The Relationship Between Performance, Intention to Drop Out, and Intrapersonal Conflict in Swimmers

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Athletes' success and failure have often been linked to certain personality characteristics. Although previous results in this area were equivocal, many researchers concluded that athletes often drop out of competitive sport because of conflicts of interest, or because they fail to demonstrate high ability in sports. This investigation assessed the importance of intrapersonal conflicts to athletic performance and to dropping out. Swimmers competing at three different levels of performance filled out a conflict questionnaire. Some had indicated that they planned to discontinue their swimming career soon. High performers showed less conflict and a more intensive use of cognitive conflict reduction mechanisms than did medium performers and low level swimmers. Dropouts, on the other hand, had higher conflict scores in areas directly related to athletic performance than did continuers. Intrapersonal conflict was interpreted to be an important mediating variable in sport and personality research.

One issue that is most crucial to coaches and counselors who deal with elite athletes is the question of why some of them drop out of an athletic career prematurely, that is, before athletic performance declines because of age, or injury forces them to stop. Many coaches have had the experience of coaching a young athlete, one they think might have the potential to go to the top, only to hear that he or she has decided to quit, before even going half of the way. Given the tremendous amount of time, effort, and resources it takes to lead an athlete to peak performance, sport organizations must become interested in why athletes sometimes drop out in spite of everything. Then these organizations may be able to influence sports in a way that makes such dropouts unlikely, giving maximum support to those athletes who show the most promise.

Although physiological reasons for dropping out are relatively easy to identify, it is much harder to identify psychological reasons. A surprisingly small number of studies have been conducted in this area so far. Researchers have blamed

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the preponderance of negatively evaluated aspects of the athletic career (Kreim & Mayer, 1985; Watson, Blanksby, & Bloomfield, 1985), diminishing achievement motivation (Gabler, 1976), and a "win at all costs" attitude that results in a lack of positive and meaningful rewards (Orlick, 1974) for premature dropouts. But the majority of studies have pointed at conflicts between sport participation and other areas of life (e.g., Gould, Feltz, Horn, & Weiss, 1981; McPherson, Marteniek, Tihanyi, & Clark, 1980; Robinson & Carron, 1982).

In reviewing studies on dropout behavior, Keil (1986) found that the validity of many of these investigations is quite limited because researchers have often used nonstandardized interviews as their only data source. Additionally, Keil observed a general lack of theory. Since most studies that emphasize other interests as the major cause of dropping out have been conducted with youth sport athletes, this may be seen as part of normal sampling of different achievement domains (Burton & Martens, 1986). The same is true for studies whose subjects were all involved in a sport as a leisure activity. In competitive sport, however, participation plays a far more important role in the athletes' lives, and this makes dropping out something very different from exchanging one leisure activity for another.

A study on junior wrestlers conducted by Burton and Martens (1986) tested hypotheses derived from Nicholls' (1984) model of motivation and found sport participants to infer high ability from their athletic activities. Although dropouts attributed their leaving sport primarily to more interest in other things, they reported significantly lower perceived ability than did participants. These data point to the role of intrapersonal conflicts (i.e., conflict between the desire to demonstrate high ability and the continued participation in a sport that causes the inference of low ability) in the decision to drop out.

In this study we focused on intrapersonal conflict and used a cognitive consistency approach to assess why athletes prematurely quit sports. We also used intrapersonal conflict to distinguish between different levels of swimming performance on the following theoretical basis: it has been discussed whether there is a peak-performance personality in sport (cf. Eysenck, Nias, & Cox, 1982; Mumford, 1983; Sack, 1982; Singer & Haase, 1975). If athletic performance, among other variables, is a matter of personality structure, it may be possible to distinguish between athletes who show different levels of performance according to the amount and structure of conflict they experience within the athletic field, and the way they cope with this conflict.

The central assumption of the theories of cognitive consistency (cf. Abelson & Rosenberg, 1958; Cartwright & Harary, 1956; Festinger, 1957; Heider, 1958; Osgood & Tannenbaum, 1955) is that all organisms prefer to live in a state of equilibrium, a state of cognitive balance. Whenever this equilibrium is threatened, cognitive inconsistency or dissonance arises, which is perceived as tension or conflict (Collins, 1968). This is always the case when elements within a cognitive field are inconsistent with each other. The individual then takes steps to reduce conflict and restore the equilibrium.

We define intrapersonal conflict as the incompatibility between various cognitions within a person. In assessing psychological correlates of the behavioral differences of various athletes (such as performance and dropout behavior in this study), intrapersonal conflict may serve as an important mediating variable. So far, no systematic studies have been conducted in this area.
In terms of cognitive consistency, athletes competing at different levels of ability should be distinguishable according to the amount of conflict experienced within their athletic field. A top level athlete invests a lot of time and effort into his or her athletic career. One may generally assume that such an athlete's whole life is governed by the sport, which leads to an increased sensitivity to tension within this area and between the sport career and other areas of life. But on the other hand, a top level athlete is also rewarded by the enjoyment of high performance, by certain privileges that go with it, and by success. Athletes competing on a lower level often have to make similar commitments to their sport career but lack the reinforcement available to the top athletes. And for individuals engaging in athletic activities as part of their leisure behavior, who focus on aspects other than athletic performance alone, the cognitive field of sport is less relevant because it covers just one activity among others in their lives. Inconsistencies in the sport area may therefore be less important.

Following these arguments, medium performance athletes are predicted to experience more conflict than top level athletes within the cognitive field of sport. Recreational sport participants, on the other hand, can be expected to experience less conflict than these two groups because the field is less relevant to them and performance per se is less significant.

As far as premature dropouts are concerned, the studies cited above suggest that they quit because of conflicts within their athletic environment or between their sport and other important aspects of their lives. This may be because dropouts experience more conflicts than athletes who continue their career, or they perceive these conflicts as more significant to them, or they lack adequate coping mechanisms. Following the arguments of Burton and Martens (1986), dropouts are expected to show higher conflict scores on performance-related aspects of the sport setting than do athletes who continue their career.

Method

Subjects

Taking part in this study were 161 male and female competitive swimmers between 13 and 26 years of age ($M = 17.4\text{ years}; SD = 2.7\text{ years}$). According to their swimming performance, they were assigned to one of three groups. For the assignment procedure, a swimming performance rating scale (Coen, 1984) was used. In this table, issued regularly by the German Swimming Federation, the world record in every discipline at the time of the last Olympics is given a value of 1,000 points. The performance of any individual is then expressed in relation to that record. The advantage of this table is that it allows a comparison between different disciplines within swimming.

In our study we arbitrarily fixed cutoff marks at 300 and 800 points. A total of 34 low level swimmers below 300 points and between 13 and 26 years of age ($M = 17.6; SD = 3.4$) practiced regularly but, according to the amount of time they invested into their sport, engaged in swimming as part of their recreational and leisure behavior. On the other hand, 96 medium level athletes between 301 and 799 points (actually, the performance of this group ranged between 553 and 789 points) spent a considerable amount of time on swimming practice and engaged in nationwide competitions regularly. Three of these swimmers belonged to the German C, and 51 to the D, national teams. They were between
13 and 23 years of age (M = 16.8; SD = 2.1). Finally, 31 top level athletes between 15 and 25 years of age (M = 19.7; SD = 2.7) and with 800 points and above took part in national and international competitions regularly. Two of them, who had a maximum performance of more than 1,000 points, belonged to the A, 14 to the B, and 2 to the C national teams of the German Swimming Federation.

The means and standard deviations for maximum performance, time spent on swimming practice per week, and years in competitive swimming are given in Table 1. The table shows that the distinction between low, medium, and high level swimmers is to be taken as an ordinal rather than an interval scale. Concerning practice times and performance points, the medium performers were much more similar to the high than to the low performance group. Actually the performance of the latter group may have been even lower than indicated in Table 1 because several subjects reported that they had never taken their lap times at all.

### Table 1

Table 1

<table>
<thead>
<tr>
<th>Group</th>
<th>n</th>
<th>Performance (points)</th>
<th>Practice (min per week)</th>
<th>Years in competitive swimming</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low level</td>
<td>34</td>
<td>254 (90.4)</td>
<td>172 (155)</td>
<td>5.7 (4.3)</td>
</tr>
<tr>
<td>Medium level</td>
<td>96</td>
<td>672 (64.9)</td>
<td>803 (319)</td>
<td>5.9 (2.6)</td>
</tr>
<tr>
<td>High level</td>
<td>31</td>
<td>879 (61.0)</td>
<td>1089 (400)</td>
<td>8.7 (3.1)</td>
</tr>
</tbody>
</table>

All subjects were asked whether they planned to discontinue their competitive career within the next year. According to their answer to this question, a second classification was made, and the subjects of the high and medium performance groups were assigned either to the dropout or to the continuer group. The 113 continuers were between 13 and 24 years of age (M = 17.3; SD = 2.4). One belonged to the A, 13 to the B, 7 to the C, and 53 to the D national teams. The dropout group consisted of 14 athletes between 14 and 25 years of age (M = 18.3; SD = 3.2). One athlete belonged to the A, 1 to the B, and 5 to the D national teams. Performance, training intensity, and years in competitive swimming are reported in Table 2.

In asking athletes, all of whom were still swimming, whether or not they wanted to discontinue their career within the next year, we were really dealing with planned dropouts and planned continuers rather than actual dropouts and continuers. Yet we chose this measure for several reasons. Had we studied subjects after dropping out of swimming, the cognitive field characterized below might have been considerably less relevant to them. In particular, a person who has
already dropped out cannot be expected to show the same conflicts that may have played a role in his or her decision to drop out. Furthermore, we were not interested in the conflicts that former athletes have after dropping out, but in the conflicts that coincide with the dropout decision itself. Our assumption was that conflicts leading to the decision to drop out are still there, after this decision has been made but before it is carried through. It would not have been helpful to assess which swimmers, after a certain amount of time, really did drop out and which did not. In the case of declared dropouts who may have then changed their minds and continued with competitive swimming, the circumstances leading them to the dropout decision might have changed substantially. The same holds true for declared continuers who then drop out. Assessing the subjects exactly when they drop out would have been optimal but impractical.

**Conflict Assessment Questionnaire**

For assessing intrapersonal conflict, a questionnaire was constructed according to the method developed by Lauterbach (1975a, in press) and its extension by Völpe (1984; Lauterbach & Völpe, 1986). The questionnaire, labeled Attitude Questionnaire, was handed out to the athletes and collected by their coaches. The coaches had been informed about the nature of the study but not about the concept behind the questionnaire, so they could not derive conflict-relevant information from their athletes’ data. Although the athletes’ names were not asked for, it would have been easy to identify an athlete, especially an expert performer, via club membership and performance points. Therefore we merged the questionnaires of athletes from different clubs in order to ensure privacy of the data. After the questionnaires were collected, the subjects were told that the aim of the study was to measure and interpret intrapersonal conflicts within the athletic field. Besides the items designed to assess intrapersonal conflict, the questionnaires asked for data about age and sex, formal education, vocation, training habits, performance, and the athletic career.

From findings of previous studies (e.g., Gabler, 1976; McPherson et al., 1980; Watson et al., 1985), interviews with various coaches (including the West German men’s national coach) and athletes, and personal experiences of one of the authors as an athlete, a cognitive field consisting of 10 elements was defined:
The elements were selected according to their relevance to competitive swimmers with special emphasis on dropping out of an athletic career. Besides the cognitive elements specific to competitive swimming, the element “myself” is generally included in all questionnaires constructed according to Lauterbach’s (1975a, in press) method. This is done to obtain information about how the individual under assessment sees himself or herself in interaction with the other elements.

Each of the 10 elements of the cognitive field was combined with every other element. These combinations were turned into semantical relations (e.g., “Does my companion encourage or restrain my competitive sport?” vs. “Does my competitive sport advance or handicap my relationship with my companion?” emphases added). They formed the 90 items of the questionnaire designed to measure intrapersonal conflict. The subjects were asked to answer the items on bipolar Likert rating scales. They were also asked to indicate on unipolar Likert scales how relevant each cognitive element was to them.

This method of conflict assessment has been employed in various studies using different cognitive fields. Questionnaires were constructed for single-case studies with depressed patients (Lauterbach, 1975b), group studies with pregnant women (Lauterbach, 1986), alcoholics (Lauterbach & Klant, 1986), and drug addicts compared to members of a “destructive cult” (Lauterbach & Völ, 1986; Völ, 1984), and for a cross-cultural study on prejudice between Germans and Turks in West Germany (Özelsel, 1987). In all of these studies the main hypotheses, which as in our study had been derived from consistency theory, were supported by the data. We interpreted this as a contribution to the construct validity of the method of conflict assessment. Özelsel (1987) also assessed the reliability of her questionnaire and found a retest reliability coefficient of $r = .67$ for overall conflict.

Data Processing

Following Heider’s (1958) reasoning, we used the 90 bipolar items of our questionnaire to form substructures within our cognitive field. From our 10 cognitive elements, we extracted every unique triple and pair and formed triads and dyads (this process was described in detail by Lauterbach, 1975a, in press; and by Völ, 1984). According to Cartwright and Harary (1956), such a structure is balanced when the number of negatively evaluated items is even. It is imbalanced when the number of negative items is odd. The value of a cognitive structure was computed as the product of the ratings of the items comprising it. This score
was then weighted with the product of the relevance ratings of the elements that made up the structure.

The scores of all balanced and imbalanced structures, in which a particular cognitive element occurred, were summed up to indices of balance and imbalance for this element. In a final step, the amount of conflict associated with each cognitive element was computed as the ratio between the amount of balance and the sum of balance plus imbalance (for details of the computational procedure, cf. Lauterbach, 1975a, in press; Volp, 1984).

One advantage of this method of conflict assessment is that it suggests several cognitive strategies for reducing conflict. One of these is to devalue a conflict-prone cognitive element by rating it less relevant. Another is to rate the items that belong to structures, in which cognitive elements conflict with other elements, less extreme. This leads to a decrease in imbalance relative to balance, and thereby to a reduction in the amount of conflict. In this study it will be called “harmonization.” For every cognitive element, items that belonged to balanced structures were compared to those belonging to imbalanced structures. An index of harmonization was computed as the average difference in the extremity of rating between items in balanced and items in imbalanced structures.

Conflict, relevance, and harmonization scores were computed using a Fortran–77 computer program written by Volp (1984). All other statistics were computed with SPSS, release 9 (Hull & Nie, 1981; Nie, Hull, Jenkins, Steinbrenner, & Bent, 1975) on a Digital Equipment DECsystem 10 computer.

Results

In order to estimate how well our cognitive field was able to discriminate between low, medium, and high level swimmers, we performed three multiple discriminant analyses that utilized the cognitive elements as predictors for group membership. The multiple canonical correlation coefficients, estimates for the standardized canonical discriminant function coefficients, and proportion of cases correctly classified according to the discriminant functions are given in Table 3.

The first discriminant analysis with the conflict scores as predictors used Wilks’ lambda as an entry criterion for the predictor variables and yielded two significant discriminant functions. Although the first function mainly separated the low performers from the medium to high performers, the second function mainly served to separate the high performers from the two other groups. The second and third discriminant analyses separated the performance groups on the basis of their relevance and harmonization scores, respectively, and used all predictor variables to classify the cases. In the analysis using the relevance scores as predictors, the first discriminant function explained a substantial amount of variance while the contribution of the second function was negligible (cf. Table 3). The three groups were separable on the basis of function 1 only with group centroids of \( M \) (low) = -1.24, \( M \) (medium) = .29, and \( M \) (high) = .43. The analysis that used the harmonization scores as predictors yielded two discriminant functions. Function 1 produced distinct centroids for all three groups, while function 2 mainly separated the medium performers from the two others. In all three analyses, most classification errors occurred between the medium and high performers. A chi square statistic was used to test whether the classification analysis results were better than chance. Significant classification results were found in all three discriminant analyses, \( p < .001 \).
Table 3

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Conflict</th>
<th>Relevance</th>
<th>Harmonization</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Function no. 1</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td><strong>Canonical correlation</strong></td>
<td>.43</td>
<td>.29</td>
<td>.55</td>
</tr>
<tr>
<td>Myself</td>
<td>—</td>
<td>—</td>
<td>.06</td>
</tr>
<tr>
<td>Competitive sport</td>
<td>-.49</td>
<td>.82</td>
<td>-.29</td>
</tr>
<tr>
<td>Success vs. failure</td>
<td>-.62</td>
<td>.43</td>
<td>.52</td>
</tr>
<tr>
<td>Other hobbies</td>
<td>.58</td>
<td>-.07</td>
<td>-.49</td>
</tr>
<tr>
<td>Coach</td>
<td>—</td>
<td>—</td>
<td>.39</td>
</tr>
<tr>
<td>Training</td>
<td>—</td>
<td>—</td>
<td>-.17</td>
</tr>
<tr>
<td>Companion</td>
<td>.81</td>
<td>.34</td>
<td>-.20</td>
</tr>
<tr>
<td>Potential for improvement</td>
<td>.38</td>
<td>-.48</td>
<td>.38</td>
</tr>
<tr>
<td>Job</td>
<td>—</td>
<td>—</td>
<td>-.03</td>
</tr>
<tr>
<td>Teammates</td>
<td>—</td>
<td>—</td>
<td>.26</td>
</tr>
<tr>
<td><strong>% correctly classified</strong></td>
<td>53.99</td>
<td>51.55</td>
<td>47.20</td>
</tr>
</tbody>
</table>

χ²(4), p < .001, Conflict = 27.24; Relevance = 43.75; Harmonization = 26.26.

Another three multiple discriminant analyses were performed to determine how well the cognitive field was able to separate continuers from dropouts. These analyses used all predictor variables to classify the cases. The multiple canonical correlation coefficients, estimates for the standardized canonical discriminant function coefficients, and proportion of cases correctly classified according to the discriminant functions are given in Table 4. Again, all three discriminant analyses yielded significant classification results, p < .001. The best set of predictor variables for dropouts was harmonization; 78.6% of the dropouts were correctly classified on the basis of harmonization scores alone.

Following the discriminant analyses, univariate tests were computed. Among the athletic groups, significant differences were found in age, practice time per week, and years in competitive swimming. The results reported below were corrected for these differences. They were not corrected for differences in athletic performance because this parameter was used for forming the groups. All comparisons concerning the three groups of athletes formed according to swimming performance were conducted via one-way ANOVAs, followed by Scheffé tests and preceded by planned-comparison t tests between medium and high performers and between medium performers and low performers. When the groups’ variances were not homogeneous, separate variance estimates were used and degrees of freedom were adjusted for.

Medium level athletes had significantly higher overall conflict scores than high performers, t (68.17) = 3.14, p < .01. The low level swimmers’ overall conflict lay in between and did not differ significantly from the scores of the two other groups.
Table 4

Discriminant Functions Separating Continuers and Dropouts

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Conflict</th>
<th>Relevance</th>
<th>Harmonization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canonical correlation</td>
<td>.44</td>
<td>.44</td>
<td>.29</td>
</tr>
<tr>
<td>Myself</td>
<td>-.62</td>
<td>-.14</td>
<td>.35</td>
</tr>
<tr>
<td>Competitive sport</td>
<td>.83</td>
<td>.50</td>
<td>-.49</td>
</tr>
<tr>
<td>Success vs. failure</td>
<td>.16</td>
<td>.36</td>
<td>.40</td>
</tr>
<tr>
<td>Other hobbies</td>
<td>-.21</td>
<td>-.08</td>
<td>-.41</td>
</tr>
<tr>
<td>Coach</td>
<td>-.47</td>
<td>-.03</td>
<td>.03</td>
</tr>
<tr>
<td>Training</td>
<td>.34</td>
<td>.10</td>
<td>.55</td>
</tr>
<tr>
<td>Companion</td>
<td>-.01</td>
<td>-.04</td>
<td>-.01</td>
</tr>
<tr>
<td>Potential for improvement</td>
<td>.44</td>
<td>.39</td>
<td>.39</td>
</tr>
<tr>
<td>Job</td>
<td>-.04</td>
<td>.14</td>
<td>-.54</td>
</tr>
<tr>
<td>Teammates</td>
<td>-.28</td>
<td>-.13</td>
<td>-.05</td>
</tr>
<tr>
<td>% correctly classified</td>
<td>83.33</td>
<td>77.95</td>
<td>71.65</td>
</tr>
</tbody>
</table>

χ²(1), p < .001, Conflict = 55.63; Relevance = 45.66; Harmonization = 25.87.

Figure 1 shows the three performance groups’ conflict profiles for the individual cognitive elements. Most conflict that was found for the three elements related only indirectly to competitive sport, that is, other hobbies, companion, and job.

The intrapsychic conflict scores of the medium level group were always higher than those of the high performers. The difference was significant for the elements myself, t(63.43) = 2.93, p < .01, competitive sport, t(80.32) = 3.42, p < .01, success versus failure, t(125) = 2.07, p < .05, coach, t(86.84) = 2.68, p < .01, training, t(60) = 2.69, p < .01, companion, t(122) = 2.05, p < .05, potential for athletic improvement, t(61.63) = 1.97, p < .05, and teammates, t(78.61) = 2.59, p < .05. As with the overall conflict, low level swimmers ranged somewhat in between or had scores only slightly out of the two other groups’ range for most cognitive elements except for success versus failure, in which they scored considerably higher than the high level group, F(2, 156) = 3.32, p < .05; Scheffé procedure, p < .05, and for companion, t(99.93) = -4.55, p < .001, and other hobbies, t(126) = -2.89, p < .01, in which they scored considerably lower than did the medium performers.

Figure 2 shows the conflict profiles of the continuer and dropout groups. The dropouts had significantly more conflict with the elements competitive sport, t(125) = 3.12, p < .01, success versus failure, t(125) = 2.65, p < .01, training, t(125) = 3.08, p < .01, and potential for improvement, t(124) = 3.19, p < .01. Within the dropout group most conflict arose between coach and job, coach and other hobbies, and training and job.

As Figure 3 shows, the cognitive field as a whole as well as all of the sport-related cognitive elements were considerably less relevant to the low level swimmers than to the other performance groups, with significant differences be-
Figure 1 — Conflict profiles of low, medium, and high level swimmers.

Figure 2 — Conflict profiles of continuers and dropouts.

between low level and medium level swimmers on success versus failure, $t(49.83) = -5.03, p < .001$, coach, $t(43.29) = -3.44, p < .01$, training, $t(128) = -2.17, p < .05$, potential for athletic improvement, $t(58.12) = -3.61, p < .01$, and teammates, $t(128) = -2.08, p < .05$. Success versus failure, coach, and potential for improvement were also significant between the low and the high performers.
Figure 3 — Indices of relevance of low, medium, and high level swimmers.

(Scheffé procedure, $p < .05$). Things were different for the elements only indirectly related to swimming. Here, the low level athletes scored in the same range or even higher than the other groups. They rated other hobbies as significantly more relevant than did the medium performers, $t(100.19) = 4.19, p < .001$. No significant differences were found between medium and high performers but, as Figure 3 shows, the high performers’ relevance scores were, with the exception of companion, even higher than those of the medium performers.

The dropouts rated the cognitive field, as a whole, significantly less relevant than did the continuers, $t(125) = -2.97, p < .01$. The same was true for the individual elements competitive sport, $t(14.5) = -3.07, p < .01$, success versus failure, $t(14.46) = -2.27, p < .05$, training, $t(15.91) = -2.87, p < .01$, and potential for improvement, $t(14.48) = -3.08, p < .01$. On the other hand, the dropouts placed more relevance on other hobbies, companion, and teammates (see Figure 4), although these differences were not significant.

Figure 5 shows the indices of harmonization for the low level, medium level, and high level swimmers. Except for potential for athletic improvement, all three harmonization profiles have approximately the same shape but are located at different levels. For all the cognitive elements the tendency to harmonize was strongest in the high performance group. Significant differences between medium and high performers were found for competitive sport, $t(125) = -3.22, p < .01$, coach, $t(35.6) = -1.99, p < .05$, training, $t(37.18) = -2.88, p < .01$, companion, $t(125) = -2.02, p < .05$, potential for athletic improvement, $t(47.29) = -1.86, p < .05$, and job, $t(125) = -2.25, p < .05$, and between low and high performers for myself, competitive sport, coach, training, and potential for improvement (Scheffé procedure, $p < .05$). Compared with the low level swimmers, the medium performers harmonized significantly more on potential for improvement, $t(128) = -3.22, p < .01$. All other differences between these groups did not reach significance.
Figure 4 — Indices of relevance of continuers and dropouts.

Figure 5 — Indices of harmonization of low, medium, and high level swimmers.

Figure 6 shows the indices of harmonization for the continuer and dropout groups. The continuers were found to harmonize more than the dropouts on all elements but other hobbies and job. Significant differences were observed for success versus failure, $t(37.88) = -3.23, p < .01$, coach, $t(36.42) = -1.97$, $p < .05$, training, $t(19.99) = -2.27, p < .05$, and potential for athletic improvement, $t(27.13) = -3.32, p < .01$. 
As Table 2 shows, the dropouts on the average had spent more years in competitive swimming than the continuers. To ensure that the differences between these groups reported above had not been caused by burnout, analyses of covariance were performed with the conflict and harmonization scores that had yielded significant differences as dependent measures and years in competitive swimming as covariate. None of these analyses showed a significant covariate effect.

The relationship between conflict, relevance, and harmonization is exemplified by the data of the high level group. For this comparison the data were standardized via z-transformation. As Figure 7 shows, conflict scores above average always went with harmonization scores below average. In most elements, low conflict was associated with high harmonization. The relationship between conflict and relevance was more equivocal but, across all cognitive elements, pointed in the same direction: high conflict more often went with low than with high relevance, and vice versa. Obvious exceptions were companion and job.

Similar relationships were observed in the other subgroups of our sample. Using Fisher's Z-transformation, a correlation mean of $r = -0.25$, $p < .01$, between conflict and relevance, and of $r = -0.47$, $p < .001$, between conflict and harmonization was found over all subjects.

**Discussion**

Although the design of the study as an ex-post-facto comparison of static groups does not allow causal interpretations of the data, the results were quite revealing as far as model making is concerned.
Intrapersonal Conflict and Swimming Performance

The first hypothesis received partial support from the data. High level athletes had considerably lower conflict scores than medium level athletes, but they did not differ significantly from the low level swimmers. This last finding was mainly due to the fact that in formulating the hypotheses, the devaluation effect of reducing conflict via decreased relevance had been overestimated in comparison to the harmonization effect. The clear-cut differences between the two competitive groups’ conflict scores are even more significant in light of the fact that these groups were formed by arbitrarily fixing a cutoff score at 800 performance points.

Although the elements of the cognitive field were chosen with special emphasis on dropping out, our questionnaire was able to discriminate between swimmers with different levels of performance. The discriminant analysis results suggest that such athletes do indeed differ in amount and structure of conflict, as well as in their strategies for conflict reduction. The cognitive structure of high performers can be characterized by heavy use of the harmonizing mechanism, especially with elements directly related to athletic performance such as competitive sport, coach, training, and potential for athletic improvement. Here, low conflict scores went together with high harmonization. Given that this mechanism consists of deliberately and systematically faking the almost 900 cognitive substructures used to compute the conflict scores, and that the subjects do not even know to which substructures an individual item belongs, this suggests the existence of an information processing system for conflict reduction that inte-
grates the entire information contained in the cognitive field, and that is employed by some individuals more than by others.

One could hypothesize that competing successfully at a high level requires the athlete to cognitively restructure incoming information to reduce conflict that might otherwise be an obstacle to performance. Expressed positively, a successful athlete seems able to align himself or herself with the demands of the sport. The harmonization of conflicting cognitions seems to be a functional method of coping with contradictions inside the cognitive field of swimming that might otherwise impair motivation and performance.

Except for the harmonization score at potential for athletic improvement, the conflict, relevance, and harmonization profiles of the two competitive groups run almost parallel, but on different levels. Although causal inferences are not possible in this design, one could hypothesize that, while the two groups' conflict structure is essentially the same, the high performers' lower conflict scores are mainly due to the fact that their ability to harmonize is more elaborated. The interpretation, that the ability to harmonize is one of the essentials of prolonged and stable peak swimming performance, is supported by the fact that the tendency to harmonize was much stronger in the continuer than in the dropout group. The exception, potential for athletic improvement, may be due to the fact that one's conviction that he or she will improve is especially important for the high performer's motivation to carry on.

As noted earlier, the highest conflict scores of the two competitive groups were observed for the cognitive elements not directly related to swimming. This is especially important in the case of companion and job, in which high conflict scores went together with high relevance. With out-of-sport elements of high relevance, the harmonization mechanism does not seem to function as well as it does inside the sport setting. The perception that sport careers do not last forever and that involvement in competitive sport is an obstacle to one's next vocation seems to be common among competitive swimmers. These results clearly call for a kind of coaching in competitive sport that does not stop at the pool or at the gym door. To avoid negative effects, coaches also have to be concerned with conflicts between elements of the athletic setting and private life.

Intrapersonal Conflict and Dropping Out

The second hypothesis was also partially confirmed. Dropouts could be identified on the basis of conflict information. Although they did not have higher overall conflict scores than the continuers, they did have such scores in the elements competitive sport, success versus failure, training, and potential for improvement, while the scores of all other elements were almost identical between the two groups. That means that the differences between the conflict profiles exactly occurred in all the cognitive elements directly related to athletic performance. These elements were also related to dropping out.

These findings strongly support the results of Burton and Martens (1986), who argued that the inference of low ability was crucial in dropping out of a sport career. In our study, the ability aspect was represented by the elements success versus failure and potential for improvement. The differences between dropouts and continuers were especially large with these elements. On the other hand, our results contradict the findings of Kreim and Mayer (1985), who had assigned
these elements little importance. The differences between our study and Kreim and Mayer's may be due to the fact that the complexity of our questionnaire makes it almost impossible for a subject to detect themes such as fear of failure, negative expectations, and so forth.

As the results of the discriminant analyses revealed, the best predictors for dropouts were the cognitive elements' harmonization scores. The tendency to harmonize was much stronger in the continuer than in the dropout group. The failure to harmonize and the adoption of a more realistic view of the sport setting may have contributed to the decision to drop out. However, it cannot be overlooked that the lower harmonization tendency of dropouts may really be an after-decision effect, because the perspective to discontinue competitive swimming within the next year may have made harmonization superfluous.

At least in disciplines with a relatively low level of professionalization, another important reason for dropping out seems to lie in conflicts between the athletic career and outside activities, such as the time spent in one's job. It is interesting to note that, while the tendency to harmonize was generally much stronger among continuers, the dropouts harmonized more with other hobbies and job. It can be argued that the increased importance of these two elements after an athlete has decided to drop out of competitive swimming made a positive view of them more essential.

In addition to what we have discussed so far, the study can be regarded as a contribution to validate the method employed in assessing intrapsychic conflict. The hypotheses proposed initially have been derived from well-accepted psychological theories and practical experience in competitive sport. Their support by the data points to the construct validity of our method of conflict assessment.

References


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