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Research Article

Experiences, Motivations, and Risk Perceptions of Individuals Exercising While Using Anabolic Steroids: A Qualitative Study

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ABSTRACT

The use of anabolic androgenic steroids (AAS) is not limited to simply building muscle or enhancing performance. It presents a multi-layered experience that extends from how an individual perceives their own body to how they weigh the risks and the decisions they make regarding their health. For individuals in the gym environment, AAS use has become a highly complex practice shaped by the desire for immediate results, relentless competitive pressure, and the influence of those around them. The aim of this study is to reveal how athletes who use steroids interpret this process within their own inner worlds and what they experience.The study's methodology is based on a qualitative grounding with phenomenological sensitivity, focusing on the shared world of individuals who have personally experienced this process. Research data were obtained through semi-structured interviews with 12 male participants who exercised regularly and had a history of AAS use. Data analysis was conducted in line with Braun and Clarke's reflexive thematic analysis approach. Our findings show that the process of starting AAS use mostly takes root within the social environment and the general culture of the gym. The main motivations driving individuals to do so revolve around quickly becoming satisfied with their reflection in the mirror, correcting their body image, and not wanting to fall behind others. While participants mentioned positive gains such as bursts of strength and increased muscle mass during the usage process, they also pointed out mood swings, sleep disorders, and noticeable side effects on their bodies. When it comes to the risk aspect, most users defined it as a “controlled and manageable risk” through methods such as adjusting the dosage, limiting the duration of use, or having regular blood tests. In conclusion, AAS use is not merely a technical performance choice for athletes; rather, it is a dynamic process intertwined with body image, social comparisons, and the mental legitimization of risk. These findings clearly indicate that gyms should abandon prohibitive or stigmatizing language and instead adopt a counseling model that takes into account individuals' risk perception and prioritizes harm reduction.

Keywords: Anabolic-Androgenic Steroids; Fitness; Gym Culture; Risk Perception; Qualitative Research

Highlights

- This qualitative study explores experiences, motivations, and risk perceptions among individuals exercising while using anabolic steroids.
- Semi-structured written interviews were conducted with 12 male participants who exercised regularly and had a history of AAS use.
- Findings indicate that AAS use is shaped by gym culture, body image, social comparison, and the mental legitimization of risk.

Author Contributions

Contribution Area	Ekrem Solak	Kerim Ali Akgül
A) Study design	Yes	Yes
B) Data collection	Yes	Yes
C) Data analysis	Yes	Yes
D) Manuscript writing	Yes	Yes
E) Critical revision	Yes	Yes

Introduction

In recent years, the widespread proliferation of illegal and unethical methods used to gain physiological advantages and enhance performance has turned substance abuse into a major concern in the world of sports (Ozkasap & Ayca, 2025). The use of anabolic agents, which lead the way among these illegal methods and abused substances, is actually not a new phenomenon. Since the 1970s, androgenic steroids have been misused for various reasons in competitive sports, recreational activities, and bodybuilding (Hashim & Almukhtar, 2021; Nieschlag & Vorona, 2015a). Anabolic steroids are artificially altered variants of the male hormone testosterone and can have adverse, widespread effects on various parts of the body, including the heart and blood vessels, brain, liver, gonads, and skin. For instance, steroid use can trigger an increase in bad cholesterol levels while causing a decrease in good cholesterol; this leads to plaque formation in the arteries—a condition known as atherosclerosis—and consequently elevates the risk of heart attacks and strokes (Souza et al., 2019; Alizadeh Pahlavani & Veisi, 2025). As a result, steroid utilization can exert detrimental effects on multiple organ systems throughout the body. Therefore, understanding these effects and mechanisms is crucial for developing effective interventions and raising awareness regarding the risks of steroid abuse (Alizadeh Pahlavani & Veisi, 2025). Along with the ease of access to steroids and their growing prevalence, misinformation about steroid users and dangerous nutritional practices has also escalated on the internet. The dosages and administration methods of steroids propagated online are often inaccurate and misleading (Fink et al., 2019).

The use of anabolic androgenic steroids (AAS) is no longer merely a technical enhancement of performance in today's gym culture; it has become a multifaceted public health and athlete health issue intertwined with an effort to idealize physical appearance. This phenomenon, which has reached a significant global prevalence, is already extensively discussed in clinical and scientific literature (Kanayama et al., 2010; Sagoe et al., 2014; Pope et al., 2014) for its wide range of risks extending from the cardiovascular system and endocrine balance to even psychiatric dimensions. Much of the existing literature addresses the issue quantitatively, focusing on prevalence data, biomedical outcomes, and clinical risk indicators. However, this quantitative approach falls short of explaining the "internal processes" involved, such as when individuals begin steroid use, how they maintain their motivation for use, and, most importantly, how they interpret known health risks through their own personal experiences. It is precisely at this point that qualitative research has the potential to transparently reveal how social interactions, gym subcultures, and peer-to-peer knowledge networks shape AAS usage practices (Cox and Paoli, 2023; Kimergård and McVeigh, 2014; Monaghan, 2001). On the other hand, the distant and often hesitant attitude of AAS users towards the healthcare system creates a significant barrier in physician-patient communication. It is known that users generally tend to conceal symptoms or exhibit a limited practice of seeking help, focusing only on specific clinical parameters (such as blood tests) (Pope et al., 2004; Richardson et al., 2024; Zahnow et al., 2017). This table shows us that we need to go beyond simply labeling steroid use as "risky behavior"; the real issue is how these risks are perceived, managed, and mentally rationalized by the user. Although the literature lays bare the risks, it is not yet fully understood why users continue to use steroids despite being aware of these dangers, and what discursive practices confine these risks within a "controllable" framework (Pope et al., 2014; Christiansen & Vinther 2017). Particularly within the gym ecosystem, users, rather than completely rejecting the risks, normalize this process through specific information sources and self-developed self-regulation strategies (Monaghan, 2001; Kimergård & McVeigh, 2014). However, a fundamental gap in the existing literature is that AAS use is predominantly explained through objective biomedical risks and clinical pathologies alone. This unidirectional approach falls short of explaining how individuals internalize and attribute meaning to these risks within their own subjectivities, and through which psychological mechanisms they rationalize them. Consequently, the core research problem of this study addresses the ambiguity surrounding how individuals using AAS continue substance use despite their awareness of health hazards, and how they make sense of and legitimize this risky process through

their own internal discursive practices and self-regulation strategies. In this context, the main objective of the study is to qualitatively examine the following aspects of individuals using AAS: (i) their initiation process, (ii) their primary motivations, (iii) their perception of the benefits and risks they experienced, (iv) their relationship with the healthcare system, and (v) their retrospective assessment of the entire process. This research aims to offer concrete implications for clinical communication and preventive intervention programs by considering AAS use not merely as a performance choice, but as a dynamic process interwoven with body image, social comparison, and the legitimization of risk.

Materials and Methods

Research Model

This study is a qualitative research aiming to understand the experiences, motivations, and risk perceptions of exercise individuals using anabolic androgenic steroids (AAS). A qualitative approach was preferred because it allows for the contextual examination of individuals' experiences and the meanings they attribute to these experiences (Ertürk and Özkurt 2025).

Research Design

This study is a qualitative research with phenomenological sensitivity, aiming not to conduct a rigorous phenomenological analysis of "essence," but to reveal shared patterns of meaning that emerge in AAS usage experiences. In line with this approach, the data analysis process was carried out using Braun and Clarke's reflexive thematic analysis method. Phenomenological sensitivity here represents focusing on the subjective experiences of the participants and the meanings they attribute to these experiences, while reflexive thematic analysis aims to make visible the shared meaning structures and discursive patterns in these experiences (Braun & Clarke, 2006; 2019). Accordingly, this study focuses not on conducting an absolute phenomenological analysis of "essence," but rather on describing and interpreting the shared meaning structures inherent in AAS usage experiences. Within this context, the primary phenomenon under investigation is centered on how athletes using AAS interpret this process within their inner worlds, the motivational factors driving their usage decisions, and their processes of perceiving the encountered risks.

Researcher Positioning and Reflexivity

The structuring and completion of the process was carried out by a researcher who conducts academic activities within the discipline of sports sciences. The ontological and epistemological nature of qualitative methodology has, from the outset, presented us with a point of awareness: the researcher's existing academic background or potential preconceptions regarding the AAS phenomenon may permeate the analysis phase. To manage this dynamic interaction, all inferences generated during the analysis process were directly based on the participants' unique narratives, and each methodological choice was recorded through "reflective notes" to ensure the process's traceability. The absence of any prior personal acquaintance between the researcher and the study group was a critical factor in allowing the data to be processed on an unbiased basis. This meticulous approach is in complete harmony with the principle of reflexivity, an indispensable cornerstone of the qualitative tradition (Finlay, 2002).

Participants and Sampling Strategy

The participant group of this study was determined based on the 'criterion sampling' method, one of the purposive sampling strategies frequently preferred in the qualitative research tradition to obtain in-depth and information-rich data. Purposive sampling allows for the selection of specific groups that are directly relevant to the research problem and possess deep experiential knowledge about the phenomenon under investigation (Patton, 2015). The concrete inclusion criteria established for this study were defined as: (i) regularly engaging in resistance training or fitness practices, (ii) having a history of AAS use at any point in one's life cycle, and (iii) voluntarily consenting to participate in the study. Since AAS use is a covert practice carrying a significant risk of social stigmatization, referencing the recommendations of initial participants was utilized to gain access to this hard-to-reach community and expand the participant profile; thus, the recruitment process was supplemented by the snowball technique. However, because the main methodological backbone of the study relies on selecting participants based on rigid, predefined criteria rather than a chain referral alone, 'purposive criterion sampling' was adopted as the primary strategy. The field context of the research is focused on the strength and fitness communities located around

commercial gyms in Sivas city center. Potential participants were briefly briefed in the gym environment regarding the purpose of the research, confidentiality principles, and the option to respond without disclosing personal identities. Following this initial contact, the interview form was sent via WhatsApp to individuals who met the criteria and volunteered. Out of 16 individuals invited through this asynchronous digital approach, 12 accepted the invitation while 4 declined. Rather than relying on the traditional and often ambiguous claim of "data saturation," sample adequacy and the justification for limiting the sample to 12 participants were grounded in the "Information Power" approach proposed by Malterud et al. (2016). According to this framework, qualitative sample sizes require fewer participants when the study possesses high information power. In this research, high information power was heavily actualized through the robust internal translation of its dimensions into the study's specific context: (i) The narrowness and specificity of the aim: The study did not seek a broad generalization of fitness culture, but focused exclusively on deciphering the subjective meanings, risk rationalizations, and health system relationships of a highly specific behavioral practice (AAS use). (ii) Sample specificity and extreme homogeneity: The participants consisted entirely of male fitness practitioners who possessed direct, first-hand experience with actual AAS cycles. This extreme demographic and experiential homogeneity drastically reduced narrative variance, allowing shared patterns of meaning and discursive strategies to emerge rapidly and deeply without the need for a larger, heterogeneous sample. (iii) The structured and exploratory nature of the dialogue: The 10 targeted open-ended questions explicitly prompted participants to provide concrete life examples, which compensated for the lack of non-verbal cues in the written-asynchronous format and yielded thick, information-rich data regarding internal psychological adjustments. Due to the nature of this written format, the length of responses varied; instances with brief answers were meticulously categorized as "limited explanation" during the analysis to maintain data transparency. The final sample size was restricted exclusively to 12 male participants. The methodological rationale for selecting an entirely male sample is twofold: First, epidemiological and behavioral literature indicates that the prevalence of non-medical AAS use for body image and performance enhancement is overwhelmingly concentrated among male recreational gym users (Sagoe et al., 2014; Kanayama et al., 2010). Second, the psychosocial dynamics of body dissatisfaction, the drive for muscularity, and the specific subcultural peer pressures operating within gym ecosystems exhibit distinct gender-specific characteristics. To ensure internal conceptual consistency and to capture the specific masculine discursive frameworks of risk normalization, a homogeneous male group was deliberately targeted. However, the exclusion of female or diverse gender experiences prevents this study from providing a comparative gender projection; hence, this focus is explicitly acknowledged as a boundary condition of the study and is addressed comprehensively under the limitations section.

Data Collection Tool

The data collection process for the research was conducted through a semi-structured, 10-question interview form covering a wide range of topics, from the initial stages of AAS use to motivations, information sources, risk perception, and experiences with the healthcare system. In preparing the interview questions, the conceptual frameworks of the qualitative literature evaluating AAS use within the fitness and exercise ecosystem were taken as a basis, thus creating an open-ended structure that would allow participants to reflect their experiences and the meanings they attributed to these experiences in the finest detail (Kimergård and McVeigh, 2014; Pope et al., 2004; Henning and Andreasson, 2022). The language of the form was kept simple and encouraging to motivate participants to provide concrete examples from their own lives. A complete list of the questions used in the research is presented in Appendix 1.

Demographic Information Form: To clarify the participants' profiles, a form was used that included key variables such as age, gender, education level, sports history, and duration of AAS use.

Semi-Structured Written Interview Form: The form in question was meticulously prepared by three field experts after thorough literature review and expert opinions. Its functionality was tested through a pilot evaluation before being finalized.

Ten open-ended questions covering the following areas regarding AAS use: (1) initiation process, (2) motivation and expectations, (3) information sources, (4) perceived benefits, (5) adverse effects, (6) risk assessment, (7) health system experience, (8) continuation/discontinuation decision, (9) perspective on young athletes, and (10) retrospective evaluation.

Preparing Research Questions and Developing the Interview Form

In this research, the questions were structured according to the principles of a qualitative approach that aims to understand anabolic androgenic steroid (AAS) use through individuals' subjective experiences and the meanings they attribute to these experiences. During the development phase, the qualitative methodology literature examining experience-based health behaviors was utilized; in particular, meticulous attention was paid to how individuals justify risky practices, which discursive tools they use to normalize them, and which contextual factors they relate to their decision-making processes (Smith & Osborn, 2008; Yardley, 2017).

In defining the scope of the questions, the assumption that AAS use is a one-dimensional or linear behavior was avoided; rather, it was acknowledged that this process is re-envisioned over time through evolving goals, social interactions, and bodily experiences. From this perspective, the questions aimed to reflect the entire process as a holistic experiential space, from the participants' initiation of use to their motivations, their perceived benefit-harm balance, their risk assessment methods, and their relationship with the health system (Charmaz, 2014). The semi-structured interview form was prepared in full parallel with the research questions and consisted of open-ended questions that allowed participants to freely construct their own narratives. The semi-structured nature of the form allows the researcher flexibility in the course of the interview, while enabling participants to emphasize their own primary experiences and allowing new themes that were not initially foreseen to surface (Kallio et al., 2016). Accordingly, the questions were formulated in a descriptive and reflective language that did not contain leading statements.

In developing the form, the question-writing methodology used in qualitative research was meticulously followed; care was taken to ensure that the questions focused on a single concept, avoided abstract judgments, and allowed participants to respond through concrete examples (Agee, 2009). Furthermore, the questions were arranged along the chronological axis of "initiation process – usage experience – evaluation," reflecting the flow of the experience.

After the draft form was created, the opinions of field experts experienced in qualitative research were sought; the clarity, breadth of scope, and alignment of the questions with the research objectives were evaluated. In light of the feedback received, some questions were simplified, and similar expressions were combined to finalize the form. This entire process was carried out in full compliance with the principles of content validity and methodological consistency required by qualitative research (Tracy, 2010).

The final interview form consists of 10 open-ended questions covering topics such as starting points, motivations, sources of information, benefits and negative impacts, risk perception, experiences with the healthcare system, and retrospective assessments. All of these questions are presented in Appendix 1.

Note: In the findings section, the codes (S1)–(S10) at the end of the participant quotations represent the question numbers in the semi-structured form (e.g., S3 = question about "sources of information"). This coding system was chosen to make it transparent and traceable in which question context the quotations were made.

Data Collection Process

Research data was collected via WhatsApp using a written and asynchronous method, offering participants a safe space for expression on sensitive topics where the risk of social stigma (such as AAS) use is high. It can be argued that this format both reinforces participants' sense of privacy and gives them the opportunity to weigh their responses carefully; indeed, current literature confirms that digital chat-based interviews are a valid medium for generating reliable data in the field of qualitative research (Gunawan, 2022; Saarijärvi and Bratt, 2021). During the field process, which spanned from 07/01/2026 to 06/02/2026, participants answered the interview questions at times that suited their daily routines. At the beginning of the process, all participants were given an informational briefing emphasizing the principle of voluntariness and were assured that their personal information would be kept strictly confidential. The collected raw data was stored in encrypted digital environments, and access was restricted to the research team only.

Privacy and Data Security Protocol: Following the completion of the conversations, the responses received via WhatsApp were exported and transferred to a password-protected storage unit. To ensure the highest level of data security, all chat history and any media files on the application were permanently deleted by the researcher immediately after the transfer. The analysis documents did not include any metadata such as participants' phone

numbers or profile names; all records were anonymized using "K" codes and stored on locked hardware belonging solely to the researcher.

Text Processing and Reporting Sensitivities: Participants' narratives have been reported faithfully to the originals, preserving the unique nature of spoken language; only minimal punctuation corrections have been made to improve readability. While the content of the raw texts was not altered in any way, passages where the meaning was ambiguous or unclear were marked with the annotation "unclear expression" during the coding phase and forwarded to the interpretation stage. Because the depth of responses varied from person to person, relatively shallow answers were separately noted as "limited explanation" in the analysis. As a methodological choice, no systematic follow-up session or additional interviews were conducted, remaining within the limitations of the written-asynchronous format.

Sensitive Subject, Anonymity, and Justification of Data Collection Method

The use of anabolic androgenic steroids (AAS) is a complex behavioral practice that carries a significant risk of stigmatization, both in sports and society, and also occupies a grey area in terms of legal regulations. In such a sensitive and potentially risky field, the ability of individuals to honestly and openly express their experiences is considered one of the most fundamental parameters directly determining the quality of the collected data. The literature indicates that in face-to-face interview processes, participants may engage in self-censorship, particularly due to fear of identity disclosure and anxiety about social judgment, leading to superficial or limited accounts of their experiences.

To overcome these methodological barriers and allow participants to share their AAS experiences in a more secure, psychologically safe, and controllable environment, a written and asynchronous interview format was adopted in this study. Written-asynchronous communication reinforces the perception of anonymity by allowing participants the flexibility to respond without feeling obligated to reveal their identities; this protective shield, in turn, strengthens the tendency to self-disclose on sensitive topics. Furthermore, the temporal flexibility offered by this format allows participants to deeply reflect on the questions, filter their emotional responses, and construct narratives at their own pace. This approach has the potential to minimize impulsive defense mechanisms or artificial responses driven by concerns about "social desirability."

Through this methodological framework, which encourages emotion regulation and self-reflective narrative, participants are able to reflect on their motivations for using AAS, their subjective assessments of risks, and their individual experiences from a much more internal perspective. Therefore, the written-asynchronous data collection strategy should not be considered merely a technical choice in this research; it should be regarded as a methodologically conscious strategic positioning consistent with the ontological and ethical foundations of the study.

Data Analysis

The data were transferred to Microsoft Excel, organized, and analyzed using a predominantly inductive (data-driven) thematic analysis approach in line with Braun and Clarke's (2006; 2019) framework. In this context, codes and themes were not predetermined based on an existing theoretical framework; instead, they were derived directly and iteratively through continuous interaction with the raw data and the participants' unique narratives. The analysis process followed a systematic sequence: first, all transcriptions were read holistically to achieve data familiarity; second, meaningful expression units were identified to generate initial open codes; third, conceptually similar codes were clustered together to develop sub-themes and overarching themes; and finally, these themes were dynamically reviewed against the entire dataset to ensure semantic coherence and distinctiveness (Braun & Clarke, 2006). Throughout each analytical revision, theme names were meticulously re-evaluated for inclusivity, differentiation, and empirical data alignment. Every coding decision and thematic definition was annotated with reflective memos to ensure transparency, and the finalized themes were presented in the findings section, heavily supported by raw participant quotations.

Analysis steps:

- Data familiarity: All participant responses were read repeatedly and general patterns were noted.

- Initial coding: The initial coding process was conducted without adhering to a predefined code list, but rather through direct interaction with participant texts and based on meaningful phrasing units.

Codebook clarification: Similar expressions were grouped under the same code; sub-codes were created for instances where the meaning differed. Codes and sub-themes were updated throughout the analysis process in line with new sets of meanings emerging in the data.

Theme development: Codes have been grouped under top-level themes based on content similarity and relationship; the inclusiveness and differentiation of themes have been checked.

Representative quotation selection: For each theme, quotations that clearly reflect the theme and avoid repetition have been chosen.

Reporting: Themes are presented in the findings section with brief descriptions and anonymous participant citations.

Coding outputs were organized in a theme-sub-theme-code hierarchy to improve traceability; representative citations underlying each code were reported with K1–K12 codes to avoid revealing participant identities.

Credibility and Research Reliability

In qualitative research, the principles of reflexivity, consistency, and traceability are considered to support reliability. In this study, reliability was examined within the framework of credibility, transferability, dependability, and confirmability (Lincoln and Guba, 1985). The researcher based code and theme decisions on participant statements, taking into account that their background in sports science and potential preconceptions regarding AAS usage could influence the interpretation process; the codebook was updated iteratively.

To improve the traceability of the coding and theme development process, a codebook (code name – description – inclusion/exclusion criteria – representative quote) was created and updated throughout the analysis (Appendix 3). Decision points (code merging/separation, theme naming, sub-theme boundaries) were recorded throughout the analysis using short analytical notes (memos) and a chronological decision log (audit trail). To validate theme decisions, code-theme mappings were reviewed; "data-driven evidence" was preserved with at least two representative citations for each theme, and conflicting/inconsistent statements within theme boundaries were also noted to clarify the scope of the themes. In reporting findings, presentations based solely on participant statements were preferred, avoiding inferences made outside of the data.

The audit trail was maintained as a chronological decision log to ensure the traceability of the analysis process. This log recorded (i) code additions/removals, (ii) code merges/separations, (iii) theme name and theme boundary revisions, (iv) how negative/deviant cases were handled, and (v) the rationale for selecting representative quotations included in the report, along with short analytical memos. Thus, for each theme, it has been made possible to retrospectively trace “which code sets it came from” and “which citations it was based on”. A second encoder and statistical fit coefficients (e.g., Cohen’s Kappa) were not used in this study. This choice reflects a conscious analytical decision in line with a reflexive qualitative research approach, rather than a methodological deficiency. The aim of this study is not so much to test quantitative agreement between codes, but rather to reveal the patterns of meaning that emerge in the participants' narratives in a data-consistent, traceable, and transparent manner. To this end, reliability was ensured through detailed documentation of the analytical process (codebook, memos, and audit trail), systematic monitoring of theme-quotation congruence, and basing interpretations directly on the participants' statements.

Ethical Considerations

The research was conducted on a voluntary basis; participants were informed of the purpose of the study, the confidentiality of the data, and that they could withdraw from the study at any time. Identifying information was not reported; all participants were anonymized as K1–K12. Data were used solely for scientific purposes. Ethical approval for this study was obtained from the Sivas Cumhuriyet University Social Sciences Scientific Research Proposal Ethics Evaluation Board (Date: 06/01/2026; Decision No: E-99711239-050.04-659710).

Participants

Twelve male participants (20–35 years) were included in the study. Duration of AAS use was evenly distributed between the 1–3 year and ≥3 year categories. The findings are presented under 10 themes, but the themes can be read together under four overarching axes according to their content proximity: (1) ways of starting – motivations – perceived benefits (Themes 1, 2 and 4), (2) information sources and risk assessment (Themes 3 and 6), (3) adverse effects and continuation/discontinuation and retrospective evaluation (Themes 5, 8 and 10), (4) health system experience and attitudes towards young athletes (Themes 7 and 9)

Table 1. Participant Characteristics.

Participant	Age	Gender	Education	Sports duration	AAS duration
K1	24	Male	Undergraduate	5 year	1–3 year
K2	20	Male	Undergraduate	4 year	1–3 year
K3	33	Male	Postgraduate	16 year	≥3 year
K4	27	Male	Undergraduate	8 year	≥3 year
K5	31	Male	Undergraduate	7 year	≥3 year
K6	35	Male	High School	5 year	1–3 year
K7	24	Male	Undergraduate	5 year	1–3 year
K8	28	Male	Postgraduate	12 year	≥3 year
K9	35	Male	Undergraduate	5 year	1–3 year
K10	31	Male	High School	2 year	1–3 year
K11	29	Male	High School	8 year	≥3 year
K12	30	Male	Undergraduate	12 year	≥3 year

Results

The data were analyzed using a thematic analysis approach, participant responses were pre-coded with multiple reads, and meaningful patterns were grouped together to form themes. Themes are related to the question areas in the interview form, but do not necessarily follow the exact order of the questions; some themes are formed by considering the responses to multiple questions together. Themes, sub-patterns, and representative quotations are presented below. Table 2 summarizes the distribution of themes among participants.

Table 2. Distribution of themes related to anabolic steroid use according to participants.

Theme	Subpattern (Code)	K1	K2	K3	K4	K5	K6	K7	K8	K9	K10	K11	K12
Getting Started	Social environment / social media	✓										✓	
	Competition / competition goal				✓	✓			✓				
Motivation and Expectations	Post-injury recovery		✓										
	Desire for rapid progress		✓			✓			✓		✓		
Information Sources	Body image / appearance								✓				
	Coach / gym environment	✓		✓				✓				✓	✓
Perceived Benefits	Internet / social media / artificial intelligence	✓		✓				✓					✓
	Strength and muscle gain	✓		✓			✓		✓			✓	✓
Negative Impacts	Psychological gains	✓							✓				
	Mood / sleep problems		✓	✓					✓	✓	✓	✓	
Risk Perception	Visible side effects								✓	✓		✓	
	Controlled risk perception					✓	✓		✓			✓	✓
Relationship with the Healthcare System	Perception of serious health risk			✓					✓				
	Blood test monitoring	✓	✓	✓								✓	
Continuing/Discontinuing	Not seeking medical attention								✓				✓
	Continued use	✓			✓				✓			✓	✓
Perspectives on Young Athletes	Quitting / taking a break		✓							✓			
Retrospective Evaluation	Negative attitude towards use	✓	✓		✓				✓			✓	✓
Getting Started	Making the same decision again		✓				✓	✓	✓	✓		✓	✓
	Regret / not doing it again			✓									

Note: The ✓symbol indicates that the relevant theme appears at least once in the participant's narrative through representative quotations.

Table 2 shows how the themes were distributed among the participants; however, this distribution should not be considered a quantitative indicator of the importance or frequency of the themes. Below, each theme is discussed in detail, along with representative participant quotations.

Usage context: Participant responses indicate that AAS use is not limited to a single motivation. While rapid muscle mass increase, body image goals, and the pursuit of competitive advantage are highlighted in the narratives, some participants also emphasized the reason of accelerating post-injury recovery. Furthermore, the report in the findings section supports transferability by reporting the dynamics of continuation and discontinuation/interruption at different phases of use.n the discussion section, similar and different

Theme 1. Getting started

This theme reflects the shared but individual experience patterns of participants in their initiation into using AAS. Although factors such as social environment, competitive goals, or physical recovery are mentioned under similar headings, which of these factors is decisive and how it is interpreted varies among participants. The theme reveals that the transition to AAS use is a multifaceted process that cannot be reduced to a single cause.

The narratives of starting out fall into three main categories: (i) the desire to accelerate recovery due to the influence of social media and immediate environment, (ii) competition pressure and the perception of a "natural plateau," and (iii) the goal of accelerating post-injury recovery. Representative participant quotes reflecting these categories are presented below.

Representative expressions:

K1 (S1): The influence of the people around me, the posts I saw on social media, and my desire for things to happen sooner all played a role in my decision.

K4 (S1): I had reached the final stage with natural methods, but I turned to anabolic steroids because I wanted to grow more and compete.

K5 (S1): It all developed after I decided to prepare for the competition. Since all my fellow competitors had taken this path and improved, I made this decision so as not to fall behind them.

K2 (S1): My recovery process after an injury I sustained in 2024 took longer than I expected. During this time, I researched different treatment and support methods.

K8 (S1): I made this decision thanks to my coach. My competitors were using these drugs, so I needed to do it to catch up with them.

K11 (S1): I wanted to look better; this process started with my desire to improve quickly. My friends at the gym and the athletes I saw on social media influenced my decision to use these supplements.

K12 (S1): Due to the nature of my profession, I wanted to become stronger and lift heavier weights. This desire led to the development of my training process; the easy accessibility of the necessary supplements also influenced my decision.

Theme 2. Motivation and expectations

This theme demonstrates that while participants' motivations for using AAS (Analytic Strategies) are clustered around similar concepts, the personal meanings of these motivations differ. Although the desire for rapid improvement and expectations regarding body image are frequently emphasized, the priority level of these goals and the way they are individually justified vary among participants. However, for some participants, the motivation for turning to anabolic steroids was not only the expectation of rapid physical development and appearance, but also the desire to accelerate post-injury recovery and regain previous physical capacity. In this respect, the theme reflects an experiential space where shared motivations are reshaped by subjective expectations.

Motivations are concentrated around three main axes: (i) the desire for quick results, (ii) the goal of looking better and improving body image, and (iii) the need to compete with others. In addition, some participants stated that their motivation began with the aim of accelerating the recovery process after an injury.

Representative expressions:

K10 (S2): I wanted to look better physically. Social media and people around me who used these medications influenced my thinking. No, it didn't change.

K5 (S2): The biggest factor was the desire for faster progress. Putting in a lot of effort and getting limited results is psychologically challenging. Seeing people around me who experienced rapid change also influenced me. No, my opinion about using it hasn't changed over time.

K8 (S2): To improve and look better than other people who exercise. Also, to be able to compete with those who use it. No, it hasn't changed.

K2 (S2): My main reason was my injury. After using it for a while, I noticed that my injury started to heal.

Theme 3. Information sources and the narrative of 'controlled use'

This theme reveals recurring but diverse patterns in participants' information access processes regarding AAS usage. In the participants' narratives, it is observed that the sources from which information is accessed (coach, gym environment, social media, artificial intelligence, and printed sources), as well as the discourse of "controlled use" and "risk management" developed through the use of this information, are intertwined within the theme. While gym environments, trainers, and digital platforms are all referenced in similar ways, the trust placed in these sources and how information is filtered varies according to individual experiences. The theme demonstrates that the information acquisition process is shaped more through informal and experience-based networks than through formal channels.

Information sources are shaped through multiple channels, including coaches and the gym environment, social media and websites, print publications (articles/books), and artificial intelligence applications. Many participants, based on the information they obtained from these sources, defined risk management within the framework of "dose/duration control" and "blood test monitoring," describing its use as a "controlled" practice.

Representative expressions:

K1 (S3): I learned most about anabolic steroids from AI applications and bodybuilding coaches. These sources influenced my decision to use them.

K3 (S3): I learned about anabolic steroids from books, articles, artificial intelligence, and professors with experience in the field. Since I had already made my decision, it didn't affect me much. I tried to figure out how to get through this with the least amount of harm.

K7 (S3): I benefited from artificial intelligence and bodybuilding coaches.

K11 (S3): I based my decision on information I gathered from experienced people at the gym and from the internet. Since these sources matched, I had no trouble making a decision.

K12 (S3): I gathered information from my athletic network, websites, and an AI application; however, these sources were not decisive in my decision as I had already made my choice.

Theme 4. Perceived benefits

This theme shows that although the benefits participants attributed to AAS use were expressed under common headings, these gains had different meanings in terms of personal evaluations. While physical gains such as increased strength and muscle mass were prominent, psychological effects were more decisive for some participants. The theme reveals that perceived benefits are not limited to physical outcomes alone.

Benefit accounts primarily focus on significant strength increases, rapid muscle growth, and shorter recovery times. Some participants also specifically highlighted that AAS use increased self-confidence and motivation.

Representative expressions:

K3 (S4): Of course I noticed. My body was growing. I gained weight rapidly, and the weights I could lift increased quickly.

K1 (S4): During the usage period, I felt that my performance recovered much faster; my recovery time after workouts shortened. However, I also noticed that I became more irritable and quick-tempered in daily life and during training.

K8 (S4): My strength had increased dramatically, and my self-confidence had skyrocketed. However, this was accompanied by an excessive level of aggression.

K6 (S4): There is a noticeable increase in terms of strength and performance. Psychologically, I felt more self-confident and ambitious..

K11 (S4): My muscles were developing rapidly, and my strength was increasing significantly. I also experienced emotional ups and downs.

K12 (S4): My body grew rapidly and my strength increased incredibly; psychologically I was more irritable, but my self-confidence had also increased.

Theme 5. Negative impacts and social implications

This theme reflects that while negative experiences during AAS use were described similarly among participants, these experiences differed in terms of emotional intensity and tolerability. Although mood swings, sleep problems, and visible side effects were common narratives, the meaning and severity of these effects varied according to individual assessments. In addition, some participants stated that the usage process led to distance in their social relationships over time, reduced interaction with their environment, and a more introverted lifestyle. The theme shows that AAS use is not a one-sided experience.

Negative experiences stand out on two levels: (i) mood changes such as irritability, aggression, stress, and sleep disturbances, and (ii) visible side effects such as acne, hair loss, and local reactions to the injections. Some participants reported becoming withdrawn from social relationships and experiencing negative impacts on their interactions with their environment during this process.

Representative expressions:

K3 (S5): Yes, it happened [adverse effects]. I didn't like feeling tired and exhausted at all.

K10 (S4–S5): I experienced acne breakouts, a significant increase in muscle mass compared to natural methods, and a dramatic improvement in my performance. However, during a period of use, I wasn't doing well psychologically; I experienced irritability and sudden mood swings. / Yes, that happened, and I generally couldn't cope with it. I became antisocial, and people kept asking why I was so tense.

K8 (S5): It had caused hair loss. Also, my aggressive behavior worried me.

K9 (S5): My anger largely isolated me from social life. I couldn't form good relationships with people. I couldn't cope while I was using it.

K2 (S5): Sometimes, when I administered the medication, I experienced swelling and redness. This was due to incorrect injection techniques. I corrected these issues with the help of doctors. Other than that, I haven't had any problems.

K11 (S5): My hair loss worsened, and emotional fluctuations bothered me; I endured them because it was my goal.

Theme 6. Risk perception

This theme reflects experiential patterns that show participants' perceptions of the risks associated with AAS use are understood within a manageable and controllable framework, rather than as a completely dismissive attitude. While some participants highlighted serious health risks, others rationalized the risk through controlled practices. This suggests that risk perception is not static but a dynamic process that reshapes itself with experience.

Participants' risk assessments were heterogeneous; one group considered the risk "manageable" through dose/duration management and blood test monitoring, while the other group described AAS use as an "extremely risky" behavior, emphasizing patterns of organ damage, death, and addiction.

Representative expressions:

K3 (S6): Anabolic steroids are truly dangerous; deaths are occurring in this context, and we see these in the news and on social media.

K5 (S6): I evaluate the potential risks of anabolic steroids based on medical evidence and clinical observations. Potential risks vary depending on the dose, duration, and individual.

K6 (S6): As long as you carefully monitor the process by checking blood tests and allow your body to rest at regular intervals, I don't see much risk.

K8 (S6): We know it causes heart disease and clogs arteries. I can say this with confidence based on the sources I've read. Also, depression and anxiety develop after stopping its use, that's my experience.

K11 (S6): According to information I've gathered from websites, it can lead to serious health problems; I believe it can particularly damage the cardiovascular system.

K12 (S6): It's risky, but the risks vary from person to person; what I've seen around me and the information I've gathered leads me to say this.

Theme 7. Relationship with the health system

This theme reveals that participants' relationships with the healthcare system are selective and limited. While practices such as blood test monitoring are seen as part of risk management, the tendency to avoid seeking help from formal healthcare institutions is also noteworthy. The theme suggests that the healthcare system does not play a fully integrated role in the AAS user experience.

Visits to the healthcare facility were mostly for the purpose of checking blood values. While some participants stated that they had tests done regularly, others said they did not seek medical attention because they did not experience any noticeable problems.

Representative expressions:

K1 (S7): I never considered seeking medical attention for this issue; I only visited a healthcare facility to have my blood values checked.

K2 (S7): I had my values monitored regularly. During this process, I made sure to have my check-ups by going to healthcare facilities regularly.

K3 (S7): Yes, I applied. The reason was that it made me feel weak after 2 months of using anabolic steroids.

K8 (S7): No, I didn't apply. I didn't experience any problems.

K11 (S7): I went to a healthcare facility to have my blood values checked; I didn't experience any problems because I wasn't using high doses.

K12 (S7): No, I didn't apply; I didn't have any problems.

Theme 8. Continuation/discontinuation dynamics

This theme reflects how decisions to continue or pause AAS use are shaped by varying circumstances, not a single outcome. Although participants referred to similar experiences, the reasons for continuing or discontinuing use differed. The theme suggests that these decisions are not linear, but rather processes that are re-evaluated over time and through experience.

Decisions to continue or quit are shaped by factors such as competition goals, body image, cost, health concerns, and the anticipated "downturn/depressive state" that might occur after quitting. While some participants planned to continue under certain conditions, others stated that they decided to quit due to the physical/psychological costs they experienced or the recovery process.

Representative expressions:

K4 (S8): Since I have competition goals and I know I can't achieve a good result in competition without these anabolic steroids, I'm not considering quitting.

K8 (S8): I'm continuing because body image is important to me, and I also don't want to face the depression that can occur after quitting.

K9 (S8): The fact that it created a constant need for use and that the body returned to its previous state very quickly when stopped influenced my decision. Of course, it wasn't easy; my strength decreased, I experienced muscle loss, but I persevered and stopped using it.

K2 (S8): I started using it to get better. Now that I'm recovered, I've stopped. I don't plan on using it continuously in the long term.

K1 (S8): Right now I feel neutral about it; I might consider using it again if both the financial situation and the circumstances allow. Therefore, my decision to continue or stop is not yet final and is shaped by the circumstances.

K11 (S8): I decided to keep using it because my body and strength deteriorated rapidly when I stopped.

K12 (S8): I decided to continue because I enjoyed the situation I was in, and so I am continuing.

Theme 9. A look at young athletes.

This theme reveals how participants reflect their own experiences regarding AAS use in their evaluations of young athletes. While the vast majority of participants held a negative attitude towards its use at a young age, the way this attitude was justified varied according to individual experiences. However, while some participants expressed general opposition to the use of anabolic steroids in young athletes, they also voiced a conditional approach, arguing that controlled use might be possible after a certain age, level of awareness, and athletic maturity. The theme illustrates how personal experience influences normative judgments.

The common emphasis regarding young athletes centers around concerns about the hormonal system and long-term harm. While some participants advocated for a controlled and supervised use approach after reaching the limits of natural development and a certain age/maturity level, others more categorically expressed their opposition to the use of AAS at a young age.

Representative expressions:

K1 (S9): I believe that young athletes using anabolic steroids can disrupt their hormonal system. Furthermore, I think that the impulsiveness of youth might lead them to act without adequately considering the risks, which could result in more serious, even irreversible, consequences.

K2 (S9): I believe that an athlete who wants to use steroids should first reach the highest point they can naturally achieve. They need to attain certain successes. Then, with the maturity that comes with age, they should start somewhere else. In some sports, if this doesn't happen, it becomes very difficult to progress.

K8 (S9): I think it's very wrong. Even if they're going to use it professionally, I think they should only use it after the age of 22 or 23. Yes, I have concerns from a general public health perspective. Young people are unknowingly compromising their health just for the sake of looking good.

K4 (S9): I actually recommend it, but I don't have a very positive view because they do it unconsciously, and I'm worried it might cause health problems.

K11 (S9): I believe that high doses of anabolic drugs used at a young age can lead to irreversible damage later in life.

K12 (S9): I find its use risky until puberty is complete; after puberty, it should be used under medical supervision to minimize the risks.

Theme 10. Retrospective evaluation

This theme reflects the diversity of meanings participants have retrospectively attributed to their AAS usage experiences. While some participants stated they would make the same decision under similar circumstances, others expressed regret and a tendency not to repeat the action. The theme suggests that AAS use is an experience that is re-evaluated over time and cannot be summarized by a single outcome.

While some participants stated that they would make the same decision again if they could go back in time with their current knowledge and experience, others evaluated the use of AAS more critically, expressing regret or a more cautious attitude. The responses generally clustered around patterns of (i) re-doing/confirming, (ii) conditional acceptance (more controlled/cautious progress), and (iii) regret-non-re-doing.

Representative expressions:

K2 (S10): Yes, because my injury was very severe. Now that I've recovered, I feel better in every way.

K3 (S10): I would never use them. Because these substances are truly addictive. You can keep using them even knowing they're harming your body.

K6 (S10): Yes, I would have. In fact, I would have made this decision even earlier, because I believe I would have achieved success in this sport sooner.

K7 (S10): Looking back, I would still use it because you can't know what something is without testing it, so I would use it.

K8 (S10): Yes, I would. Because thanks to this sport, my social circle has expanded greatly, and I've developed strong bonds and connections. I have no regrets.

K9 (S10): Yes, I would have given it to him. It would have bothered me if I hadn't tried. At least I tried, and now I have no more questions.

K11 (S10): Yes, I would make the same decision; because I generally like the feeling these medications give me.

K12 (S10): Yes, I would make the same decision; because I generally like the feeling these medications give me.

Discussion

The data from the research reveals that anabolic androgenic steroid (AAS) use cannot be categorized as simply a risky health behavior within the fitness and exercise ecosystem; rather, it is a multifaceted process interwoven with body image, performance pursuit, and social environment dynamics. Instead of entirely rejecting the risks stemming from AAS, the participants' approach of placing these risks within a "manageable" and "controllable" framework demonstrates remarkable consistency with the theoretical frameworks of risk normalization and "enabling environments" in the literature (Henning and Andreasson, 2022; Kimergård and McVeigh, 2014). On the other hand, the fact that aesthetic outcomes outweigh performance goals in motivation for use supports the existing motivation typologies in the clinical and behavioral literature on AAS use (Kanayama et al., 2010).

The findings indicate that the decision to use AAS is not merely an individual choice, but rather a process that becomes normalized within specific social circles and gains meaning over time. In this context, evaluating AAS use solely in terms of biomedical risks may be insufficient to fully grasp the subjective and societal realities of users.

The participant narratives obtained confirm that the decision to use steroids cannot be reduced to a single, monolithic cause; rather, this process is shaped as a dynamic combination of environmental exposure, goal-oriented expectations, and individual experiences. The crucial role played by social media and close circles, especially during the initial stages of adoption, confirms that the flow of information and norms in fitness culture circulates through informal channels rather than formal health channels. This table supports the argument that risk is produced collectively within specific socio-cultural structures rather than as a result of individual choice (Henning and Andreasson, 2022). When the motivational basis is examined, it is observed that the desire for quick results and ideals regarding body image are intertwined with performance expectations. This intersection suggests that explaining the use of AAS solely within the framework of "performance enhancement" is methodologically limited. While the literature focusing on clinical and psychiatric outcomes highlights the multifaceted risk profile of drug use (Kanayama et al., 2010), the participants' focus on increased strength and rapid recovery suggests that the risk-benefit balance is not a static assessment but rather a continuous reconstruction by individuals throughout the drug use process.

The study found that risk perception does not exhibit a homogeneous structure, but rather varies between two extremes. Some participants placed the risk within a "manageable" framework through dosage, duration, and especially periodic blood tests; while another group emphasized risks beyond control and addiction-like patterns. This perceptual diversity demonstrates that risk assessment is based not solely on information but on the integrated effects of experienced side effects, individual goals, social environment, and past experiences. The fact that the relationship with the healthcare system is largely limited to laboratory tests reflects users' "self-monitoring" strategies on the one hand, and suggests that the need for a holistic counseling service is not adequately met by the system on the other.

The significance attached to blood test monitoring, in particular, makes the rationalization of risk more visible. In these narratives, biochemical values remaining within "normal" limits are presented as the sole proof that AAS use can be continued safely. However, this approach does not provide absolute safety from a biomedical perspective, and it leads participants to normalize this risky behavior within a "tolerable" framework through their own practices.

Indeed, the literature reports that users interpret biochemical indicators not as evidence that the risk has been eliminated, but as proof of the sustainability of use (Zahnow et al., 2017; Henning and Andreasson, 2022). From this perspective, participants' tendency to make risks "manageable" through specific information channels and practices, rather than rejecting them entirely, aligns with discussions about the "enabling environment" within the gym context. Qualitative evidence documents that harm is not merely a result of individual choices, but rather is produced by environmental factors such as social environment, information networks, and access to services (Kimergård and McVeigh, 2014). In line with current studies, it can be said that content disseminated through digital platforms and social media actors creates a foundation for users to legitimize their decisions through "lay knowledge" networks and to restructure their risk perceptions in these environments (Cox and Paoli, 2023).

When looking closely at the findings, the themes extracted from this study show important similarities and unique differences compared to the current international literature. Similar to the findings of Henning and Andreasson (2022) and Kimergård and McVeigh (2014), our participants do not simply ignore or deny the medical risks of AAS; instead, they develop a unique language of risk normalization. However, while much of the existing literature focus heavily on professional competitive performance as the primary motivation (Kanayama et al., 2010), our study reveals a critical difference: recreational users in the gym culture use steroids mostly to quickly fix their body image and adapt to social comparisons in digital spaces. Furthermore, while previous studies by Zahnow et al. (2017) and Richardson et al. (2024) state that steroid users completely avoid the healthcare system due to fear of social stigma, our findings show a more complex and selective relationship. Participants use healthcare facilities specifically as a tool for their self-monitoring and 'controlled risk' strategies by keeping an eye on their periodic blood tests. This deep and analytical difference shows that AAS use is not just a clinical health hazard but a dynamic, socially constructed practice within gym ecosystems.

Another notable finding of the study is that digital platforms and informal communication networks, rather than institutional health channels, were central to participants' information gathering processes regarding the use of Anabolic Androgenic Steroids (AAS). Participant narratives clearly demonstrate that social media platforms, thematic websites, and various online forums function as primary sources of information. This situation indicates that technical and practical information regarding AAS use is circulating within an alternative knowledge ecosystem rather than through official medical authorities. This chart, consistent with current studies in the literature, confirms that a significant portion of AAS users rely on peer-based networks and digital user communities for critical issues such as usage protocols, side effect management, and minimizing potential risks (Piatkowski, 2025; Amaral, Kimergård, and Deluca, 2025). These digital networks go beyond being mere technical databases for users; they offer a dynamic environment where usage practices are reinterpreted in light of collective experiences, and risk perception is constructed within an individual/experiential framework.

Findings regarding the relationship with the healthcare system can be considered alongside patterns of low physician trust and concealment of usage reported in the literature. AAS users' perception of physicians' knowledge and approach to AAS as inadequate can lead to consequences such as delayed referrals and limited communication (Pope et al., 2004). Similarly, more recent findings indicate that despite physicians being positively evaluated in the general health field, the perception of inadequate knowledge regarding AAS (Richardson et al., 2024). This suggests that service application behavior is related not only to individual desire but also to concerns about stigma and the extent to which the service aligns with user needs (Zahnow et al., 2017).

The findings indicate that gyms are more than just physical training grounds; they are social spaces where certain standards and behavioral patterns are produced. The participants' narratives reveal that intense competition, social comparisons based on appearance, and the guiding role of experienced figures within the organization are decisive factors on the path to Anabolic Androgenic Steroid (AAS) use. Current literature indicates that the use of AAS is becoming increasingly common, particularly in recreational fitness. This trend is largely shaped by psychosocial dynamics such as the desire for a flawless physical appearance, the ideal of muscularity, and the need for social acceptance, rather than by professional performance goals (Al Hamid et al., 2025; Richardson et al., 2024). In this context, AAS use should be seen not as an individual choice, but as a form of action directly related to the body image norms and social expectations imposed by gym culture.

The prominence of hormonal harm and lack of awareness in opinions regarding young athletes indicates that protective approaches should not only rely on deterrence but also on training and harm reduction strategies adapted to gym environments and appropriate for the target group. The perception of risk as "controllable" in particular increases the importance of designing interventions that take into account the language, justification methods, and risk discourses adopted by users.

This study suggests that AAS use is more than just a technical performance optimization; it points to a complex sociocultural phenomenon shaped by the intersection of gym subculture, social expectations, body image, and competitive dynamics. In contrast to the dominant biomedical risk paradigm in the literature, this study reveals that instead of entirely rejecting risks, users rationalize their risk perception by reducing these risks to a 'manageable' level through self-regulation mechanisms they develop. This situation rationally establishes the necessity of developing intervention strategies regarding steroid use not through a prohibitive approach, but rather from a holistic perspective focused on 'harm reduction,' referencing users' own experiential knowledge networks and risk management methods.

This research goes beyond the traditional paradigm that problematizes AAS use solely in terms of biomedical risk parameters; it offers a unique perspective to the literature by examining the phenomenon within the context of gym culture, social interaction dynamics, and cognitive legitimation processes of risk. Participants' subjective experiences suggest that rather than a complete denial of potential risks, these risks are reduced to a 'manageable' framework through specific self-control mechanisms. In this context, intervention and clinical counseling strategies developed for AAS use should not be approached solely through a prohibitive lens; rather, they must be built upon multidimensional and holistic approaches that center on users' subjective risk perceptions and experiential knowledge ecosystems. This constitutes a strategic necessity.

In summary, looking at all these thematic connections together shows that AAS use cannot be explained by a single reason or a simple model of risky behavior. The way our findings intersect with current research highlights that gym culture and digital spaces create a strong framework that changes how users see health risks. While our participants' experiences share common ground with the global literature on self-regulation and informal knowledge networks, their specific emphasis on appearance goals and selective medical check-ups offers a deeper socio-psychological perspective. This comparative view proves that effective interventions must look beyond just stopping substance use; they need to understand the social world and the mental reasoning of the users in order to create realistic harm reduction strategies.

Conclusion and Recommendations

In conclusion, this study demonstrates that AAS use in recreational fitness is a complex sociocultural phenomenon driven by body image ideals, peer influence, and the desire for rapid physical progress rather than just performance enhancement. Rather than completely rejecting objective biomedical risks, users actively rationalize their behavior, transforming risk into a 'manageable' variable through self-developed strategies like blood monitoring. Therefore, instead of employing prohibitive or stigmatizing language, intervention strategies and healthcare systems must adopt a holistic approach centered on harm reduction that addresses users' subjective risk perceptions and experiential knowledge networks.

The study's findings confirm that AAS usage is framed as a goal-oriented "acceleration" practice within fitness, shaped by the momentum created by social circles and digital networks. The fact that participants rationalized the concept of risk not as a categorical threat, but by transforming it into a "controllable" variable using empirical tools such as blood test monitoring, demonstrates that risk perception is constantly reconstructed through an individual reasoning process. Therefore, deciphering this unique risk management language that permeates gym culture is a critical threshold for the realism and success of intervention strategies to be developed.

Based on the findings, designing educational models that reinforce health literacy in a gym environment, establishing safe counseling mechanisms that eliminate stigma, and implementing preventive programs, especially those targeting early age groups, are unavoidable necessities. Given how users rationalize risks, building accessible and non-judgmental information channels that are compatible with the gym environment will both reinforce risk awareness and place individuals' distanced relationship with the healthcare system on a more rational footing.

Furthermore, the findings that some participants directly identified AI-based applications as a source of information point to a new "digital consulting" practice, which is still being discussed to a limited extent in this field, and necessitate further investigation in future studies into the role of these tools on the perception of risk regarding the use of AI.

Future academic studies examining the temporal transformation of risk perception through larger and more heterogeneous sample groups, preferably from a longitudinal perspective, would be groundbreaking for the literature. In addition, analyzing mental turning points in decision-making processes through in-depth interviews will allow for a holistic understanding of the socio-psychological dynamics related to AAS use.

Limitations

The data obtained from this study should be interpreted in light of certain methodological limitations. Firstly, the relatively limited sample size meant that the findings were based on a specific context and the subjectivity of an exclusive group of participants. This situation methodologically limits the universalization or direct generalization of the results to a wider population.

A second limitation is that the data is entirely based on participants' self-reports. The types of AAS used, dosage amounts, usage periods, and other accompanying practices were compiled entirely from participant narratives; these statements were not confirmed by biomedical tests or an external verification mechanism. Therefore, the findings present a subjective picture shaped by the participants' own perceptions and experiential reasoning.

Another methodological aspect is that the data collection process was conducted in a written and asynchronous format. While this choice provides the participant with a sense of privacy, it also limits the opportunity to ask spontaneous, in-depth questions and clarify ambiguous statements that are inherent in face-to-face interviews. Furthermore, the inability to directly observe nonverbal emotional cues such as tone of voice, pauses, or micro-expressions may have partly limited the decipherment of some subtle nuances in the narratives.

Finally, the fact that the study was designed solely with male participants prevents it from providing a projection of how AAS usage practices are reflected in different gender groups. Therefore, the study's findings should not be considered as a basis for comparison between genders, but rather read from the perspective of a male-centric gym culture.

Declarations

Item	Statement
Ethics Approval	Ethical approval was obtained from the Sivas Cumhuriyet University Social Sciences Scientific Research Proposal Ethics Evaluation Board (Date: 06/01/2026; Decision No: E-99711239-050.04-659710).
Informed Consent	Participants were informed about the purpose of the study, confidentiality of the data, and their right to withdraw from the study at any time.
Conflict of Interest	The authors declare that there is no financial conflict of interest with any institution, organization, or person related to this article, and that there is no conflict of interest between the authors.
Funding	No external funding statement was provided in the submitted documents.
Data Availability	No data availability statement was provided in the submitted documents.

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