to play. The results supported the hypotheses for the relationship of stress and arousal with the performance outcomes. The winning golfers were better able to match their levels of felt and preferred arousal than the losing golfers. The winners were also more inclined to equal or exceed their tension with effort stress for both the internal and external state measures. This finding suggested the direction of this discrepancy may have as much importance as its magnitude.

Repeated measures MANOVAs supported the predictions for the relationship of the performance outcomes with the metamotivational states of telic-conformity and autic-mastery. Follow-up univariate analyses found significant effects for the emotions of telic -conformity (relaxation, excitement, anxiety) and autic-mastery (pride, humiliation, shame). The winners showed greater relaxation, excitement and pride whilst the losers exhibited higher levels of anxiety, humiliation and shame. Significant multivariate effects were also found for time in the paratelic-negativism state as well as for the outcome x time interaction in the autic-sympathy state. Follow-up univariate analyses for these results revealed significant effects for provocativeness and gratitude. Post hoc statistical analyses also found the winners experienced higher levels of pleasant somatic and transactional emotions and lower levels of somatic and transactional unpleasant emotions than the losers.

This research demonstrated the comprehensiveness of reversal theory for the understanding of achievement outcomes in sport.

A TEACHERS MANUAL FOR MOTIVATING STUDENTS USING REVERSAL THEORY

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Reversal Theory has many important implications for motivating students (Rea, 1993, Van der Molen, 1985). However, many teachers find Reversal Theory difficult to use because it is a very complex theory, primarily addressed to psychologists. This paper makes reversal theory more useful to teachers by constructing a practical teacher's manual. This manual consists of two sections: (1) a RT analysis of motivational problems as reversal imbalances (Rea, 1994, 1995), and (2) a RT presentation of motivational principles and strategies for restoring/promoting reversal balance (Rea, 1994, 1995). Reversal balance is defined as the flexibility to harmoniously switch between telic and paratelic modes to promote learning.

Students who exhibit reversal imbalances, such as being rigidly fixated in the serious telic mode, can exhibit motivational problems such as excessive safe-seeking, complacency, or apathy. For example, high achievers may play it safe by taking easy courses to protect perfect records. Average achievers may become complacent with minimal achievement and not strive for higher achievement. Low achievers may become apathetic and not risk trying for fear of looking stupid.

On the other hand, students who are fixated in the playful paratelic mode can exhibit motivational problems such as excessive excitement-seeking, over-excitability, or susceptibility to boredom. Students who seek excessive excitement may continually crave new activities but never finish what they start. Overly excitable students may become hyperactive and unable to focus attention. Easily bored students may become restless and distracted with all but the most exciting activities.

A third type of imbalance combines the previous two in a disjointed reversing between telic and paratelic modes. In the classroom, this imbalance usually results from a motivational power struggle, where teachers try to get students to do serious work and students try to act foolishly (Rea, 1995). When teachers demand that students stop acting foolishly (paratelic) and do serious work (telic), students comply but with minimal telic effort. Furthermore, when teachers neglect to provide strict supervision, students reverse back to the playful telic mode again. This power struggle forcibly divides work and play with detrimental consequences for both teaching and learning.

In order to restore and prevent reversal imbalances, this manual describes four strategies: "paratelic moderation" is a strategy for moderating paratelic extremes of boredom and over-excitement toward optimal excitement; "telic moderation" is a strategy for moderating telic extremes of apathy and anxiety toward optimal calmness; "telic/paratelic reversal" is a strategy for reversing telic apathy or anxiety into paratelic playfulness; and "paratelic/telic reversal" is a strategy for reversing paratelic boredom or over-excitement into telic seriousness.

Finally a guide to the application of these four strategies, three general principles are explained. The "matching principle" states that motivation is enhanced when the motivational modes of teachers and students match. The "dual operations principle" states that teachers can solve motivational problems by either "moderation" or "reversal" strategies. The "balancing principle" states that teachers can best promote optimal student motivation by balancing the serious telic and playful paratelic modes (Vandermolen 1985; Rea, 1994, 1995).

REVERSAL THEORY MODELS OF OPTIMAL MOTIVATION

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Three reversal theory models of optimal motivation for learning will be presented. Each model will be conceptually explained with reversal theory and related to other contemporary motivation theories. The relative strengths and limitations of each model to accommodate and explain various concepts of optimal motivation such as "peak performance" (Privette, 1983), "peak experience" (Privette, 1983), "optimal experience" (Csikszentmihalyi & Csikszentmihalyi, 1988), and "undivided interest" (Rathunde & Csikszentmihalyi, 1993) will be fully examined. This examination of different models of optimal motivation has important educational implications for maximizing motivation for learning and also conceptual implications for expanding our understanding of reversal theory.

The first model, the "matching model," is based on finding the best possible match or fit between the motivational mode of the person (telic or paratelic) and the motivational conditions of the environment (work or play). For example, in preparing for an important classroom test the best motivational match for the student is the telic mode because the testing conditions demand seriousness. On the other hand, when playing a recreational game for leisure the best match is the paratelic mode because the primary condition of the game is entertainment. Furthermore, for each motivational mode we may specify an optimal emotional range for motivation (Rea, 1993). For the telic mode, the optimal emotional state is neither too relaxed nor too anxious but intermediately calm.

For the paratelic mode, the optimal emotional state is neither too bo nor too frenzied but intermediately excited.

The second model, the "balancing model", is based on a person's need to experience a healthy balance or wholesome complement of both telic and paratelic motivations. In other words, a person needs to experience both work and play on a regular basis to maintain a healthy, fully functioning life. If a student is unable to achieve this harmonious balance, it may adversely affect performance and mental health. For example in school, a predominance of seriousness over fun can lead to stressful student burnout. A predominance of fun over seriousness can lead to wasteful student dropout. When both are balanced, the student may experience a positive learning spiral that alternates between the playful exploration of new challenges and the serious mastery of these challenges (Van der Molen, 1985).

The third model, the "synchronizing model", is based on a person's need to experience the simultaneous unity of both telic and paratelic motivations (Rea, 1993). While the balancing model implies a sequential alternation of modes, the synchronizing model represents a simultaneous unity of modes. This unity is not a homogeneous unity where different modes are obliterated but rather a unity in diversity where contrasting modes aesthetically enhance the whole experience. The mutual interweaving of the deep flow that is experienced as both feeling and doing extremely well (Rea,1993). Examples of deepflow include joyous, superior experiences of running painting, writing etc (Privette, 1983). In summary, each model will be examined for its relative power to explain various concepts of optimal motivation. Furthermore, the educational implications of each model for maximising motivation will be described with learning implications.

THE ESTABLISHMENT OF THE CONSCIOUSNESS OF ADULT PERSON AND REVERSAL THEORY

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The main proposition of the present work is the thesis that reversals are definitive features of the development of all living things: at the cellular level; at the level of individuals human experience; and at the level of our solar system. Moreover, it is contended that as human beings we have underestimated our abilities to apprehend such regularities in development and to control such processes consciously.

It is possible for a person to pass spontaneously from one cognitive state to another without being aware of the prior state. The elaboration of the method for determining this process, its control and guidelines for adults interested in the effective development, were the main objectives of the author. Ofcourse, parents and teachers are such adults. The elaboration of judgments estimated as important (yet which are in some senses mutually exclusive opposites) constitutes the first stage of the study reported here. 30 questions and 15 statements were presented. The author incorporated the ideas of Svetlana Bakhtyjarova (Kiev) during the elaboration of this method.

Questioning, conversing with and observing children and parents in different situations was carried out. Adults judged pairs of statements in terms of their importance in the up-bringing of children. 50 persons took part in the study.

Pairs of rules judged by most of the parents as ones of equal significance were revealed. For example, the following rules are such ones for more than one half of parents:

1. "It is important to pass on the "It is important to use a way of teaching that knowledge accumulated in cultures" leads to the integrated develeopment of the child"

2. "It is important for development to "Purposeful teaching with good create environments which foster curricula is important" emotional well-being"

3. "It necessary to give an opportunity "It is important to teach a child from the for the child to do independently very beginning to do things well, so the all the things he can" adult's help is necessary in most cases"

Detection of such `opposite' judgements within the framework of Reversal Theory gives us an opportunity to overcome antagonistic contradictions within adult's understandings about children's up-bringing. Acceptance of seemingly mutually exclusive judgements we believe is the `mature' position. Indeed, such dichotomies and oppositions can form the basis for discussions which have as their goal the bringing together such diverse standpoints within a unifying framework. Such contradictory judgements should be regarded as the signposts showing the direction in which the next step should be taken.

CROSS SITUATIONAL INCONSISTENCY AND SUBJECTIVE WELL BEING A REVERSAL THEORY PERSPECTIVE

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A basic assumption of Reversal Theory (RT) is that there is much intra-subject variation over time in psychological state. This is in contrast to trait approaches to personality which speak primarily to consistency of state across situations. A considerable problem for RT however, has been the measurement and operational definition of such intra-subject variation. Trait theorists such as Bem & Allen (1974) however, have considered the solution to this problem to be a simple one: merely ask respondents to judge the consistency of their own behaviour. Such an approach though, has obvious limitations, respondents on such a measure being open to various self-report biases. A conspicuous problem for such an approach then, is the transparency of such a technique: it is self-evident what the questioner is attempting to measure, social desirability then, being one form of response bias which is of relevance here. To overcome such difficulties the present authors developed a questionnaire measure of consistency/inconsistency, *The Cross-Situational Response Questionnaire (CSRQ)*, which achieves its ends in a much less transparent manner. Indeed, it is the contention here that as a psychometric device, the measurement intentions of its constituent battery of items, are not at all apparent to respondents.

This paper will introduce this novel and innovative measure, describing how an index of cross-situational consistency/inconsistency is derived computationally from the responses given by subjects to it. The CSRQ derives such indices each of the meta-motivational states as stipulated by Reversal Theory. As such, we believe it to be of great significance for the empirical testing of central propositions within the theory.

Of relevance here, in a symposium on optimal functioning, the CSRQ can be used to test an important hypothesis within RT concerning the nature of subjective well being and the origins of certain forms of psychopathology. Specifically, RT hypothesises that intra-subject variation rather than meta-motivational consistency is the cornerstone of positive subjective well being. Indeed, RT proposes that it is those individuals who fail to 'reverse' or 'switch' between modes and who adhere to a restricted range of meta-motivational strategies, who will experience most dysphoria and distress. Conversely, RT proposes that individuals who are able to switch state in accordance with situational demands and contingencies and who can respond to frustration or satiation by reversing to another state, are most able to adapt and thereby experience heightened subjective well being. Such thinking ofcourse links in well with the findings and research elsewhere on coping (as summarised in Lazarus & Folkman, 1984).

Thus, this paper will demonstrate how the CSRQ has been developed, how it can be used to test such hypotheses concerning mental health and illustrate & report our preliminary attempts to do so.

AN INVESTIGATION OF THE BI-POLAR CONSTRUCT OF EXTERNAL & INTERNAL LOCUS OF CONTROL AND `ACCENTUATIONS' INDIVIDUAL TENDENCIES

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The purpose of this study was an investigation of the bi-polar construct, external-internal locus of control, and the characteristics of persons in order to examine the principles of reversal theory.

Graduates were investigated in 110 of secondary schools in the locale of the Zaporozhe region. Among them 20 (8 of male and 12 of female) were from the coastal town of Berdyansk and 90 (42 of male and 48 of female) were from the industrial urban centre of Zaporozhye. In research, Rotter's locus of control scale and Schmieschek's test of personal characteristics were used. There are 12 types of `accentuations' of a person in the questionnaire measure as developed by Schmieschek.

From the results (*please contact the author for a full account of these*), it was concluded that locus of control depends in part on geographical and socio-contextual place of education. The coastal location covaried with a more internal locus of control amongst males whilst for females it covaried with externality. In the industrial city with its millions of urban dwellers, internality amongst females was the norm as associated with a desire for a career and other inner-city factors. These variations in locus of control are similar to those found for empathy which covaried with social grouping.

In all, the results of this study lends support to the major principles of reversal theory - that a person does not consist of predetermined traits and dispositions, but rather of `tendencies', of states which constitute a complex dynamic system and that every tendency has two opposite `poles'.

PSYCHODIVERSITY: A CRITICAL ROLE FOR REVERSAL THEORY IN WORKFORCE DIVERSITY

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The attention given to workforce diversity has grown alongside two widespread social phenomena. First, global competition for markets and resources has put a premium on optimising those resources which are most accessible, namely people. Second, social legislation in many countries has been aimed at correcting old imbalances in access, participation and fairness of treatment of disadvantaged populations with regard to employment opportunity and workforce training. The goal of both types of diversity programmes is to broaden and enrich the base of human resources rather than to promote a kind of averaging on a grand scale.

Reversal Theory has an important contribution to make in this setting of a growing awareness of the importance of organizational diversity. especially in the first sense (above). The special contribution of Reversal Theory here will be in drawing attention to the range of motivations that can be harnessed. In other words, one of the most important premises of Reversal Theory, as it relates to organizations, is the desirability, of motivational diversity. The term psychodiversity can be used here as an analogy to biodiversity, with the implication that both forms of diversity are essential for the health and survival of the systems concerned.

For the organization, Reversal theory provides an alternative framework that promotes greater specificity in matching motivational variables to particular situations, needs, and environments:

- *At the organizational level*, the framework can be used to guide better management, training, staffing and performance decisions.
- *At the team level*, the framework can be tied to more focused and purposeful use of specific job-related skills, behaviours and situational roles.
- *At the individual level*, the framework can help people sharpen their awareness of emotions and actions -their own as well as those of their colleagues and customers.

Each metamotivational state has its own contribution to make in an organizational setting. In particular, several states hold particular promise for promoting psychological health and greater effectiveness of team-oriented organizations:

- **Arousal-seeking**: the adventurer or 'energizer' of a group
- **Alloic-mastery**: the mentor of others
- **Alloic-sympathy**: the healer or conflict manager
- **Autic-mastery**: the go-getter who harnesses personal competitiveness for team gain
- **Negativistic**: the iconoclast who challenges convention when it needs to be

In our work we have come to recognise the importance of 'enablement'. By this we mean facilitating the work of others using a range of practices such as helping people to feel part of the team, providing emotional support and reassurance where needed, helping people to link their own work to the purpose of the organisation, and being willing to confront routines that need changing. It is clear that these practices are linked to the orientations of different metamotivational states.

In discussing these issues reference will be made to our experience in applying Reversal Theory framework to a federal agency in Washington DC that sought assistance in facilitating organisational change.

MASCULINITY IN CONTACT SPORT: REVERSAL THEORY MEETS SOCIOLOGY

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In sport sociology, a number of related elements such as place, belonging, social position, gender, sexuality and race have come to be understood as the defining components of 'social identity'. However, the mechanism by which this identity is created by the sport, or how the sport takes on a perceived identity, has yet to be established. In an attempt to unravel the complexities of sport and social identity, this theoretical paper links work carried out in sport sociology (e.g., Spracklen, 1996) with work carried out in sport psychology using the approach of reversal theory (e.g., Kerr, 1997). It does so by focusing on sports characterised by physical contact, especially rugby league and rugby union.

In sociological terms, in both codes of rugby the notions of belonging and community are bound up with perceptions of masculinity and what it means to be a man. Players need to be tough and courageous, play hard, play to win, 'take their knocks' and 'hand out punishment' when necessary. Interviews with individual players from both codes indicate that they see the affirmation of their masculinity through expressing perceived masculine values such as strength, superiority, aggression and commitment (Spracklen, 1996). In addition to the expression of mastery and toughness on the field, these masculine values permeate through to many aspects of the wider community of the rugby club. They are perhaps best epitomised by the (male) 'banter' that takes place in the club bar or the pubs in towns where supporters, former players, committee men and current players meet.

From the psychological viewpoint, a masculine sense of belonging and community (as defined above) and the related activities engaged in rugby league and union can be interpreted in reversal theory terms through the concept of paratelic protective frames. For example, the excitement-seeking and/or aggressive and sometimes violent behaviour in matches (real for players or vicarious for spectators) can be pursued and enjoyed within a protective frame (Kerr, 1997). However, these frames are not only associated with particular aspects of playing, such as what takes place on the field of play by the first team or in the training of junior players, but also with the social interactions in the bar and the other activities of the rugby community. As such there may be several types of frame in operation including confidence, safety-zone, and detachment frames. This paper will discuss the common ground between reversal theory and theoretical arguments from sport sociology in exploring a more complete understanding of masculinity in contact sports.

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SITUATIONAL CRAVING FOR FOOD AMONG TELIC AND PARATELIC WEIGHT WATCHERS

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Following on Brown's suggestion (Kerr, Frank-Regan and Brown, 1993) that anorexics would be predominantly telic, bulimics predominantly paratelic and that yo-yo dieters would be strung out in between and on Perry's finding (1989) that telic dominant individuals craved food in low arousal situations it was hypothesised that among a sample of weight watchers, who would be predominantly telic, there would be a relationship between telic dominance as measured on the Serious Mindedness sub-Scale and craving for foods in low arousal situations.

A questionnaire which measured craving for food in high arousal situations as opposed to low arousal situations (adapted from the Situational Smoking Questionnaire, Frith, 1971) was administered along with the Telic Dominance Scale (Murgatroyd, Apter, Rushton and Ray, 1978) to a sample of 44 attenders at Weight Watchers in Glasgow and measures of weight reduction over a six months period were collected.

The more telically dominant Weight Watchers reported craving for food in the low arousal situations and the more paratelic reported craving in the high arousal situations (significant beyond to 0.005 level) . These findings are discussed in reversal theory terms and related to self awareness and self management programmes for Weight Watchers.

THE EFFECTS OF WINNING AND LOSING ON PHYSIOLOGICAL AND EMOTIONAL RESPONSES DURING GAMBLING

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Gambling has been associated both with increased physiological arousal as indexed by heart rate (HR) increases, and self-reports of increased psychological arousal. The psychological interpretation of HR increase is problematic as increased HR can be caused by both positive and negative stimuli.

This study combines reversal theory to explicate emotional reactions to gambling and Porges' (1995) polyvagal theory using Respiratory Sinus Arrhythmia (RSA) for assessment of physiological reaction to gambling episodes. Porges specifically asserts that the onset of a primary negative emotion results in the withdrawal of cardiorespiratory vagal / parasympathetic tone which decreases RSA, while a shift to a more pleasant affective state produces an increase in vagal tone which increases RSA.

The Telic Dominance Scale (TDS) was used to select 40 participants (20 telic dominant, 20 paratelic dominant). These participants played video poker while RSA and HR were measured: at intervals during play they also completed the Telic State measure (TSM), and visual analogue scales to measure stress, arousal, and hedonic tone.

The prediction that winning would produce a pleasant emotion (increase hedonic tone) and an increase in RSA was supported by the data. Losing produced a decrease in hedonic tone but no significant reduction in RSA which was interpreted as indicating, that in this situation, losing was not unpleasant but simply *less* pleasant than winning. Winning produced a significant reduction in TSM scores while losing produced a non-significant increase in TSM. There were no *effects* or interactions for TDS.

The findings are consistent with reversal theory and demonstrate the usefulness of RSA to index cardiorespiratory vagal tone in situations where differential emotional reactions are involved. These findings have implications for future studies in gambling behaviour.