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The Impact of Israeli Incursions on the Social and Athletic Conditions of Members of Sports Academies in Jenin Governorate

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This study examined the degree to which members of sports academies in Jenin Governorate were exposed to Israeli military incursions, and what that exposure meant for their social lives and their sporting participation. A convergent mixed-methods design combined a structured questionnaire completed by 104 academy members with semi-structured interviews with 10 directors, coaches and administrators, supported by structured observation at four academy sites. Exposure was rated on a three-point frequency scale; social and athletic impact on five-point agreement scales. Quantitative data were analysed in SPSS v.26 and interview data through reflexive thematic analysis. Reported exposure was moderate (M = 2.32, SD = 0.55 on the 3-point scale), whereas perceived impact was high for both social life (M = 3.91, SD = 0.73) and sporting activity (M = 3.87, SD = 0.65) on the 5-point scales. Female members reported higher exposure than male members (2.57 vs. 2.22; t(102) = 2.95, p = .004), a difference that was moderate in magnitude and practically meaningful (d = 0.66, 95% CI [0.22, 1.10]). Place of residence produced no meaningful difference (t(102) = 0.58, p = .564, d = 0.11, 95% CI [−0.31, 0.53]). The study's contribution is to shift research on sport under occupation from the institutional and historical register in which it has largely been written towards individual-level measurement: it quantifies graded exposure to recurrent incursions among academy members and relates that exposure to social and athletic outcomes within a single governorate under sustained military pressure. The central finding — moderate exposure accompanied by high impact — indicates that the relationship between conflict intensity and disruption to youth sport is not proportional, and that academies absorb consequences well out of scale with the objective level of violence they experience.

Keywords: *Israeli incursions; sports academies; armed conflict; youth sport; community resilience; sport participation; Jenin Governorate*

Introduction

Jenin Governorate has been among the most heavily affected areas of the occupied Palestinian territories in recent years. Repeated Israeli military incursions have carried consequences across social, economic and cultural life, and the sports sector has not been insulated from them: academies and youth clubs have faced disruption, damage to facilities, and loss of safe access to training space. Sport in Palestine has never been only physical activity. It carries functions of

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national identity, social bonding, and psychological refuge, and its infrastructure is shaped directly by political and economic forces (Culpan, 2016; Bozman et al., 2016).

The scale of disruption in Jenin during 2025 is documented. Roughly 30 Palestinians were killed in the governorate in the first weeks of the year, some 20,000 residents of Jenin camp were displaced, and more than 150 homes were destroyed, with corresponding damage to daily life and to civilian infrastructure including sports facilities (United Nations OCHA, 2025; Al Jazeera, 2025). Human Rights Watch (2025) has documented widespread forced displacement in the West Bank and its psychological consequences for young people. The Palestine Economic Policy Research Institute (MAS, 2024) recorded infrastructure losses in Jenin and Nablus severe enough to halt development projects, sports projects among them, and access to health services has been obstructed in ways that bear directly on the physical and mental health of young athletes (Elayyan, 2024).

Research on sport in conflict settings offers several established findings. Devecioglu (2023) shows that armed conflict destroys sporting infrastructure, suspends competition and contracts funding. Analysis of the war in Ukraine shows sport becoming an instrument of political pressure, with athletes excluded from international competition and professional pathways closed (Katsarova, 2022); sport also becomes a medium through which war is communicated in the public sphere (Bertling, 2025). Against this, Rodríguez et al. (2025) find that sport programmes in conflict areas can support reintegration and social cohesion after violence. On the psychological side, Moreno-Chaparro et al. (2022) document elevated anxiety, depression and post-traumatic stress among adults exposed to armed conflict; Al-Ajlouny et al. (2025) show these effects extend to indirectly exposed populations; and Chatterjee et al. (2024) report psychological disorder prevalence of 40–50% in conflict-affected populations, with consequences for social identity and cohesion.

What this literature does not provide is measurement at the level of the individual athlete. It establishes that conflict damages sport, and it establishes that conflict damages mental health, but it treats the sporting institution as the unit of analysis and rarely asks how much exposure a given young athlete actually sustains, or how that exposure maps onto their social and athletic life. The present study addresses that gap in a setting where incursions are recurrent rather than episodic, and it aims to produce evidence usable by decision-makers, sports organisations and civil society institutions designing interventions to sustain youth sport under crisis conditions.

Problem Statement

Israeli military incursions in Jenin are frequent enough to constitute a condition of life rather than a series of discrete events, and their effects extend beyond physical security into social, psychological and institutional domains (Rabaia, 2022). Sport is ordinarily an instrument of social integration, mental health and youth development, but that function depends on conditions of stability that occupation withholds. Destroyed infrastructure, restricted movement and cancelled competition make it

difficult for sporting institutions to operate and to develop athletes (Khalidi, 2024; Dart, 2019).

Exposure to military operations, and the anticipation of them, is associated with elevated fear and anxiety, reduced motivation and impaired performance (Arafat, 2003; Alhalaseh et al., 2025). At the level of the academy, the likely consequences include deteriorating relationships among members, declining participation, and threats to organisational stability (Woroniecka-Krzyzanowska, 2020).

Substantial research exists on the effects of occupation and war on civilian populations. Very little addresses members of sports academies specifically, or attempts to quantify their exposure and relate it to social participation and sporting engagement. This study addresses that question in Jenin Governorate, and examines whether exposure differs by gender and by place of residence.

Research Questions

1. What is the degree of exposure to Israeli incursions among members of sports academies in Jenin Governorate?
2. What is the impact of Israeli incursions on the social life of members of sports academies in Jenin Governorate?
3. What is the impact of Israeli incursions on the practice of sports activities among members of sports academies in Jenin Governorate?
4. Are there statistically significant differences in the degree of exposure attributable to gender and to place of residence?

Objectives

The study set out to measure the extent of exposure of sports academy members in Jenin Governorate to Israeli incursions, to examine the consequences of that exposure for social life and for participation in sporting activity, and to test whether exposure differs by gender and by place of residence.

Literature Review

Sport in the Palestinian Context

Sports in Palestine function as a social institution that has cultural, political and psychological components and that takes place in the context of occupation rather than in its vicinity. They fulfill functions such as identity creation, social integration and marginalization resistance. Rabaia (2022) shows that historically Palestinian sporting institutions have been associated with the struggle of the nation as well as with collective identity preservation, which implies that their purpose is not limited to training alone.

Being involved in sport allows youth to establish socially organized relations and to get an opportunity for emotional expression as well as to maintain their stable routines – all those being especially valuable in case of violence and political

instability. Those functions become important for the development of youth athletes as much as the training itself, but all those functions imply a stable environment.

Structural and Institutional Effects of Military Incursions

Warfare harms and destroys sporting infrastructure – grounds, training grounds, and club houses. This phenomenon is described by Khalidi (2024) in connection with the situation in Gaza, where such places serve not only for sports training but are used also as social gathering places so that their demolition deprives the community of the opportunity to maintain the sport in the region rather than makes it harder.

The second factor of suppression of sporting activities – restriction of movement. This is described by Dart (2019) in connection with how the security regime limits the possibility of reaching venues, participating in competitions and maintaining a schedule of athletes and coaches; in other regions similar limitations were caused by organizational and financial obstacles to participation in the sport regularly (Eperthener, 2022).

Social Consequences for Participation and Relationships

Sports activities require continuous interaction and cooperation. Conditions of conflict destroy the very continuity that such practices require. As pointed out by Rabaia (2022), sports activities in Palestine create social connections and networks for the youth, and fewer times of practicing weaken them. Limited mobility and insecurity reduce the number of students who come to practice, and the lack of continuous interaction makes it hard for academies to create a feeling of belonging.

The third mechanism is the decision made at the family level. When the safety situation is unstable, parents make decisions about the possibility of coming to the trainings, and the sport activity loses its developmental function, making fewer students enroll. The result of the mentioned mechanisms for the academies is the weakening of their financial base.

Psychological Effects on Athletes

Arafat (2003) reports that being exposed to political violence causes anxiety, fear, and psychological disturbance and is often associated with sleep disturbance. This is relevant to sport because emotional state influences motivation and performance. According to Alhalaseh et al. (2025), military operations are linked to increased stress and decreased functional performance; indeed, it has been shown that stress has negative impact on recovery and performance of athletes and resilience mitigates this effect (Jaiyeoba et al., 2023).

Psychological reactions are not limited to individuals; fear and anxiety disrupts communication and reduces trust in groups. According to Harker (2014), living under occupation changes understanding of safety and comfort. As group sport depends on the feeling of safety, the group level reaction is no less important than an individual one.

Community Resilience and Sporting Institutions

Resilience in communities refers to the ability of the community or organization to sustain functionality during disruptions. According to Norris et al., resilience is conceived not as a static characteristic, but as "networked adaptive capacities," including economic, social, communicative, and organizational components (2008). Visweswaran (2015) gives the example of the continued functioning of the Palestinian education system despite repeated disruptions. Access to social activity in this regard is considered crucial in combating displacement and restrictions by BADIL (2022).

Sports academies serve as an example on the smaller scale. Offering opportunities for socializing, learning skills, and emotional release, they provide resilience. However, there are limits to resilience. The adaptation process is limited, and economic depletion and damage go beyond it sooner or later — something often overlooked in the narratives which present resilience as an unlimited resource (Ungar, 2013).

Theoretical Framework

The theoretical framework adopted for this project includes Bronfenbrenner's (1979) social-ecological model along with theories of community resilience (Norris et al., 2008) and SDP studies (Coalter, 2010; Darnell, 2012).

In this theoretical framework, the athlete is placed in relation to her/his nesting systems. On the level of microsystem, we have the athlete's own exposure, psychological condition and interpersonal relationships with teammates, coaches and family members. Mesosystem represents the academy as an institution, with all its schedule, facilities, personnel and financial situation. Mesosystem also includes the interaction between the academy and the family, which is the crucial element in the current situation as parents' risk assessment determines the athlete's attendance. Exosystem represents the military movement regime, road closures, checkpoints and the destroyed civil infrastructure that the athlete is not involved in but is subjected to. Macrosystem represents the occupation and political economy of sport in Palestine. The theoretical framework explains why exposure measured on the individual level can be relatively moderate and impact high – it is because effects go downwards from the constraints of the exosystem that individual adaptation cannot counteract.

Theory of community resilience explains the mechanism of the mesosystem functioning. As stated by Norris et al. (2008), there are four dimensions of community resilience: economic development (income and sponsorship that the academy receives which are decreasing due to the reduction in enrollment), social capital (relationships among peers and with coaches that participation enables), information and communication (ability to coordinate the schedule despite unpredictable closures) and community competence (ability to plan and act together). The resilience in this context is not resistance, but the existence of resources. When resources are stripped away, resilience is postponed failure.

Critical SDP literature provides the necessary correction. As warned by Coalter (2010), there is a danger of applying "limited focus programmes and broad gauge problems" which means assuming that sport delivers social outcomes regardless of

enabling conditions. Darnell (2012) shows that SDP discourse can mask structural factors responsible for the problems addressed by it. In the current situation, it would mean to assume that the existence of academies in Jenin proves the ability of sport to overcome occupation. But this is not so – the framework and data suggest that sport's protective role depends on enabling conditions that incursions deprive of.

Research Gap and Contribution

The existing literature converges on three propositions: that armed conflict damages sporting infrastructure, that it damages mental health, and that sport can contribute to post-conflict recovery. Each is established largely at the institutional, historical or population level. Three limitations follow, and the present study addresses each.

First, the unit of analysis. Existing work on Palestinian sport is predominantly historical and institutional (Rabaia, 2022; Woroniecka-Krzyzanowska, 2020) or documents damage to facilities (Khalidi, 2024). It does not measure how much exposure individual athletes sustain. This study introduces a graded individual-level exposure measure and relates it to outcomes, permitting the question of dose and response to be asked at all.

Second, the conflict setting. Most sport-and-conflict research concerns either full-scale war (Katsarova, 2022; Devecioglu, 2023) or post-conflict reconstruction (Rodríguez et al., 2025). Jenin is neither. It is a setting of recurrent, sub-war military incursion sustained over years — a chronic rather than acute stressor, with no post-conflict phase in which reconstruction might begin. The mechanisms differ accordingly: the problem is not rebuilding destroyed institutions but sustaining functioning ones through indefinite interruption. This is the condition of a large share of the world's conflict-affected youth sport, and it is under-theorised.

Third, the finding itself. The result reported here — moderate measured exposure producing high measured impact across both social and athletic domains — is not a confirmation of the existing literature but a qualification of it. It indicates a non-proportional relationship between conflict intensity and disruption to youth sport, and suggests that thresholds matter more than dose: an academy's schedule is broken by intermittent incursions almost as effectively as by continuous ones, because unpredictability rather than frequency is what defeats planning. The gender finding is a second departure, since female members reported significantly higher exposure than male members in a domain where the reverse is often assumed.

Practically, the study supplies Palestinian sporting institutions, the Supreme Council for Youth and Sports, and international sporting bodies with the first quantified baseline against which to target and evaluate interventions in this governorate.

Methodology

Design

A mixed-methods convergent parallel design (Creswell & Plano Clark, 2018) was utilised in the study, in which both quantitative and qualitative strands were

gathered within the same timeframe, independently analyzed, and then converged at the interpretive stage. The quantitative strand identified the distribution and level of the exposure and impact; the qualitative strand provided an understanding of the mechanisms underpinning the magnitudes of the variables; structured observation was used to verify the accounts of participants regarding the physical state of facilities of sports academies. The convergence of the strands was chosen over explanatory sequential design due to the volatility of the security environment, which would render a two-phase schedule impossible.

Setting, Population and Sampling Frame

The target population for the research was all members, players, coaches, and administrative staff of registered sports academies in Jenin Governorate. According to the data provided by the Directorate of Youth and Sport in Jenin, there were nine registered sports academies in Jenin Governorate, which were active at the moment of carrying out the research, with the total membership of approximately 340 people. Seven out of nine agreed to take part in the research, while two of them rejected the participation due to the suspension of activities after the premises were damaged.

Sampling Procedure and Justification

A purposive sampling method was used in the study not as a convenient option but as a necessary tool due to some intrinsic features of the research question. The study measures the impacts of exposure to incursions; thus, the sample cannot include any participants who did not undergo such exposure; otherwise, the concept will be diluted. Moreover, there were some practical considerations, namely the instability of the sampling frame since the sports academies could suspend or resume operations and thus make the sampling list of members inaccurate. Therefore, the criterion sampling approach (Patton, 2015) was chosen according to specific criteria.

Inclusion criteria. (a) Registered member of a participating academy for at least three months prior to data collection; (b) resident in Jenin Governorate; (c) direct exposure to at least one Israeli incursion affecting their locality or their academy during the twelve months preceding the study; (d) aged 12 years or above; (e) consent obtained (and parental consent for participants under 18).

Exclusion criteria. (a) Membership of an academy located outside the governorate; (b) enrolment shorter than three months, since such members could not report on change over time; (c) incomplete questionnaires with more than 10% missing responses.

Response rate. One hundred and thirty questionnaires were distributed across the seven participating academies; 111 were returned (85.4%), of which 7 were excluded under criterion (c), yielding 104 usable responses and an effective usable response rate of 80.0%. The sample of 104 therefore represents approximately 31% of the estimated accessible population.

The final analytic sample is **n = 104**. Earlier drafts of this manuscript reported n = 102; that figure was an error, and all analyses reported here are based on 104 cases, consistent with the cell frequencies in Tables 7 and 8.

Participant Characteristics

Table 1 presents the characteristics of the quantitative sample.

Table 1. *Characteristics of the Quantitative Sample (n = 104)*

Characteristic	Category	n	%
Gender	Male	76	73.1
	Female	28	26.9
Place of residence	City	73	70.2
	Village	31	29.8
Age group	Under 16	31	29.8
	16–18	38	36.5
	19–24	22	21.2
	25 and above	13	12.5
Role in academy	Player	78	75.0
	Coach	18	17.3
	Administrator	8	7.7
Sport discipline	Football	39	37.5
	Basketball	21	20.2
	Martial arts (taekwondo, karate)	16	15.4
	Volleyball	11	10.6
	Athletics	9	8.7
	Other	8	7.7
Length of involvement	Less than 1 year	14	13.5
	1–3 years	47	45.2
	4–6 years	29	27.9
	More than 6 years	14	13.5

Questionnaire Development

No validated instrument measuring exposure to military incursion among sport participants was available, so a purpose-built questionnaire was constructed in five stages.

Item generation. An initial pool of 34 items was generated from three sources: the exposure and disruption indicators used in psychosocial assessments of Palestinian populations exposed to political violence (Arafat, 2003); the organisational disruption categories identified in studies of West Bank sports clubs (Woroniecka-Krzyzanowska, 2020; Dart, 2019); and the four adaptive capacities of the community resilience framework (Norris et al., 2008), which structured the sports-activity dimension.

Adaptation. Items drawn from general conflict-exposure instruments were adapted to the sporting context by substituting academy-specific referents (training sessions, competition, coaching staff, facilities) for generic ones. Six items were discarded at this stage as inapplicable to an academy setting.

Language and translation. The instrument was developed in Arabic, the language of administration. Items adapted from English-language sources were translated into Arabic and independently back-translated into English by a bilingual researcher not involved in the original translation; three discrepancies were identified and resolved by discussion. The English items presented in Tables 4–6 are the back-translated versions.

Expert review. Five experts in sport science and the social sciences reviewed the instrument for relevance, clarity and coverage. Content validity was quantified using the content validity ratio; items falling below the critical value for five raters were removed, leaving 25 items. Minor rewording was applied on expert advice.

Pilot testing. The revised instrument was piloted with 15 academy members who were not included in the main sample. Pilot participants reported no comprehension difficulties; mean completion time was 11 minutes. Pilot data were used to check item distributions and were not included in the analysis.

Scale Format and Interpretation Bands

Two response formats were used, and they are not interchangeable. This is stated explicitly because the resulting means are on different metrics and must not be compared directly.

Exposure dimension (3 items). A three-point frequency scale: 1 = *never or rarely*, 2 = *sometimes*, 3 = *often*. Interpretation bands, calculated as (3 − 1) / 3 = 0.67: low = 1.00–1.66; moderate = 1.67–2.33; high = 2.34–3.00.

Social life and sports activity dimensions (8 and 14 items). A five-point Likert agreement scale: 1 = *strongly disagree*, 2 = *disagree*, 3 = *neutral*, 4 = *agree*, 5 = *strongly agree*. Interpretation bands, calculated as (5 − 1) / 5 = 0.80: very low = 1.00–1.79; low = 1.80–2.59; moderate = 2.60–3.39; high = 3.40–4.19; very high = 4.20–5.00.

Seven positively worded items (Table 5, item 8; Table 6, items 1, 2, 3, 4, 7 and 14) were reverse-coded prior to computing dimension scores, so that in every case a higher score denotes greater adverse impact. All item means reported in Tables 5 and 6 are post-recoding values.

Field Observation Procedure

Structured non-participant observation supplemented the self-report data, and was used solely to corroborate participants' accounts of the physical and operational condition of academy premises. It is reported here because it was previously described without procedural detail.

Observation was conducted at four of the seven participating academies, selected to represent both city and village locations and both damaged and undamaged premises. Two researchers made six site visits in total between February and April 2025, each lasting approximately 90 minutes and timed to coincide with scheduled training sessions. A structured observation schedule recorded five categories: (a) physical condition of facilities and visible damage; (b) availability and condition of equipment; (c) number of participants present against the number scheduled; (d)

interruptions occurring during the session and their causes; and (e) access conditions on the route to the venue, including checkpoints and closures. Observations were recorded on a standard pro forma immediately after each visit and cross-checked between the two observers. Attendance shortfalls recorded during observation ranged from 30% to 65% of the scheduled roster. Observation data are reported in the qualitative results section as corroboration and were not subjected to independent analysis.

Qualitative Strand: Participants and Procedure

Ten semi-structured interviews were conducted with individuals holding organisational responsibility within participating academies, selected purposively for maximum variation across role, academy location and extent of exposure. Table 2 presents their characteristics.

Table 2. *Characteristics of Interview Participants (n = 10)*

Code	Role	Academy location	Sport	Years in role
P1	Academy director	City	Football	12
P2	Academy director	Village	Football	7
P3	Academy director	City	Basketball	19
P4	Academy director	Village	Martial arts	5
P5	Head coach	City	Football	9
P6	Head coach	City	Volleyball	4
P7	Head coach	Village	Athletics	11
P8	Head coach (female squads)	City	Basketball	6
P9	Administrator	City	Multi-sport	8
P10	Administrator	Village	Football	3

Seven participants were male and three female. An interview guide was constructed around four thematic axes derived from the research questions: general effects of incursions on sporting activity; administrative and organisational challenges; social and psychological effects; and responses, adaptations and future needs. Interviews lasted between 35 and 70 minutes (mean 48 minutes), were conducted in Arabic at a location of the participant's choosing, and were audio-recorded with permission and transcribed verbatim. Two participants declined recording; contemporaneous notes were taken instead and verified with them at the end of the interview. Quotations presented in the qualitative results section, were translated into English by the research team and checked against the Arabic originals.

Data saturation. Interviews were conducted sequentially and analysed concurrently. No new codes were generated after the eighth interview, and the ninth and tenth produced only confirmatory instances of existing codes; saturation was therefore judged to have been reached at interview eight, consistent with evidence that most themes in a homogeneous purposive sample emerge within the first twelve interviews (Guest et al., 2006).

Qualitative Analysis and Trustworthiness

Transcripts were analysed using reflexive thematic analysis following the six phases described by Braun and Clarke (2006): familiarisation, generation of initial codes, searching for themes, reviewing themes, defining and naming themes, and reporting. Coding was inductive at the first pass and subsequently organised against the social-ecological levels set out in the theoretical framework section.

Coding was performed independently by two researchers on all ten transcripts using NVivo 14. Agreement was assessed on a random 30% of coded segments, yielding Cohen's $\kappa = 0.81$, which is conventionally interpreted as substantial agreement. Disagreements were resolved by discussion, with a third researcher adjudicating where consensus was not reached; this occurred in four instances.

Trustworthiness was addressed against Lincoln and Guba's (1985) criteria. *Credibility* was supported by triangulation across the questionnaire, interviews and field observation, and by member checking, in which a summary of themes was returned to seven of the ten participants, all of whom confirmed the account without substantive amendment. *Transferability* is supported by the contextual detail given in previous sections, which allows readers to judge applicability to other settings. *Dependability* was addressed through an audit trail of coding decisions and analytic memos retained by the research team. *Confirmability* was addressed through reflexive memo-writing, in which the researchers recorded their own positions as members of Palestinian sporting and educational institutions and the expectations this generated.

Ethical Considerations

Ethical approval was granted by the Research Ethics Committee of Palestine Technical University – Kadoorie (reference PTUK-REC-2025-014, 12 January 2025). Institutional permission was obtained from the Directorate of Youth and Sport in Jenin and from the director of each participating academy.

Written informed consent was obtained from all participants. For participants under 18 years of age, written consent was obtained from a parent or guardian in addition to the young person's own written assent; 69 participants fell into this category. Participants were informed of the study's purpose, of their right to decline or to withdraw at any point without consequence for their standing in the academy, and that withdrawal would not require explanation. Two individuals declined to participate and one withdrew after commencing the questionnaire.

Confidentiality was protected by anonymous questionnaire administration with no identifying information collected, by replacement of interviewee names with codes at the point of transcription, and by removal of academy names from all quoted material. Data were stored on an encrypted, password-protected drive accessible only to the research team, and audio recordings were destroyed following transcription. Given the political sensitivity of the subject, participants were explicitly assured that no data would be shared with any third party and that no individual or academy would be identifiable in publication.

Because the topic could foreseeably cause distress, the research team prepared a referral pathway in advance: participants showing signs of distress were to be offered a pause or withdrawal and given contact details for community mental health services operating in Jenin. This procedure was used on two occasions during interviews.

Measures Taken in Response to the Security Situation

Data were collected between February and April 2025, a period of continuing military activity in the governorate. This carried evident risks to the integrity of the data, and the following measures were taken to limit them. They are set out explicitly so that readers may judge their adequacy.

1. **Distributed collection window.** Data collection was spread across eleven weeks rather than concentrated in a single period, so that responses would not reflect the conditions of one exceptional week. Collection was suspended entirely on four occasions when incursions were in progress in the immediate area, and resumed no sooner than 48 hours afterwards.
2. **Location of administration.** Questionnaires were administered at academy premises during scheduled sessions wherever conditions allowed, and at alternative community venues where premises were inaccessible, to avoid systematically excluding members of the worst-affected academies.
3. **Avoidance of proximity effects.** No data were collected within 48 hours of an incursion in the participant's own locality, in order to reduce the risk that responses would capture acute reaction rather than sustained experience.
4. **Non-attendance follow-up.** Members who did not attend sessions during the collection window were the group most likely to be affected and least likely to be sampled. Questionnaires were therefore distributed to non-attending members through academy coaches, and 23 of the 104 usable responses were obtained by this route.
5. **Interviewer training.** Fieldworkers were briefed on conducting research in an active conflict setting, including recognition of distress and the referral procedure described in the ethical considerations section.

These measures reduce but do not eliminate the influence of the security situation on the data; the residual risk is addressed in the limitation section.

Data Analysis

Quantitative data were analysed in IBM SPSS Statistics v.26. Descriptive statistics (means, standard deviations) were computed at item and dimension level. Group differences in exposure by gender and place of residence were tested using independent-samples *t*-tests. The assumption of homogeneity of variance was assessed by Levene's test and was met in both comparisons (gender, $p = .38$; residence, $p = .21$); distributions were approximately normal, with skewness and kurtosis within ±1.

Because statistical significance conveys nothing about magnitude, effect sizes were computed for both comparisons as Cohen's *d* using the pooled standard deviation, with Hedges' *g* reported as the small-sample-corrected estimate, and 95% confidence intervals are given both for the raw mean difference and for *d*. Effect sizes are interpreted against Cohen's (1988) conventions (0.20 small, 0.50 medium, 0.80 large), with the caveat that these are arbitrary benchmarks rather than substantive thresholds. Alpha was set at .05 throughout.

Reliability

Table 3. *Cronbach's Alpha Coefficients for Study Dimensions*

Dimension	Number of items	Cronbach's α
Exposure to Israeli incursions	3	0.811
Social life impact	8	0.893
Sports activity impact	14	0.926
Overall scale	25	0.901

All coefficients exceeded the conventional threshold of 0.70, ranging from 0.811 to 0.926, indicating good to excellent internal consistency. Internal consistency was further supported by corrected item–total correlations, which ranged from 0.61 to 0.84 across dimensions; no item fell below 0.30, and no item's removal would have raised its dimension's alpha.

It should be noted that internal consistency is a property of reliability, not of validity, and that the evidence for construct validity offered here — expert content review, item–total coherence, and the theoretical derivation of the sports-activity dimension from the community resilience framework — is content- and theory-based rather than structural. No factor analysis was conducted, as the sample of 104 is below the ratio conventionally recommended for a 25-item instrument; establishing the factor structure of this instrument is a necessary next step.

Results

Results are reported without interpretation; interpretation is reserved in the next section. Note that exposure (Table 4) is measured on a three-point scale and the two impact dimensions (Tables 5 and 6) on five-point scales, so the means are not directly comparable across tables.

Degree of Exposure to Israeli Incursions

Table 4. *Means, Standard Deviations and Levels of exposure to Israeli Incursions (n = 104; 3-point scale)*

No.	Item	M	SD	Level
1	Security events in my area were frequent during the past six months.	2.51	0.591	High
2	I live or train in an area close to locations of security events.	2.29	0.634	Moderate
3	The events caused noticeable disruption to my daily life (displacement, incursions, checkpoints).	2.15	0.798	Moderate
	Overall score	**2.32**	**0.550**	**Moderate**

The overall exposure score was 2.32 (SD = 0.550), falling within the moderate band (1.67–2.33) though at its upper boundary. Item 1, concerning the frequency of security events, was the only item in the high band (M = 2.51). Items 2 and 3, concerning proximity to events and disruption to daily life, fell in the moderate band (M = 2.29 and 2.15 respectively). Item 3 recorded the widest dispersion of the three (SD = 0.798).

Impact on Social Life

Table 5. *Means, Standard Deviations and Level of Impact on Social Life (n = 104; 5-point scale)*

No.	Item	M	SD	Level
1	The incursions restricted my movement and prevented me from reaching the academy.	3.99	0.876	High
2	My social relationships with fellow athletes weakened due to the security situation.	3.65	1.08	High
3	I feel fear for my family members during incursions.	4.44	0.933	Very high
4	Social participation and community activities decreased due to the security conditions.	4.17	0.980	High
5	Family tensions and problems increased due to the security situation.	3.66	1.28	High
6	My confidence in achieving social stability has declined due to recurring events.	3.97	1.12	High
7	I feel unsafe when moving to and from the academy and worry about exposure to risks.	3.62	1.20	High
8	I can access basic services (transportation, health, education) when needed. (reverse-coded)	3.80	1.05	High
	Overall score	**3.91**	**0.73**	**High**

The overall score for impact on social life was 3.91 (SD = 0.73), in the high band. One item fell in the very high band: fear for family members during incursions (M = 4.44), which was also the highest-scoring item in the study. Decline in social

participation and community activity followed (M = 4.17), then restriction of movement to the academy (M = 3.99) and declining confidence in social stability (M = 3.97). Difficulty accessing basic services scored 3.80 after reverse-coding. The lowest-scoring items were feeling unsafe in transit (M = 3.62) and weakened relationships with fellow athletes (M = 3.65), both nonetheless in the high band. Items 5 and 7 showed the greatest dispersion (SD = 1.28 and 1.20).

Impact on Sports Activity

Table 6. *Means, Standard Deviations and Level of Impact on the Practice of Sports Activities (n = 104; 5-point scale)*

No.	Item	M	SD	Level
1	I attend my training sessions regularly. (reverse-coded)	4.04	0.913	High
2	I continue individual training when group sessions are disrupted. (reverse-coded)	3.83	1.16	High
3	Fields and halls are available and suitable for use. (reverse-coded)	3.85	1.13	High
4	Equipment and coaches are sufficiently available. (reverse-coded)	3.95	1.00	High
5	I feel that my fitness and skills have been affected by the security conditions in recent months.	3.88	1.11	High
6	My skills decline due to repeated interruptions.	3.84	1.14	High
7	I regularly participate in matches or tournaments. (reverse-coded)	3.65	1.06	High
8	Competitive events are canceled due to security conditions.	4.28	0.87	Very high
9	Sports training sessions stop frequently due to incursions and closures.	4.12	1.10	High
10	Some sports facilities or academies have been damaged due to military operations.	3.73	1.18	High
11	Academies face difficulty in continuing to provide training programs during crises.	4.00	1.17	High
12	Academies suffer from a shortage of staff or sports equipment.	3.72	1.21	High
13	Events have weakened team spirit and cooperation between players and coaches.	3.66	1.25	High
14	The academy provides alternatives for training during emergency periods. (reverse-coded)	3.58	1.14	High
	Overall score	**3.87**	**0.65**	**High**

The overall score for impact on sports activity was 3.87 (SD = 0.65), in the high band. Cancellation of competitive events was the only item in the very high band (M = 4.28). Frequent stoppage of training followed (M = 4.12), then irregular attendance (M = 4.04, reverse-coded) and difficulty sustaining training programmes

during crises (M = 4.00). The lowest-scoring item was the availability of alternative training arrangements during emergencies (M = 3.58, reverse-coded), followed by irregular participation in competition (M = 3.65, reverse-coded) and weakened team spirit (M = 3.66). All fourteen items fell in the high or very high bands.

Differences in Exposure by Gender and Place of Residence

Table 7. *Independent-samples t-test for Exposure to Israeli Incursions by Gender (n = 104)*

Group	n	M	SD	t(102)	p	Mean diff. [95% CI]	Cohen's d (Hedges' g)	d [95% CI]
Male	76	2.22	0.55	2.953	.004	0.35 [0.12, 0.58]	0.66 (0.65)	[0.22, 1.10]
Female	28	2.57	0.48					

Female members scored significantly higher on exposure than male members, t(102) = 2.953, p = .004. The mean difference was 0.35 scale points, 95% CI [0.12, 0.58], on a three-point scale. The standardised effect size was d = 0.66 (Hedges' g = 0.65), 95% CI [0.22, 1.10] — a medium effect by Cohen's (1988) conventions. The confidence interval excludes zero and its lower bound exceeds the small-effect threshold, indicating that the difference is unlikely to be trivial in magnitude; the interval is nonetheless wide, reflecting the size of the female subgroup (n = 28).

Table 8. *Independent-samples t-test for Exposure to Israeli Incursions by Place of residence (n = 104)*

Group	n	M	SD	t(102)	p	Mean diff. [95% CI]	Cohen's d (Hedges' g)	d [95% CI]
City	73	2.30	0.52	0.579	.564	0.06 [−0.17, 0.29]	0.11 (0.11)	[−0.31, 0.53]
Village	31	2.36	0.62					

No significant difference in exposure was found by place of residence, t(102) = 0.579, p = .564. The mean difference was 0.06 scale points, 95% CI [−0.17, 0.29], and the standardised effect size was d = 0.11 (Hedges' g = 0.11), 95% CI [−0.31, 0.53]. The confidence interval for the raw difference excludes any effect larger than 0.29 scale points in either direction, so this is a precise null rather than merely a non-significant result; the interval for d, however, remains compatible with a small effect in either direction, and the finding should not be read as demonstrating exact equivalence.

Qualitative Results

Reflexive thematic analysis of the ten interviews produced four themes: *interruption as the operating condition*, *from development to crisis management*, *fear as a family decision*, and *the limits of improvised adaptation*. Field observation data are reported where they corroborate participants' accounts.

Theme 1: Interruption as the operating condition

Participants described interruption not as an event that disturbed a schedule but as the condition under which schedules were now made. All ten described cancelled or curtailed sessions; eight described this occurring weekly or more often.

> *"I stopped writing the training plan on paper. There is no point. I write it in my head for two days, maybe three, and then something happens and I start again. In fifteen years of coaching I have never worked like this." — P5, head coach, city, football*
> *"It is not that they close the road once and then we go back to normal. The road is open, then closed, then open. The players cannot know in the morning whether there will be training in the evening, and neither can I." — P7, head coach, village, athletics*

Participants distinguished unpredictability from frequency, and consistently identified the former as the more damaging.

> *"If they told us: for one month there is nothing, we would manage. We would make a plan for after the month. What breaks us is that we do not know." — P2, academy director, village, football*

Field observation corroborated this account. At all four observed sites, attendance fell short of the scheduled roster, by between 30% and 65%; at two sites a session was curtailed during the observation period, in one case following reports of movement on the access road.

Theme 2: From development to crisis management

Participants in directorial and administrative roles described a change in the purpose of their work: from developing athletic capability to maintaining the existence of the academy.

> *"Before, my question was how do we get this boy to the national team. Now my question is how do we open the doors next month. These are not the same job." — P3, academy director, city, basketball*
> *"Half of the families stopped paying, and I cannot ask them. Their houses are damaged. So we have fewer subscriptions and higher costs, because transport is more expensive when the roads are closed and we have to hire a bus." — P10, administrator, village, football*

Four participants described sessions reframed around psychological relief rather than technical instruction.

> *"Sometimes I know that no real training will happen. The children come and they are not able to concentrate. So I let them play, only play, and I count that as a success — they were together and they were not at home listening to the news." — P6, head coach, city, volleyball*

Theme 3: Fear as a family decision

Participants located the decisive mechanism of declining participation not in the athletes but in their parents' risk assessment. Nine of the ten raised this without prompting.

> *"The child wants to come. It is the mother who says no, and she is not wrong. I cannot promise her that I will send him home safely, so what can I say to her?" — P1, academy director, city, football*

Two participants, including the coach of the female squads, described this constraint operating more strongly for girls.

> *"For the girls it is doubled. The family already thinks about the road home in the evening, and now there is the checkpoint as well. I lost more than half of the squad, and the ones who stayed are the ones who live within walking distance." — P8, head coach of female squads, city, basketball*

Theme 4: The limits of improvised adaptation

Participants described a range of adaptations — relocated sessions, smaller groups, home-based exercises, messaging groups for coordination — and were uniformly sceptical about their sufficiency.

> *"We send them exercises on WhatsApp. Some do them. But a boy training alone in a room is not a team, and after two months you see it in the way they play together — they have forgotten each other." — P5, head coach, city, football*
> *"We moved to the school hall, which was a good solution for six weeks until the school needed it back. Every solution we found had a time limit on it." — P4, academy director, village, martial arts*

Psychological support was identified as the clearest unmet need. Eight participants stated that no structured psychological provision existed at their academy, and coaches described absorbing this role without training for it.

> *"I am a coach. I am not a psychologist. But when a boy tells me what he saw, I am the one sitting in front of him, and there is nobody else to send him to." — P7, head coach, village, athletics*
> *"We asked for a specialist. There is no budget. So the answer is that the coaches manage, and the coaches are also not well." — P9, administrator, city, multi-sport*

Discussion

The Disproportion Between Exposure and Impact

The central result of this study is a mismatch. Exposure was moderate (2.32 on a three-point scale), yet impact was high in both domains measured (3.91 and 3.87

on five-point scales). Since the scales differ, the comparison is qualitative rather than arithmetic — but the pattern is clear: participants did not describe themselves as living at the centre of the violence, and nonetheless reported that their social and sporting lives had been substantially disrupted.

The social-ecological framework accounts for this. Exposure, as measured here, is a microsystem variable: it captures what happened near the individual. Impact is produced largely at the exosystem level, through road closures, checkpoints, damaged infrastructure and the general condition of insecurity, none of which require an incursion to occur at a participant's own address in order to cancel their training session. An athlete two kilometres from an incursion reports moderate exposure and loses their training week entirely. The propagation of effects downward through the ecological levels means that impact does not scale with proximity.

This qualifies rather than confirms the existing literature. Studies of sport in war settings (Devecioglu, 2023; Katsarova, 2022) describe destruction and suspension in circumstances where exposure is itself extreme, and the causal chain is direct. The Jenin case shows the chain operating at much lower levels of direct exposure, which has a practical implication: interventions targeted only at the most heavily affected localities will miss most of the affected population.

The interviews pinpoint the process which the survey failed to find. Unpredictability was not confused with frequency, and all participants agreed that the former was the more difficult to cope with – "it's unpredictable…that breaks us, because we don't know" (P2). It reflects what Norris et al. (2008) call information and communication capacity: recurrent invasion does not affect structures first of all; it disrupts planning capability. "An academy can build a new hall; but you cannot organize a training programme for two days ahead," one participant said. It partly explains why the question about alternatives during emergencies scored the lowest in Table 6 (M = 3.58, reverse-coded) and why "all workarounds had a time limit to them" (P4).

Social Impact and Its Ordering

Within the social dimension, the highest score was fear for family members (M = 4.44) and the lowest was weakened relationships with fellow athletes (M = 3.65). The ordering is informative. The most intense effect was located outside sport altogether, in the family, while the sport-specific social good — peer relationship — was the least affected of the items measured.

Two readings are available. The first is that athletic peer bonds are comparatively robust, which would be consistent with the protective account of sport advanced in the SDP literature (Rodríguez et al., 2025) and with participants' own description of sport as a place where young people "were together and they were not at home listening to the news" (P6). The second, which the qualitative data support more strongly, is that peer relationships were less affected because they were less available to be affected: members who stopped attending exited the peer network entirely and are underrepresented among those reporting on it. The measure is taken among those still present. This is a survivorship effect, and it counsels caution about the finding.

The prominence of family fear also confirms that the household is the operative decision-making unit. Nine of ten interviewees identified parental risk assessment, not the athlete's own willingness, as what determined attendance — "the child wants to come; it is the mother who says no" (P1). Any intervention aimed at sustaining participation that addresses only athletes and academies, and not the families making the decision, is addressing the wrong actor.

Athletic Impact

The fourteen items from the dimension of sports activity scored either high or very high, with "cancellation of competition" scoring the highest (M = 4.28). That there were high ratings for all the structurally diverse items—facilities, staffing, attendance, competition, and morale—is evidence of systemic disruption rather than disruption at just one point of failure, in line with Khalidi's (2024) view of the destruction of infrastructure and with Dart's (2019) study of movement restriction. It is also in line with Woroniecka-Krzyzanowska's (2020) study of the continuous adaptation of West Bank clubs to closure and surveillance.

One result warrants specific comment because it corrects an interpretation offered in an earlier version of this work. Items 1, 2, 3, 4, 7 and 14 are positively worded and were reverse-coded; read at face value they would appear to show athletes attending regularly, training individually and finding facilities adequate. Read correctly, they show the opposite. The apparent evidence of individual adaptive training (item 2, M = 3.83 reverse-coded) is in fact evidence that individual training does not substitute for interrupted group training — which is what participants described directly: "a boy training alone in a room is not a team" (P5). We note this explicitly because the misreading is easy to make and would reverse the study's conclusion on adaptation.

The Gender Difference

Female members reported higher exposure than male members, d = 0.66, 95% CI [0.22, 1.10]. The effect is medium and the interval excludes trivial magnitudes, so this is not an artefact of a large sample detecting a negligible difference; equally, the interval is wide, and with n = 28 in the female subgroup the estimate is imprecise.

This finding is somewhat counter-intuitive because young men in the West Bank usually constitute the population segment directly exposed to military operations. There are at least three possible explanations for this phenomenon. First, one can talk about different levels of risk perception in case when risk exposure is the same for both populations. Namely, the measure used was the self-perception of exposure to military activity, and thus, if women find objective exposure as more threatening, it means that this is due to perception and not to actual exposure. Second, there is a mobility mechanism. As noted by P8, women's squads used to lose more than half of their participants and kept "only those within walking distance", indicating the existence of higher constraints on female mobility. As a result, the same exposure point would pose a greater disturbance for women. Third,

it may be explained by the composition effect – namely, if participants of sports among women were concentrated in particular locations or academies.

All the above hypotheses remain open to testing in view of the fact that the current study design does not allow us to test them, while no relevant data (such as measures of exposure independent of perception, and control by locality level) have been collected. Nevertheless, one can say that the hypothesis of men experiencing greater exposure does not apply in the current sample.

The Absence of a Residence Effect

Place of residence produced no meaningful difference, d = 0.11, and the confidence interval on the raw difference [−0.17, 0.29] is narrow enough to exclude any substantial effect. The city/village distinction, which might be expected to proxy for proximity to military activity, does not do so here.

The likely explanation is that the mechanism of disruption is the movement regime rather than the incursion itself. Checkpoints, closures and road interruptions operate across the governorate irrespective of settlement type, and a village resident and a city resident are equally unable to reach a training venue when the connecting road is closed. This is consistent with BADIL's (2022) documentation of restriction as a territorially generalised condition. It also carries a design implication for future work: geographic categories of this kind are poor proxies for exposure, and studies in comparable settings should measure exposure directly rather than inferring it from residence.

Theoretical Implications

Three points follow for the frameworks set out in the theoretical framework section.

For **community resilience theory**, this case supports Norris et al.'s (2008) treatment of resilience as a set of resources rather than a disposition, and shows which resource binds first. It was not social capital, which participants described as comparatively intact, nor economic resources, though these were severely eroded, but information and communication capacity — the ability to know what next week will permit. Resilience frameworks applied to conflict settings might usefully give predictability the weight normally reserved for material resources.

For the **social-ecological model**, the case illustrates a form of cross-level asymmetry: interventions available at the microsystem and mesosystem levels (individual training programmes, flexible scheduling, alternative venues) cannot compensate for constraints generated at the exosystem level, because the exosystem determines whether mesosystem plans can execute at all. Participants' description of every adaptation as time-limited is precisely this asymmetry expressed in practice.

For the **critical SDP literature**, the findings support Coalter's (2010) warning against attributing broad outcomes to narrow programmes. Sport in Jenin was not found to overcome the effects of occupation; it was found to be substantially degraded by them, while retaining a residual protective function that participants valued and that the data do not permit us to quantify. Reading these academies as

evidence of resilience, without stating what resilience is costing and how long it can be sustained, would reproduce exactly the analytic move that Darnell (2012) criticises.

Implications

For Sports Policy

Palestinian sports policy currently allocates resources on the assumption of continuous operation. The evidence here indicates that policy instruments should be indexed to disruption rather than to activity: funding formulas that pay on sessions delivered penalise academies in the worst-affected areas twice over. A disruption-weighted allocation, using an exposure measure of the kind piloted here, would direct resources towards need. At the international level, the finding that impact is disproportionate to exposure argues against confining support to localities with documented destruction.

For Youth Development

Rather than the motivational factor of youth participation, the key determining aspect of participation is the parents' perception of risks. As such, the youth development program should view the family as the primary audience, since transparency of safety measures, safe group transportation and appropriate scheduling of classes in terms of timing would resolve the issue. The idea of focusing on programming for young people will not change the main issue.

For Mental Health Services

Eight out of ten interviewees have stated the lack of psychological service structure. Additionally, coaches have noted that they feel like clinicians even though they are not trained as such: "I am a coach, I am not a psychologist" (P7). There are two implications in this case. In the short-term, the coaches need to undergo psychological first aid training and have the clear referral pathway, since it is the fact that they already function as triage professionals. In the long-term, the academies are a great way of providing community mental health services to the population, since young people come to them voluntarily and often; additionally, provision of the services to coaches who suffer from stress ("the coaches are also not well" - P9) is needed.

For Sports Academy Management

From the finding of unpredictability the managerial implications arise. Academies should think about short cycle planning, which includes defined backup plans and not about seasonally focused programs, which fall apart as a whole; they should arrange in advance the use of two or three backup venues and not look for

them during time pressure; finally, they should have good enough communication infrastructure to be able to redirect the session. Financially, the combination of the decline in the subscription income and increase in operational costs described by P10 is structural rather than cyclical.

For Emergency Preparedness

Sports academies are not currently included in humanitarian or emergency planning for the governorate, though they hold registers of, and regular contact with, several hundred young people. Integrating them into local emergency communication structures would serve both purposes: it would give academies advance information they need for scheduling, and give emergency planners a channel to a youth population that is otherwise difficult to reach.

For Sports Organisations in Conflict Settings Generally

Three transferable propositions follow. First, exposure should be measured directly at individual level and not inferred from geography, since residence was found here to be uninformative. Second, predictability should be treated as a resource to be provisioned — even limited advance notice has operational value disproportionate to its cost. Third, gendered differences in exposure and in participation loss should be assumed until measured, not assumed away.

Limitations

The following constraints bear on the interpretation of these findings.

Sampling and generalisability. The sample was purposive and non-probabilistic, drawn from seven academies in a single governorate, and cannot be treated as representative either of Jenin's academy population or of Palestinian sport generally. The findings describe this sample and are offered as analytically rather than statistically generalisable. Two further constraints on generalisability should be noted. First, the inclusion criterion requiring direct exposure means the sample is by construction more affected than the academy population as a whole, and the reported magnitudes are upper-bound estimates for that population. Second, and more seriously, the design samples members who were still attending: those who left their academies because of the incursions — the group by definition most affected — are absent. The direction of this bias is towards understatement of impact, and it bears particularly on the finding in the social impact and its ordering section, that peer relationships were the least affected social outcome.

Statistical power and precision. With 104 participants and a female subgroup of 28, the study is adequately powered to detect medium effects but not small ones. The confidence interval around the gender effect [0.22, 1.10] spans small to large, and the estimate should be treated as indicative of direction and approximate magnitude rather than as a precise value.

Self-report bias. All outcome data are self-reported, which raises three specific risks beyond the generic limitation that responses reflect individual perception. *Social desirability bias* is plausible in both directions in this setting: participants may have understated distress in order to present themselves and their academies as resilient, or overstated disruption in the belief that documenting harm might attract support. Anonymity of questionnaire administration mitigates but does not remove this, and it cannot be mitigated at all in the interviews, where the interviewer was identifiably affiliated with Palestinian sporting institutions. *Recall bias* affects the exposure items, which asked participants to aggregate events over six months; salient or recent incursions are likely to be weighted more heavily than earlier ones, and the direction of the resulting error is not determinable. *Common method variance* arises because exposure and impact were measured with the same instrument, in the same session, on the same response format, which may inflate the apparent association between them.

Absence of objective exposure measures. Exposure was measured by perception alone. Without an independent objective indicator — incident records geocoded to participants' localities, for instance — the study cannot distinguish differential exposure from differential appraisal. This limitation bears directly on the gender finding, which admits both explanations (the gender difference section).

Instrument validation. The questionnaire was purpose-built. Content validity and internal consistency are established, but no factor analysis was conducted and the dimensional structure is therefore assumed rather than demonstrated. The instrument should be regarded as provisional.

Residual effect of the security situation. The measure reduced but did not eliminate the influence of ongoing military activity on data collection. Three residual effects should be acknowledged. Collection was suspended during periods of active incursion, which means data were systematically not collected at moments of peak disruption. Members whose academies had suspended operations entirely were reachable only through coaches, and two academies that declined to participate did so precisely because their premises had been damaged — so the worst-affected institutions are absent from the sample. And responses were given under conditions of continuing insecurity, which may have affected both willingness to disclose and the appraisal of what constitutes normal disruption. All three biases point in the same direction: towards understatement.

Cross-sectional design. The data are a single snapshot. Causal inference is not available, and the study cannot establish whether impacts accumulate, stabilise or attenuate over time.

Conclusions

This study measured exposure to Israeli military incursions among 104 members of sports academies in Jenin Governorate and examined its consequences for their social and sporting lives. Exposure was moderate; impact on social life (M = 3.91) and on sporting activity (M = 3.87) was high. Female members reported

significantly higher exposure than male members, with a medium effect (d = 0.66); place of residence made no meaningful difference (d = 0.11).

The principal conclusion is that impact is disproportionate to exposure. Effects reach young athletes through the movement regime and the general condition of insecurity rather than through direct proximity to violence, so that moderate exposure suffices to produce high disruption. What defeats academies is not the severity of individual incursions but their unpredictability, which destroys the capacity to plan and renders every adaptation temporary. Sport in this setting retains a protective social function that participants value, but that function is itself degraded by the conditions it is invoked to counter; the academies of Jenin should not be read as evidence that sport overcomes occupation.

Recommendations

The following recommendations follow from the specific findings reported above and are directed at identified actors in Jenin Governorate.

1. **Establish a governorate-level training continuity protocol.** The Directorate of Youth and Sport in Jenin should convene participating academies to agree a shared protocol specifying decision points, notification timings and default fallback arrangements, so that individual academies are not each improvising in response to the same closure. This addresses the unpredictability identified in the disproportion between exposure and impact section, as the primary mechanism of disruption.
2. **Create a distributed network of pre-agreed alternative venues.** Rather than each academy seeking space under pressure, the Directorate should negotiate standing agreements with schools, community centres and covered halls across the governorate, with priority given to venues reachable on foot from residential areas. P8's finding that the female squad members who remained were those "within walking distance" makes walkability the operative criterion, not capacity.
3. **Fund dedicated transport for female squads.** The gender finding and the mobility mechanism described by P8 identify travel as the specific point at which female participation is lost. Supervised group transport for female training sessions, timed to avoid evening travel, addresses this directly and is the single most targeted intervention the data support.
4. **Train coaches in psychological first aid and establish a referral pathway.** Given that eight of ten academies had no structured psychological provision and coaches were absorbing the role untrained, the Palestinian Ministry of Education and the Supreme Council for Youth and Sports should deliver basic psychological first aid training to academy coaching staff, and the Jenin Directorate of Health should publish a named referral contact for academies. Provision should include supervision for coaches themselves.
5. **Introduce disruption-weighted funding for affected academies.** The Supreme Council for Youth and Sports should adjust allocation so that

academies are not penalised for sessions they were prevented from delivering. The combination of falling subscription income and rising transport costs is structural, and academies that suspend operations under current formulas lose funding at the moment of greatest need.

6. **Include academies in the governorate's emergency communication structure.** Academies hold current contact registers for several hundred young people and require advance information for scheduling. Reciprocal inclusion in local emergency notification serves both parties at negligible cost.
7. **Organise localised mini-competitions within walking catchments.** Cancellation of competitive events was the highest-scoring athletic impact item (M = 4.28). Small-scale competition organised within individual localities, rather than governorate-wide fixtures requiring travel through checkpoints, restores competitive activity without the movement exposure that caused its cancellation.
8. **Establish a joint academy–parent safety committee at each academy.** Since parental risk assessment governs attendance, academies should constitute standing committees including parent representatives, with authority over session timing and cancellation decisions. This addresses the decision-maker who actually determines participation.
9. **Conduct a dedicated follow-up study on gendered exposure.** The gender difference is the study's least explained finding and its most actionable. A follow-up combining objective locality-level exposure data with measures of risk appraisal would distinguish the competing explanations set out in the gender difference section.

Declarations

Ethical approval. Granted by the Research Ethics Committee of Palestine Technical University – Kadoorie (PTUK-REC-2025-014).

Informed consent. Written informed consent was obtained from all participants, and parental consent together with participant assent for those under 18.

Conflict of interest. The authors declare no conflict of interest.

Data availability. Anonymised data are available from the corresponding author on reasonable request.

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