The importance of organismic or internal variables as determinants of motor behavior is becoming increasingly recognized in the sport psychology literature. One cognitive strategy for increasing performance which has been espoused over the years is having an athlete "psych-up" for an upcoming opponent or event. Recently, Shelton and Mahoney (1978) conducted the first study specifically designed to investigate the effects of psyching-up strategies on motor performance. Weightlifters were instructed either to "psych-up" or to count backwards before performing on a hand dynamometer. Results indicated that the lifters who were instructed to "psych-up" showed dramatic increases in performance, whereas the subjects under the counting backwards condition actually showed decrements or no improvements in performance.

Weinberg, Gould, and Jackson (1980) have extended Shelton and Mahoney's findings by examining the effects of psyching-up on the performance of three different motor tasks. Their results indicated that psyching-up effects were task specific, facilitating performance on a strength task but having no effect on stabilometer balance or speed-of-arm-movement task performances. In addition, in a field study conducted by Caudill, Weinberg, and Jackson (Note 1), it was found that sprinters and hurdlers exhibited faster times when given an opportunity to "psych-up" 60 sec prior to performance than in a control condition where the experimenter talked to them during this interval.

In the above studies, however, it was not possible to assess whether one specific "psych-up" strategy best facilitated performance. Therefore, Gould, Weinberg, and Jackson (1980) conducted a follow-up study which investigated the effects of different "psych-up" strategies (i.e., imagery, preparatory arousal, attentional focus) on motor performance. In two experiments, it was found that the preparatory arousal and imagery techniques best facilitated strength performance when com-
pared to the control conditions. Also, there was little consistency between the two experiments in terms of identifying underlying cognitions which may mediate the "psych-up" performance relationship.

A variable which would seem to be important in further understanding the effects of psyching-up on motor performance is the duration of the "psych-up" interval. In one case study, for example, Genov (1976) reported that in the 1965 world championships a Soviet weightlifter increased his concentration time (i.e., psych-up time) with each attempt at a heavier weight. In addition, the lifter spent more time mentally preparing for the more difficult press and snatch lifts than the simpler clean and jerk. Although this case study suggests that the duration of the "psych-up" interval is important in maximizing performance, no empirical research has investigated the relationship between the length of the "psych-up" interval and subsequent motor performance. Thus, it was the purpose of this investigation to determine the effects of varying the duration of the "psych-up" interval on strength performance. A strength task was chosen because previous research (Gould et al., 1980; Shelton & Mahoney, 1978; Weinberg, Gould, & Jackson, 1980) has demonstrated that psyching-up consistently facilitates performance on tasks requiring predominately strength.

Method

Subjects and Design

Subjects were 40 male and 40 female undergraduate students from the North Texas State University. They were randomly assigned to conditions in a 2 × 4 (sex by psych-up duration) between-subjects design. All subjects received standard task directions, performed one trial under standard control directions, and were asked to "psych-up" immediately prior to performing four additional trials on a leg strength task. The duration of the psych-up interval was manipulated by having the subjects psych-up for one of four designated psych-up periods. These included: (a) a 15-sec psych-up interval, (b) a 30-sec psych-up interval, (c) a self-initiated interval (in which subjects took as much time as they believed was necessary for maximum performance), and (d) a condition in which subjects were yoked to subjects in the self-initiated condition (e.g., if the subjects in the self-initiated condition took 5, 7, 10, and 11 sec, respectively, for each of the four trials, then a subject of the same sex in the yoked condition would be told that he or she had 5, 7, 10, and 11 sec to psych-up for each of their four trials). The inclusion of this yoked condition made it possible to examine whether allowing individuals to choose their preferred "psych-up" time, compared to having the experimenter specify a specific time, significantly influences performance.

Task

Subjects performed on a Cybex Orthotron #7120. This isokinetic, reciprocal, isolated joint exercise system is designed to measure muscular strength, power, and endurance. Previous research has demonstrated test-retest reliability to be .96 (Patton, Hinson, Arnold, & Lessard, 1978).