APPLIED PSYCHOLOGY

IAAP
THE INTERNATIONAL ASSOCIATION OF APPLIED PSYCHOLOGY

APPLIED PSYCHOLOGY: AN INTERNATIONAL REVIEW, 2009
doi: 10.1111/j.1464-0597.2009.00408.x

Professional Basketball's Unsportsmanlike Fouls in the Eyes of the Beholders

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A series of three experiments, based on the method of Functional Measurement, has explored the importance assigned by professional basketball players to relevant dispositions of defense and offense players, as determinants of unsportsmanlike fouls. The 106 participants were leading male players in the premier basketball league in Israel. Experiment 1 was based on a 16 (2^4)-cell model. In an individual meeting, each participant estimated the likelihood that a defense player would commit an unsportsmanlike foul on an offense player. In each of the 16 to-be-judged incidents, specific information on a specific combination of aggressiveness and susceptibility to victimisation of two imaginary protagonists in an offense–defense on-the-court incident was given to the participant. Experiment 2 was a replication of Experiment 1. There, however, names of 16 well-known players were mentioned, the aggressiveness and susceptibility to victimisation of each fitting the model requirements. In Experiment 3, a partial replication of Experiment 2, likelihood estimations were made from two perspectives—potential perpetrator and potential victim. Overall, meaningful importance was assigned especially to the dispositions of the perpetrator, not the victim. The findings are conceived as reflections of players' cognitive schemata of on-the-court violence.

Basée sur la méthode de la mesure fonctionnelle, une série de 3 expérimentations a exploré l'importance que des joueurs de basket professionnels attribuent aux dispositions de joueurs attaquant ou défenseur à commettre des fautes anti sportives. Les 106 sujets sont des joueurs de sexe masculin de la ligue 1 de basket israélienne. L'expérience 1 est basée sur un modèle à 16 (2^4) cases. Lors de passation individuelle, chaque participant estime la probabilité qu'un joueur arrière commette une faute anti sportive sur un joueur avant. Pour chacun des 16 incidents à juger, une information spécifique a été donnée aux participants. Il s'agissait d'une combinaison particulière de l'agressivité et de la propension à la victimisation des deux protagonistes imaginaires dans une situation d'incident soit offensif soit défensif sur le terrain. L'expérimentation 2 est une

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réplique de la première. Cependant, les noms de 16 joueurs connus sont mentionnés, l'agressivité et la propension à la victimisation étaient appropriées aux exigences du modèle. Dans l'expérience 3, réplique partielle de la deuxième, la probabilité des estimations a été faite selon deux perspectives: auteur potentiel et victime potentielle. Globalement, une importance significative a été assignée aux dispositions de l'auteur et non de la victime. Les résultats sont conçus comme reflétant le schéma cognitif des joueurs lors de violence sur le terrain.

INTRODUCTION

Violation in sport is considered an action that is against the rules of the game. A list of such violations is published for each sport (e.g. basketball) and is known to coaches and players. Such violations may be viewed by coaches, players, and spectators as either minor or major, the difference being mainly in the degree of physical contact between the player who initiates an action and the player who commits the violation (e.g. Bar-Eli, Tenenbaum, & Geister, 2006; Bar-Eli, Sachs, Tenenbaum, Pie, & Falk, 1996; Bar-Eli, Taoz, Levy-Kolker, & Tenenbaum, 1992; Bar-Eli, Tenenbaum, & Elbaz, 1990).

A specific aspect of violations in sport can be labeled as aggression or violence. Aggression and violence exhibited by participants in various sports is quite often rewarded, reinforced, and thereby socially legitimised (Hahn, Pilz, Stollenwerk, & Weis, 1988; Silva, 1984). It is no wonder, then, that already more than a decade ago, about 600 publications were found which were somehow relevant to this issue (Thirer, 1993), and that leading sport organisations had to take a clear position on this issue. For example, the International Society of Sport Psychology published a position stand on aggression and violence (Tenenbaum, Stewart, Singer, & Duda, 1997), which perceives their exclusive legitimacy in large segments of society—including the sport domain—as a serious social problem.

More than two decades ago, Silva (1980) distinguished between assertive and aggressive behavior in sport competitions. He maintained that assertive behavior refers to playing within the rules with high intensity and emotion but without intention to harm. In contrast, aggression refers to any form of behavior which is directed toward the goal of harming or injuring someone else (Baron & Richardson, 1994).

In reference to Silva (1980), Husman and Silva (1984) distinguished between instrumental and hostile aggression in sport. Aggressive behavior can be considered instrumental when it is functional for goal attainment and is used as a means of completing a desired task-performance. Weinberg and Gould (2003) maintain that athletes are often engaged in assertive behavior, and that most violence in sport is instrumental.

In the present study, one important aspect of this problem, namely on-the-court ball game "unsportsmanlike fouls", is dealt with. Following the North

American jargon there are two necessary components of unsportsmanlike fouls—intentionality and brutality. Such fouls are in essence an integral part of any ball game involving direct bodily contact between the players from both rival teams.

Bandura's (1986) conception of (a perpetrator's) expectancies implies that the willingness of a potential perpetrator to act violently is affected by his or her assumptions regarding the likelihood of the occurrence of counter-violence (Perry, Williard, & Perry, 1990). Accordingly, and in line also with Berkowitz (1982), it can be inferred that players' estimates of the likelihood of unsportsmanlike acts should involve an assignment of importance to the aggressiveness of both protagonists—defense player (potential perpetrator) and offense player (potential victim).

Susceptibility to victimisation (hence "victimisation") is the psychological counter-disposition of aggressiveness. Traditionally, aggression and victimisation have been treated within different frameworks (Berkowitz, 1982; Salmivalli, Karhunen, & Lagerspetz, 1996). Currently, there is a tendency to construct a unified framework for both dispositions (Laskov-Peled & Wolf, 2002). Following this conception both dispositions, aggressiveness and victimisation, of the two protagonists, perpetrator and victim, are included in the present conception of sport violence. A respective twofold working hypothesis can be used, namely that the beholders' predictions of colleagues' unsportsmanlike fouls change as a function of assumptions (information) regarding the two dispositions of both protagonists.

Such a working hypothesis was approached in the present study in terms of Anderson's (1996) Functional Theory of Cognition. Within this framework, judgments of aggression and violent behavior were found to be based on information about the aggressiveness of assailants (Wolf, 2001). Indications of an assignment of importance to the victim as well were also found (Laskov-Peled & Wolf, 2002). This sort of study employs the following procedure: Each participant is asked to imagine sequentially a series of incidents of violence. Each incident includes several pieces of information on molecular (i.e. special cases) elements of the two molar components—*culpa* and *consequences*—of the blame schema formalised in Equation 1 (Anderson, 1991). This schema is postulated to be a part of common knowledge on everyday life psychodynamics of blaming. It implies that quantitative judgments (ratings) of blame are an integrative function $\oplus$ (shown empirically to be averaging) of information on the culpability of the perpetrator for undesirable consequences of his/her act(s). Exemplary molecular components of *culpa* and *consequences* are *intent* and *damage*, respectively. The entire set of judgments enables a quantification of the weight assigned by each participant to these

$$\text{Blame} = \text{Culpa} \oplus \text{Consequences} \tag{1}$$

For example, in a recent study, Laskov-Peled and Wolf (2002) explored, within the framework of functional measurement, the importance assigned by 3rd and 4th graders to expectations of potential perpetrators from their potential victims. Each participant was requested to imagine potential incidents of school violence where four familiar classmates were presented as protagonists (i.e. perpetrator and victim). An orderly manipulation of the combination of the level (high or low) of aggressiveness and victimisation in each protagonist was made, with participants being informed whether or not the victim was about to deliver tangible rewards, display signs of suffering, or retaliate. For each potential incident, the participant estimated the likelihood that an attack would take place; the following order of importance was found: Reward ⇒ Retaliation ⇒ Suffering, with the victim's aggressiveness being slightly effective.

Laskov-Peled and Wolf (2002) showed that the modification formalised in Equation 2 of the original blame schema is viable for the study of elementary school pupils' perception of unsportsmanlike fouls in school-court games.

$$\begin{aligned}\text{Predicted violence} = {} & (\text{Aggressiveness-P} \oplus \text{Victimisation-P}) \oplus \\ & (\text{Aggressiveness-V} \oplus \text{Victimisation-V})\end{aligned} \tag{2}$$

The equation conceives perception of violence, as reflected in predicted violence, as an integrative function of the aggressiveness and the victimisation of the perpetrator (i.e. Aggressiveness-P and Victimisation-P, respectively) and the victim (i.e. Aggressiveness-V and Victimisation-V, respectively).

This function serves as a formal framework for Hypothesis 1 which states that the beholders' (professional basketball players') predictions of unsportsmanlike fouls are based on the two relevant dispositions (i.e. *aggressiveness* and *victimisation*) of both protagonists (i.e. *perpetrator* and *victim*) in on-the-court incidents. This hypothesis is derived from the entire literature on perception of aggression and violent behavior (see relevant reviews in Wolf, 2001, especially pp. 4–24, and 2002, and on the second page of this article). Violent behavior by aggressive people is a common expectation from those who judge related incidents from both perspectives—perpetrator and victim (by-stander as well)—as has been exemplified empirically for a variety of populations, such as normative adults, prisoners, law enforcers, preschool children, juvenile delinquents, and normative adolescents.

Conceptually, Hypothesis 1 is derived from the above-cited literature from the fields called *aggression* and *victimisation*. This knowledge set the foundation for the generalised presumption that both dispositions are included in individuals' violence schemata. There is no viable reason for a contention that sport violence in general and basketball violence in particular should not obey this rule. Indeed, there are empirical indications in the context of

professional football (soccer in American terms) that both dispositions are included in individuals' violence schemata (Laskov-Peled & Wolf, 2002; Idisis, 2002).

Hypothesis 2 is derived from the same literature, titled "Modularity in everyday life judgments of aggression and violent behavior" (Wolf, 2001, 2002). The notion of judgmental modularity represents a reflection of a mechanism of moral modularity. That is, an individual is expected to modify his or her judgment of a given violent incident according to their social perspective and/or personal goal. In the present context it follows that when a professional basketball player is judging potential on-the-court incidents from a victim's perspective (an offense player at risk of suffering from an unsportsmanlike foul), he or she will assign more importance to the aggressiveness of the perpetrator than from the perspective of the perpetrator.

Hypothesis 2 was destined to elaborate on a more specific aspect of players' on-the-court violence schemata, i.e. judgmental (moral) modularity (Wolf, 2001), in the case of a positive answer to Hypothesis 1 (i.e. rejection of the null hypothesis). Modularity means that the functional characteristics of a specific schema (Anderson, 1991; Wolf, 2001) are changed as a function of the social perspective (role, in terms of the classical role theory; e.g. Sarbin & Allen, 1968). Modularity in the present context means that the relative weighting of the components of unsportsmanlike fouls depends on the most relevant perspective, i.e. defender or offender (perpetrator or victim, respectively). It is hypothesised that from the perspective of a potential victim the levels of the dispositions of the perpetrator will make a difference (i.e. the higher likelihood of unsportsmanlike fouls will be attributed to an aggressive and non-susceptible potential perpetrator). No such differentiation is expected from the perspective of a potential perpetrator; that is due to the instrumental (not emotional) nature of the specific situation sampled in the present study (see below).

METHOD

Design Considerations

The method of *Functional Measurement* (Anderson, 1982, 2001; see also Wolf, 2001), a counterpart of the *Functional Theory of Cognition* (Anderson, 1996), provided a framework for the entire array of experiments. A combination of the functional method with the conceptual framework of the psychodynamics of everyday life blaming and avoiding blame (Anderson, 1991) allows the inclusion of any source of information in the description of any episode of violence. For instance, a description of on-the-court unsportsmanlike fouls can include quantified information (e.g. much or little) on the dispositions of the players (e.g. offender and defender) and/or on situational

factors such as level of motivation of the players. This paradigm has been a useful tool for the operational definition of issues that address people's judgments of violence (e.g. Howe & Loftus, 1992; Idisis, 2002; Wolf, 2001).

An essential advantage of the functional paradigm for the present study is due to the focus of the method on any single participant. In the present modification of the paradigm, each player was asked to vividly imagine a series of incidents between familiar game mates. In each incident there was an offender–defender clash with considerable reason for the latter to commit an unsportsmanlike foul. An aggregation of the entire (multi-factorial) set of each player's predictions of mates' involvement in violent defensive acts enabled a quasi-diagnosis of his prediction schema.

Participants and Procedure

Participants were 106 long-standing (at least 2nd year) male players from the 12 clubs included in the premier basketball league in Israel, as well as three senior coaches in that league. Twelve players participated in Experiment 1, 82 in Experiment 2, and 24 in Experiment 3 (12 of those who participated in Experiment 2 participated in Experiment 3 as well). At the time of sampling, the entire sample included all 2nd year or above players, except a few who were not active at the time of the experimental meetings. These (individual) meetings took place before or after the groups' training sessions.

The first phase of the entire study focused on three leading coaches who served as national coaches as well. A preliminary conversation was conducted with each of them, dealing with unsportsmanlike fouls in professional basketball games. Not surprisingly, all of them perceived this aspect of the game in a similar way. All attributed much importance to the instrumental (i.e. tactical) motivation behind such acts and mentioned the aggressiveness of the players as an essential factor in unsportsmanlike fouls. They mentioned susceptibility to victimisation as a possible factor as well.

The instructions, following the preparatory conversation, were as follows: "Here is a list of 68 well-known players from the premier league. Please screen the list comprehensively and relate to each player in terms of our conversation on players' aggressiveness and susceptibility to victimisation. At your own convenience please rate independently the level of aggressiveness and susceptibility to victimisation of each player." Then, each of the three coaches rated (on a 0–10 scale) the *aggressiveness* and *susceptibility to victimisation* (hence *victimisation*) of 68 leading players in terms of each player's involvement in unsportsmanlike incidents as perpetrator and as victim. The three coaches' ratings of aggressiveness and of victimisation separately were averaged for each player. Based on these statistics, 16 of the 68 players were chosen to be stimulus protagonists for the main study (Experiment 2). They were assigned to the following four conditions, made

up of a bi-factorial nested design: (1) frequent involvement in harm doing and infrequent involvement in the role of a victim (much aggressiveness and little victimisation); (2) an inverse trend (little aggressiveness and much victimisation); (3) high in both respects (much aggressiveness and victimisation); (4) low in both respects (little aggressiveness and victimisation). This bi-factorial 2×2 arrangement of players' dispositions served as a basis for the complete four-factorial model, as detailed below.

Experiments 1 and 2 were destined to achieve a refutable examination of Hypothesis 1 regarding the importance of aggressiveness and victimisation as components in players' on-the-court violence schemata. For the main experiment (Experiment 2), four stimulus protagonists were arbitrarily assigned to an offensive position in the to-be-imagined (virtual) games and four other protagonists were assigned to a defender position. A matrix of 16 incidents was formed by matching each player in one group with each player in the other group; the remaining eight stimulus protagonists "served" as a reservoir for conditions where a stimulus protagonist was interviewed as a regular participant (see below). This entire arrangement formed a four-way two-level nested model in the following form: Aggressiveness-P $\times$ Victimisation-P $\times$ Aggressiveness-V $\times$ Victimisation-v ($2 \times 2 \times 2 \times 2 = 16$).

All eight players (four in each position, offense and defense) served as protagonists in 16 virtual incidents in the main experiment (Experiment 2). Each such incident is assumed to take place at the outset of the game; there, a player is about to score (lay-up) and another player from the rival team can block the shooter only if he commits an unsportsmanlike foul. In all incidents, the four members of one group of stimulus players were positioned as potential victims (shooters) and the members of the other group were positioned as potential perpetrators (defenders).

The interviewer specified for each participant, individually, the identity and the position (offense or defense) of each of the two protagonists in each of the 16 incidents (Aggressiveness-P $\times$ Victimisation-P $\times$ Aggressiveness-V $\times$ Victimisation-V). Order of incidents was arbitrary. The participant was asked to imagine each of the incidents and then to rate the probability that the defender would commit an unsportsmanlike foul. This multi-component design is an operational definition of the prediction schema formalised in Equation 2 above.

In Experiment 1 (the pilot), the design and procedure were nearly identical to that of Experiment 2, with only one difference: the target protagonists were characterised only by the specific combinations of the levels of the two dispositions, aggressiveness and victimisation (little and much), without any other individual specification (such as names or team affiliation). The participants in Experiment 1 maintained that it was somewhat difficult to judge only dispositions. In a post-session debriefing most of them said that they would have preferred to imagine familiar players (see Nisbett & Ross, 1980).

Accordingly, it was decided to use real characters in Experiment 2. Experiment 3 was destined to shed light on some substantive aspect of players' violence schemata in general and their unsportsmanlike schemata in particular, i.e. judgmental (moral) modularity (Hypothesis 2).

Procedurally, the interviewer specified for each participant, individually, the identity and the on-the-court position (defense or offense) of each of the two protagonists in each incident. Order of incidents was arbitrary. The participant was asked to imagine each of the incidents and then to rate the likelihood that the defender would commit an unsportsmanlike foul. Overall, all three variations of the multi-component design are operational definitions of the prediction schema formalised above in Equation 2.

EXPERIMENT 1: GENERALISED PRESENTATION OF PROTAGONISTS

An analysis of the predictions made by the 12 players participating in this pilot experiment reveals partial fit of the essence of Hypothesis 1 that players' estimated likelihood of on-the-court violence would change as a function of information on the dispositions of both protagonists. Evidently, players' predictions of violence changed considerably as a function of the perceived dispositions of the perpetrator while the effects of the victim's dispositions are negligible. In order to focus on the relevant aspect of the findings, their non-effective aspect, i.e. the victim's dispositions, was averaged beyond the dispositions of the victim. This picture is presented in Table 1. The four means in the table tell a revealing story. While both factors look effective, aggressiveness seems to have a greater effect (the differences between the respective marginal means are 34.66 and 4.31). Most importantly, these means seem to reflect a reasonable interactive effect; the greatest violence is attributed to perpetrators whose combination of aggressiveness and victimisation is characterised as high and low, respectively.

An inferential examination of the above series of "impressionist" considerations, beginning with a look at the entire four-factorial model, is not quite

TABLE 1
Means of Predicted Violence as a Function of the Perpetrator's Dispositions

	Aggressiveness			
	High		*Low*	
Victimisation	M	SD	M	SD
High	68.70	20.45	39.12	21.08
Low	78.09	18.93	38.42	21.91

valid due to the insufficient statistical power of the four-way ANOVA in the condition of only 12 participants (there are only three participants per factor). Accordingly and in line with the above visual analysis, a two-way ANOVA was conducted. The related statistics provide inferential support for the above impressions, $F(1, 11)$ values of the main effects of aggressiveness and victimisation are 34.15 and 5.18, respectively, $t < .01$. The interaction coefficient is outwardly significant over the .01 level, $F(1, 11) = 16.90$.

Overall, the judgmental process focused on the perpetrator. However, in this pilot experiment, the perceived effect of the perpetrator's victimisation may depend on his perceived violence. Presumably, attaching predictions of violence to real players may expose effects of both dispositions in both protagonists. Accordingly, in Experiment 2 we have provided an opportunity for a more mundane-wise condition, where real characters were used as protagonists.

EXPERIMENT 2: GENUINE PROTAGONISTS

As indicated above, the original design and procedure were replicated in Experiment 2 with the only difference being the use of the names of real players as target protagonists. The 16 players to be presented as protagonists were chosen according to their dispositions, as rated by the three coaches. Each of the 82 participants was tested individually. The entire set of individual results was screened carefully. The majority of the sets of ratings (56, about two-thirds of the entire sample) reflected an essentially similar trend. The average picture is presented in Table 2.

Most noticeable in Table 2 is the indication that an integrative schema of the two relevant dispositions of the perpetrator is effective in players' predictions of violence. Presumably, such a schema includes an identification

TABLE 2
Means of Predicted Violence as a Function of Information on Aggressiveness and Victimisation of the Perpetrator and the Victim

	Perpetrator (Defense)—Aggression/Victimisation							
Victim (shooter)—Aggression/Victimisation	*Low/High*		*Low/Low*		*High/High*		*High/Low*	
	M	SD	M	SD	M	SD	M	SD
Low/High	43.31	20.35	54.91	22.23	64.62	20.85	80.23	16.27
Low/Low	45.06	22.66	53.70	26.38	63.31	24.06	75.51	19.14
High/High	43.63	23.22	54.39	25.61	68.89	20.01	78.28	19.19
High/Low	43.51	20.74	53.63	21.48	64.80	21.66	76.88	18.79

of a player with a history of much aggressiveness and little victimisation as being violence-prone. A nonviolent proneness in this schema is marked by the inverse combination of dispositions, i.e. much victimisation and little aggressiveness.

This visual impression is supported by the results of a four-way ANOVA (2^4) for repeated measures (the entire array of four independent variables). Only the two main effects of the perpetrator's dispositions, aggressiveness and victimisation, are significant, $F(1, 55) = 153.74$ and 74.48, respectively, $p < .01$. None of the interaction coefficients is significant at the .01 level.

The impression that aggressiveness accounts for more explainable variance than victimisation is reflected in the difference between the high and low marginal means of both factors: 22.55 (= 71.56 – 49.01) and 11.35 (= 65.96 – 54.61), respectively. It implies that victimisation is an integral part of the array of causes of on-the-court violence, as perceived by those who are familiar with the related episodes and with the protagonists.

EXPERIMENT 3: JUDGMENTS FROM TWO PERSPECTIVES—PERPETRATOR AND VICTIM

Participants were 24 male players in the premier basketball league in Israel. An approximately equal number of players were sampled from each of 10 out of the 12 clubs in the league. Their dispositions, as rated by the coaches, were varied almost equally along the four combinations of aggressiveness and victimisation (much/little), making four baseline cells of six participants each (much aggressiveness + much victimisation, much aggressiveness + little victimisation, little aggressiveness + much victimisation, little aggressiveness + little victimisation). The design and the procedure were a replication of Experiment 2 with only one difference: the perspective taken by the participants.

Each participant was asked to imagine sequentially four lay-up incidents (arbitrarily ordered) where he himself is taking part as a *perpetrator* and four such incidents where he himself is taking part as a *victim*. In each of the four incidents from each perspective, the name of the offense or defense player was mentioned. Each such protagonist differed from the three other protagonists in terms of the specific combination of the levels of aggressiveness and victimisation.

In one set of the four model cells the participant estimated for each incident the likelihood that he himself would commit an unsportsmanlike foul against the shooter if he were the defender (perpetrator). In the other set of four incidents, the participant estimated the likelihood that as an offense player (victim) he would suffer from unsportsmanlike fouls committed by defenders typified by different combinations of the levels of the two relevant dispositions.

The individual patterns of predictions made by 17 (out of 24) participants looked alike (the distribution of their disposition combinations was nearly equal: 4 × 3 + 5). As can be seen in Table 3, their predictions made from the *perpetrator's perspective* reflect a lack of differentiation between (their) potential victims: Neither *aggressiveness* nor *victimisation* of the potential victim made a difference for them (the upper row of means). A completely different trend typifies the predictions made from the *victim's perspective*, namely, considerable sensitivity to the perpetrator's dispositions. The predictions of violence ranged from 50.6 per cent in cases where the potential perpetrator was perceived as being disposed to act with little aggressiveness and much victimisation to 84.9 per cent in cases of an inverse combination of the two dispositions. The slight interaction between perspective (perpetrator–victim) and the two dispositions of the perpetrator is overshadowed by the strong effect of perspective.

Nevertheless, a five-way analysis of variance reveals only one meaningful interaction: Perspective × victimisation of the participant × aggressiveness of the perpetrator, $F(1, 16) = 6.25$, $p < .05$. The mean predictions in Table 4 clarify this effect. The table shows that participants typified as susceptible to victimisation are (understandably) most sensitive to the prospect of unsportsmanlike fouls: From victims' perspective they assigned much more importance

TABLE 3
Means of Predicted Violence from the Perpetrator's Perspective

	Aggression/Victimisation							
	Low/High		*Low/Low*		*High/High*		*High/Low*	
Perspective	M	SD	M	SD	M	SD	M	SD
Perpetrator	62.92	24.25	62.08	20.91	64.39	20.07	67.13	17.49
Victim	84.88	13.41	70.02	16.53	47.44	24.08	50.57	19.94

TABLE 4
Means of Predicted Violence from the Victim's Perspective

	Protagonist's Aggressiveness/Participant's Victimisation							
	High/High		*High/Low*		*Low/High*		*Low/Low*	
Perspective	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Perpetrator	52.22	19.13	70.04	24.42	60.02	14.59	67.13	70.82
Victim	80.64	16.37	74.67	17.63	42.53	27.11	54.69	19.32

to the aggressiveness of the perpetrator than from the perspective of the perpetrator (differences of 37.93 and 7.80 scale points, respectively).

DISCUSSION

Programmatic Remarks

The notion of moral (judgmental) modularity (Wolf, 2001, 2002) gains further support via the exemplification of its viability in the context of sport's violence in terms of perspective (perpetrator–victim) effect. Content-wise, predictions of professional players' unsportsmanlike fouls relied on the two relevant dispositions of the perpetrator—aggressiveness and victimisation. The assignment of greater importance to the former disposition is not a surprise. However, the assignment of noticeable importance to perpetrators' victimisation in conditions of real protagonists is intriguing. It fits very well the traditional distinction in psychological experimentation between abstracted and real presentation of protagonists. Namely, each sort of presentation is supposed to facilitate a different sort of response; each has its own advantages and disadvantages. For instance, presentation of concrete information to the participants has considerable value in terms of mundane validity. It might, however, facilitate personal judgment which would not provide an appropriate reflection of the target phenomenon, i.e. sport's violence schemata.

Overall, some caution should be exercised. Conceptually, Anderson's (1996) Functional Theory of Cognition postulates that general knowledge in any specific realm is organised in a complex cognitive schema in which each component has its own representation. Individuals' schemata are reflected in quantitative judgments of related incidents. A necessary requirement of the functional (measurement) paradigm is met in the present study, i.e. each participant responded to all combinations of dispositions and roles. However, a supposition that players' perceptions can already be formalised in terms of prediction schemas deserves further conceptual elaboration and methodological purification.

Another aspect is Staats' (1999) claim that the general field of psychology needs to promote overarching relevant knowledge on different aspects of the same phenomenon. The present study seems to pave the way for a unification of knowledge from the fields of aggression and victimisation in the context of professional ball games. Such games are loaded with recurrent bodily contact, with fouls being an inherent part of the game, to the extent that coaches frequently make the demand for more aggressive play. It should be noted, however, that the conceptual ability to draw an analogy between players' predictions of unsportsmanlike fouls and the role of these perceptions in determining their actual moves on the court is yet to be researched.

Methodological Considerations

In terms of internal validity, there should not be much doubt that incidents of unsportsmanlike blocking of lay-ups may serve as a meaningful reflection of players' related violence schemata. In terms of external validity, however, much refinement is needed in future research. The very importance of such blocking as the only way to prevent an otherwise unavoidable successful shot might have reduced the importance assigned to the dispositions of offense players in the present study. Possibly, in non-extreme offense–defense episodes the defender might assign greater importance to the dispositions of the potential victim. The likelihood of violent acts of defense should decrease as a function of the aggressiveness and the victimisation of the offender.

Replications of the present method where the timing of such fouls is increased systematically from the onset of the game toward more and more critical times in a tied game might provide a basis for viable functional analysis of players' violence schemata. Such experimentally gathered results might enable the extraction of the theoretical potential of the Functional Theory of Cognition (Anderson, 1996), which provided the conceptual basis for the present study.

Applied Possibilities

From an applied perspective, it was shown that players' perception of on-the-court violence is anchored in accumulated knowledge on each mate's history of involvement in unsportsmanlike fouls as a perpetrator or victim. Players' predictions of mates' violence can reflect an active aspect of their approach to the prospect of being a victim of unsportsmanlike fouls. Practically it means that the player might tend to avoid friction with those perceived as being disposed to commit ruthless fouls. Based on players' informal verbal comments during the experimental sessions, it seems that the likelihood that such avoidance will take place may increase towards the concluding part of a tied game. Overall, future work should examine the hypothesis of a connection between perception and action (see Wolf, 2001).

Another possible application of the present line of work is the development of a functional tool for the diagnosis of players' dispositions. Unlike regular psychometric tools for the diagnosis of aggressive tendencies (e.g. Buss & Perry, 1992), such a tool should be based on accumulated information on aggressiveness and victimisation gathered from colleagues, coaches, journalists, audiences, and referees. An integrative prediction equation, based on this information, might serve as a marker of violent players and of facilitating conditions, such as a tense atmosphere or frustrating situations.

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