

Extracurricular Participation and Student-Reported Opportunity Constraints in an Urban Moroccan Secondary School: An Exploratory Study

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Abstract

Extracurricular activities can support adolescent development, but their benefits presuppose usable opportunities to participate. This exploratory study examined participation, student-reported opportunity constraints, and perceived outcomes among 100 students in one urban upper-secondary school in Fez, Morocco. A cross-sectional questionnaire measured participation frequency, activity preferences, perceived barriers, and five ordinal outcomes. Forty-five percent reported no participation and 32% participated only once or twice per year. Among 98 respondents to the multi-response barrier item, lack of time (56.1%) and scarcity of activities (54.1%) were most common, followed by insufficient variety or fit (32.7%), weak organization or supervision (30.6%), lack of encouragement (30.6%), and excessive academic focus (27.6%). In available-case analyses, participation frequency was associated with perceived academic improvement ($\rho = .349$, Holm-adjusted $p = .014$) and stress relief ($\rho = .296$, Holm-adjusted $p = .030$). These associations attenuated and were no longer statistically significant when analyses were restricted to students reporting any participation. For self-confidence, neutral/do not know responses were disproportionately concentrated among non-participants, indicating that uncertainty was related to exposure. The findings support an access-centered rather than causal interpretation: broad student interest coexisted with low participation and substantial perceived constraints. For urban education research, the case highlights the distinction between formal provision and effective access to school-based enrichment. Multi-school and longitudinal studies should test how school, neighborhood, and family conditions shape sustained participation.

1. Introduction

Extracurricular activities occupy a distinctive position in adolescent development. They are neither conventional classroom instruction nor unstructured leisure. Rather, they are organized settings in which young people can choose goals, collaborate with peers, interact with adults outside the usual teacher-lesson relationship, and experience forms of competence that may not be visible in academic lessons. Classic positive youth development scholarship therefore treats structured voluntary activities such as sports, arts, clubs, service, and youth organizations as potentially important developmental contexts. Larson (2000), for example, argued that such settings are unusually capable of combining intrinsic motivation with sustained attention and initiative. Eccles et al. (2003) similarly emphasized pathways involving identity formation, peer affiliation, and relationships with non-parental adults. These perspectives helped move extracurricular research beyond a narrow "free time" interpretation toward a developmental-opportunity framework.

The empirical literature has generally supported the idea that participation can be associated with favorable outcomes, while also showing that effects are neither automatic nor uniform. Longitudinal and review evidence has linked extracurricular involvement with academic adjustment, educational expectations and attainment, school belonging, self-perceptions, social competence, and aspects of mental health (Durlak et al., 2010; Fredricks & Eccles, 2006; Haghigat & Knifsend, 2019; Oberle et al., 2019). Research has also shown that the dimensions of participation matter. Breadth, intensity, duration,

continuity, and subjective engagement are not interchangeable (Bohnert et al., 2010). Moderate breadth can sometimes be more advantageous than either non-participation or very extensive involvement (Knifsend & Graham, 2012), and very high intensity does not necessarily yield monotonically increasing benefits (Fredricks, 2012; Heaslip et al., 2021). The relevant scientific question is therefore not simply whether extracurricular activities are "good," but for whom, under what conditions, at what level of involvement, and through which mechanisms.

A second line of research has highlighted belonging and stress-related pathways. Oberle et al. (2019) found that transitions from non-participation into extracurricular involvement were associated with better mental health in early adolescence, with peer belonging playing a mediating role. O'Donnell et al. (2024), using a nationally representative Australian longitudinal sample, reported that extracurricular participation predicted higher school belonging, which in turn predicted subsequent decreases in depressed mood. Heaslip et al. (2021) showed that activity participation intensity in early adolescence predicted later coping efficacy, while also identifying different dose-response patterns for sporting and non-sporting activities. Taken together, these studies suggest that organized activities may contribute to adolescent functioning partly because they provide structured social connection, meaningful competence experiences, and opportunities to regulate stress outside the formal academic timetable.

However, the developmental literature contains an implicit prerequisite that is often insufficiently examined: students must have a realistic opportunity to participate. A benefit-centered literature can obscure the fact that participation depends on school supply, scheduling, transportation, affordability, social encouragement, organizational quality, and whether available activities match student interests. If these conditions are weak, the relevant policy problem is not simply program effectiveness but an opportunity bottleneck. A student may value science clubs, arts, sports, volunteering, or technology while being unable to participate because the school offers few activities, the timetable is dominated by academic demands, or the activity is poorly organized. Under such circumstances, comparisons between participants and non-participants may partly reflect access structures and self-selection rather than the intrinsic effect of activities.

An urban-education lens makes this access question more specific. Urban schools are embedded in social, spatial, and institutional ecologies that shape whether students can convert formal school provision into usable opportunities. Recent urban-education scholarship emphasizes interpreting educational processes in relation to community context, neighborhood institutions, school-community relationships, and local opportunity structures rather than treating "urban" as a simple population-density label (Grooms et al., 2025; Shiller, 2024). In the present study, urbanity is not modeled as an exposure and there is no rural comparison. Fez instead provides a bounded urban context in which to examine a narrower question: whether students in one city secondary school experience regular and usable access to school-based extracurricular opportunities.

The broader international literature still matters because much of the foundational evidence on extracurricular participation emerged from North American samples, and major methodological reviews

were built primarily on studies from the United States and Canada (Farb & Matjasko, 2012). Cross-national research confirms that out-of-school activity patterns differ across countries and are socially patterned (Sauerwein & Rees, 2020). At the broader level of positive youth development, systematic reviews identify promising programs in low- and middle-income countries while also emphasizing uneven evidence quality and implementation constraints (Catalano et al., 2019; Chowa et al., 2023). A North African urban school case can therefore extend the geographic range of the evidence while keeping the analysis focused on a concrete access problem.

Morocco provides a policy-relevant setting for this urban access question. The national Roadmap 2022–2026 for education identifies improved access to extracurricular activities as one of its strategic objectives, alongside strengthening foundational learning and reducing school dropout (Ministère de l'Éducation nationale, du Préscolaire et des Sports, 2022). The Ministry of National Education also frames school life and extracurricular provision as mechanisms for inclusion, motivation, talent development, creativity, life skills, well-being, and school success (Ministère de l'Éducation nationale, du Préscolaire et des Sports, n.d.). Where extracurricular access is an explicit reform goal, low participation or a narrow offer is not merely a descriptive feature of student life; it raises an implementation question about whether formal policy aspirations become usable opportunities at school level.

Moroccan research on extracurricular activities is emerging. A recent evaluation of extracurricular activities in Moroccan pioneer middle schools examined implementation and soft-skill development from the perspective of activity facilitators and school leaders (Bizim, 2026). The present study addresses a different segment of the evidence base: upper-secondary students themselves, their actual participation frequency, the activities they prefer, the barriers they report, and the extent to which participation frequency is associated with perceived academic and psychosocial outcomes. This student-centered perspective is especially relevant in the upper-secondary years, when academic pressure and high-stakes examinations can compete directly with time for non-classroom participation.

The study therefore connects three elements that are often examined separately: participation, student-reported opportunity constraints, and perceived outcomes. The central proposition is that extracurricular benefit is downstream from effective access and exposure. For urban education, this distinction is especially useful because physical location in a city does not by itself demonstrate that school-linked enrichment is regular, diverse, affordable, well organized, or compatible with students' schedules. Empirically, the analysis asks whether students who participate more frequently report stronger benefits while mapping the constraints that may suppress participation. Conceptually, it advances an access-to-benefit perspective without claiming that one school represents Fez or Morocco, or that an urban effect can be estimated from a single-site design.

2. Conceptual and Urban-Education Context

Positive youth development provides a useful theoretical foundation for this study because it treats young people as holders of strengths and capacities that can be developed through supportive contexts

rather than as passive recipients of instruction. Structured activities can provide opportunities for initiative, identity exploration, teamwork, contribution, and relationships with supportive adults. From this perspective, sports, arts, science clubs, volunteering, cultural activities, and student organizations are not interchangeable in content, but they share the possibility of creating developmental experiences that formal lessons may not routinely provide. The quality of the setting matters: participation in a nominal activity that is poorly supervised, excessively competitive, or misaligned with students' interests may not generate the same developmental resources as a well-designed activity.

This distinction between activity presence and activity quality is consistent with program-evaluation evidence. Durlak et al. (2010), in a meta-analysis of after-school programs, found positive effects across self-perceptions, school bonding, social behavior, school grades, and achievement, but also showed that program practices moderated outcomes. Their SAFE framework - sequenced, active, focused, and explicit - underscores that implementation features help determine whether participation translates into development. Although extracurricular activities and after-school programs are not identical constructs, the broader implication is transferable: availability alone is not enough. Programs require organization, intentionality, and sustained engagement.

An opportunity-structure perspective adds a complementary layer. Before activity quality can matter, students must be able to enter and sustain participation. Opportunity is shaped by time, supply, diversity, affordability, encouragement, institutional organization, and the relationship between school schedules and the wider environments in which young people live. In an urban setting, nearby cultural, sporting, civic, scientific, or youth organizations may expand the potential opportunity ecology, but proximity does not guarantee access. School coordination, transport, cost, information, family schedules, and examination pressure can still prevent nominally available resources from becoming usable student opportunities. The present survey directly measures only students' perceived constraints, so these wider urban mechanisms remain propositions for future research rather than measured explanations.

The access-to-benefit perspective used here therefore proposes a simple sequence: policy and school resources shape extracurricular opportunity; opportunity shapes actual participation; participation creates exposure to potential developmental experiences; and those experiences may be associated with academic, psychosocial, or well-being outcomes. Each link can fail. A system may formally value extracurricular education but provide limited school-level opportunities. A school may offer activities that do not match student interests. Students may value activities but be unable to participate because of time pressure. Participants may attend activities that are poorly organized and therefore experience limited benefit. The present survey cannot estimate every link in this sequence, but it can examine two of them directly - opportunity constraints reported by students and the association between participation frequency and perceived outcomes.

This framing also helps interpret null results. If participation frequency is positively related to some outcomes but not others, this does not necessarily mean that the latter outcomes are irrelevant to extracurricular education. Outcomes such as teamwork or self-confidence may depend more strongly on

activity type, duration, role, group climate, and program quality than on simple frequency. A student participating twice per month in a collaborative theatre production and another participating at the same frequency in an individual activity may have very different developmental experiences. Bohnert et al. (2010) explicitly cautioned against treating involvement as a single undifferentiated exposure. In a small cross-sectional dataset, frequency is a useful first-order indicator, but it cannot capture the full ecology of participation.

The study also treats students' perceived outcomes as distinct from objective outcomes. "Improved academic results" in the survey is a student judgment about whether extracurricular activities helped academic performance; it is not a transcript-based grade measure. Similarly, stress relief is self-reported, not a clinical assessment. This distinction is essential for interpretation. Perceived benefit is nevertheless substantively important because it can influence motivation to participate, student demand for activities, and whether extracurricular provision is experienced as meaningful. The analysis therefore asks whether students with greater participation exposure are more likely to report stronger perceived benefits, not whether extracurricular activity causally raises grades or reduces psychological distress.

3. Study Aims and Hypotheses

The study addressed four questions. First, what is the distribution of extracurricular participation frequency among the surveyed upper-secondary students, and which activity domains do they prefer? Second, which barriers to participation are most frequently reported? Third, is more frequent participation associated with stronger perceived academic and psychosocial benefits? Fourth, does participation frequency differ by gender or grade level?

The primary hypothesis was that higher participation frequency would be positively associated with each of the five student-reported outcomes: perceived academic improvement, relief of academic stress, discovery of talents and abilities, teamwork skills, and self-confidence. Because the study and analysis plan were not preregistered and the sample is modest, analyses of gender and grade differences were treated as exploratory. The study also examined whether associations between participation and outcomes remained after adjustment for gender and grade level in exploratory ordinal regression models.

4. Methods

4.1 Design, setting, and data source. The study used a cross-sectional, school-based questionnaire dataset containing 100 student responses. Data collection took place between January and March 2025 at Abdelrahim Bouabid Qualifying Secondary School, Saiss, Fez, Morocco. The school is situated within urban Fez; however, the study was not designed to estimate an urban effect and includes no rural or peri-urban comparison. Urban context is therefore treated as the setting within which opportunity structures are interpreted, not as a causal exposure. Data were collected in person using a paper questionnaire completed by students on the school premises. The paper responses were subsequently entered into an

electronic dataset for analysis; electronic data-entry timestamps are therefore not treated as questionnaire-administration dates. The analytic dataset contains 100 records and 17 fields covering demographics, participation frequency, preferred extracurricular activity, reasons for preference, five perceived outcome items, desired activities not currently provided, barriers to participation, and open-ended explanations. Participants were students enrolled in the common-core, first-baccalaureate, or second-baccalaureate levels at the school. The archived records do not document the total number of eligible students or the number invited to participate, so a school response rate cannot be calculated. The available records also do not establish a probability-sampling procedure; accordingly, no claim of probabilistic representativeness is made. Because the study was conducted in a single school, the site is treated as a bounded case rather than as representative of Fez or Morocco.

4.2 Participants. The analytic sample comprised 100 students: 65 girls and 35 boys. Grade distribution was 28 students in the common-core year (tronc commun), 23 in the first baccalaureate year, and 49 in the second baccalaureate year. Eighty-eight students were in a scientific stream, 10 in a literary stream, and 2 had missing stream information. Age was not used as a covariate because the survey response options were not mutually exclusive: "15 years" and "15 to 17 years" overlap. This questionnaire-design feature prevents a clean ordinal or categorical interpretation of age and illustrates the importance of refining the instrument in future waves.

4.3 Participation frequency. Students answered how often they usually participated in extracurricular activities within the secondary school. Response options were: never; rarely (once or twice per year); sometimes (once or twice per month); and regularly (weekly). For ordinal analysis, these were coded 0, 1, 2, and 3, respectively. Only one respondent selected weekly participation, creating a sparse highest category. A sensitivity analysis therefore collapsed weekly participation into the monthly category; the substantive Spearman results were unchanged, indicating that the main associations were not driven by the single weekly participant.

4.4 Activity preferences and reasons. Students selected a preferred activity domain from sports, volunteering/community service, arts (theatre/music/drawing), science (experiments/scientific outings), cultural activities (reading/competitions/literary discussions), religious activities, or no response. A separate multi-response item asked why the activity was preferred. The predefined reasons were personal-skill development, enjoyment, support for study, and opportunities to meet new friends. Open-ended responses added motivations such as helping others, escaping the routine of classroom study, expressing creativity, and relieving pressure. Because the open-ended data were not coded independently by multiple raters, they are used illustratively rather than as a formal qualitative thematic analysis.

4.5 Perceived outcomes. Five items asked the extent to which extracurricular activities had helped students: (1) improve academic results, (2) reduce stress and academic pressure, (3) discover talents and abilities, (4) improve teamwork skills, and (5) develop self-confidence. Response options were "did not help at all (0%)," "helped a little (less than 25%)," "helped to some extent (less than 50%)," "helped a lot

(more than 50%)," and "neutral/do not know." The four directional responses were treated as an ordered scale from 0 to 3. The percentage labels were used only as verbal anchors; no assumption was made that distances between categories were equal. "Neutral/do not know" was retained as a substantively distinct descriptive response and was not forced into the ordinal scale, because it may indicate uncertainty or lack of exposure rather than a moderate level of benefit.

4.6 Barriers. A multi-response item asked students which difficulties they faced in participating. Options included lack of time, scarcity of activities, lack of encouragement, financial reasons, insufficient diversity or poor fit with interests, weak organization or supervision, excessive focus on academic attainment at the expense of activities, and other reasons. Because respondents could select multiple barriers, barrier percentages do not sum to 100%.

4.7 Statistical analysis. Descriptive statistics summarized demographics, participation, preferences, motivations, perceived constraints, and the full distribution of outcome responses, including "neutral/do not know." Spearman rank correlation assessed the monotonic association between participation frequency and each of the five directional ordinal outcomes in primary available-case analyses. Because five parallel outcome tests were conducted, Holm correction controlled the family-wise error rate. Gender differences in participation were evaluated with the Mann-Whitney U test. Grade-level differences were evaluated with the Kruskal-Wallis test; where the omnibus test was significant, pairwise Mann-Whitney comparisons were Holm-adjusted. Epsilon-squared was calculated as an effect-size index for the Kruskal-Wallis result. Exploratory ordered logistic regression models estimated the association between participation frequency and each outcome while adjusting for gender and grade level. The common-core year was the grade reference category. Results are reported as proportional odds ratios (ORs) with 95% confidence intervals. These models assume a common participation coefficient across outcome thresholds and a linear association between the coded participation score and cumulative log odds. The score represents ordered frequency categories, not equal increments of time spent in activities. Regression p values are nominal and are not covered by the Holm correction applied to the five primary correlation tests. Because non-participants may select "neutral/do not know" precisely because they lack exposure to extracurricular activities, sensitivity analyses were conducted after restricting the outcome analyses to students reporting at least some participation. Fisher's exact test was also used illustratively to assess whether "neutral/do not know" responses were disproportionately concentrated among non-participants for self-confidence. All inferential analyses are exploratory.

4.8 Missing data and scale checks. Analyses used available cases and report both the number of directional outcome responses and the smaller inferential sample when participation data were also required. Directional outcome counts were 71 for perceived academic improvement, 81 for stress relief, 77 for talent discovery, 80 for teamwork, and 79 for self-confidence; corresponding inferential sample sizes were 71, 80, 76, 79, and 78 because one student had missing participation frequency. "Neutral/do not know" responses were not assumed to be missing at random and were therefore described explicitly rather than silently discarded. As an exploratory psychometric check, the five directional outcome items showed high internal consistency among the 40 respondents with complete non-neutral data

(Cronbach's alpha = .897). No composite score was created because the items represent conceptually distinct domains and the complete-case sample was too small to justify a stable factor model.

4.9 Ethics and consent. The study protocol was reviewed and approved by the Ethics Committee of the Laboratory of Political Studies and Public Law, Faculty of Legal and Political Sciences, Sidi Mohamed Ben Abdellah University, Fez, Morocco. Participation was voluntary. Participating students provided written assent or informed consent, as age appropriate, and written informed consent was obtained from a parent or legal guardian for participants younger than 18 years. Students aged 18 years or older provided their own informed consent. The study was conducted between January and March 2025 at Abdelrahim Bouabid Qualifying Secondary School, Saiss, Fez, Morocco. Ethics approval reference: No. 11/2025. The cross-sectional design and self-reported measures require association language throughout; terms implying causal effect are avoided.

4.10 Use of generative AI in manuscript preparation. Generative AI was used to assist with manuscript drafting, restructuring, and language editing under author supervision. The author retains responsibility for the study design, data, statistical results, interpretation, source verification, and final submitted text.

Table 1. Sample characteristics and extracurricular participation

Characteristic	n	% of total sample
Gender: female	65	65.0
Gender: male	35	35.0
Grade: common core	28	28.0
Grade: first baccalaureate	23	23.0
Grade: second baccalaureate	49	49.0
Stream: scientific	88	88.0
Stream: literary	10	10.0
Stream: missing	2	2.0
Participation: never	45	45.0
Participation: once/twice per year	32	32.0
Participation: once/twice per month	21	21.0
Participation: weekly	1	1.0
Participation: missing	1	1.0

5. Results

5.1 Participation and activity preferences. Extracurricular participation was limited (Table 1). Of 99 students with a valid participation response, 45 (45.5%) reported never participating, 32 (32.3%) reported participating only once or twice per year, 21 (21.2%) reported participating once or twice per month, and 1 (1.0%) reported weekly participation. Thus, 77 of 99 respondents (77.8%) were either non-participants or participated only once or twice annually. This distribution is important for interpretation: the dataset primarily contrasts non-participation/very low exposure with occasional monthly participation rather than comparing multiple levels of sustained weekly involvement.

Preferred activity domains nevertheless showed broad interest. Sports was selected by 31 students, volunteering/community service by 22, arts by 20, science by 16, cultural activities by 5, and religious activities by 4; 2 students did not answer. The reasons item indicated that 57 students selected personal-skill development and 55 selected enjoyment, while 15 selected study support and 13 selected opportunities to meet new friends. The pattern suggests that students did not view extracurricular activity only as entertainment. Skill development was at least as prominent a motivation as fun, and open-ended answers also referred to helping others, creative expression, scientific exploration, technology, school trips, libraries, and relief from academic routine.

Table 2. Preferred activities and reported participation barriers

Domain / barrier	n	%
Preferred activity: sports	31	31
Preferred activity: volunteering/community service	22	22
Preferred activity: arts	20	20
Preferred activity: science	16	16
Preferred activity: cultural	5	5
Preferred activity: religious	4	4
Barrier: lack of time	55	56.1
Barrier: scarcity of activities	53	54.1
Barrier: insufficient variety / poor fit	32	32.7
Barrier: weak organization / supervision	30	30.6
Barrier: lack of encouragement	30	30.6
Barrier: excessive academic focus	27	27.6
Barrier: other reasons	12	12.2
Barrier: financial reasons	7	7.1

Note. Preferred-activity percentages use the full sample (N = 100). The barriers item permitted multiple responses; barrier percentages are calculated among students who answered that item (n = 98) and therefore do not sum to 100%.

5.2 Reported barriers. As summarized in Table 2, among the 98 students who answered the multi-response barriers item, the most prevalent constraint was lack of time, selected by 55 students (56.1%). Scarcity of activities was nearly as common (53; 54.1%). Thirty-two students (32.7%) reported insufficient variety or poor fit with their interests; 30 (30.6%) reported weak organization or supervision; 30 (30.6%) reported lack of encouragement; and 27 (27.6%) reported excessive academic focus at the expense of extracurricular activities. Twelve students (12.2%) selected "other" reasons and 7 (7.1%) selected financial reasons. Because these are student reports rather than direct audits of school provision, they are interpreted as perceived opportunity constraints rather than objective institutional measures. Open-ended responses described pressure from long study hours, limited provision, and requests for scientific experiments and laboratories, sports competitions, theatre and music, technology-related activities, libraries, school trips, and volunteering opportunities.

5.3 Perceived outcome distributions. Student judgments about benefit were heterogeneous. For perceived academic improvement, 25 reported no benefit, 19 a little benefit, 11 some benefit, and 16 a lot of benefit; 28 selected "do not know" and 1 response was missing. For stress relief, 22 reported no benefit, 15 a little, 20 some, and 24 a lot; 14 selected "do not know" and 5 were missing. For talent

discovery, the directional categories were 16 none, 19 little, 20 some, and 22 a lot, with 19 "do not know" and 4 missing. For teamwork, 14 reported none, 20 little, 25 some, and 21 a lot, with 16 "do not know" and 4 missing. For self-confidence, 14 reported none, 12 little, 28 some, and 25 a lot, with 19 "do not know" and 2 missing. The relatively high number of "do not know" responses, especially for academic improvement, supports the decision not to treat uncertainty as a midpoint score.

5.4 Association between participation and perceived outcomes. In the primary available-case analysis (Table 3), higher participation frequency was positively correlated with all five directional outcomes, but only two associations survived Holm correction. Participation was associated with perceived academic improvement ($\rho = .349$, inferential $n = 71$, raw $p = .0028$, Holm-adjusted $p = .014$) and with stress relief ($\rho = .296$, inferential $n = 80$, raw $p = .0076$, Holm-adjusted $p = .030$). Associations with talent discovery ($\rho = .171$, $n = 76$), teamwork ($\rho = .189$, $n = 79$), and self-confidence ($\rho = .216$, $n = 78$) were positive but not statistically significant after correction. These primary estimates should not be interpreted independently of the exposure-restricted sensitivity analysis reported below.

5.5 Gender and grade differences. Participation frequency did not differ by gender (Mann-Whitney $U = 1106.5$, $p = .918$; rank-biserial correlation approximately .012). The mean ordinal participation score was .77 among boys and .78 among girls, indicating practically negligible difference in this sample. Grade level showed a small overall difference (Kruskal-Wallis $H = 6.12$, $p = .047$, epsilon-squared = .043). Pairwise Holm-adjusted comparisons indicated that first-baccalaureate students participated more frequently than second-baccalaureate students (adjusted $p = .034$), whereas comparisons involving the common-core group were not significant. The pattern is consistent with the possibility that participation becomes more difficult in the terminal examination year, but this interpretation remains tentative because the design is cross-sectional and the effect size is small.

5.6 Adjusted ordinal regression. In primary proportional-odds models adjusting for gender and grade, each one-level increase in participation frequency was associated with 2.31 times the odds of reporting a higher category of perceived academic improvement (95% CI 1.32-4.04, $p = .0034$; $n = 71$). For stress relief, each one-level participation increase was associated with 1.89 times the odds of a higher perceived-benefit category (95% CI 1.11-3.20, $p = .018$; $n = 80$). The adjusted associations for talent discovery (OR = 1.52, 95% CI .89-2.59, $p = .122$), teamwork (OR = 1.41, 95% CI .84-2.36, $p = .193$), and self-confidence (OR = 1.52, 95% CI .90-2.56, $p = .117$) were positive but imprecise and non-significant. The regression p values are unadjusted for multiple testing and do not constitute independent confirmation of the correlation analyses. These models adjust only for gender and grade and cannot address selection into participation, prior achievement, socioeconomic background, parental support, transport, private tutoring, or activity quality. They are therefore exploratory association models, not estimates of causal effects.

Table 3. Association between participation frequency and student-reported outcomes

Outcome	Valid outcome n	Inferential n	Spearman rho	Raw p	Holm p	Adjusted OR (95% CI)
Perceived academic improvement	71	71	.349	.0028	.014	2.31 (1.32-4.04)
Stress relief	81	80	.296	.0076	.030	1.89 (1.11-3.20)
Talent discovery	77	76	.171	.139	.190	1.52 (0.89-2.59)
Teamwork skills	80	79	.189	.095	.190	1.41 (0.84-2.36)
Self-confidence	79	78	.216	.058	.174	1.52 (0.90-2.56)

Note. Valid outcome n counts directional responses before requiring participation data; inferential n additionally requires a valid participation response. Outcome models are exploratory proportional-odds logistic regressions adjusted for gender and grade. OR is the odds ratio for a one-level increase in participation frequency. Exact p values are reported rather than significance stars. "Neutral/do not know" responses are shown descriptively but excluded from directional ordinal scoring.

5.7 Sensitivity analyses for exposure and uncertainty. Restricting the rank-correlation analyses to students who reported at least some extracurricular participation attenuated all associations. Perceived academic improvement was no longer significantly associated with participation frequency ($\rho = .244$, $n = 42$, $p = .120$), and neither was stress relief ($\rho = .158$, $n = 45$, $p = .301$). Talent discovery ($\rho = .211$, $n = 47$, $p = .155$), teamwork ($\rho = .176$, $n = 47$, $p = .237$), and self-confidence ($\rho = .170$, $n = 50$, $p = .239$) were also non-significant; after Holm correction, all adjusted p values were $\geq .599$. "Neutral/do not know" was not distributed independently of exposure for self-confidence: 15 of 43 non-participants with a nonmissing outcome response selected this category compared with 4 of 54 students reporting some participation (Fisher's exact $p = .0015$). These findings indicate that the primary available-case associations are sensitive to how non-exposure and uncertainty are handled and should not be treated as robust evidence of a dose-response relationship among participants. Restricting the sample also reduced its size and the range of participation frequency; loss of statistical significance alone therefore does not establish that the associations differ between analyses or that benefits are absent.

6. Discussion

This study examined extracurricular participation in a small Moroccan upper-secondary sample through an access-to-benefit lens. Three results stand out. First, participation was low: nearly four in five students either did not participate or participated only once or twice per year. Second, interest in extracurricular domains was broad and the main student-reported constraints were time, scarcity of activities, limited fit, weak organization, lack of encouragement, and academic pressure. Third, primary analyses suggested associations between participation frequency and perceived academic

improvement or stress relief, but these relationships attenuated and were no longer statistically significant when the analysis was restricted to students who reported any extracurricular participation. The most defensible interpretation is therefore an opportunity and exposure problem rather than evidence of a participation effect.

The descriptive participation pattern is arguably the most policy-relevant finding. International research frequently asks whether the breadth or intensity of participation predicts subsequent outcomes, implicitly assuming a distribution with meaningful numbers of active participants. Here, the distribution is concentrated at the bottom: 45% never participate and another 32% participate only once or twice per year. With only one weekly participant, the local challenge is not "overscheduling" but underexposure. This matters because concepts developed in high-participation settings can be misapplied when the empirical problem is fundamentally different. In a setting where participation is scarce, the first-order policy question is how to establish regular, accessible opportunities before optimizing the number or breadth of activities.

The barrier pattern helps explain why low participation should not be equated with low demand. Sports, volunteering, arts, and science together accounted for most stated preferences, and skill development and enjoyment were the most common reasons for preference. Students also requested scientific experiments, laboratories, sports competitions, theatre, music, technology, libraries, trips, and community service. These responses suggest a possible unmet-demand pattern: students express interest in multiple activity forms while also reporting limited time and limited supply. Because these constraints are self-reported, they should not be treated as objective measures of institutional provision. Their value lies in documenting how students perceive the opportunity environment in which participation decisions are made.

Lack of time was the single most common barrier, but it should be interpreted carefully. In upper-secondary education, time pressure can arise from several sources: formal timetables, homework, private tutoring, examination preparation, commuting, and family obligations. The survey cannot distinguish these components. However, 27 of the 98 respondents to the barriers item (27.6%) explicitly selected excessive academic focus at the expense of activities, and open-ended comments referred to academic pressure and long hours. This supports a broader interpretation of time as an institutional and cultural resource rather than merely a personal skill. If extracurricular participation is officially valued but students experience the school day as fully consumed by examined subjects, policy and practice send competing signals.

The primary association with perceived academic improvement is noteworthy but not robust enough to support a substantive benefit claim. In the full available-case sample, higher participation frequency was associated with higher perceived academic benefit and the adjusted proportional-odds model produced an OR of 2.31. However, when the analysis was restricted to students who reported any participation, the rank association was smaller and non-significant ($\rho = .244$, $p = .120$). This attenuation is consistent with the possibility that part of the primary association reflects the contrast between non-exposure and

exposure, differential use of the "do not know" category, or selection into activities rather than a dose-response relationship among participants. The study therefore cannot establish that extracurricular participation improves academic performance, perceived or objective.

A similar caution applies to perceived stress relief. The primary available-case analysis showed a positive association and the adjusted OR was 1.89, but the exposure-restricted correlation was smaller and non-significant ($\rho = .158$, $p = .301$). International evidence suggests that structured activities can support belonging, coping efficacy, and mental health (Heaslip et al., 2021; O'Donnell et al., 2024; Oberle et al., 2019), but the present dataset does not provide a robust test of that mechanism. Its contribution is instead to show that benefit evaluation is entangled with access: students who do not participate may be unable to judge whether activities help them, making the treatment of "do not know" responses analytically consequential.

The remaining outcomes reinforce this interpretation. Associations with talent discovery, teamwork, and self-confidence were not statistically significant after multiplicity correction, and none of the five outcomes showed a significant participation gradient within the exposure-restricted sensitivity analyses after Holm correction. Frequency alone may also be an inadequate exposure measure for these outcomes. Teamwork plausibly depends on whether an activity is collaborative; self-confidence may depend on role, mastery, adult feedback, and group climate; talent discovery may depend on diversity of available opportunities. Bohnert et al. (2010) emphasized that intensity, breadth, duration, and engagement capture different dimensions of organized activity involvement. Future research should therefore measure activity type, quality, duration, and continuity rather than treating frequency as the only participation variable.

The absence of a gender difference is also informative. In some extracurricular domains and cultural contexts, participation is strongly gendered, especially sports. In this sample, overall frequency was virtually identical for girls and boys. This does not mean access is gender-equitable across activity types, because the study did not test gender by domain and the sample was only 100 students. Still, it suggests that the dominant constraints identified here may cut across gender. A larger multi-school study should examine whether girls and boys face different barriers, whether preferences vary by gender, and whether the same institutional offer produces equivalent opportunities.

The small grade-level effect deserves further attention. First-baccalaureate students reported more frequent participation than second-baccalaureate students, while the common-core comparisons were not significant. Because second baccalaureate is the terminal year, one plausible interpretation is that high-stakes examination preparation compresses extracurricular time. This interpretation is consistent with students' own reports of academic pressure but cannot be established causally from cross-sectional data. A stronger design would follow cohorts across the three upper-secondary years and test whether participation systematically declines as the baccalaureate examination approaches.

For urban education, the main contribution is the distinction between formal availability and effective access. Being located in a city does not guarantee that school-based enrichment is frequent, varied, or

usable. Urban schools operate within wider ecologies of transport, community organizations, cultural institutions, sport, youth services, family schedules, and examination pressures, but students benefit only when resources are translated into regular opportunities they can enter and sustain. The present survey does not measure citywide resources, so it cannot determine whether Fez offers more or fewer extracurricular opportunities than other places. It does show that, within one urban school, broad student interest can coexist with restricted participation and substantial perceived constraints.

This framing aligns with urban-education scholarship that treats context as constitutive rather than incidental. Grooms et al. (2025) show the value of interpreting educational practice in relation to local historical, sociocultural, and political conditions, while Shiller (2024) illustrates how school-community actors can mobilize neighborhood social capital to connect families with resources. Extending this logic to extracurricular education suggests that opportunity should be studied across the school-community boundary: what is formally offered, what external resources are reachable, who can participate, and what organizational arrangements convert local assets into student access. The present survey addresses only the student-experience side of that larger opportunity ecology.

The North African case also expands the geographic range of urban education research. Its contribution is not that this single school represents Fez, Morocco, or the Global South, and no urban-rural contrast is available. Rather, it generates a testable proposition for comparative work: in exam-oriented urban secondary systems, effective extracurricular access may depend less on nominal program presence than on protected time, continuity, student-program fit, and coordination among schools and local institutions. The Moroccan policy context sharpens the question because national reform documents explicitly endorse extracurricular access. Future research can therefore examine how a national access objective is translated into weekly student opportunity across neighborhoods, schools, and urban or peri-urban settings.

The study also makes a modest methodological contribution by respecting the ordinal structure of the data and by testing the consequences of the "neutral/do not know" category. The verbal benefit categories were analyzed as ordered rather than interval-scaled, although their percentage anchors overlap. Uncertainty is not equivalent to moderate benefit. Moreover, uncertainty was related to exposure: for self-confidence, 15 of 43 non-participants with a nonmissing outcome response selected "neutral/do not know," compared with 4 of 54 students who reported some participation (Fisher's exact $p = .0015$). Treating such responses as an ordinary midpoint or as ignorable missingness could therefore distort inference. The primary rank and ordinal analyses are presented alongside exposure-restricted sensitivity analyses precisely because the missingness mechanism is substantively informative.

At the same time, statistical sophistication cannot compensate for design limitations. The ordered models adjusted only for gender and grade because other relevant covariates were not measured. Socioeconomic status, prior academic performance, parental support, transport or commuting distance, private tutoring, disability, prior motivation, activity type, quality, duration, continuity, and detailed school-level provision may influence both participation and perceived outcomes. Selection into activities is

therefore a major alternative explanation, and residual confounding is likely. International studies using longitudinal designs have attempted to address this problem by controlling prior outcomes or modeling within-person change. The present findings should be interpreted as hypothesis-generating evidence that motivates a stronger follow-up design, not as an estimate of causal program impact.

7. Implications for Practice, Policy, and Research

7.1 Implications for school practice. The descriptive results suggest that increasing the number of activities alone may be insufficient. A practical strategy should address at least four dimensions simultaneously: protected time, diversity and fit, organizational quality, and student voice. Protected time means scheduling activities so that participation does not depend entirely on students sacrificing examination preparation or commuting time. Diversity and fit mean offering multiple domains rather than assuming that sports alone will attract all students. Organizational quality means clear supervision, continuity, communication, and predictable schedules. Student voice means using preference data to shape the offer instead of designing activities solely around adult availability.

Because sports, volunteering, arts, and science were the leading preferences, a balanced school portfolio could include recurring opportunities in each domain, complemented by cultural and digital or technology activities. The open-ended responses indicate demand for laboratories and experiments, school trips, theatre and music, sports competitions, technology, libraries, and volunteering. In an urban setting, one practical strategy is opportunity mapping: schools can identify nearby youth, cultural, sport, university, science, municipal, and civil-society organizations and assess whether partnerships can convert city resources into accessible school-linked activities. This is a recommendation for future implementation, not a claim that such resources or partnerships were measured in Fez. Some activities can also be implemented through rotating clubs, project weeks, student-led initiatives, or community partnerships rather than through permanent high-cost provision.

7.2 Implications for policy monitoring. If access to extracurricular activities is a policy objective, monitoring should measure more than whether a school officially lists clubs. Indicators should capture regularity of provision, actual student participation, continuity across the year, breadth of domains, student-perceived fit, barriers, and the distribution of participation across gender, grade, socioeconomic background, and school location. In urban systems, monitoring can additionally examine neighborhood differences, transport constraints, and whether schools connect students to community-based opportunities. A school with ten nominal clubs but very low regular attendance may have lower effective access than a school with fewer but stable and well-attended programs. The distinction between formal provision and effective participation is central to the access-to-benefit framework.

7.3 Implications for future research. The next study should use a multi-school, preferably longitudinal design. Sampling schools across different neighborhoods and, where feasible, urban, peri-urban, and rural settings would allow researchers to separate school-specific implementation from broader spatial context. A stronger questionnaire would use non-overlapping age categories, validated measures of

school belonging, stress, self-efficacy, and engagement, and objective academic indicators where ethically feasible. Participation should be measured through frequency, hours, duration, breadth, activity type, and subjective engagement. Institutional variables should include timetable availability, number of activities offered, adult supervision, facilities, transport, cost, community partnerships, and student involvement in program design. Such a design would permit multilevel models of student-level selection, school-level opportunity structures, and neighborhood access.

8. Limitations

This study has several limitations that materially constrain interpretation. First, the sample contains only 100 students from a single school setting and should not be treated as representative of Moroccan upper-secondary education. Any national or regional prevalence claim would exceed the evidence. The value of the study is analytic and hypothesis-generating rather than population-estimating.

Second, the design is cross-sectional. Participation and perceived outcomes were measured at the same time, so temporal order is unknown. Students who perceive themselves as coping well or doing well academically may be more likely to participate, and unmeasured characteristics may influence both. The results therefore describe associations, not effects. Third, the outcomes are subjective perceptions. The academic item does not measure actual grades, and the stress item does not use a validated psychological scale. Future research should triangulate student perceptions with objective and validated measures while retaining student voice as an important outcome in its own right.

Fourth, the questionnaire has measurement limitations. The age categories overlap; the top participation category contains only one respondent; the outcome anchors combine verbal labels with overlapping percentage descriptions (less than 25% is also less than 50%, and exactly 50% is not explicitly covered); and the "neutral/do not know" category was selected frequently. These features reduce precision. Because "neutral/do not know" was disproportionately associated with non-participation for at least one outcome, it cannot safely be treated as ordinary missingness. The analysis therefore retained it descriptively and added exposure-restricted sensitivity analyses, but instrument redesign is preferable to statistical repair.

Fifth, the study lacks key confounders and implementation measures. Socioeconomic status, prior achievement, parental support, commuting distance, private tutoring, disability, and prior motivation were not measured. The survey also does not capture activity quality, type-specific exposure, duration, continuity, breadth, engagement, objective school-level provision, neighborhood resources, or school-community partnerships. The perceived constraints reported by students should therefore not be equated with audited institutional barriers. Finally, the urban location is contextual rather than comparative: with one urban school and no peri-urban or rural reference group, the study cannot estimate whether the observed participation pattern is specifically urban. These limitations materially restrict causal, spatial, and system-level interpretation. In addition, proportional-odds diagnostics are not reported, so the adequacy of that model assumption cannot be assessed from the present results. The

small analytic samples and sparse participation categories further limit the precision of the regression estimates.

9. Conclusion

Extracurricular education is often discussed as a source of academic, social, and psychological benefit, but benefit is downstream from opportunity and exposure. In this urban-school sample from Fez, extracurricular exposure was limited despite broad interest in sports, volunteering, arts, science, and other activities. Students most often reported lack of time and scarcity of activities, followed by lack of fit, weak organization, lack of encouragement, and academic pressure. Primary associations between participation frequency and perceived academic improvement or stress relief were not robust to exposure-restricted sensitivity analyses. The study motivates an access-centered research agenda; it does not establish causal effects or rule out benefits of participation.

The study's international and urban-education contribution is implementation-centered. Urban location should not be treated as a proxy for educational opportunity: the relevant question is whether students can convert school and community resources into sustained participation. Research and policy should therefore distinguish formal provision, effective access, exposure, program quality, and outcomes. Larger multi-school and longitudinal studies that measure socioeconomic, academic, family, school, neighborhood, transport, and partnership conditions are needed to test when urban opportunity structures widen or constrain access to extracurricular learning.

Declarations

Funding: The study was conducted without external funding.

Data availability: The de-identified dataset supporting the findings of this study will be provided as Supplementary Material accompanying the article.

Materials availability: The questionnaire items and response anchors used in the study are reproduced in Appendix A. The Arabic-language questionnaire is available from the corresponding author on reasonable request.

Code availability: Not applicable.

Competing interests: The author declares no competing interests.

Ethics approval: The study protocol was reviewed and approved by the Ethics Committee of the Laboratory of Political Studies and Public Law, Faculty of Legal and Political Sciences, Sidi Mohamed Ben Abdellah University, Fez, Morocco (approval No. 11/2025).

Consent to participate: Participation was voluntary. Students provided written assent or informed consent, as age appropriate. Written informed consent was obtained from a parent or legal guardian for

participants younger than 18 years, while students aged 18 years or older provided their own informed consent.

Consent for publication: Not applicable; no identifiable participant information is reported.

Author contributions: Abdelghni El Amoumri was responsible for conceptualization, methodology, investigation, data curation, formal analysis, interpretation, writing the original draft, and reviewing and editing the final manuscript. The author read and approved the final manuscript.

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- [AppendixA.docx](#)