

**14<sup>th</sup> International Reversal Theory Conference**  
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**Conference Abstracts**

**Overweight Preoccupation and Body Satisfaction in Division I and Division III Collegiate Athletes from a Reversal Theory Perspective**

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**Objective:** The purpose of this study was to examine the prevalence of overweight preoccupation and body satisfaction in collegiate athletes and to examine if a particular dominance contributed to overweight preoccupation and body satisfaction.

**Methods:** Participants (N = 408) included male (n = 228) and female (n = 180) athletes from NCAA Division I and III athletic programs. Sports included Football (27.9%), Men's Basketball (4.7%), Women's Basketball (4.2%), Softball (8.1%), Baseball (3.9%), Men's Track/Cross Country (19.1%), Women's Track/Cross Country (7.8%), Women's Tennis (2.5%), Men's Golf (2%), Volleyball (2.9%), Women's Soccer (7.8%), Women's Hockey (3.2%), Men's Swimming/Diving (2.7%), and Women's Swimming/Diving (3.2%). Each athlete completed a demographic data sheet (i.e., gender, age, ethnicity, division, sport, position), the AMSP and the MBSRQ-AS. Anthropometric measurements (i.e., height and weight) and body fat measurements utilizing bioelectrical impedance were assessed for each athlete. Weight preoccupation and body satisfaction were measured using the subscales of MBSRQ-AS (Cash, 1999). The Apter Motivational Style Profile (AMSP) was utilized to examine if a particular personality dominance was related to either overweight preoccupation or body satisfaction. The overweight preoccupation subscale assesses a construct reflecting fat anxiety, weight vigilance, dieting, and eating restraint. The body satisfaction subscale assesses discrete aspects of one's appearance. General linear model analyses were conducted to examine the role of dominance on body satisfaction and weight preoccupation.

**Results:** ANOVA's revealed that the mean values from the overweight preoccupation and body satisfaction subscales were significantly different ( $p < .001$ ) than adult norms contained in the MBSRQ User's Manual (Cash, 2000). General linear model analyses revealed that athletes who had a tendency to spend more time in the telic, alloic, and mastery states were more likely to be dissatisfied with their body ( $F = 43.719, p < .001$ ) and preoccupied with their weight ( $F = 91.062, p < .001$ ).

**Discussion:** Scientific attention has been directed toward the potential role that sport involvement plays in athletes' development of attitudes and behaviors toward weight and body satisfaction. Results indicated that athletes scored significantly lower on the overweight preoccupation subscale, indicating that the athletes in the present study were not as preoccupied with being overweight as the general population. Athletes also scored significantly lower on the body satisfaction subscale, indicating that Division I and III male and female athletes were unhappy with either the size or appearance of several areas of their body. The concept of dominance suggests that each individual spends relatively more time in one of the states than in its opposite. Telic athletes may spend more time analyzing the role that their

body plays in performance may plan success around weight control. Alloic athletes are not as concerned with themselves and therefore don't scrutinize their weight as much. Mastery athletes are concerned with control and desire dominance and may view body satisfaction as a struggle. Identifying metamotivational profiles regarding these issues may allow individuals working with athletes to better identify those who may be prone to both clinical and subclinical disorders.

### **Teleducation II: Maintaining Lecture Engagement by Paratelic Distraction**

Ken Cramer, Kathryn Lafreniere, & Keren Escobar  
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**Abstract:** After initial assessment of telic/paratelic dominance ( $\alpha=.82$ ), we repeatedly administered a brief 7-item questionnaire in a social psychology class of 111 students. Using a five-point Likert scale across six administrations at 10-minute intervals, the questionnaire tapped four essential elements of telic vs. paratelic states and three items concerning student regard for the lecture, namely relative focus, interest, and engagement. As a break from the lecture, students were given (between the 3<sup>rd</sup> and 4<sup>th</sup> moments) a group task to complete (paratelic distraction), and were then paired up to discuss their answers. Mean scores of telic state and lecture engagement were derived for each administration.

Results showed that whereas all six telic moments were moderately intercorrelated ( $\alpha=.86$ ), and whereas all six engagement moments were moderately intercorrelated ( $\alpha=.86$ ), the cross-variable correlation was significant principally at the identical moments. That is, the fourth telic measure was correlated chiefly with only the fourth engagement measure. Compared to prior data without the activity after moment-3, telic and engagement levels were significantly higher at moments 4 and 5 before to equivalent levels at moment-6. Educational implications and future directions are discussed.

### **Understanding Academic Entitlement with Personality and Reversal Theory Measures**

Ken Cramer, Laurie Freeman-Gibb, Craig Ross, & Kathryn Lafreniere  
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**Abstract:** As a relatively new concept, *Academic Entitlement* refers to expectations of high grades for modest effort and demanding attitudes towards teachers. Almost 600 1<sup>st</sup> and 4<sup>th</sup> year university students from various faculties completed an online survey on entitlement, plus the Motivational Styles Profile and the NEO Personality Inventory.

Results showed that academic entitlement negative correlations with age and self-esteem, and to each of openness to experience, agreeableness, and conscientiousness; but was positively related to neuroticism. With respect to Reversal Theory measures, entitlement was positively correlated with a paratelic state, arousal seeking, and negativism, autic mastery and pessimism; but negatively correlated with a telic state, alloic sympathy, and effort. Implications and future collaborations are outlined.

## Reversal Theory Measures among Sorority and Fraternity Students: My Big Fat Greek Study!

Ken Cramer, Kaitlin Stefanovich, & Kathryn Lafreniere  
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**Abstract:** This study examined personality and motivational state differences between fraternity and sorority members (Greeks) and non-members. In terms of the Big Five personality factors, self-esteem, and reversal theory's motivational styles. Participants included 12 male and 64 female college and university students attending institutions of higher learning. Members of three sororities and one fraternity took part in the study (Greek n = 34). Preliminary analyses failed to show any relation between Greek membership and neuroticism, openness to experience, agreeableness, and conscientiousness, while the positive relationship between Greek membership and extraversion was only marginal. Whereas there was no association between Greek membership and self-esteem, Greek membership was positively correlated with both alloic mastery and alloic sympathy.

## The Apter Motivational Style Profile: Psychometric Update

Mitzi Desselles, Apter Research, Inc.

The Apter Motivational Style Profile (AMSP) is a 40-item questionnaire, derived from the MSP (Apter, Mallows & Williams, 1998) that provides a profile of the time that respondents report that they generally spend in different metamotivational states. The instrument is administered over the internet through the Apter International website, is scored automatically, and the scored data made available confidentially to the user either in the form of narrative reports (and charts) created by intelligent software for coaches and other professionals, or in the form of spreadsheets for researchers. A manual describes various kinds of data on the standardization, validity and reliability of the scale (Apter International, 2006).

The aim of the present paper is to describe recent significant research that extends our knowledge of the psychometric properties of the scale and that is not yet included in the manual. This will include:

- An update on the scale norms. Over a period of ten years, more than 8,000 individuals from more than 140 countries have taken the AMSP. In the present paper, the norms for this complete data set will be described for the first time.
- The internal consistency of the subscales will be described.
- Results of new factor analyses, including suggestions for adding or updating items, will be discussed.
- A test-retest reliability study was recently conducted, and findings will be reported.

Taken together, these studies show the AMSP emerging as a well-founded and sophisticated psychometric instrument that will continue to have widespread use for a range of purposes.

### References

- Apter International (2006). *Research Manual of the Apter Motivational Style Profile*, 2<sup>nd</sup>. Edition. Loughborough, U.K.: Apter International Ltd.
- Apter, M.J., Mallows, R. & Williams, S. (1998). The development of the Motivational Style Profile. *Personality and Individual Differences*, 24, 7-18.

## **Motivational Styles of Managers: Differences across Time and Space**

Mitzi Desselles, Apter Research, Inc.

Several large organizations with branches in different countries have used the AMSP (Apter Motivational Style Profile) (Apter International, 2006) with their employees, mainly managers, over a number of years. The aim of the present paper is to explore variability in motivational patterns across time and across countries within the same organization and see how these might reflect different and changing cultural and historical circumstances.

In Part I of the analysis, the AMSP was administered to equivalent cohorts of managers participating in a leadership development program. An interesting pattern emerged in which the AMSP profiles of managers in the program showed statistically significant changes over time that may be linked to a) OD efforts to change in the organization's culture and b) the recent economic slowdown. The observed pattern may illustrate how motivational style can be influenced by factors both internal and external to the organization.

In Part II of the analysis, the instrument was administered to managers in equivalent positions in the US, UK, continental Europe, the Middle East and Asia. Differences between regions may be attributable to represent cultural differences in motivational style, or simply response bias. Statistically significant differences were found across seven of the eight subscales of the AMSP. There were no differences on the paratelic subscale. A general pattern emerged in which Middle Eastern managers reported higher scores on most (but not all) subscales. For the remaining regions, the pattern of results varied by subscale; different regions reported higher scores on different subscales. Specific differences by region will be reported in the paper.

While reversal theory has been used to help managers recognize the different micro-climates that they create around them, this is the first time that macro-climate influences on motivational dominance have been documented and studied systematically.

### References

Apter International (2006). *Research Manual of the Apter Motivational Style Profile*, 2<sup>nd</sup>. edition.  
Loughborough, U.K.: Apter International Ltd.

## Optimism, Pessimism and Metamotivation

Mitzi Desselles, Apter Research, Inc.

The optimism/pessimism aspects of personality and motivation have come to the fore in recent years, especially with the emergence of positive psychology (Maslow, 1968; Seligman, 1990; Keyes & Haidt, 2003) for which this is a key dimension. Considering optimism/pessimism through the lens of reversal theory raises a set of interesting questions. These include: How does the optimism/pessimism dimension relate to peoples' motivational states? Are dominant states more likely to be associated with optimism than non-dominant states? Can individuals be characterized as optimistic or pessimistic in general, or is a more state-specific construct required? Does optimism/pessimism vary independently across states?

These questions were addressed by adding some optional items on pessimism and optimism to the Apter Motivational Style Profile (AMSP), the items being administered automatically when the profile was taken over the internet (the normal method of administration of the AMSP). Some of these items were about pessimism and optimism in general, and others about how optimistic or pessimistic respondents were about achieving the satisfactions of particular metamotivational states. Analyses are in progress, and results will be reported at the conference.

### References

Keyes, C. L. M., & Haidt, J. (Eds.). (2003). *Flourishing: Positive psychology and the life well lived*. Washington, DC: American Psychological Association.

Maslow, A. H. (1968). *Toward a psychology of being*. New York: Van Nostrand.

Seligman, M. (1990). *Learned Optimism: How to Change Your Mind and Your Life*. Free Press.

## Linguistic Analysis of Writings about Trauma: Differences in Dominances and Across States

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**Objective:** The objective is to determine what differences exist among the writings of individuals with differing levels of dominance in each of the eight states. The secondary aim is to determine what differences may exist in the writing of the same group of individuals, prompted to write from each of the eight states. Hopefully, this data may give some clinical insight into which states best elicit therapeutic goals (e.g., expression of affect, cognitive insight), and which clients, based on dominances, are most likely to do so.

**Methods:** Sixty university students were asked to fill out the AMSP and to write for 20 minutes about the most traumatic event of their lives. Thirty of these students were also given a short introduction to the eight states, led through the Eight Rooms guided imagery exercise, and then asked to write about their trauma having been prompted for each state, for 5-6 minutes each. Correlations between dominances in each state (based on AMSP scores) and certain linguistic variables of interest (e.g., negative affect, insight, social words) are calculated. For those participating in the state-prompted writing, comparisons are made between states on these same variables.

**Results:** A number of significant correlations exist between state-dominances and the incidence of certain variables in participants' writings. Emotion references: Mastery and alloic dominance were negatively correlated with any emotional references; mastery, alloic, and paratelic dominance were negatively correlated with expressions of negative emotion; these three plus telic and sympathy dominances were negatively correlated with expressions of sadness; only alloic dominance was negatively correlated with expressions of anger. No state dominance was positively correlated with emotion words. Cognitive references: Alloic state dominance was correlated negatively with cognitive mechanism words (e.g., cause, know). Telic, Mastery, Sympathy, and Alloic dominances were negatively correlated with insight references (e.g., think, consider). Social references: Autic dominance was positively correlated with the use of personal pronouns (e.g., I, them, her); alloic dominance was positively correlated with iterations of "they;" mastery and alloic dominances were positively correlated with mentions of "home;" mastery and autic dominances positively correlate with mentions of social process (e.g., talk, partner). Other variables of interest (e.g., leisure, death) also had significant correlations with participant dominances. Results are not yet available for the state-prompted writing samples, but are expected to show significant within-subject differences.

**Discussion:** The literature on treating post-trauma anxiety and depression suggests a number of important therapeutic tasks, such as repeated exposure, experiencing catharsis, and developing insight or meaning. Some of these tasks can be seen in post-trauma written emotional disclosure, for example, the use of emotion words and words related to establishing causation and other cognitive processes. This data provides clinicians insight into which clients may struggle with these therapeutic tasks and which might be primed for them. The data from part two of the study could provide evidence for using the Eight Rooms technique and/or Eight Rooms-based writing tasks as a therapeutic tool.

## Metamotivational States and Exercise Behaviors in Previously Sedentary Endometrial Cancer Survivors

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Current estimates suggest only 28% of United States American adults meet the current public health recommendations for physical activity. This number has not changed despite public health initiatives and the continually increasing documented evidence of the benefits of exercise behaviors.

Understanding the motivational states of individuals at the time of their decision to exercise can be of great value to inform the development of effective exercise interventions for sedentary populations.

Reversal theory is a general theory of motivation, emotion, and personality that emphasizes why people change their perceptions and behavior in experiencing everyday life.

**Objective:** To investigate which motivational states are associated with decision to engage in exercise behaviors using a Reversal Theory perspective in previously sedentary endometrial cancer survivors.

**Methods:** We provided an individualized exercise prescription for 81 previously sedentary endometrial cancer survivors based on results of a graded cycle ergometer submaximal exercise test and incorporating American College of Sports Medicine guidelines for special populations. At the time of the exercise test, participants answered the Apter Motivational Styles Profile (AMSP). We asked to record their motivational states using a palm pilot at the time they decided to engage in exercise over a two week period, and to endorse which state was the most salient. Participants recorded states one week before the exercise testing and one week after. We analyzed which states were endorsed with the decision to exercise; and, whether participant endorsed states matched their dominances as assessed by the AMSP.

**Results:** For this sample of participants mastery state (39%), telic state (36%) and conformist state (14%) state were endorsed as the most salient at the time the decision to exercise was made (531 total sessions). Based on AMSP measures, our participants were telic (+4.4), highly conformist (+12.1), alloic orientated (-6.1) and slightly sympathetic (-1.5). Participants endorsed the state congruent with their dominance: 73% of the time for telic dominant participants and 12% for paratelic dominant; 97% of the time for conformist dominant and 0.2% for negativistic dominant; 45% for mastery dominant and 1.5% for sympathy dominant; and, 10% for autic dominant and 6.9% for alloic dominant.

**Discussion:** This sample of endometrial cancer survivors endorsed mastery, telic and conformist states more frequently when deciding to engage in a predefined exercise program. The states endorsed at the decision point indicated a trend towards matching participant AMSP measured dominances particularly for telic and conformist dominant participants. Future research will further examine motivational states at the time of decision to engage in exercise behaviors in order to tailor interventions to participant's motivation.

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## **Metamotivational and temperamental predictors of adolescent risk taking**

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**Objective:** The purpose of this study is to examine metamotivational predictors of risk perception and perceived likelihood of engaging in risky behaviours in a sample of older adolescents. In addition, metamotivational predictors (especially telic dominance and negativism) of risk perception and risk taking will be assessed in relation to temperamental predictors (especially effortful control and high intensity pleasure). This study will examine the relative contribution of each set of predictors (i.e., metamotivational and temperamental variables), and will explore interrelationships among reversal theory's metamotivational constructs and temperamental features of personality.

**Methods:** This is a study in progress in which adolescent undergraduate students recruited from our university's Psychology participant pool complete questionnaire measures of metamotivational style, temperament, risk perception and expected involvement in risky activities.

Specific measures are the *Motivational Style Profile* (Apter, Mallows, & Williams, 1998), the *Negativism Dominance Scale* (McDermott & Apter, 1988), the short form of the *Adult Temperament Questionnaire* (Rothbart, Ahadi, & Evans, 2000), and the Expected Risk and Expected Involvement subscales of the *Cognitive Appraisal of Risky Events* (CARE; Fromme, Katz, & Rivet, 1997). The questionnaire takes approximately 40 minutes to complete and is compensated with one bonus credit point to be used toward the student's grade in a Psychology course. An anticipated sample size of 100 to 120 participants is expected.

**Results:** Correlational and multiple regression analyses will be used to examine the relative contributions of metamotivational predictors (especially telic dominance and negativism) and temperamental predictors (especially subscales comprising the effortful control dimension of temperament, and high intensity pleasure) to both risk perception and expected involvement in risky behaviours. In addition, correlations between reversal theory metamotivational measures and temperamental variables will be examined and reported.

**Discussion:** Findings from this study will be interpreted in the context of previous reversal theory research reporting relationships between telic dominance and perception of health risks (Lafreniere, Cramer & Out, 2005), as well as relationships between negativism and antisocial behaviour (e.g., Doherty & McDermott, 1997). In addition, previous research has reported associations between the temperamental features of high intensity pleasure and low effortful control and externalizing problems (Oldehinkel, Hartman, de Winter, Veenstra, & Ormel, 2004), as well as risky driving behaviours (Schwebel, Severson, Ball, & Rizzo, 2006; Schwebel et al., 2007). The current research will extend these previous research findings by integrating reversal theory's metamotivational dominances with temperamental predictors of risk perception and risk taking behaviours.



## **Results of an Adolescent Smoking-Cessation Intervention Provides Support for the Autoceptive and the Alloceptive States.**

Jay Lee, Brian Colwell, and Dennis W. Smith

Previous research examined interactions among adolescents and environment from a Reversal Theory (RT) perspective. The purpose of the current study ( $n = 1807$ ) was to examine the influence of an intervention program on these latent variables. The study participants included adolescents cited for tobacco use attending a tobacco awareness program. A standard, validated questionnaire was used to collect demographic, tobacco use patterns, and relationship/environmental data. After separate, exploratory analyses of the pre-test and the post-test data, the resulting matrices were compared for congruence. Both factor solutions resulted in four factors of similar content. This model examines the coefficient of congruence ( $R_c$ ) between the two matrices and the psychometric implications of the findings.

The total variance aligned on the first solution was 69%. On the second solution, the total variance was slightly lower at 66%. Factor 1 ("autic mastery") was recovered in the second solution also as Factor 1. The coefficient of congruence between pre and post, Factor 1 was 0.89. Similarly, Factor 4 was recovered as Factor 4 as well.  $R_c$  of factor 4 ("confidence frame") pre-test to factor 4 post-test was 0.6555. Factor 2, however, shifted to the Factor 3 position. The  $R_c$  between factor 2 pretest and factor 3 post-test (autic sympathy to smoke) was 0.9808. The remaining Factor 3 pretest moved to factor 2 post-test (autic sympathy to quit) was 0.9974. The latent variables that were identified pre-test are still present within the post-test information and are likely quite robust.

The confidence frame is recovered in factor 4 but a cross-loading with "Best friends would help me quit" and the Factor 3 "Friends would "like" for me to quit." The movement of "Best friends would help me quit" from Factor 2 in solution 1 to the confidence frame in factor 4 may reflect an more accurate appraisal of the confidence frame after the intervention.

The theoretical implications of these results seem to reveal another level within the transactional states that is related to felt identification and event interactions in quit attempts by adolescent smokers.

## **Telic dominance influences affective response to a heavy-intensity 10-min treadmill running session.**

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**Objective:** The dual-mode model (DMM) postulates that affective shifts during exercise result from the interplay between: (1) cognitive factors, and (2) interoceptive signals arising from exercise-induced physiological changes (Ekkekakis, 2003; Ekkekakis & Acevedo, 2006). Interoceptive factors are thought to have an over-riding negative influence on affective responses in most participants during exercise performed beyond the (second) gas exchange ventilatory threshold (the range of *severe* intensity). For lower intensities however, the theory expects large interindividual variability in affective changes to occur. According to the DMM, the reason why this is the case is that individuals differ greatly in the intensity of exercise that they *prefer* and the intensity they can *tolerate*. Unfortunately, research exploring the relative importance of these variables still is in its early development, and has mainly focused on self-efficacy to date. Amongst several characteristics associated with the telic and paratelic modes is a preference for a different level of arousal in each mode. So, the primary purpose of the present study was to monitor the pattern of affective responses during a 10-minute session of heavy (but not severe) intensity treadmill running (operationalized as running at a respiratory exchange ratio of 1.0) in high telic-dominant (HTD) vs. low telic-dominant (LTD) participants.

**Methods:** Thirty-three participants with high or low telic dominance rated their affect (using a post-exercise version of the Self-Assessment Manikin) at three minutes intervals as they ran on a treadmill whilst the speed was adjusted to maintain their respiratory exchange ratio at a target value of  $1.00 \pm 0.02$  for a duration of 10 minutes.

**Results:** Felt arousal significantly increased at each step of the 10-minute session for both groups ( $F(3,90) = 8.14, p < .001, \eta^2 = 0.21$ ). At the same time, compared to baseline scores (which were not statistically different between the two groups), the mean decline in pleasure at the end of the run was twofold greater in participants with high telic dominance ( $F(2,12, 63.59) = 3.38, p < .04, \eta^2 = 0.10$ ). This was observed after having controlled for individual differences in aerobic fitness (as measured by  $\dot{V}O_{2max}$ ). We also detected an earlier onset of decreases in pleasure in high telic dominance participants.

**Discussion:** High telic dominance was associated with earlier and more pronounced negative affective shifts during exercise, indicating that the variation in the intensities of exercise that different individuals can tolerate (i.e., the level of intensity beyond the point at which the activity becomes unpleasant) may be partly due to this personality variable. This was observed despite the fact that a greater proportion of participants in our HTD group were trained athletes (i.e., about 60%) who presumably were more used to experiencing high levels of exercise intensity. At the end of the 10-min session, however, we observed that low telic dominant participants also reported significantly decreased pleasure compared to their baseline scores. Thus it is important to underscore that low telic dominance certainly cannot reverse this undesirable effect, but may lessen its magnitude, or delay its onset.

### **References:**

- Ekkekakis, P. (2003). Pleasure and displeasure from the body: perspectives from exercise. *Cognition & Emotion, 17*, 213-239.
- Ekkekakis, P., & Acevedo, E. O. (2006). *Psychobiology of physical activity*. Champaign, IL: Human Kinetics.

## Reversals in the Child

Eric Loonis, IME-ITEP "Bayot-Sarrazi

**Objective:** The objective of this second paper is to present a case study of a child from a clinical practice, as illustration of the previous theoretical statements of links between RT and psychoanalysis.

**Methods:** The case concerns a 10-year old girl who has been in therapy for 3 years. She presents significant mental retardation (IQ 47) and great emotional immaturity. Her past life was marked by serious deficiencies in care, with abuse, including sexual abuse, and a broken family. The diagnosis is "on the edge of psychosis" linked with a post-traumatic aspect, but with a neurotic basis evidenced by the intense questioning by this child about child-adult relationships. The study uses observational method in psychotherapy setting.

**Results:** The dynamic functioning of the child is presented by reference to metamotivational states, and it is argued that she displays a PNMA complex, which is the tendency for the Paratelic (P), Negativistic (N), Mastery (M) and Autic (A) states to occur together and to do so in problematic ways, including an extreme form of some of these states.

**Discussion:** Reversal psychodynamics are explained through the bridge between Reversal Theory and Psychoanalysis. The conclusion argues that these two models present complementary approaches.

## **Bringing Freud to fraud: Understanding the mind of the CEO Fraudster**

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Joseph Koletar - President, Risk Mitigation Associates

**Objective:** To explore new models of understanding the mind of the CEO who commits fraud, specifically the application of behavioral science methods (including reversal theory and the outgrowth of reversal theory: parathic emotion.) For the Reversal Theory conference we hope to present our paper and solicit feedback.

**Methods:** The study of fraud has been primarily by individuals trained in accounting and finance. Although the discipline of criminology has also been active, the full bore tools of behavioral science and understanding has not. The damage done by fraud committed by the leaders of organizations is known to be roughly sixteen times that of an entry-level employee. Therefore focusing on senior management, “the C-suite” is a logical place to begin understanding of white collar crime.

The purpose is to discover new insight into the motivation to commit fraud in the C-suites from the behavioral sciences that “carve nature at its joints.”

Specific case examples from ENRON, Bernie Madoff, Allen Stanford as well as other public and prominent fraud cases with a deeper dive into cases the team has worked on, are explored for evidence of reversal theory. Cases are a combining the experience of a psychiatrist whose team have evaluated over 1500 senior executives and officers with that of a retired senior executive in the FBI who has arrested tens of thousands of white collar criminals.

**Results:** The lead investigator, (a partner in a major accounting firm who leads the corporate governance and risk management division), integrating his experience as well as the resource of the corporate psychiatrist and the FBI senior executive believes Reversal Theory has much to offer. Interestingly, there is evidence that the reversal theory applies and expands the limiting “greed” model, but also generally eliminates the “noble, Robin Hood” motivation (“Other centered”) for major theft. Overview of all cases leads to an “ABC” model of cause: “Bad Apple, Bad Barrel and Bad Crop”.

The reversal framework opens up understanding first in clarifying and expanding the potential motivations to commit fraud (beyond the antiquated “fraud triangle”) and then in producing methods for deterrence and early detection. Specific cases are used to explore. Methods to study individual leaders and leadership teams is discussed. This paper presentation precedes the formal *Institute For Fraud Prevention* presentation of the concepts and suggested research and direction to the national conference for Certified Fraud Examiners in Las Vegas.

**Discussion:** In addition to reversal theory, the concepts of Apter’s text: *Danger*. Helps understand a hypothesis of “gang mentality” as root cause vs individual psychopath. This paper presentation precedes the formal *Institute For Fraud Prevention* presentation of the concepts and suggested research and direction to the national conference for Certified Fraud Examiners in Las Vegas. Further research directions are the purpose and goal of the paper.

## **Relapsing to Reversal Theory**

Kathy O'Connell - Columbia University

### **Objective:**

This paper reviews the application of reversal theory to smoking cessation research and discusses challenges of designing reversal theory based interventions.

### **Methods:**

The methods used to investigate the usefulness of reversal theory to explain outcomes in smoking cessation attempts will be described.

### **Results:**

Paratelic and negativistic states have been strongly and significantly associated with lapsing (smoking) during a cessation attempt in several studies. One study showed that lapsing was also related to sympathy states during cessation.

### **Discussion:**

Despite statistically significant and replicated findings, uptake of reversal theory explanations of smoking outcomes has been slow. There are several reasons for the delayed acceptance of reversal theory explanations. First, smoking cessation intervention research has been dominated by a public health and pharmacological approaches, which downplay any psychological interventions and discourage development of new ones. Second, although reversal theory is based on changes in states, there has been a bias in psychology and in reversal theory circles toward more trait-like dominance approaches. Third, it is difficult to design and test interventions that would influence metamotivational states during temptations to smoke. Despite these difficulties, reversal theory remains strangely attractive and intrinsically interesting to students who are exposed to it. In addition, despite attempts to replace reversal theory with different psychological approaches, veteran users of reversal theory seem inclined to inevitable relapse.

## Observations on Music and Reversals - Including Reversals in the Songs of Bruce Springsteen

George A. Reese, Georgetown University

I have often noticed over the years the way music is present in subtle ways in our lives through sound tracks in movies and television shows to music in elevators and stores and waiting rooms to soothing music on the telephone while we are waiting for the next available operator. The music in these situations is very subtle, sometimes hardly noticed, yet it is purposeful. In many cases it is used to induce certain desired states or moods while we are directly engaged in another activity. Music played in the background in waiting rooms or elevators or while we hold on the telephone works to sooth us. Music in movies can be used to inspire (think *Rocky's* theme) or frighten us. Is there anyone who doesn't think of the ferocious shark in *Jaws* when they hear the familiar strains that announced its presence in the movie?

In addition to these subtle infusions of music to set our moods I have long been fascinated by the more direct (and loud) infusions of music and songs at sporting events. The music isn't for the benefit of the athletes, but to induce a reaction from the spectators, to get us off of our seats and get excited. I've attended many sporting events in my life and I continue to be amazed at how music and particular songs are used for different situations and even for particular athletes. In most cases music is used to fill the gaps in the action caused by stoppages in play so that the television networks broadcasting the event can play commercials. The effect is to induce crowd reactions (states) that might be lost because the action on the field is stopped. I've noticed this is in contrast to international soccer events where play is continuous, without manufactured breaks in the action, and the crowd instead will sing local or national songs to induce states among themselves.

Besides sports, one of my other real passions in life is the music of Bruce Springsteen. About a year and a half ago I discovered that Sirius satellite radio had a station that played Springsteen music 24 hours a day. I insisted that all I wanted for Christmas that year was a satellite radio and a one year subscription to Sirius. Since then I have indulged my passion for all things Bruce and have been blessed to hear rare songs I hadn't been aware of as well as different versions of some of my favorites. Many of Bruce's songs tell stories and carry themes common to our lives. I decided to listen purposely for the eight states in his songs. I found not only many songs to fit all of the states, but was surprised to find songs that included reversals between the states. So I challenged myself to find songs that would show reversals between all of the states. It was joyful research to be sure. In addition, I was pleased to find one of my favorite songs, *Rosalita (Come Out Tonight)*, in fact shows reversals between all of the states.

## **Actual and Imagined First Smoking Experiences and Resisted Smoking Opportunities of Asian American Adolescents**

Maria G. Rosario-Sim, Long Island University

Kathleen A. O'Connell, Teachers College Columbia University

**Objective:** To explore the metamotivational states experienced during early smoking experiences of the Asian-American adolescents.

**Methods:** This survey research investigated the differences among the smokers, resisters, and smoking naïves. A convenience sample of 328 Asian-American adolescents, ages 16 to 19, who lived in New York City participated in the study. Instruments included demographic, smoking opportunity survey, Temptation Episode surveys - First Smoking Occasion, First Resisted Smoking Opportunity, and Opinions on First Smoking Occasion questionnaires. The interview questions were revised and developed into a paper-and-pencil survey to assess the metamotivational states of participants' first smoking occasions, resisted smoking opportunities and imagined smoking experiences for this study. The participants also completed the Telic/Paratelic State Instrument and the Rebellious State Scale.

**Results:** The distributions of the participants ( $N=328$ ) were as follows: smokers (36.9%,  $n = 121$ ), resisters—those adolescents who had the first opportunity to smoke but resisted (14.9%,  $n = 49$ ), and the smoking naïve adolescents—those who never smoked or never had the opportunity to resist a first cigarette (47.9%,  $n = 157$ ). The results indicated that the Asian-American adolescents smoked the first time when they were in paratelic, arousal-seeking states and when the physical and social environments were permissive to the smoking initiation opportunities such as presence of peers and friends smoking and in places where parents or adult guardians were not present. Resisters also reported being in paratelic and arousal seeking states and naïve smokers reported that they believed first smoking occasions were in paratelic and arousal-seeking states. There was no difference between the first smoking occasions and resisted smoking occasions. However, naïve smokers were significantly more likely to believe that smoking happened in paratelic states than was actually the case.

**Discussions:** The study provided a first look into the situations and occasions surrounding the first smoking experiences of Asian-American adolescents, the perspectives of adolescents who resisted the first smoking opportunity and the smoker's feelings and thinking about their first smoking experiences. The reversal theory pairs of telic/paratelic and conformist/negativistic states had never been used to predict smoking initiation before, and the results showed little differentiation between the smokers and the resisters. However, the results for first smoking experiences parallel that of smoking cessation when the individuals lapse in a highly tempting situation (e.g., easy availability of cigarettes) and when the environment is permissive to smoking (Burris and O'Connell, 2003).

**Conclusion:** The study provided the beginning perspectives of adolescents who resisted the first smoking opportunity, what made them resist their first smoking opportunity and capitalize or strengthen their capacities to resist. It also provided a picture of who the smokers were, in terms of their feelings and thinking about their first smoking experiences. This study was the first to use reversal theory pairs as a framework for smoking initiation.

Burris, R. F., & O'Connell, K. A. (2003). Reversal theory states and cigarette availability predict lapses during smoking cessation among adolescents. *Research in Nursing and Health*, 26, 263-272.

## The Future of Reversal Theory Research: A Round Table Discussion

Dr. Michael J. Apter, Apter International

The aim of this round table discussion will be to see what, as a community, we could do together to develop, improve, and make more visible the work that we are all doing using reversal theory. It is suggested that the following three themes might help to structure the discussion, although this suggestion is not intended to exclude other themes that participants might want to introduce and explore:

1. Can we identify and prioritize major pieces of research that still need doing in order to test the basic ideas of the theory and develop its full potential? For example, it could be argued that we need much more data on the transactional pairs of states. We also need much more evidence on the idea of satiation as a reversal trigger (in all four pairs of states). Some pieces of research are 'crying out' to be done. For instance, are there eight different types of depression?
2. Why have such essential pieces of research not been done? The following can be suggested as some possible reasons:
  - Doctoral students and untenured faculty may feel that they need to do something that is 'safe' rather than pioneering
  - Reversal Theory has to be fitted into already ongoing research programs, which have their own priorities.
  - Research grants tend to be topic-oriented rather than theory-oriented.
  - Relevant populations, especially clinical populations, are not available.
  - Expensive pieces of equipment (e.g. palm pilots) are not available.
3. What can we do to overcome problems such as these? We obviously do not want a central directing bureau! But one way forward might be to do more collaborative research, and do it in such a way that different resources and expertise can be brought together on the same project.

As part of the general discussion we might also want to touch on such issues as whether there needs to be more interaction between reversal theory researchers and reversal theory practitioners, if it would be helpful to have a journal of our own, how we could make more use of the internet, and even whether eventually we could establish an institute. Perhaps, in any case, the Reversal Theory Society needs to be more formalized.



## **The Religion of John Calvin: A Psycho-theological Interpretation**

Albert K. Toh, Ph.D.  
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University of Arkansas at Pine Bluff

Protestantism has its beginning with the protest movement initiated by two historical figures, Martin Luther and John Calvin. Many of today's denominations and sects (reformed, Presbyterian, Baptist, evangelicals, historical Anglicanism) can trace their traditions' lineage to John Calvin (1509 -1564).

The year 2009 marks the five-hundredth anniversary of the birth of John Calvin. As controversial as he was influential, a large segment of Protestant Christianity owe to him a number of key beliefs and doctrines, which include... *"Bible is the sole infallible authority," "predestination," "once saved, always saved," "total depravity of human," "penal substitution atonement,"* etc.

To understand the roots and origins of Calvin's thoughts and teachings, it is necessary to examine his writings especially the "Institutes of Christian Religion" through psycho-historical and psycho-biographical analyses, which take into account his early development and educational formation, personality and psychological characteristics, religious conversion, and the social-contextual background.

From the perspective of the personality psychology, John Calvin's fundamental theological ideas have an underlying basis in his personal journey as an exile scholar with an anxious concern for the certainty of individual salvation. By substituting the authority of the Church with the Bible as the Word of God, and an emphasis on sovereignty of God above all else, problems of faith and assurance of salvation seem to be resolved.

The dynamic tensions of Calvin's religious life-order, personal struggle with religious anxiety and doubt, combined to shape his doctrinal and theological teachings that constitute the legacy of Protestant religion.

Psychological Type theory in conjunction with Reversal Theory can provide a useful framework for the analyzing the formation of religious/theological ideas in the case of this important originator of Protestantism in general and Calvinism in particular.

## **Influencing the Decision to Share Scientific Data: A Reversal Theory Perspective**

Jennifer Tucker, OKA (Otto Kroeger Associates)

This paper will report the results of a completed research study exploring the motives and emotions associated with decision-making about scientific data sharing among cancer researchers. Given the rapid evolution of new technologies to support cancer research, which rely on high volumes of data, the willingness of individual researchers to share their scientific data with others in order to advance scientific discovery overall is a critical need. Despite this, the traditional incentive structures of U.S. science, coupled with complex legal structures designed to protect patient privacy, serve as both perceived and actual barriers to this sharing.

The choice to share data is both a personal decision and a social level problem. In this qualitative study, reversal theory was used as a conceptual tool to analyze both social messages about and personal experiences with data sharing. The goal was to identify the social messaging that is both successful and not successful in compelling data sharing; and describe the motives that most often lead to a researcher to actually take the action to share his or her data. This project was one of both exploration and advocacy. By understanding the motives that actually lead someone to share their data and the language used to talk about that act, we are better able to shape communication to incent that behavior.

In addition to revealing information about data sharing motives and behavior, this research highlighted specific applications of reversal theory that deserve attention. The first relates to the role of scale in determining how a specific state is experienced and interpreted. For example, despite both being Alloic Mastery states, the near term motive to assist a colleague in succeeding in her research study is very different from larger motive to support the advancement of scientific progress overall. How does a consideration of scale help us understand how the different states might be experienced and appealed to? This research also revealed a close connection between state messaging and the use of metaphor, with metaphor often used as a tool to invoke states in others. This presentation, therefore, will focus on how reversal theory was used in this study; what the study revealed, both about reversal theory and data sharing; and implications of the results for how reversal theory might be more broadly applied in the field of strategic communications.

## **Flow is dead! Long live flow! (With some help from reversal theory)**

Jonathan J. Wright, University of Brighton  
Sharon Wright, NHS Community Health Services, East Sussex, UK  
Gaynor Sadlo and Graham Stew, University of Brighton

### **Objective:**

The process of flow, or what happens before, during and after optimal experiences, has been explored via three phases of empirical phenomenological research. The third phase of the research that examined the flow channel by exploring the flow experiences of 6 guitarists: two experts, two intermediates and two novices, will be presented.

### **Methods:**

Participants were interviewed approximately one week after having completed a journal of flow experiences over a two-week period. Becker's (1992, p.32) empirical phenomenological method was chosen, which requires researchers *to ask people to describe life events and then use these descriptions to understand the general structure (or essence) or nature of a phenomenon.*

### **Results:**

Reversal theory was used to assist in the structural analysis of the participants' phenomenological accounts. Reversal theory was chosen because it was consistent with the findings from all three phases of research, which suggested that there was more than one type of optimal experience and that people move between states of consciousness.

Five participants in phase 3 reported experiencing flow when they were enjoyably absorbed in playing the guitar to the extent that they forgot everything else. However, the participants described different experiences that have been termed paratelic/negativistic flow, paratelic/conformist flow, paratelic/sympathy flow, telic flow, telic/mastery flow, telic/negativistic flow and autic/sympathy flow. The experiences described included participants playing the guitar when enjoying the excitement of creating new music, relaxing after a stressful day, getting a particular sound to finish a song and communicating with God.

### **Discussion:**

The presence of a balance between the challenge and skills required when playing the guitar was inadequate to explain the differences between the phenomenological accounts. Reversal theory provided a means of understanding the various optimal experiences and a more coherent explanation of how participants entered and left optimal experiences than flow theory's emphasis on an imbalance between challenge and skills.

## Multilevel Factor Analysis of Day Reconstruction Method Reversal Theory items

Tony R. Young, Louisiana Tech University

The Day Reconstruction Method (DRM: Kahneman, et al., 2004) is designed to collect data describing the experiences of a person on a single day, through a systematic process conducted on the following day. The DRM asks participants to reconstruct the *previous* day by completing a structured self-administered questionnaire that includes dividing the day into episodes and describing each episode. Studies completed by Kahneman and others suggest that the technique provides a valid and reliable recounting of the previous day.

The authors of the present study used the standard DRM format and added items to measure Reversal Theory states or metamotives. Eighty-eight college students completed the full protocols for a weekday during the school term. There were 1168 rated episodes, and nearly 32,000 Likert rating data points were collected.

Here are the items that were used: *Standard DRM items*; happy, frustrated/annoyed, depressed/blue, competent/capable, hassled/pushed around, warm/friendly, angry/hostile, worried/anxious, criticized/put down, competitive, tired, impatient for it to end, & enjoying myself

*RT items*; playful, serious, caring for/helping myself, caring for/helping others, independent of others, connected to others, defiant, respectful, playing by the rules, bending the rules, controlling/pushing myself, directing/competing with others, in it for me, & in it for someone else. Each of the state items was written in a Likert format with six choices anchored at its poles by "Not at all" and "Very much." The stem: During this episode, I was...

To understand the psychometric properties of the items used to measure affective and psychological states the data were analyzed using multi-level factor analysis with Mplus (Muthen and Muthen, 2004) statistical software. A multilevel analysis was used because the repeated measurements of the episode ratings are not independent. The multilevel process includes within-individual and between-individual sources of shared variation. Factors were rotated using the Quartimin rotation, because it does not force a correlated solution.

The within-person analysis for only the RT items suggested a six-factor solution:

- 1 - competitive, directing/competing with others, controlling/pushing myself
- 2 - connected to others, caring for others, playful, respectful, (independent of others)
- 3 - serious, controlling/pushing myself, (playful)
- 4 - caring for myself, independent of others
- 5 - (playing by the rules), (respectful)
- 6 – defiant

The between-person analysis yielded three factors:

1. directing others, competitive, controlling/pushing myself, defiant
2. Respectful, playing by the rules, caring for myself, caring for others, connecting with others
3. in it for me, caring for myself, independent

Loadings of DRM and RT items analyzed together will be reported at the conference.

References:

Muthen, B. O. & Muthen, L. (2004) *MPLUS user's guide*. Los Angeles: Author.

Kahneman, D., Krueger, A. B., Schkade, D., Schwarz, N., & Stone, A. A. (2004). A survey method for characterizing daily life experience: The Day Reconstruction Method (DRM). *Science*, 306 (3 December 2004), 1776-1780