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Social Support Dimensions and Components of Performance in Tennis

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Abstract

This study explored the relationships between dimensions of social support and components of performance in tennis. A post-match performance measure was completed by 144 British tournament tennis players. Principal components analysis yielded eight components, labelled Execution of (Flexible) Plan, Loss of Composure, Feeling Flat, Positive Tension, Worry, Flow, Effective Tactics, and Double Faults. Forty six players had also completed, pre-match, the Interpersonal Support Evaluation List (ISEL). Stepwise regression analyses revealed significant effects of the ISEL Belonging and Appraisal dimensions on five of the performance components. The correlations between total support and four of these performance components were also significant. Logistic regression analyses revealed no significant effects of the ISEL dimensions or total support upon winning versus losing. Effects of social support upon performance were therefore only apparent when attention was focused on the components of performance.

Social Support Dimensions and Components of Performance in Tennis

Social Support

Anecdotal evidence suggests that those involved in elite-level sport frequently denigrate the use of social support. The prevailing attitude is that athletes often feel they must "go it alone" (Hardy *et al*., 1996, p. 234) in their pursuit of success and not seek out social support in times of need. It has, nonetheless, been suggested that athletes should be encouraged to be proactive in their use of social support (e.g. Richman *et al*., 1989) and not consider such action a sign of weakness (Hardy & Crace, 1991).

Despite recommendations for research into social support in sport (e.g. Hardy & Jones, 1994), and despite the wealth of evidence pertaining to the positive effects of social support in the health literature (Cohen, 1988), there has been comparatively little research on social support in sport. In sport, social support has, however, been empirically linked to cohesion. Westre and Weiss (1991) found that those coaches, considered by their players to provide high levels of social support, had players who perceived higher levels of task cohesion in their teams. The concept "seeking social support" has been considered a coping strategy for dealing with competitive stress (Crocker, 1992) and slumps in performance (Madden *et al*., 1989). Social support has also figured prominently in burn-out. Gould *et al.* (1996) found that as the competitive nature of tennis increased, players' support diminished, leading to a decreased ability to combat stress. Social support has also been suggested to play a role in both the aetiology of and recovery from injury (e.g. Hardy *et al.*, 1991; Udry, 1996). In studies of leadership styles (for a review, see Chelladurai, 1993) players' perceptions of the socially supportive nature of their coach has been found to have an effect on players' satisfaction with the coach's leadership. Players' perceptions of and preferences for more socially supportive leadership from the coach have also been affected by players' age and ability. This research, and that from health psychology, suggests that the effects of being supported can be extremely beneficial. Conversely, the effects of being isolated from support are potentially negative.

Given these findings, one could speculate whether social support could also have a direct effect upon sporting performance. Sarason *et al.* (1990a) have convincingly argued that social support should directly affect sports performance. For example, Sarason *et al*. (1990a) suggest a performer may pull out of a slump simply due to the knowledge that a

coach is available to provide technical support. There is at present almost no empirical evidence to support such a link. Weiss and Friedrichs (1986) did, however, find that the social support dimension of the Leadership Scale for Sports (Chelladurai & Saleh, 1978, 1980) was negatively associated with win/loss percentage.

Cohen (1988) outlined four different models for the effects of social support on health, which may well apply to effects of social support on performance. These were information-based, identity and self-esteem, social influence, and tangible-resource models. According to an information-based model, social support may provide advice regarding tactics and strategies and also information to help avoid stressors. According to an identity and self-esteem model social support may give the player a sense of identity and belonging, increased self-esteem and perceived control. The positive psychological states suggested in this model may lead to increased positive affect and a greater motivation for good performance. A social influence model suggests that social controls and peer pressures may lead to a performer taking up performance enhancing tactics and styles of play. A tangible resource model suggests that social support may give an overall feeling of stability by having tangible and economic aid at hand.

In speculating a link with performance, one is faced with a dilemma regarding measurement. Social support is a complex phenomenon whose meaning, nature and function have been difficult to clarify adequately (Sarason *et al.*, 1990b; Veiel & Baumann, 1992). This has lead to a lack of consensus regarding its measurement. It is, nonetheless, considered that perceived support, as opposed to received support, may play a role in performance (Sarason *et al*., 1990a).

Of the different perceived support measures, The Social Support Questionnaire (Sarason *et al.*, 1983) measures support as a unitary construct. The Interpersonal Support Evaluation List (ISEL) (Cohen *et al.*, 1985) can yield a total score, but also consists of four support dimension subscales. The Social Support Survey (Richman *et al.*, 1993) is yet more differentiated, consisting of eight dimensions, developed from the six-dimensional conceptualisation of support proposed by Pines *et al.* (1981). In the present study of tennis players it seems reasonable to suggest that certain people may provide different types of social support to the individual in different circumstances. It was therefore considered appropriate to utilise a multidimensional measure of support for this study. However, in light

of the arguments against differentiation of support dimensions (e.g. Sarason *et al.*, 1987), it was also considered pertinent to measure overall support. The ISEL was, therefore, deemed the most appropriate measure for the present study as it can account for total and multidimensional support. Brookings and Bolton (1988) noted that in confirmatory factor analysis the best fit for the ISEL was provided by the four-dimensional model, despite high intercorrelations amongst the dimensions. Their recommendation is to use the four-dimensional form of the ISEL, but also, due to these high intercorrelations among dimensions, to use the total support score.

Measuring Performance

In performance measurement, studies have tended to focus on outcome measures, such as winning versus losing. Criticism has been levelled at such research for using unstandardised performance measures (Gould *et al.*, 1987). Similar to work on wrestlers (Gould *et al.*, 1984), in tennis, where the standard of one's opponent differs with every match, this is particularly relevant. For example, one may play well one day, but lose to a higher-ranked opponent. Conversely, one may play poorly, but win an easy match. This has led to calls for more reliable and valid measurement of performance (Hardy & Jones, 1990; Gould & Krane, 1992). To this end, there have been suggestions that performance assessment should contain process measures (Gould *et al*., 1987) which may reflect the task complexity of different sports. Vealey (1992, 1994) has called for more process-oriented measurement in all areas of sport psychology. Jones (1995) reported that research examining more qualitative, process-oriented performance variables had been promising.

Tennis has provided some examples of alternative forms of performance assessment. Daw and Burton (1994) constructed tennis performance measurement instruments to reflect a player's self-reported general observation on how well he/she *tends* to play, and to assess perceptions of performance regarding mental skills only. The United Kingdom Lawn Tennis Association's (LTA) Tactical-Technical Evaluation Sheet assesses areas of tactics and technique. The work of Mahoney and colleagues (e.g. Mahoney *et al.*, 1987), has assessed the psychological skills underlying exceptional athletic performance. All these examples provide more information regarding the range of skills that might underlie tennis performance. However, there is still clearly scope for examining more closely the

components of tennis performance. In the present study a post-match measurement tool was derived from the perceptions of the players themselves.

Present Study

The present study followed the guidelines for research suggested by Carron (1988) and Zanna and Fazio (1982). They suggested that initial research might look for a relationship between two variables before postulating greater theoretical links. The objective of this study was, therefore, to observe the relationship between different social support dimensions and different components of tennis performance. The components of tennis performance were to be explored through the construction and principal components analysis of a performance assessment questionnaire. The effects of the social support dimensions upon the various components of performance were to be analysed through stepwise regression analyses, and the effects of total support through simple correlational analysis. To provide validation evidence for the use of a differentiated measure of performance, it was considered necessary to also see whether the components of performance differentiated winners and losers. Finally, the dimensions of social support and total support were examined with respect to their ability to predict winning versus losing.

Due to the exploratory nature of this study, no hypotheses were made until after the results of the principal components analysis of the performance assessment questionnaire were known. At this point we were able to hypothesise that the following performance components would be positively predicted by the social support dimensions: Execution of (Flexible) Plan; Positive Tension; Flow and Effective Tactics. The following components would be negatively predicted: Loss of Composure; Feeling Flat and Worry. No hypothesis was put forward for the prediction of the component Double Faults. More specific hypotheses were derived by considering how the ISEL social support dimensions (Appraisal, Belonging, Tangible and Self-esteem) might relate to the models of Cohen (1988), drawing upon Cutrona and Russell's (1990) comparisons of social support measures. It was hypothesised that Appraisal would predict Execution of (Flexible) Plan and Effective Tactics. It might also predict Positive Tension and Worry. Belonging and Self-esteem would predict Feeling Flat and Flow. They might also predict Loss of Composure, Positive Tension and Worry. No specific hypotheses were put forward for the predictive effect of Tangible

support in this study, despite the fact that Tangible support might provide an overall sense of stability and security.

Method

Participants

The participants in this study were 144 British tournament tennis players, 134 males and 10 females. The mean age was 24 years (*SD* = 8 years). The players ranged from the British top-ten to lower-ranked but regular tournament players. Recruitment of players was opportunistic (convenience sample) but widespread, with data collected from four geographically spread tournaments in the UK. The sample, however, contained fewer players from the top third (3.5 %) of LTA ranking bands than the other two thirds (96.5 %). This reflects reality (validated by the LTA) in that there are fewer players in these top ranks. All players were self-professed regular tournament players. Forty six competitors, all male, completed the ISEL before their matches, and after their match they completed the performance questionnaire. The additional 98 players completed the performance questionnaire only, to increase the subject pool for the exploratory principal components analysis.

Measures

Social Support. Social support was measured using the ISEL (Cohen *et al.*, 1985). This comprises Appraisal, Belonging, Tangible and Self-esteem dimensions (measured as subscales). Each item is marked true or false, and when coded can be summed to give a total score for each dimension sub-scale. *Appraisal* refers to support in the form of advice and discussion, *Belonging* refers to support in the form of identification with a social network, *Tangible* refers to support in the form of material aid, and *Self-esteem* refers to support in the form of favourable comparisons with others. Individual scale scores were computed. Also, a *Total Support* score was computed, by adding the four sub-scale scores. The ISEL (total support and subscales) had test-retest correlations of .63 to .70 and internal consistency of .62 to .90.

Performance. An original performance questionnaire was constructed for this study. At LTA tournaments during the summer of 1994, 28 players were asked to respond to the prompts, “I know when I'm performing well, when I ...” and “I know when I'm performing badly, when I ...” From this, a list of items relevant to tennis performance was generated.

This list was then scrutinised by three LTA (professional grade) coaches and 13 further players. These people were asked to consider the validity of the items and to add to the list any further possibilities. From this, a 46-item questionnaire, with a rating scale from 0 (not at all) to 3 (a lot) was created, with the prompt "During this match, to what extent did you ...," followed by the 46 items. This questionnaire was then piloted on a further group of 7 players and one coach, generating a further seven items. The finished questionnaire comprised 53 items relating to tennis performance.

Analyses

Principal components analysis was used to examine the structure of the performance questionnaire. Listwise deletion for missing values was employed. Components were retained if eigenvalues were greater than 1.0. The scree plot was also examined. Oblique rotation was used, with delta set at 0 for direct oblimin rotation. It was considered that while there may be different components comprising tennis performance, these components would quite likely be interrelated. The component scores were saved for use in the subsequent stepwise regression analyses.

Stepwise regression analysis and simple correlational analysis were used to examine the effects of the social support dimensions and Total Support upon the performance components. An alpha level of .05 was used for all statistical tests, which were two-tailed. An inherent risk of the present study's use of multiple dependent variables in the stepwise regression analyses was an increased likelihood of committing Type 1 errors. Canonical correlation analysis would have been appropriate had there been more players in this study. However, only a sub-set of 46 of the 144 players in this study also completed the ISEL before their matches. Consequently, there were too few players to consider all variables simultaneously, as in a canonical correlation. Stepwise regression analysis was more appropriate in this case, because at any one time one was only looking at the association between one dependent variable and a small number of independent variables. The subject to variable ratio never fell below 10 to 1. As this study was exploratory in nature, it therefore seemed acceptable to use stepwise regression analysis.

In order to validate this study's use of a differentiated performance measure, a MANOVA was conducted to test whether those who won and those who lost differed on the components of performance, that is to say the saved component scores. Logistic regression

analysis was then used to test whether the social support dimensions and Total Support might also predict winning versus losing.

Results

Components of Performance

Histograms of all the performance items revealed that for every item each of the response categories (0, 1, 2, 3) had been checked by at least one subject. A skewness statistic was computed for each item. Although none of the items was extremely skewed, six items had skewness greater than 1.0 in absolute value. This meant that these items did not distinguish adequately between participants. Consequently, they were not included in subsequent analyses.

In the principal components analysis of the performance questionnaire, ten components emerged with eigenvalues greater than 1.0, accounting for 72.1% of the variance. Examination of the pattern matrix revealed seven fairly distinct components and three ambiguous ones. Items were then eliminated if they had low loadings (less than 0.4 in absolute size) on all components, or ambiguous loadings (the difference between the highest loading and the next highest loading on any other component was less than 0.1). Using these criteria 13 items were eliminated, leaving a total of 34 items. The remaining 34 items were subjected to a further principal components analysis. Eight components emerged with eigenvalues greater than 1.0, accounting for 69.7% of the variance (see Table 1).

Insert Table 1

about here

These components were interpretable and labelled: (1) Execution of (Flexible) Plan; (2) Loss of Composure; (3) Feeling Flat; (4) Positive Tension; (5) Worry; (6) Flow; (7) Effective Tactics; and (8) Double Faults. Two of the components appeared, at first, to be ambiguous. These were Component 4 and Component 6. With respect to Component 4, the work of Idzikowski and Baddeley (1983) on public speaking was relevant. Their subjects reported that they simultaneously felt alert, excited, energetic, troubled and tense. In other words these feelings can coexist in individuals. In the present study the items for this component appeared to reflect this phenomenon. Consequently, we felt that Component 4 could be labelled Positive Tension. With respect to Component 6, the work of Csikszentmihalyi (1975) on the concept of flow was relevant, as the items reflected playing

well and feeling good. Privette (1983) emphasised that flow incorporates elements of peak performance *and* peak experience. Consequently, we felt that Component 6 could be labelled Flow.

Component-component correlations (Table 1) showed that the components were fairly independent. Nevertheless, Execution of (Flexible) Plan correlated moderately with Flow (r = 0.40), and Effective Tactics (r = 0.36). Feeling Flat also correlated moderately but negatively with Flow (r = -0.36).

Effect of Social Support Dimensions and Total Support on the Components of Performance

The results from the stepwise regression analyses are shown in Table 2. The explained variance (R^2) is shown in the first column. The significance level of that figure is shown in the next column. The sign of the regression coefficient in the final equation (β) is taken to indicate the direction of the association between independent and dependent variable.

Appraisal support predicted Execution of (Flexible) Plan (R^2 = .17, p = .01), Positive Tension (R^2 = .12, p = .03), and Effective Tactics (R^2 = .21, p < .01) all in a positive direction. Belonging support predicted Feeling Flat (R^2 = .12, p = .03, association negative), and Flow (R^2 = .19, p < .01, association positive). Total Support was significantly correlated with Execution of (Flexible) Plan (r = .35, p = .03), Feeling Flat (r = -.37, p = .02), Flow (r = .44, p = .01), and Effective Tactics (r = .43, p = .01).

Insert Table 2 about here

Winning versus losing

The MANOVA indicated that those who won and those who lost their match did differ on the components of perceived performance (Hotelling's T^2 = 1.02, $F(8, 31)$ = 3.95, p < .001). Follow-up discriminant function analysis suggested that the salient variables (standardised structure coefficients greater than .30 in absolute value, which Pedhazur, 1982, regards as meaningful) were Execution of (Flexible) Plan (standardised structure coefficient -.43), Feeling Flat (.33), Positive Tension (-.56), and Effective Tactics (-.62) (see Table 3).

Insert Table 3 about here

The logistic regression analyses revealed no significant effects of the social support dimensions or Total Support upon winning versus losing.

Discussion

This study explored some of the components of performance in tennis through the construction and principal components analysis of a performance assessment questionnaire. The questionnaire was tennis specific and asked people to refer to a specific match. Analysis yielded eight components, each of which could be interpreted without ambiguity. These components were: Execution of (Flexible) Plan; Loss of Composure; Feeling Flat; Positive Tension; Worry; Flow; Effective Tactics; and Double Faults.

The study also examined the effects of ISEL social support dimensions and Total Support upon the various components of performance. The social support measure was not situation specific. Nevertheless, significant differential effects were found for the social support dimensions and Total Support on the components of performance. The Appraisal dimension predicted Execution of (Flexible) Plan, Positive Tension and Effective Tactics. However, the prediction of Effective Tactics was the most highly significant. The Belonging dimension predicted Feeling Flat and Flow, the latter the most highly significant. Total Support predicted Execution of (Flexible) Plan, Effective Tactics, Feeling Flat and Flow although, despite being less than alpha, none of these were highly significant. MANOVA indicated that winners and losers did differ on the components of perceived performance, the two most salient being Positive Tension and Effective Tactics. However, logistic regression analyses found no significant effects of social support dimensions or Total Support on winning versus losing. It is therefore clear that the effects of social support dimensions and Total Support upon performance were only apparent when the eight components of performance were used as the dependent variables.

While it is important to note that no causal link can be inferred from this study, to provide clarity of reading this discussion does refer to effects of social support on performance components. In view of the fact that the social support measure was a general one, it seems most unlikely that social support could have been caused by performance. The main problem was potential confounders. Indeed, a study such as this one, where all the measures were self-report, may well have been prone to negative affectivity (NA) bias (Watson & Pennebaker, 1989). The measure of social support might have been influenced by

this nuisance factor. It could be that the performance components that were predicted by the social support dimensions and Total Support were also influenced by negative affectivity; in other words that the results were artefactual. It appears that Feeling Flat, Flow and Positive Tension could readily be influenced by NA, but this does not appear to be so readily the case for Execution of (Flexible) Plan or Effective Tactics.

Whilst all the ISEL items could be related to Sarason and colleagues' (e.g. Sarason *et al*., 1987) concept of unitary support, Total Support only predicted four of the performance components. Consequently, despite the fact that Sarason *et al*. (1990a) write "knowing that one is loved and that others will do all they can when a problem arises may be the essence of social support" (p. 119), the differential prediction of five performance components by the Appraisal and Belonging dimensions suggests that different components of performance are differentially affected by different aspects of support. Despite Sarason *et al*.'s (1987) reservations regarding the functional multidimensionality of support, these results suggest the importance of measuring these functional aspects.

Cohen's (1988) models for the differential effects of social support on health apply well to the present study's results of social support on performance. Following Cohen's models and the comparisons of support measures given by Cutrona and Russell (1990), Appraisal might therefore serve to provide advice which directly influences performance. This might be information about the opponent or information regarding certain tactics and game plans. Appraisal might also help the player to stay positive in the face of stressful tension. In an identity and self-esteem model, Belonging may lead to less despondency and anxiety, and to increased positive affect, thereby preventing the player from feeling flat. Furthermore, the positive thought patterns associated with belonging support may also increase the likelihood of the player experiencing elements of flow. It is somewhat surprising that Self-esteem support did not predict performance components, given the evidence for the powerful effect of self-confidence on performance (e.g. Hemery, 1986; Jones & Hardy, 1990). Tangible support did not predict any performance components, despite the fact that its influence could be extremely important, given the excessive financial cost of pursuing a career on the tennis circuit.

What are the practical implications of these findings? The multi-component solution for performance could have interesting implications for intervention. In particular, the more

one is able to specifically pinpoint areas of deficiency in performance, the better one may be able to implement intervention (Parfitt *et al.*, 1990).

The beneficial effects of social support on performance suggest that good social support may be an important part of a competitor's make-up. However, a lack of social support cannot instantly command a remedy. Forcing social support onto tennis players who lack support is a complicated issue, in that it is ethically problematic. One may have to accept that players are quite capable of creating their own social support. It may perhaps be more important to help them not to undermine the social support that is already available to them, rather than giving support to them. Richman *et al*. (1989) felt that quality social support needed "to be purposefully developed and nurtured" (p.158). It is suggested that athletes should be encouraged to seek out social support from a wide variety of different people, and to maximise and build on the support currently available to them. Richman *et al*. (1989) further commented that social support should be considered within a proactive model, with the athlete recognising support needs and acting to satisfy those needs. Clearly, the benefits of social support should not be underestimated. Despite some of the misgivings regarding the use of social support, there are sporting advocates, such as Michelle Mullen, the professional ten-pin bowler in Gould and Finch's (1990) study, who maintained that the most important lesson she had learned was to use social support.

Clearly, Cohen's (1988) models provide an interesting insight into the ways in which social support may affect performance. However, one must accept that the comments provided in this paper are merely speculations in need of further empirical support. While social support did predict quite well, one might argue that a more sport-specific questionnaire would serve as a better indicator of the types of support utilised by tennis players. For example, it may be of worth to include indications of the kind of support offered by coaches or other players. However, a counter to this argument would be to note that a less specific measure of social support provides a more generalisable result (Gauvin & Russell, 1993). Rosenfeld *et al*. (1989) examined the differential provision of support from coaches, team-mates, friends and parents. However, validation of the Social Support Survey (Richman *et al*., 1993) does not reveal whether all eight dimensions of support can be clearly separated.

According to Carron (1988) and Zanna and Fazio (1982), a second generation question would be to examine possible moderator variables in order that findings, such as those in this paper, may be placed in a more theoretical context. Given the literature on the "stress-buffering" effect of social support on health (e.g. Cohen, 1988), and the literature on stress and performance (e.g. Jones & Hardy, 1990), a first step might be to examine whether social support moderates the effect of stress upon performance. Comments, such as that noted in Gould *et al.* (1993), do allude to this potential. They suggest that elite performers should "seek and utilise social support. Use family, friends and coaches for support rather than trying to deal with the pressure all by yourself" (Gould *et al*., 1993, p. 369). It is important to note, however, that stress-buffering may only occur if the needs dictated by the stressful event are matched by the functions of the support that is perceived to be available (Cohen & McKay, 1984; Cohen and Wills, 1985; Cutrona & Russell, 1990). As noted earlier, this implies that a closer examination of the kind of support specific to sporting situations is required, as opposed to the use of generic support measures. It also implies careful examination of the many stressors which may befall a sportsperson.

While the performance questionnaire was constructed specifically for tennis, and some of the items are tennis specific, most of the components appear generally applicable to any sport. Naturally, the component "Double Faults" is tennis specific, but the other components, e.g., Flow, Effective Tactics and Loss of Composure, could have relevance in any sporting context. It would be of interest to see the extent to which the component structure obtained in the present study is replicable in other sporting contexts. The performance questionnaire provides further insight into performance assessment. It deals not with outcomes of performance, but with the different components of performance. Nevertheless, despite the intuitive appeal of these results, it would be sensible to perform a confirmatory factor analysis of the performance questionnaire in subsequent studies.

The significant effects of the social support dimensions and Total Support on some of the performance components suggest a positive role for social support in sport. The results found no such significant effects of the predictor variables on the win/loss outcome measure. This exploratory research, therefore, identifies effects of the social support dimensions and Total Support upon performance that are only apparent when attention is paid to the components of performance, in this case as perceived by the performers.

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Table 1

Final Principal Components Analysis of Performance Items

	Component							
Item	1	2	3	4	5	6	7	8
	Item-component loadings[a]							
Keep to a routine	.77							
Plan each point	.72							
Adapt to changing circumstances	.63							
Solve problems as they occurred	.61							
Stay motivated	.52			.37				
Think positively	.49			.37	-.31			
Keep a positive attitude	.47			.33	-.31			

Stay focused	.44		.33		
Get wound up		.85			
Get angry		.78			
Fret about mistakes		.76			
Become aggressive		.68			
Let errors bother you		.67			
Lose your concentration		.34			
Feel sluggish			.94		
Feel mentally tired			.76		
Feel lively			-.56		
Feel flat			.47	.37	
Feel nervous				.69	
Work hard on each point				.44	
Become hesitant					.88
Worry about your shots					.58
Feel good					.78
Keep a consistent standard					.73
Keep your mind on the present	.37				.64

(table continues)

Item	Component 1	2	3	4	5	6	7	8
Enjoy yourself						.61		
Feel relaxed				-.51		.59		
See the ball well						.58	.39	
Use effective strategies							.83	
Keep up the pressure on your opponent							.54	
Employ good tactics							.51	
Return serve well						.44	.50	
Serve double faults								.93
Move well								
	Component-component correlations							
Component 1 (Execution of (Flexible) Plan)	–							
Component 2 (Loss of Composure)	-.22	–						
Component 3 (Feeling Flat)	-.23	.21	–					
Component 4 (Positive Tension)	.09	-.02	-.12	–				
Component 5 (Worry)	-.29	.23	.17	-.01	–			
Component 6 (Flow)	.40	-.17	-.36	.14	-.28	–		
Component 7 (Effective Tactics)	.36	-.03	-.16	.17	-.26	.28	–	
Component 8 (Double Faults)	-.08	.10	-.02	-.00	.12	.02	-.09	–

Note. $N = 132$.

[a]For clarity, only item-component loadings of magnitude .30 or greater are shown.

Table 2

Stepwise Regression Analyses: Effects of Social Support Dimensions on Performance Components

Dependent Variable	Independent Variable	ΔR^{2a}	$p(F)^b$	β^c	$p(t)^d$
Execution of (Flexible) Plan	Appraisal	.17	.01	.42	.01
Feeling Flat	Belonging	.12	.03	-.34	.03
Positive Tension	Appraisal	.12	.03	.34	.03
Flow	Belonging	.19	.00	.44	.00
Effective Tactics	Appraisal	.21	.00	.46	.00

Note. $N = 40$.

[a] Predicted variance. [b]Probability of F for R^2. [c]Standardised regression coefficient in final equation. [d]Probability of t for β.

Table 3

Multivariate Analysis Comparing Winners and Losers on Performance Components

Dimension[a]	Mean (SD)		Standardised structure coefficient
	Winners	Losers	
Execution of (Flexible) Plan	0.37 (0.66)	-0.43 (1.20)	-.43
Loss of Composure	0.01 (0.87)	0.06 (1.17)	.02
Feeling Flat	-0.22 (0.97)	0.40 (0.94)	.33
Positive Tension	0.38 (0.72)	-0.69 (1.19)	-.56
Worry	-0.14 (0.87)	0.13 (1.09)	.14
Flow	0.05 (1.01)	-0.39 (1.03)	-.22
Effective Tactics	0.47 (0.72)	-0.50 (0.88)	-.62
Double Faults	-0.04 (1.01)	0.10 (0.97)	-.07

Note. $N = 40$. Hotelling's $T^2 = 1.02$, $F(8, 31) = 3.95$, $p < .001$

[a]Component scores saved from final principal components analysis.