Manipulating Motivational States: A Review

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Reversal theory is distinguished from other theories of motivation and personality, especially trait theories, by its emphasis on the dynamic reversal process. If the dynamic aspect of the theory is to be given its full prominence, techniques need to be further developed to reliably and conveniently induce reversals. The present paper reviews the techniques that have been used in empirical and applied settings to manipulate motivational state. These include situation change, special display, re-framing, simulation, self-conditioning, and imaging. Methodological and other issues arising from the use of each technique are discussed. Bringing motivational states under the control of the experimenter, the consultant, and the individual will advance reversal theory from post-hoc description to prediction of future behavior and may well serve as the foundation of future research and practice.

Keywords: motivational states, metamotivation, imaging, reversal, reversal theory

The ability to manipulate motivational states is essential to the development of reversal theory, given that it is pre-eminently a state theory. However, a substantial portion of the research on the theory has focused on trait-like dominances, for example, using the Telic Dominance Scale (Murgatroyd, Rushton, Apter, & Ray, 1978), or the Motivational Style Profile (Apter, Mallows, & Williams, 1998) and describing how dominance relates to sense of humor, responses to negative life events or work motivation (see Apter & Desselles, 2001, for a review). In contrast, several lines of research have examined states (or state-related emotions) as they arise in various situations of interest, for example among individuals trying to give up smoking or those engaged in sports, using such measures as the Telic State Measure (Svebak & Murgatroyd, 1985) or the Tension and Effort-Stress Inventory (Svebak, 1993). In both bodies of research, one focusing on dominance and the other on states, the objective has been to observe and identify particular states as they arise naturally rather than attempting to induce particular states and predict their effect.

Research on non-manipulated states has been both useful and interesting, and it has helped lay a secure foundation for the theory (Apter & Heskin, 2001). However, as the theory evolves and research designs progress, we expect a shift in focus toward how states change over time and the impact of these trajectories on attitudes, behaviors, and emotions. With a growing emphasis on prediction, research will increasingly depend on being able to induce or maintain states in experimental participants. Nor is this just an issue for researchers. As reversal theory becomes used more in practice – in sport, organizations, counseling, education, and elsewhere – so the ability to help clients manage their motivational states at suitable times and in suitable ways, and do so reliably, will become indispensable. It could be said that the emphasis of reversal theory research thus far has been largely on measurement, understanding, and diagnosis; it now needs to build a repertoire of predictive research using empirical manipulation to convincingly demonstrate the relationships between motivational state and clearly defined outcomes. Rigorously designed action and intervention research may perhaps be the route through which the theory will make its most distinctive contribution to psychology.

The aim of this brief paper is to document, for both the researcher and the practitioner, techniques that might be used to control which motivational states are active at a given time. Reference will be made to techniques that have already been used and also to techniques that have not been used in any systematic way, but which appear to deserve further exploration and development. What we are going to need eventually is an arsenal of tested, reliable, and practical methods for inducing states.

Theoretical Foundation

As the theory presently stands (see the set of propositions laid out in Apter, 2001a), reversals are involuntary; they are not under direct voluntary control of the individual but just happen under particular circumstances. Informal conversations between members of the reversal theory community have revealed differences of opinion on this proposition, and some have argued (albeit not in print at this stage) that the

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adept and aware individual can achieve direct voluntary control of reversal on their own and others can be successfully taught. Individual differences in the ability to control reversals may also play a role. The question of voluntary versus involuntary reversal is clearly an important matter for future research, as is the relationship between the voluntary control of reversals to constructs such as mindfulness, self-monitoring, and beliefs about self-efficacy (Langer, Blank, & Chanowitz, 1978; Langer & Moldoveanu, 2000; Bandura, 1977).

Assuming that reversals are indeed involuntary, the theory posits three mechanisms that may induce reversals: contingent factors, satiation, and frustration (Apter, 1982). A contingent factor is essentially a change of situation (e.g., location, setting, event, context, virtual world, imaginary world), and/or how the situation is experienced. Waiting for satiation to occur may often be impractical, although this was the approach taken in the research conducted by Lafreniere, Cowles, and Apter (1988). The deliberate use of frustration may be ethically problematic since one might concurrently cause emotional harm to participants. Given the potential troubles with satiation and frustration, the techniques described in the present paper are all of the third type, i.e. contingent. Employing contingent factors involves positioning the participant in an experientially different place. A reversal, if it occurs, is assumed to be contingent on the changed setting. If the participant can actively choose the situation, then he or she is able to indirectly control their motivational states.

Techniques for Inducing Motivational States

In the sections that follow, the term "state" will always mean one of the eight motivational states (or, more properly, "metamotivational states") recognized in reversal theory (Apter, 2001b).

Specific Techniques for Inducing Telic and Paratelic States

The techniques that have received the greatest attention in the literature have been used to induce reversals between the telic and paratelic pair of states. The telic state may be induced by a situation in which there are consequences (i.e., the situation offers no protective frame) (Apter, 1982). Thus the promise of monetary reward for successful performance to induce the telic state has been used by Apter and Svebak (1986). Threat of electric shock for poor performance (e.g., Svebak, Storfjell, & Dalen, 1982; Svebak, 1986) has also been used to induce the telic state. In these electric shock studies, for ethical and technical psychophysiological reasons, the shock was never actually administered even if threatened, except for once at the outset of the experiment for participants to experience what was being threatened. Legrand and Thatcher (2011) induced the telic state by threatening that poor performance on an exercise task would be evaluated as part of the course grade of students taking part in the experiment. The performance required participants in the telic condition to maintain a constant pace during a 15-minute walk. There was no such requirement for the paratelic group. Course grades consequent on performance have also been used to induce the telic state in unpublished research. Publication on departmental notice-board of the scores on the experimental task has also been used to induce the telic state in unpublished research, the idea being that people may be concerned about possible loss of face if they perform badly.

By contrast, to induce the paratelic state, the aim is to make the attempted enjoyment of the on-going situation the focus of attention and to distract from consequences. Thus a comedy film has been used to induce this state (Svebak & Apter, 1987). Other intrinsically pleasant tasks without consequences have been used to induce the paratelic state. For example, Gore (2006) encouraged his architecture students to play around with different kinds of materials with different textures and other characteristics, without posing a serious goal for them to reach. The general idea in all approaches to inducing the paratelic state is to make the situation one in which there is a protective frame and no consequences.

General Techniques for Inducing Any Motivational State

The following are more general techniques that might be used for inducing any state or combination of states.

Direct situational change. The most effective and direct method is to put participants in situations in which most people are likely to be in a given state, e.g., in a bar (paratelic), at a football game (other-oriented mastery), in a medical waiting room (self-oriented sympathy), at church (conformity), etc. This method has been used by Cook, Gerkovich, Potocky, and O'Connell (1993), who compared participants at a social gathering, college enrollment and before taking a major examination. Wendell (1999) used a similar set of situations and her findings mirrored those of Cook et al. (1993). Tacon and Kerr (1999) and Kerr and Tacon (1999, 2000) compared people in a university library, before a lecture, at a party, and in a university sports center and found that different settings tended to induce different states. Ideally one would use the same subjects across situations, so that reversals occur within individual participants, but in all the studies just cited, matched groups of subjects were used.

Special display. Objects such as pictures, photographs, vignettes, ornaments, souvenirs, clothes, or jewelry can be used to trigger a particular state of mind. For example, pictures of an atrocity may be used to induce the negativistic state, a cartoon to induce the paratelic state, a romantic story to induce the sympathy state. Objects do not necessarily have to be concrete representations of a particular item; abstract designs such as shapes, colors, and sounds

appear to influence state of mind (Fontana, 1991). However, further research is needed to establish a taxonomy of "archetypal" triggers for each state, as the meaning of certain colors and shapes may well be culture-dependent. An exploration of different musical styles (such as martial, romantic, rock) might be particularly interesting (Reese & Apter, 2011). This whole approach would be an intriguing area for further research and may link with Jungian psychology (Fontana, 1991).

Re-framing. Simply posing questions that orient the individual to a particular aspect of experience may be a useful technique for triggering specific states. Individuals may ask themselves (or be asked to consider) a series of questions to bring a particular motivational state into awareness (M. Shelton & S. Carter, personal communication, June 2003), such as:

- What do you hope to accomplish in life? (telic)
- What do you most enjoy doing for its own sake? (paratelic)
- What gives you most pride? (autic mastery)
- Who do you most care for? (alloic sympathy)

Depending on the intended purpose, experimenters and practitioners are encouraged to expand, modify, and empirically test which questions consistently trigger and maintain each of the eight states. Another possible approach would be to ask individuals to write essays on topics likely to induce the desired state (e.g., "hot-button" social or political issues such as abortion or gay marriage to induce rebelliousness). Another option would be to ask them to read essays that have been documented as expressing or resonating with different motivational states. Related to this, "induction scripts" have been used by Shelley (1999) and described in Apter (2001b). These scripts ask teachers to imagine certain classroom situations that in reality would be likely to induce certain states, before asking questions about their experience of these states. The relationship between two pairs of states and reactions to children's disruptive behaviors were investigated in this way. Shelley found that stress reactions were considerably lower when teachers were in the alloic sympathy than when in the autic mastery state.

Simulation. This technique consists of asking people to act *as if* they were in a given state, even if, initially, they are not. They can be given hints as to specific behaviors that they might use in the state concerned, including gestures, posture, facial expression, key phrases, and the like. In self-development workshops for managers and executives, participants have been encouraged to conduct "personal experiments" in which "acting as if" is a central element (M. Shelton & S. Carter, personal communication, June 2003). Typically, according to reports by participants, such pretense leads to the state itself eventually becoming genuinely experienced. This form of role-playing can be particularly useful to an individual when the state is one that the individual rarely experiences; trying on unfamiliar states of mind often helps him or her gain access to a wider range of motivations and satisfactions than previously experienced. For many, this proves to be a transformative experience (M. Shelton & S. Carter, personal communication, June 2003).

Self-conditioning. Self-conditioning involves bringing to the attention of the participant some object, behavior, or ritual, that has become associated with the desired state through classical conditioning. The expectation is that this object or behavior will induce the associated state of mind. If this object or action is under the control of the participant himself or herself, then it can be used by the latter to induce the relevant state. In a sense, this technique is parallel to giving the dog in Pavlov's classic experiment control of the buzzer. Employing objects or behaviors in this way brings the participant into indirect control of his motivational state. In conditioning terms, the object is a conditioned stimulus and the motivational state a conditioned response. The participant may need to be trained in specific conditioned associations before this can become practically useful, and for this reason such classical conditioning has not yet been used in research or practice. Sometimes, however, there might be cultural associations that have already been established that can be brought to bear in some way, for example, a cup of tea has been associated with the sympathy state (in the UK) or a traffic light with the conforming state. Self-conditioning techniques begin to overlap with "special display" techniques (above). The difference between self-conditioning and special display is that in the latter, the triggering object has already been associated with a particular state. In using special display techniques, one makes use of the associations that already exist, while self-conditioning involves the process of establishing a relationship between the object or action and a state of mind. The use of self-conditioning is of course consistent with the reversal theory view, mentioned above, that reversals are involuntary. This does not mean that they cannot be brought under conscious control, but only that this control has to be indirect.

Imaging. This technique is similar to self-conditioning except that the stimulus is now subjective; it is an image. Suitable images can usually be drawn upon that are already associated with the desired state, e.g., the image of a glass of beer inducing the paratelic state, or a trophy inducing the mastery state. The technique has been formalized by Apter (1999) in the "eight rooms" exercise, in which the participant develops in his or her imagination eight rooms, each of which is filled with imaginary objects, furniture, and other stimuli such as colors, smells, and music that, for him or her, are associated with a particular state. To induce a specific motivational state, the participant is asked to enter, in imagination, the room corresponding to the desired state. This technique has been used regularly in self-development workshops by Reese and Apter (2011) over a twelve year period.

Charat (2006, 2012) has reported on the positive effects the technique can have on mental health, especially in reducing levels of anxiety and depression. Ellis (2008) used a form of the eight rooms technique in her research into the clinical benefits of reversing. Participants explored their personal eight rooms through a guided daydream exercise led by the experimenter. They were then prompted to enter each of the rooms in their imagination at the appropriate time in the experimental procedure that followed.

We should note that there is nothing in any of these six techniques on how to *change focus from one domain to another* (e.g., from telic to sympathy) among states being experienced in the moment, rather than bring about a reversal between the opposite members of a pair. It would not seem unreasonable to expect these same techniques to be applicable for the purpose of switching focus between states being experienced. Similarly, there has been little attention to inducing more than one state at a time, although again it seems reasonable to hypothesize that the aforementioned techniques could effectively invoke multiple states. However, all such expectations should be subject to examination in future research.

Methodological Considerations

An important methodological point regarding manipulating states is that in using any of the techniques described here, it will always be necessary to carry out a post-test procedure to check that the manipulation actually worked. Relying solely on an operational definition, technique, or procedure to conclude a particular motivational state was in fact induced would be grossly insufficient. In contrast to more behaviorist approaches, the phenomenological underpinnings of reversal theory require that the researcher ask, "What did people actually experience at the time in question?" not "What do we assume or assert that they experienced?" If there are repeated manipulations over time, then repeated post-tests may be needed because change may well have occurred and needs to be tracked.

If reversal theory hypotheses are correct, then it is always going to be difficult to manipulate states from the outside. There will be internal processes that are concurrently having an effect – images and thoughts on the one hand and the satiation process on the other. This is why post-testing is so important: we are dealing with dynamic not static processes.

Experimenters are also advised to be aware and exercise control of the general atmosphere of the laboratory in which their investigations are carried out. The atmosphere may tend to induce one state or another and influence results in ways that undermine the validity of results. Thus, an experimenter who is genial, highly welcoming, and makes jokes may, unknowingly, induce the paratelic state in participants. Someone who is over-concerned with rules and procedures may induce the conforming state, and so on. State bias arising from the lab atmosphere needs to be reduced as far as possible or integrated into the focal manipulation itself. One suspects that when replications of a given study in different laboratories do not give the same results, this may be due to different atmospheres. Carter and Kourdi (2003) have referred to these localized atmospheres as microclimates. Their discussion focused on the microclimates created by leaders in organizational settings, but the same general principles apply to laboratory settings.

The probability of a particular state becoming active in response to the techniques described above may be higher among individuals who are dominant in the desired state than those who are not. Svebak (1982, 1984) employed an extreme groups design to leverage the tendency of certain individuals to be in certain states more often than others. His objective was to compare the effects of the telic and paratelic states on physiological reactions to a perceptual-motor task. Participants who were extremely telic dominant were used in the first case and extremely paratelic dominant individuals in the second case. The use of extreme groups helped ensure the effectiveness of the manipulation of the desired state. Needless to say, this approach has problems of its own, not least of which is that of differentiating the relative effects of state and dominance on dependent variables. Using participants' state dominance to define extreme groups would clearly not be a legitimate technique if the objective were to investigate the power of state manipulation techniques themselves. Use of extreme groups combined with the induction techniques described above may be more defensible if the focus of the research is on the impact or outcomes from certain states. When the provenance of states is not the issue, the use of extreme groups plus induction techniques may be acceptable. However, the generalizability of findings would be a significant concern, and, for that reason, such an approach should be employed with caution.

Finally, we have to be careful in using narrative materials such as movies to ensure that we are not inducing or maintaining the paratelic state when our aim is to induce the telic state. From a reversal theory perspective, this is an error that is committed with some frequency in research on emotions. Such research often uses materials that are assumed to be unpleasant (as in horror films, tragedies, etc.), but that are really pleasant and involve parapathic emotions. Parapathic emotions have been defined by Apter (2007) as emotions that are conventionally regarded as unpleasant but are actually enjoyed, such as pleasant sadness at romantic movies or enjoyable fear on a rollercoaster.

To take an example more or less at random, Kaufmann and Vosberg (2002) use a Mr. Bean film to produce positive mood and the film *Kramer versus Kramer* to induce a negative mood. Yet clearly the latter will be productive of good, parapathic emotions, otherwise why would people voluntarily see it, and pay for the experience, if they did not have to? This does not mean that there are not some films that are

genuinely productive of bad emotions, and that people would rather not see, such as the film on Nazi concentration camps used by Isen, Daubman, and Nowicki (1987). But generally speaking, most movies are designed to give pleasure even if they do involve nominally bad emotions (Desselles, Rabalais, & Apter, 2011).

Conclusion

Looking at all these techniques as a group, we should note that some of them have been used in published research (e.g., those specific to inducing the telic and paratelic states), some have appeared in doctoral dissertations (e.g., the eight rooms technique), and some have been used, apparently with success, in personal development applications. However, many techniques have been used without having been tested in any systematic way (e.g., self-conditioning), and others have been tested systematically but remain unpublished (e.g., simulation).

All techniques described in the present paper and any that may be developed based on the descriptions herein, need to be tested and, if successful, to be deployed in future reversal theory research and application. Controlling and inducing reversals "on demand" will propel reversal theory into a new phase of development. Instead of continuing to focus on descriptive research into the correlates of various states of mind, the theory will hopefully progress to prediction followed by action and application.

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