Svebak (1999) proposed links between metamotivational characteristics in reversal theory, sport type and biological responses. This study examined these in exercise.

**STUDY 1:** Based on Paratelic Dominance Scale scores (PDS; Cook & Gerkovich, 1993) telic dominant (TD; N=15, mean=6.19 ± 2.51, age=25.7 ± 8.63) and paratelic dominant (PD; N=14, mean=24.0 ± 0.85, age 20.9 ± 5.55) subjects completed isometric leg exercise with a telic (TS) and a paratelic state (PS) manipulation. They watched 'serious' (TS) or 'playful' (PS) videos for 10 min. then performed 3 x 5 s maximum voluntary isometric contraction of the quadriceps (leg fixed at 90°; 1 min. rest periods). They watched the videos throughout. The Telic State Measure (TSM; Svebak & Murgatroyd, 1985) was completed at baseline, pre- and post-exercise to assess metamotivational state; EMG was recorded throughout.

State manipulations were effective. TSM scores differed significantly between TS and PS pre-exercise (p<0.05), thus subjects were in the telic state in TS and paratelic state in PS. TD performed better in TS (1.35 ± 0.45) than PS (1.32 ± 0.49) and PD performed better in PS (1.37 ± 0.46) than TS (1.31 ± 0.49). Root Mean Square (RMS) of right rectus femoris (RRF; active muscle) significantly decreased from trial 1 (0.285 mV ± 0.147) to trial 2 (0.248 mV ± 0.114) and trial 3 (0.245 ± 0.117) in PS for PD (p<0.05). RMS of left biceps femoris (LBF; passive muscle) significantly increased from trial 1 (0.046 ± 0.028) to trial 3 (0.068 ± 0.059) in PS for TD (p<0.05).

**STUDY 2:** Above protocol adopted with TD (N=16, PDS mean=5.93 ± 2.37, age=25.3 ± 8.5) and PD (N=13, PDS mean=23.93 ± 0.84, age=21.2 ± 5.71) subjects but the exercise involved 100 reps of isokinetic leg extension (90°/s). State manipulations were effective. PD had significantly higher mean power output (p<0.05) in PS (33.29 W ± 19.54) than TS (27.55 W ± 19.38). RMS for RRF (active muscle) significantly increased from trials 1 – 11 (0.137 mV ± 0.026) to trials 51 – 60 (0.157 mV ± 0.045) and trials 1 – 11 to trials 91 – 100 (0.17 mV ± 0.078) in TS for TD (p<0.05), as did RMS for LBF (passive muscle) from trials 1 – 11 (0.031 mV ± 0.014) to trials 51 – 60 (0.046 mV ± 0.030) and trials 1 – 11 to trials 91 – 100 (0.035 mV ± 0.015) in TS and from trials 1 – 11 (0.036 mV ± 0.014) to trials 91 – 100 (0.057 mV ± 0.035) in PS for TD (p<0.05).

TD are less influenced by state manipulation during exercise, returning to their dominant state post exercise; their passive muscle increases in activation unlike PD. PD perform better in PS.
