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A Comparison of Competitive-Orientation Measures

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We compared two sport-specific measures of competitive orientation, the Sport Orientation Questionnaire (SOQ; Gill & Deeter, 1988) and the Competitive Orientation Inventory (COI; Vealey, 1986), and an alternative 4-item version of the COI. Male and female athletes and nonathletes at two small colleges completed questionnaire packets. Competitive-orientation scores were similar to those reported in previous research. The 4-item measure correlated with the COI, and neither of those measures correlated with the SOQ. As in previous studies, males scored higher than females on SOQ competitiveness and win orientation, and athletes scored higher than nonathletes on all SOQ scores. Our results suggest that the SOQ and COI do not assess the same competitive-orientation constructs. The SOQ assesses sport-specific achievement orientation; the COI assesses the relative importance of performance versus outcome. Our 4-item measure is comparable and provides a reasonable substitute for the more complex COI.

Much sport psychology research focuses on competitive-sport achievement, and within that work many sport psychologists emphasize motivational orientation or, more specifically, competitive orientation. Although sport psychologists recognize the limitations of the traditional, global achievement-motivation constructs and measures for sport achievement research, they also recognize the essential role of individual differences in competitive orientation. The recent development of sport-specific measures of sport orientation promises to advance our understanding of sport achievement.

Sport psychologists are employing and adapting several relevant theoretical frameworks, primarily cognitive motivation models, to investigate sport motivation. For example, Duda (1989) has applied Nicholls' (1984) task-ego orientation distinction to sport achievement, and other sport psychologists have looked to Maehr's (1984) personal-investment theory, Dweck's (1986) performance-learning distinction, and Weiner's (1985) attributional theory. Discussion of these related but diverse approaches is well beyond the scope of this paper, but interested readers are directed to Weiss and Chaumeton's (in press) excellent review of motivational orientations in sport for details on these theories and related sport research. As Weiss and Chaumeton note, achievement orientation is a subarea of the more general motivational orientation, and the area of achievement orientation emphasizes contrasts between individuals who are task, mastery, or performance oriented versus individuals who are ego or outcome oriented.

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This investigation focuses more narrowly on competitive orientation, which refers to achievement orientation in competitive sport, and specifically on two recently developed sport-specific measures of competitive orientation, the Sport Orientation Questionnaire (SOQ; Gill & Deeter, 1988) and the Competitive Orientation Inventory (COI; Vealey, 1986). Moreover, our purpose is primarily methodological. Although both the SOQ and COI are sport-specific measures of competitive orientation, they differ in conceptual background, underlying assumptions, format, scoring procedures, and psychometric properties. This study compares the responses of athletes and nonathletes in two samples on the SOQ, COI, and an alternative, short form of the COI.

Before proceeding with the details of the study, a more thorough discussion of the two competitive-orientation measures is in order. Gill and her colleagues adopted the approach of Spence and Helmreich (1978, 1983), who criticized the earlier unidimensional, global achievement-motivation constructs and measures and advocated a multidimensional view of achievement orientation. Gill and Deeter (1988) followed typical psychological-test development procedures to construct the multidimensional and sport-specific SOQ. Eventually, item analyses and exploratory and confirmatory factor analyses yielded three separate but related dimensions of competitiveness (desire to strive for success in competition), win orientation (focus on winning and avoiding losing), and goal orientation (focus on personal goals). Internal consistencies (.79 to .95) and test-retest reliabilities (.73 to .89) were quite high and acceptable across several samples. Convergent and divergent validity was demonstrated through correlations with other measures, and the SOQ clearly discriminated competitive-sport participants from nonparticipants (Gill & Deeter, 1988; Gill, Dzewaltowski, & Deeter, 1988).

Like the SOQ, Vealey's (1986) COI is a sport-specific measure of competitive orientation. However, the two measures differ in many ways. Although the SOQ was conceptually based in the achievement orientation literature, particularly the work of Spence and Helmreich (1978, 1983), the specific items and dimensions emerged through psychometric analyses. Vealey based her constructs and COI measure on Nicholls' (1984) task-ego orientation distinction and designed the COI to assess two specific competitive orientations—the orientations toward performing well and winning.

Moreover, because Vealey was interested in the *relative* importance of performance and outcome goals, she structured the COI so that the respondent must weigh performance goals against outcome goals. Specifically, the COI consists of a 4 × 4 matrix with four performance levels (very good, above average, below average, very poor) crossed with four outcome levels (easy win, close win, close loss, big loss). The respondent rates each combination from *very unsatisfying* (0) to *very satisfying* (10). Scoring the COI follows a variance-analysis approach by calculating the proportion of variance due to performance and the proportion due to outcome. Both can range from 0 to 1.00, and they are strongly, negatively related (the higher the performance score, the lower the outcome score).

In a follow-up article, Vealey (1988) clarified COI scoring and recommended calculating just one score by averaging the performance score and the inverse of the outcome score to provide a composite performance-orientation score. Internal consistency is meaningless with the COI, but Vealey reported test-retest correlations of .63 to .69. She also reported that performance orientation related to sport confidence, as predicted.

These sport-specific measures have provided sport psychologists with useful tools for research and practice. Research with the SOQ has suggested that it is a reliable, valid measure of achievement orientation toward competitive sport. The research of Gill and her colleagues also indicated that the SOQ is superior to general achievement measures with sport participants, and the multidimensional approach expands research possibilities. Similarly, the performance-outcome scoring of the COI assesses achievement constructs similar to Nicholls' (1984) task and ego orientations in terms relevant to competitive athletes. Indeed, both measures have been used with elite athletes and other sport participants.

Although the win and goal scores of the SOQ appear parallel to the outcome and performance scores of the COI, they represent different constructs. On the SOQ, the three scores represent different dimensions of multidimensional sport orientation and tend to be positively related; when athletes and nonathletes are compared, athletes score higher on all three scores. With the COI, the two scores are opposite extremes of a single dimension and are necessarily negatively related. Gill and Dzewaltowski (1988) used both the SOQ and COI with athletes and nonathletes. Athletes were higher than nonathletes on all three SOQ scores and slightly more performance oriented, with competitiveness being the major discriminator. Gill and Dzewaltowski also reported considerable variation among different teams on competitive orientation, and Vealey (1988) reported that elite athletes were more performance oriented than college and high school athletes.

Generally, using the multidimensional SOQ and the dichotomous performance-outcome scoring of the COI together takes a more comprehensive approach to competitive orientation and could provide a more complete picture of the development of competitive orientation and its relationship to other constructs and behaviors. However, using both measures is easier said than done. The unusual structure and scoring of the COI poses problems for respondents and investigators. Even with careful instructions, the grid format of the COI is confusing. Moreover, the variance-analysis scoring is not readily adapted to psychometric analyses or typical statistical models.

So, as well as using the original COI and SOQ in our study, we developed a 4-item questionnaire to assess the relative importance of performance and outcome goals and to provide a simpler alternative to the COI. We administered the three measures to male and female athletes and nonathletes at a small, 2-year college in Minnesota and then to a similar sample at a small university in Texas as a replication study. We examined correlations among the competitive-orientation measures and examined group scores with Gender $\times$ Athlete/nonathlete analyses on both samples.

Given the previous research of Gill, Vealey, and their colleagues, we expected gender differences, with males scoring higher on competitiveness and win/outcome orientation and females scoring higher on goal/performance orientation. Also, we expected athletes to score higher than nonathletes on all three SOQ scores and on COI performance orientation. Because we hoped our 4-item scale would parallel the COI, we expected high correlations between the performance and outcome scores of the 4-item scale and the COI, as well as parallel gender and athlete/nonathlete differences.

Method

Sample

Two separate samples participated in the study. First, 99 athletes (28 males, 21 females) and nonathletes (17 males, 33 females) at a small 2-year college in Minnesota completed our survey. An assistant administered questionnaire packets to athletes at team meetings and to nonathletes in activity and lecture classes. Participation was voluntary, but all those contacted completed the questionnaires. Missing data on a few packets reduced the sample slightly from 103 to 99. Later, similar procedures were used to obtain a second sample of athletes (29 males, 26 females) and nonathletes (73 males, 33 females) at a small Division I university in Texas.

Measures and Procedures

All participants completed the SOQ (Gill & Deeter, 1988), COI (Vealey, 1986), and our 4-item version of the COI. As described in the introduction, both the SOQ and COI assess competitive orientation, and the test developers reported adequate reliability and validity information. The SOQ yields three scores: competitiveness, win orientation, and goal orientation. Gill and her colleagues (Gill & Deeter, 1988; Gill, Dzewaltowski, & Deeter, 1988) reported good internal consistency, test-retest reliability, and concurrent validity and have demonstrated that the SOQ discriminates competitive-sport participants from nonparticipants. The COI assesses the relative importance of performance and outcome goals in sport and, with the suggested scoring (Vealey, 1988), yields one performance-orientation score. Vealey (1986) reported adequate test-retest reliability and noted that performance orientation correlated with sport confidence, as predicted.

Our 4-item measure assesses the relative importance of performance and outcome goals and parallels the COI. We used the same 0 to 10 satisfaction rating that appears on the COI but presented the 4 items in typical questionnaire format rather than in a grid. We reduced the questionnaire to 4 items by using only two levels of performance (perform well or poorly) and outcome (win or lose) rather than four, as on the COI (see Appendix for the 4-item questionnaire). We used the same variance-analysis procedures that Vealey used for the COI to determine proportions of variance for performance and outcome and an overall performance-orientation score. We also calculated simpler performance and outcome scores by subtracting the two perform-poorly ratings from the two perform-well ratings for a performance score and the two loss ratings from the two win ratings for an outcome score. We then subtracted the outcome score from the performance score for an overall performance-orientation score.

These three measures (SOQ, COI, 4-item scale) were included in a questionnaire packet along with a demographic sheet and an exercise-attitude questionnaire that was not part of the study. Packets were arranged in four different orders and randomly distributed. Subsequent MANOVA and ANOVA analyses revealed no order effects on any competitive-orientation scores.

Results

Our analyses proceeded through three general stages, and the results are presented in that format. First, we examined the descriptive information including the mean competitive-orientation scores and intercorrelations among measures for both samples. Next, we used Gender × Athlete/nonathlete MANOVAs to investigate group differences on competitive-orientation measures. Finally, we examined the specific COI cell ratings with an exploratory MANOVA. Separate analyses were conducted for the two samples and in all cases yielded nearly identical results. Thus, the results for both samples are presented and discussed together.

Competitive-Orientation Scores and Correlations

Table 1 presents the means and standard deviations for all competitive-orientation scores including the three SOQ scores (competitiveness, win orientation, and goal orientation); the COI performance, outcome, and composite (total) performance-orientation scores; the parallel performance, outcome, and total scores for the 4-item variance-analysis calculations (4-item var.); and the performance, outcome, and total scores for the 4-item difference score calculations (4-item diff.).

Table 1

Means for Competitive Orientation Scores

Measure	MN		TX		Norms
	M	*SD*	*M*	*SD*	*M*
SOQ					
Comp.	52.2	10.8	55.4	9.0	52.0
Win	20.2	4.8	22.5	4.6	20.8
Goal	26.4	3.2	26.9	2.8	26.1
COI					
Perf.	.53	.25	.47	.28	.58
Out.	.32	.22	.38	.26	.33
Total	.61	.22	.54	.26	.63
4-item var.					
Perf.	.66	.27	.58	.31	
Out.	.27	.22	.32	.27	
Total	.69	.23	.63	.27	
4-item diff.					
Perf.	9.8	4.4	9.0	4.7	
Out.	5.2	3.8	6.1	4.3	
Total	4.6	6.2	2.9	7.0	

Note. COI norms are means for university athletes (Vealey, 1986). SOQ norms are means for University athletes and nonathletes combined (Gill & Dzewaltowski, 1988).

The SOQ and COI scores are similar to those reported by the test developers, and those scores are included in the table for reference. The three SOQ scores are similar to those reported by Gill and Dzewaltowski (1988) for a combined sample of university athletes and nonathletes. We also calculated internal consistencies for the SOQ scores. Alpha coefficients for the Minnesota and Texas samples for competitiveness (.94, .92), win (.82, .83), and goal (.84, .75) are similar to the competitiveness (.94), win (.86), and goal (.80) reliabilities reported by Gill and Deeter (1988).

The COI scores for our samples are similar to those reported by Vealey (1986) for university athletes. Notably, the parallel performance, outcome, and total scores with our 4-item measure are similar to the COI scores and to Vealey's scores. No previous research has included comparable 4-item difference scores. However, the 4-item difference scores parallel the COI and 4-item variance scores in that the samples were positive on both performance and outcome scores and were more performance oriented than outcome oriented.

Correlations between the three SOQ scores and the performance, outcome, and total scores for the COI, 4-item variance, and 4-item difference measures are presented in Table 2. Generally, most *r*s were nonsignificant, and none were very high. The most notable correlations were with the SOQ win score. SOQ win correlated with the outcome scores of the other three measures and correlated negatively with all three composite performance-orientation scores. Also, SOQ goal orientation correlated slightly with performance orientation. The SOQ scores tended to correlate more strongly with the 4-item difference scores than with the COI or 4-item variance scores. Again, though, no correlations were very high.

The low correlations between the SOQ and COI scores were not surprising given the differences between those two measures. Correlations between the

Table 2

Correlations Between COI Totals and SOQ Scores

	SOQ comp.		SOQ win		SOQ goal	
	MN	TX	MN	TX	MN	TX
COI						
Perf.	.01	.14*	−.09	−.07	.11	.20**
Out.	−.06	−.04	.09	.25***	−.17	−.15*
Total	.04	.10	−.10	−.16*	.15	.18*
4-item var.						
Perf.	−.11	.01	−.23**	−.16*	.01	.14*
Out.	.12	.12	.23**	.35***	−.06	−.10
Total	−.12	−.06	−.25**	−.27***	.04	.13
4-item diff.						
Perf.	.02	.14*	−.12	.00	.20*	.16*
Out.	.27**	.30***	.38***	.42***	.08	−.02
Total	−.15	−.09	−.31***	−.26***	.09	.12

*$p<.05$; **$p<.01$; ***$p<.001$.

COI and 4-item measures were of more concern. We expected high correlations between parallel measures (COI performance, outcome, and total scores and 4-item performance, outcome, and total scores), given their similarity.

Correlations between the COI performance, outcome, and total scores and the parallel 4-item variance and difference scores are presented in Table 3. Generally, all parallel scores (performance with performance, outcome with outcome) correlated significantly, and the correlations were in the moderate range. Clearly the COI and 4-item scores are related, but the correlations were not high enough to suggest that they assess exactly the same thing. We also compared the 4-item variance scores with the 4-item difference scores, and the correlations between parallel scores were quite high. Specifically, correlations for the Minnesota and Texas samples for performance (.74, .79), outcome (.72, .81), and especially total performance orientation (.88, .91) were quite high. These two sets of scores were calculated from the same data, and the high correlations suggest that the complicated variance-analysis scoring may not be necessary; the simpler difference score calculations may provide a reasonable alternative measure of the relative importance of performance and outcome in competition.

Group Differences on Competitive Orientation

To continue our comparison of competitive-orientation measures, we next considered group differences with Gender × Athlete/nonathlete (2 × 2) MANOVAs. Separate MANOVAs were calculated for the Minnesota and Texas samples with the three SOQ scores, the COI composite performance-orientation score, and the 4-item variance composite performance-orientation score as dependent variables. Because the 4-item variance and difference scores were calculated from the same data, we did not include both scores in the same analysis. Instead,

Table 3

Correlations Between COI and 4-Item Scores

	COI perf.	COI out.	COI total
4-item var.			
MN	.32*	.38*	.35*
TX	.51*	.52*	.53*
4-item diff.			
MN	.45*	.26*	.41*
TX	.40*	.45*	.51*

*$p<.001$.

we first ran the MANOVA with the 4-item variance score and then ran a second analysis with the 4-item difference score. The overall multivariate effects did not change, and discriminant coefficients were similar when the 4-item difference score was included. Thus, the MANOVA results reported are those with the 4-item variance score, and the univariate results for the 4-item difference score are included in the tables for comparison.

The MANOVAs yielded a gender main effect for both the Minnesota, $F(5,91)=4.21$, $p<.01$, and the Texas samples, $F(5,153)=3.79$, $p<.01$. An athlete/nonathlete main effect also emerged for both the Minnesota, $F(5,91)=10.42$, $p<.001$, and Texas, $F(5,153)=8.05$, $p<.001$, samples. No interaction effects emerged, and the same main effects emerged when the 4-item difference score replaced the 4-item variance score.

The means for females and males and univariate results for both samples are included in Table 4. Gender differences were evident for all three SOQ scores, and competitiveness was the strongest discriminator. Males scored higher than females on competitiveness and win orientation, as in previous research. Males also scored slightly higher on goal orientation, in contrast to previous research. No gender differences were evident with either the COI or the 4-item measures. Females were slightly more performance oriented on the COI in the Texas sample and on the 4-item difference score in the Minnesota sample, but no univariate effects emerged; males and females generally were similar on performance orientation.

As shown in Table 5, athlete/nonathlete differences showed up mainly on the SOQ scores. Athletes scored higher than nonathletes on all three, especially on competitiveness. Athletes and nonathletes did not differ at all on COI scores, and nonathletes were slightly more performance oriented on the 4-item measure.

Table 4

Gender Differences for Competitive Orientation Scores

	M for males		*M* for females		Univ. *F*		Disc. coeff.	
	MN	TX	MN	TX	MN	TX	MN	TX
SOQ								
Comp.	57.6	56.7	47.4	53.1	21.31***	10.05***	.90	.80
Win	21.8	22.7	18.5	22.2	9.23**	2.63	.14	−.05
Goal	27.4	27.2	25.6	26.5	5.71*	3.82	.04	.22
COI	.60	.52	.61	.59	.05	3.01	−.10	−.83
4-item var.	.67	.64	.71	.62	.17	.04	−.03	.49
4-item diff.	3.9	2.9	4.9	2.8	.57	.03	−.11	.38

*$p<.05$; **$p<.01$; ***$p<.001$.

Table 5

Athlete/Nonathlete Differences on Competitive Orientation Scores

	M for athletes		*M* for nonathletes		Univ. *F*		Disc. coeff.	
	MN	TX	MN	TX	MN	TX	MN	TX
SOQ								
Comp.	58.7	59.6	45.5	53.2	46.81**	27.51**	1.18	.50
Win	21.9	25.1	18.1	21.2	12.79**	32.91**	−.16	.67
Goal	27.2	27.6	25.7	26.6	3.48	4.50*	−.32	.01
COI	.60	.55	.61	.54	.04	.04	.01	−.07
4-item var.	.65	.61	.74	.65	3.32	.51	−.25	.13
4-item diff.	3.1	2.4	5.7	3.1	4.20*	.15	−.28	.22

*$p<.05$; **$p<.001$.

Analysis of COI Ratings

One major purpose of the study was to compare our 4-item measure with the COI. The results indicated that the 4-item measure correlates moderately with the COI, and both measures showed similar gender and athlete/nonathlete differences (or more accurately, lack of differences). The moderate rather than high correlations suggest that the COI and 4-item measures do not assess competitive orientation exactly the same way. Our 4-item measure collapsed the four levels of performance and outcome from the COI into two levels, and this may be one reason for differences.

On the COI, performance ranges from very poor to below average to above average to very good. Similarly, outcome ranges from big loss to close loss to close win to easy win. Both performance and outcome dimensions apparently assume a continuum. Specifically, we assume respondents are more satisfied with a below-average performance than with a very poor performance, more satisfied with an above-average performance than with a below-average performance, and so on. Likewise, we assume a close loss is more satisfying than a big loss and an easy win is more satisfying than a close win. Although these continuums are logical, they are not confirmed by the COI scoring system. The variance scores give the proportion of variance due to performance levels and outcome levels but do not tell us which levels differ from which others. For all we know, respondents could rate a close loss higher than a close win, although that is unlikely.

Our 4-item measure with only two levels of performance and outcome implicitly assumes that the important variance is between good and poor performance and between win and loss. We also assume that good performance is more satisfying than poor performance, a win more satisfying than a loss. The high correlations between our 4-item variance scores and 4-item difference scores confirm the direction of the differences. However, if the COI, with its four

levels, yields other differences (e.g., between big loss and close loss or between very good and above-average performance), our 4-item measure may be missing valuable information.

To help determine whether the COI includes more information than our 4-item measure, we carried out the within-subjects Performance × Outcome (4 × 4) variance analysis on COI ratings. To explore differences among performance levels and among outcome levels, we set up three single degree-of-freedom contrasts and planned comparisons. First, we contrasted the two good-performance levels (very good and above average) with the two poor-performance levels (very poor and below average). Similarly, we contrasted the two wins (easy win and close win) with the two losses (close loss and big loss). These contrasts parallel our 4-item measure. We also contrasted very good with above-average performance and very poor with below-average performance. Similarly, we contrasted easy win with close win and close loss with big loss. These contrasts should help determine whether these finer distinctions on the COI provide more information than the more general win/loss and good/poor performance contrasts, as in our 4-item measure.

This Performance × Outcome design with three single degree-of-freedom contrasts for each variable represented the within-subjects analysis of COI scores. We also used the Gender × Athlete/nonathlete (2 × 2) between-subjects design to see if subgroups differed on specific COI ratings. Thus, the overall design was a Gender × Athlete/nonathlete × Performance × Outcome (2 × 2 × 4 × 4) MANOVA with Performance × Outcome as a within-subjects design on the dependent measures.

Separate MANOVAs were run for the Minnesota and Texas samples, and all results were nearly identical. First, no between-subjects effects were significant, and neither gender nor athlete status interacted with performance or outcome for the Minnesota sample. In the Texas sample, athlete/nonathlete status interacted slightly, $F(3,155)=2.70$, $p<.05$, with outcome. Athletes rated all wins, and particularly easy wins, as slightly more satisfying than nonathletes did. The same trend was evident in the Minnesota data, but that interaction was nonsignificant. Generally, this was not a very compelling effect, and mean rating differences between athletes and nonathletes were all less than 1.0. The general lack of gender and athlete effects on COI ratings is in accordance with the earlier MANOVA analyses, which indicated that gender and athlete status influenced SOQ scores but not COI scores. Also, the slight athlete/nonathlete difference on COI win ratings is dwarfed by the large within-subjects effects.

The within-subjects portion of the analysis yielded large performance and outcome effects and a slight interaction. Performance effects were significant for the Minnesota, $F(3,95)=176.18$, $p<.001$, and Texas, $F(3,155)=211.80$, $p<.001$, samples; outcome effects were significant for the Minnesota, $F(3,95)=110.75$, $p<.001$, and Texas, $F(3,155)=161.44$, $p<.001$, samples; and the Performance × Outcome interaction was weaker, but significant, for the Minnesota, $F(9,89)=7.39$, $p<.001$, and Texas, $F(9,149)=7.72$, $p<.001$, samples.

To determine the source of the performance and outcome differences and to judge whether the COI ratings offer more information than our 4-item measure, we turn to the single degree-of-freedom contrasts. Table 6 includes the univariate results for the contrasts for performance and outcome effects, and

Table 6

Univariate Contrasts for Performance x Outcome MANOVA on COI Ratings

	Univ. *F*		Disc. coeff.	
	MN	TX	MN	TX
Performance contrasts				
Good/poor	445.47*	553.17*	−.78	−.78
Very good/above average	79.23*	86.59*	−.32	−.28
Below average/very poor	191.58*	215.45*	−.29	−.30
Outcome contrasts				
Win/loss	234.77*	271.98*	.73	.77
Close/easy win	40.45*	23.23*	−.33	−.46
Close/big loss	161.14*	199.15*	.41	.52

*$p<.001$.

Table 7 presents the mean ratings for each COI Performance × Outcome combination for both samples.

For performance, the univariate results and discriminant coefficients suggest that the overall difference between good (very good and above average) and poor (very poor and below average) performance was the main source of the effect, accounting for most of the variance. Clearly, both samples were more satisfied with good performance than with poor performance. However, other contrasts also reached significance, indicating that respondents differentiated very good from above-average performance and below-average from very poor performance. As the means and univariate *F*s indicate, the difference between below-average and very poor performance was greater than the difference between very good and above-average performance. Overall, though, performance ratings followed the expected continuum.

The outcome effect is somewhat different. First, the major difference is between win (close win and easy win) and loss (close loss and big loss). As with performance, this overall difference accounted for most of the variance, but other contrasts suggest further discrimination. The difference between close loss and big loss was clear, with close losses somewhat more satisfying (or less dissatisfying) than big losses. The difference between easy win and close win was much smaller and broke the continuum—close wins were more satisfying than easy wins. This is the most interesting finding of this analysis, and it suggests that the assumption of a continuum in outcome ratings from big loss to easy win is incorrect.

As noted earlier, the multivariate Performance × Outcome interaction reached significance, but the interaction was much smaller than the performance and outcome main effects. Indeed, all the performance single degree-of-freedom contrasts held up at all outcome levels, and all outcome contrasts held up at all performance levels. Several univariate interaction contrasts were statistically

Table 7

Cell Means for COI Ratings

	Easy win	Close win	Close loss	Big loss	*M*
Very good performance					
MN	8.1	9.4	7.8	5.1	7.6
TX	8.0	9.2	7.0	4.6	7.2
Above average performance					
MN	7.3	8.4	6.9	4.8	6.9
TX	7.3	8.2	6.1	4.3	6.5
Below average performance					
MN	5.3	5.7	3.9	2.9	4.5
TX	5.4	5.7	3.6	2.5	4.3
Very poor performance					
MN	3.6	3.9	2.7	1.6	3.0
TX	4.0	4.1	2.5	1.5	3.0
M					
MN	6.1	6.9	5.3	3.6	
TX	6.2	6.8	4.8	3.2	

significant, and they reflect minor changes in the magnitude of the performance and outcome contrasts.

Examination of Table 7 gives the best indication of the variation. For example, differences between good and poor performance ratings were greater for a close loss than for a big loss. Again, these interaction effects reflect minor variations; the performance and outcome main effects are the major findings. Notably, these ratings and effects were quite consistent. Cell standard deviations were small, ranging from 1.1 to 2.7, and the only between-subjects effect was a difference between athletes and nonathletes of less than 1.0. Within-subjects differences, on the other hand, were substantial. Respondents clearly used the entire range of satisfaction ratings, with means ranging from 1.5 for a very poor performance and big loss to 9.4 for a very good performance and close win.

Discussion

The primary purpose of this study was to compare the SOQ and COI as competitive-orientation measures, and this discussion focuses on that comparison. First, the overall competitive-orientation scores for our two samples matched those found in previous studies. Gender and athlete/nonathlete differences on SOQ competitiveness and win matched previous findings (Gill, 1988; Gill & Deeter, 1988; Gill & Dzewaltowski, 1988). Although our COI scores were similar to the university norms reported by Vealey (1986, 1988), we did

not find any gender or athlete/nonathlete differences. Gill and Dzewaltowski (1988) found athletes more performance oriented than nonathletes, and Vealey (1988) reported elite athletes being more performance oriented than university and high school athletes. Our small-college athletes from a 2-year college and a Division I university were quite different from Vealey's national-caliber elite athletes and Gill and Dzewaltowski's major-university athletes. Perhaps the relative performance orientation assessed with the COI is relevant only at the elite levels.

In any case, the SOQ and COI do not measure the same thing and are not directly comparable. The SOQ more clearly assessed competitive orientation as a multidimensional, sport-specific achievement construct and has greater psychometric strength as a competitive-orientation measure. On the other hand, the COI does not purport to assess the same sport-achievement construct, and a measure of relative performance orientation may extend sport achievement research and be especially useful with elite athletes.

If a relative measure of performance orientation is useful, then we might next consider whether the complicated format and variance-analysis scoring of the COI is the best approach. Although one study with two samples is not conclusive, our results suggest that our simpler 4-item measure is a reasonable alternative. Moreover, the simpler difference score calculations seem to provide the same information as the variance-analysis procedures, and the difference scores better fit with typical statistical analyses and interpretations.

The 4-item scores correlated with the COI and followed the same pattern in group comparisons. Generally, neither measure revealed many differences, but the 4-item measure, particularly with difference scores, seemed more sensitive to the few differences and changes that did emerge. In developing the COI, Vealey was particularly concerned with possible reactivity (athletes should prefer to perform well). Perhaps our 4-item measure is more transparent and reactive than the COI, but nothing in the results suggests this problem. Respondents were more performance oriented than outcome oriented on all measures. Performance ratings on the 4-item measure were high and approached the top limit of the rating, but actual performance ratings on the COI were also high.

The exploratory MANOVA on COI ratings yielded some of the most intriguing results, and these differences could not be found with our 4-item measure. In particular, the consistent tendency to rate close wins as more satisfying than easy wins poses many possibilities and questions that might be explored. For example, studies designed from a social-cognitive perspective, or specifically within an attributional framework, might help determine how and why sport participants find sport situations and outcomes satisfying or dissatisfying. This could be an exciting line of research. However, these provocative findings do not relate to the role of the COI as a competitive-orientation measure. Indeed, the variance-analysis scoring buries such rating differences.

In summary, the SOQ appears to be a psychometrically sound and useful measure of multidimensional sport-achievement orientation, as previous research has suggested. Clearly, the SOQ and COI do not assess the same thing. The *relative* performance versus outcome orientation assessed with the COI may be

useful in conjunction with the SOQ or in its own right for particular samples and situations, especially with elite athletes. The current results suggest that our 4-item measure is a simple but comparable measure of the relative importance of performance and outcome in competitive sport. Exploratory analyses of COI ratings suggest interesting patterns in satisfaction with varying competitive-sport situations that might be pursued with varied research strategies. However, for most research and practical purposes, the 4-item measure seems to be a reasonable substitute for the COI.

References

Duda, J.L. (1989). Relationship between task and ego orientation and the perceived purpose of sport among high school athletes. *Journal of Sport & Exercise Psychology*, **11**, 318-335.

Dweck, C.S. (1986). Motivational processes affecting learning. *American Psychologist*, **41**, 1040-1048.

Gill, D.L. (1988). Gender differences in competitive orientation and sport participation. *International Journal of Sport Psychology*, **19**, 145-159.

Gill, D.L., & Deeter, T.E. (1988). Development of the Sport Orientation Questionnaire. *Research Quarterly for Exercise and Sport*, **59**, 191-202.

Gill, D.L., & Dzewaltowski, D.A. (1988). Competitive orientations among intercollegiate athletes: Is winning the only thing? *The Sport Psychologist*, **2**, 212-221.

Gill, D.L., Dzewaltowski, D.A., & Deeter, T.E. (1988). The relationship of competitiveness and achievement orientation to participation in sport and nonsport activities. *Journal of Sport & Exercise Psychology*, **10**, 139-150.

Maehr, M.L. (1984). Meaning and motivation: Toward a theory of personal investment. In R. Ames & C. Ames (Eds.), *Research on motivation in education: Student motivation, Vol. 1* (pp. 115-144). Orlando, FL: Academic Press.

Nicholls, J.G. (1984). Achievement motivation: Conceptions of ability, subjective experience, task choice, and performance. *Psychological Review*, **91**, 328-346.

Spence, J.T., & Helmreich, R.L. (1978). *Masculinity and femininity: Their psychological dimensions, correlates and antecedents*. Austin: University of Texas Press.

Spence, J.T., & Helmreich, R.L. (1983). Achievement-related motives and behaviors. In J.T. Spence (Ed.), *Achievement and achievement motives* (pp. 7-74). San Francisco: W.H. Freeman.

Vealey, R.S. (1986). Conceptualization of sport-confidence and competitive orientation: Preliminary investigation and instrument development. *Journal of Sport Psychology*, **8**, 221-246.

Vealey, R.S. (1988). Sport-confidence and competitive orientation: An addendum on scoring procedures and gender differences. *Journal of Sport & Exercise Psychology*, **10**, 471-478.

Weiner, B. (1985). An attributional theory of achievement motivation and emotion. *Psychological Review*, **92**, 548-573.

Weiss, M.R., & Chaumeton, N. (in press). Motivational orientations in sport. In T. Horn (Ed.), *Advances in sport psychology*. Champaign, IL: Human Kinetics.

Appendix

Goals in Competitive Sports

The questions below ask about your goals in competitive sports. For each question, circle the number that indicates how satisfied you would be in that situation on the 0 to 10 scale with 0 indicating *very dissatisfied* and 10 indicating *very satisfied* in that situation.

You perform well and win

0	1	2	3	4	5	6	7	8	9	10
very dissatisfied										very satisfied

You perform poorly and lose

0	1	2	3	4	5	6	7	8	9	10
very dissatisfied										very satisfied

You perform well and lose

0	1	2	3	4	5	6	7	8	9	10
very dissatisfied										very satisfied

You perform poorly and win

0	1	2	3	4	5	6	7	8	9	10
very dissatisfied										very satisfied

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