

Mediating the Effects of Stigma Perception on Social and Psychological Outcomes in Chinese Athletes: The Role of Active Stigma-Coping Strategies

Yinuo Mu¹, Guangxue Zhang², Sangsang Jiang¹, Mingyan Yu³, Yufeng Zheng⁴, and Mohamad Nizam Nazarudin^{1*}

¹*Faculty of Education, Universiti Kebangsaan Malaysia, 43600 Bangi, Selangor, Malaysia*

²*School of Economics and Business Administration, Heilongjiang University, 150060 Harbin, Heilongjiang, China*

³*School of Competitive Sports, Tianjin University of Sport, 301617 Tianjin, China*

⁴*School of Economics and Management, Heilongjiang International University, 150025 Harbin, Heilongjiang, China*

ABSTRACT

The Paris 2024 Olympic Games renewed attention to the psychological and social challenges athletes face beyond competition, where constant evaluation by the media, sporting organisations, and the public contributes to stigma and reduced well-being. This study examined the relationships among perceived stigma, social adaptability, and subjective well-being in elite athletes, as well as the mediating role of active coping strategies. A cross-sectional survey was conducted with 398 Chinese national-level athletes. Structural equation modelling revealed that perceived stigma was significantly and negatively associated with both social adaptability and subjective well-being. Athletes experiencing greater stigma demonstrated lower levels of social adjustment and psychological well-being. Active coping strategies, including positive self-reflection, emotional regulation, and support-seeking, significantly mediated these relationships. The indirect effects of stigma through active coping were significant for social adaptability

and subjective well-being, indicating that adaptive coping partially buffered the detrimental effects of stigma. These findings suggest that the influence of stigma depends partly on athletes' psychological coping resources. The results underscore the critical importance of integrating coping skills training into athlete development programmes to enhance resilience, promote social functioning, and protect mental well-being. Coaches and sport psychologists should prioritise interventions that strengthen adaptive

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E-mail addresses:

p137276@siswa.ukm.edu.my (Yinuo Mu)

18714511359@163.com (Guangxue Zhang)

p137277@siswa.ukm.edu.my (Sangsang Jiang)

yumingyan69@163.com (Mingyan Yu)

17382772277@163.com (Yufeng Zheng)

mohdnizam@ukm.edu.my (Mohamad Nizam Nazarudin)

* Corresponding author

coping and mitigate the impact of stigma. Although limited by its cross-sectional design and self-reported measures, this study clarifies the mechanisms linking stigma to athlete outcomes and provides a solid foundation for future research.

Keywords: Athletes' stigma perception, social adaptability, stigma, stigma coping, subjective well-being

INTRODUCTION

The Paris Olympic Games 2024 once again highlighted the intense scrutiny that modern athletes face, not only during competition but also in their everyday public lives. In today's world, sport is more than physical performance; it is a powerful social and cultural platform through which ideas about discipline, success, national pride, and personal character are constantly judged. As highly visible public figures, athletes carry heavy expectations, and their performances are often evaluated far beyond win–loss records. Success may bring admiration, but perceived failure can quickly lead to criticism, social judgment, and damage to personal reputation (Petersen et al., 2024; Walton et al., 2020).

Growing concern over athletes' mental health has prompted international organisations such as the International Olympic Committee (IOC) and the World Health Organisation (WHO) to emphasise that performance cannot be separated from psychological well-being. A growing body of research shows that prolonged exposure to negative emotional states such as shame, anxiety, and feelings of rejection can impair concentration, emotional control, and decision-making. Over time, these pressures may increase the risk of burnout, early career withdrawal, and severe psychological

distress (Hill et al., 2019). High-profile cases involving elite athletes such as Simone Biles and Naomi Osaka have further brought global attention to the mental health challenges embedded in elite sport systems.

These psychological pressures are often intensified in sociocultural environments that place strong emphasis on collective honour, national representation, and performance accountability. In countries such as China, athletes frequently compete under intense public evaluation and institutional expectations, which can heighten sensitivity to social judgment and perceived failure (Bu et al., 2024; Chen & Ni, 2024). Within such contexts, psychological challenges cannot be fully understood without addressing stigma, a social process that shapes how individuals see themselves and how they believe others see them (Wang et al., 2025).

Recent research has increasingly described stigma as a powerful psychosocial stressor that extends beyond mental illness to include performance failure, injury, and perceived deviation from sporting norms (Xiang et al., 2024). Studies consistently show that stigma is linked to lower self-worth, social withdrawal, and increased emotional distress, all of which can undermine both social functioning and subjective well-being among athletes (Caron et al., 2021; Petersen et al., 2024).

Importantly, stigma is not merely a by-product of psychological difficulties; it actively contributes to maladjustment by reinforcing expectations of rejection and encouraging athletes to internalise negative judgments about themselves.

Despite growing awareness of stigma in sport, much of the existing research has focused on identifying levels of stigma, attitudes, or barriers to help-seeking. Far less attention has been paid to how stigma affects athletes' ability to adapt socially and maintain subjective well-being, particularly through the psychological processes that link stigma to everyday functioning (Ahmed et al., 2021). Even fewer studies have examined these processes in non-Western contexts, where cultural norms may shape how stigma is experienced and managed.

From a stress–coping perspective, coping strategies are key psychological resources that help individuals interpret and respond to social stressors. Emerging evidence suggests that adaptive coping strategies, such as cognitive reappraisal, emotional regulation, and seeking social support, can reduce the harmful effects of stigma by changing how stress is appraised and strengthening psychological resilience (Kang et al., 2020; Zhong et al., 2025; Zuo & Bai, 2025). However, the role of active stigma-coping strategies as a mechanism linking stigma perception to social and psychological outcomes among athletes remains insufficiently examined.

Against this backdrop, the present study seeks to clarify how stigma operates within the athletic context and to identify

coping processes that may protect athletes' psychological well-being and ability to engage socially. By focusing on Chinese athletes, a group exposed to powerful social visibility and evaluative pressure, this research addresses important cultural and theoretical gaps in the literature.

Ultimately, the findings aim to inform sport organisations, policymakers, and mental health professionals in developing more supportive, culturally sensitive, and evidence-based approaches to athlete care. By reducing stigma, strengthening coping capacity, and promoting healthier social environments, such efforts can contribute to more sustainable athlete development and well-being under conditions of ongoing performance pressure.

LITERATURE REVIEW

Conceptualising Stigma in Contemporary Social and Sport Contexts

In recent social science research, stigma is no longer seen as a fixed label attached to specific individuals or groups. Instead, it is understood as an ongoing social process through which people are judged, devalued, or pushed to the margins because they are seen as falling short of social expectations (Bamber et al., 2021). Stigma develops through everyday interactions, cultural norms, and institutional practices, shaping how individuals see themselves and how others treat them. Research across education, employment, health, and sport consistently shows that stigma influences access to opportunities, social relationships,

and psychological well-being (O'Brien et al., 2023; Rodrigues et al., 2025; Van Beukering et al., 2021).

Sport is a particularly sensitive setting for stigma because success and failure are highly visible and often morally charged. Athletes are evaluated not only on physical performance, but also on perceived mental toughness, resilience, and commitment. When athletes underperform, experience injury, or show signs of psychological vulnerability, they may be viewed as weak or inadequate, which can damage both their social standing and sense of self (Petersen et al., 2024). From this perspective, stigma theory offers a valuable framework for understanding how social evaluation in sport affects athletes' social adjustment and psychological health.

Dimensions of Stigma Perception: Public Stigma and Self-Stigma

Contemporary stigma research commonly distinguishes between two closely related forms of stigma perception: public stigma and self-stigma. Public stigma refers to individuals' perceptions of how society views them. It involves expectations of negative judgment, stereotyping, or discrimination from others, and often includes fear of rejection or exclusion (Sheehan et al., 2022). In sporting environments, public stigma may arise from media criticism, coaching practices, team cultures, or peer attitudes that frame failure, injury, or mental health difficulties as personal shortcomings.

Self-stigma occurs when these external judgments are internalised. Athletes begin to

accept negative social messages and apply them to themselves, leading to feelings of shame, reduced self-worth, and doubts about their own abilities. Recent studies show that self-stigma plays a powerful role in shaping psychological outcomes, directly affecting confidence, emotional stability, and willingness to seek support (Rodrigues et al., 2025).

Public stigma and self-stigma are closely connected and often reinforce one another over time. Negative social reactions increase the likelihood that athletes will internalise stigma, while self-stigma can heighten sensitivity to social judgment. In the present study, stigma perception is defined as a two-dimensional construct comprising both public and self-stigma perceptions. This definition is applied consistently across the literature review, conceptual framework, measurement instruments, and structural equation model, ensuring clarity and coherence throughout the study.

Stigma Perception and Psychosocial Outcomes in Athletic Contexts

Research published since 2018 provides strong evidence that stigma perception is linked to a range of negative social and psychological outcomes for athletes. At the psychological level, higher perceived stigma is associated with greater emotional distress, lower life satisfaction, and increased risk of burnout and mental health difficulties (Bu et al., 2024; Caron et al., 2021). Socially, stigma undermines athletes' confidence in interpersonal settings, reduces help-seeking behaviour, and makes it more

challenging to adapt effectively within teams, organisations, and broader social environments (Petersen et al., 2024).

These effects may be powerful within Chinese sport systems. Recent studies suggest that athletes in collectivist and performance-driven cultures are highly sensitive to social evaluation and concerns about “losing face,” which can intensify the psychological impact of stigma (Bu et al., 2024; Chen & Ni, 2024). Importantly, stigma in sport is not limited to mental health issues alone. It also relates to performance failure, injury status, and broader athletic identity, making it a constant presence in many athletes’ professional and social lives.

Taken together, this body of research indicates that stigma perception operates as a chronic psychosocial stressor, rather than a temporary emotional reaction. Ongoing exposure to stigmatising messages can gradually erode athletes’ self-confidence, weaken social engagement, and reduce subjective well-being. These patterns highlight the importance of examining not only whether stigma affects athletes, but also how it does so, particularly through psychological processes such as coping and emotional regulation.

Active Stigma-Coping Strategies as a Central Mechanism

Recent research on stress and coping shows that people are not passive victims of stigma. Instead, they actively interpret, manage, and respond to stigmatising experiences through different coping strategies (Kang et al., 2020). In the context of sport, active

stigma-coping strategies such as reframing negative experiences, accepting oneself, practising mindfulness, maintaining positive self-talk, and seeking social support play an important role in reducing the harmful effects of stigma. These strategies help athletes change how they interpret stigma and prevent negative social judgments from being fully internalised (Zhong et al., 2025; Zuo & Bai, 2025).

Evidence from studies involving Chinese athletes shows that those who use adaptive coping strategies report lower burnout, better emotional control, and greater tolerance for psychological stress. In contrast, maladaptive responses such as avoidance, withdrawal, or self-blame tend to intensify emotional strain and psychological exhaustion (Zuo & Bai, 2025). Social support also appears to be a particularly powerful coping resource. Athletes who feel supported by teammates, coaches, or family members are more willing to seek help and are less affected by stigma-related stress (Bu et al., 2024; Cui et al., 2024).

Taken together, these findings support a mediation model in which stigma perception influences athletes’ social and psychological outcomes, in part by affecting coping capacity (MacKinnon et al., 2020). Rather than treating coping as a secondary or optional factor, contemporary research positions coping strategies as core psychological pathways. Through these pathways, stigma-related stress may either lead to poorer adjustment or be transformed into resilience and growth (Kang et al., 2020).

Athlete Welfare and the Need for Mechanism-Driven Models

Athlete welfare is now widely understood as more than physical health alone. It includes psychological well-being, social functioning, emotional stability, and long-term career sustainability. Recent welfare frameworks in sport emphasise that protecting mental health and strengthening psychosocial resilience are essential for sustainable athletic development (Nombora, 2022; Purcell et al., 2019). Within this broader welfare perspective, stigma represents a serious but often overlooked risk. Stigma can discourage athletes from seeking help, weaken their sense of belonging, and gradually erode their coping resources. As elite sport organisations increasingly invest in player welfare roles and mental health governance, there is a growing demand for evidence-based models that identify how psychological harm occurs, not just that it occurs.

By focusing on active stigma-coping strategies as mediating mechanisms, the present study responds directly to calls for mechanism-driven research. This approach moves beyond descriptive accounts of athlete distress and instead provides a clearer foundation for designing targeted psychological interventions that can be implemented in real sporting environments.

Athletes' Perceived Stigma, Social Adaptability, and Subjective Well-Being

Modern high-performance sport places athletes in highly visible and demanding social environments. Athletes are not only

judged by their results but are also subject to moral expectations, public opinion, and constant comparison. While success often brings admiration and recognition, perceived failure, injury, or psychological vulnerability can expose athletes to criticism, exclusion, and reputational risk. In this setting, perceived stigma has emerged as an important psychosocial stressor that affects both social functioning and mental well-being. Current research describes perceived stigma as a multidimensional construct consisting of public stigma and self-stigma. Public stigma refers to athletes' perceptions of negative societal attitudes, stereotypes, and discriminatory tendencies directed toward them (Malik et al., 2022). Self-stigma, on the other hand, occurs when athletes internalise these negative evaluations, leading to self-blame, reduced self-worth, and lower confidence in their own abilities. Recent studies show that these two forms of stigma often occur together and jointly influence behaviour, relationships, and psychological outcomes (Rodrigues et al., 2025; Sheehan et al., 2022).

Among athletes, perceived stigma has been linked to a range of negative social outcomes, including withdrawal from social interaction, reduced interpersonal confidence, communication difficulties, and reluctance to seek support. For example, Petersen et al. (2024) found that mental health-related stigma in sport limits athletes' social participation by increasing fears of rejection and judgment. Similarly, Chen and Ni (2024) reported that stigma attached to sport-related identities among Chinese

students disrupted social integration and continuity of identity, suggesting that stigma extends beyond clinical mental health contexts. At the psychological level, perceived stigma is consistently associated with lower subjective well-being, including reduced life satisfaction, emotional imbalance, and higher psychological distress (Malik et al., 2022). Studies involving Chinese and international athletes indicate that stigma perception contributes to anxiety, depressive symptoms, and emotional exhaustion, especially in environments characterised by constant evaluation and public scrutiny (Bu et al., 2024; Caron et al., 2021). These findings align with broader well-being research showing that long-term exposure to social devaluation undermines both emotional balance and overall life satisfaction.

Importantly, stigma does not operate only as an external social label. It also functions as an identity-threatening process that gradually weakens athletes' self-concept and sense of belonging. Repeated exposure to stigmatising messages can lead to self-doubt, fear of judgment, and disengagement from social roles. Over time, this creates a self-reinforcing cycle in which stigma perception limits social adaptability and undermines psychological functioning. This dynamic is especially evident in elite sport systems, where visibility is high, and the consequences of perceived failure are substantial. Based on this body of recent evidence, the present study proposes that athletes perceived stigma negatively influences both social adaptability and

subjective well-being. Accordingly, the following hypotheses are advanced:

- H1 : Athletes' perceived stigma is negatively associated with social adaptability.
- H2 : Athletes' perceived stigma is negatively associated with subjective well-being.

Active Stigma-Coping Strategies, Stigma Perception, and Social Adaptability

Although perceived stigma can place athletes at considerable psychological and social risk, its impact is not fixed or unavoidable. Research on stress and coping consistently shows that how individuals respond to stigma depends mainly on the coping strategies they use (Malik et al., 2022). Active stigma-coping strategies, such as cognitive reappraisal, positive reframing, emotional regulation, and seeking social support, are constructive ways to address stigmatising experiences and reduce their negative social consequences (Kang et al., 2020).

Evidence from sport settings highlights the protective role of these strategies. For example, Zuo and Bai (2025) found that Chinese competitive athletes who relied on adaptive coping reported stronger interpersonal functioning and lower burnout. In contrast, those who used maladaptive coping were more likely to withdraw socially. Similarly, Zhong et al. (2025) showed that strategies such as cognitive reappraisal and mental toughness helped athletes tolerate distress more effectively by

reshaping their engagement with stressful social situations.

Within stigma-related contexts, active coping allows athletes to reinterpret negative social signals, limit the internalisation of stigma, and remain socially engaged. By regulating emotions, reframing public judgment, and seeking support from others, athletes can maintain effective social interaction and adaptability even in environments marked by criticism or rejection. In contrast, high levels of perceived stigma may weaken coping capacity by encouraging self-blame, avoidance, or feelings of helplessness, which in turn undermine social functioning.

Based on this reasoning, the present study proposes that coping strategies play a key intermediary role in explaining how stigma affects athletes' social adjustment. Accordingly, the following hypothesis is advanced:

H3 : Active stigma-coping strategies mediate the relationship between stigma perception and social adaptability.

Active Stigma-Coping Strategies, Stigma Perception, and Subjective Well-Being

Subjective well-being refers to how individuals evaluate their overall quality of life, including both emotional experiences and life satisfaction. Contemporary research emphasises that well-being is shaped not only by external conditions, but also by how people interpret and cope with stress. In sport, stigma-related stress can threaten athletes' well-being by disrupting emotional

balance, weakening self-esteem, and undermining engagement with meaningful goals.

Recent studies underline the importance of coping strategies in protecting athletes' psychological well-being. Bu et al. (2024) demonstrated that stigma and social support jointly influenced help-seeking intentions among Chinese elite athletes, highlighting coping-related processes as central psychological pathways. In a similar vein, Zhong et al. (2025) showed that adaptive emotion-regulation strategies enhance distress tolerance and resilience, both of which are closely linked to sustained subjective well-being.

When athletes actively cope with stigma, they are better able to manage negative emotions, maintain positive self-views, and stay connected to valued personal and sporting goals. Conversely, strong perceptions of stigma may drain coping resources, leading to emotional instability and reduced well-being (Cui et al., 2024). These findings suggest that coping is not a secondary or optional factor, but a core mechanism through which stigma-related stress influences psychological outcomes. On this basis, the present study proposes the following hypothesis:

H4 : Active stigma-coping strategies mediate the relationship between stigma perception and subjective well-being.

Conceptual Framework

The specific research model is shown in Figure 1.

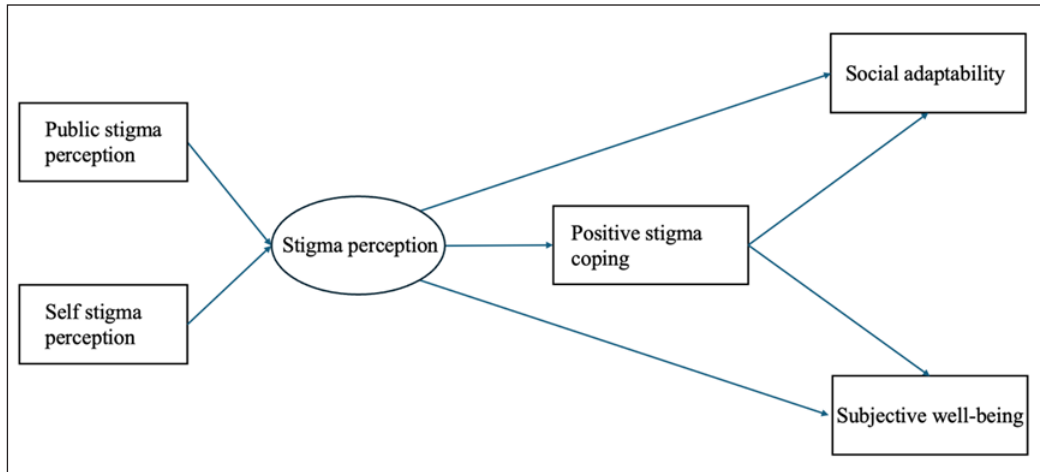


Figure 1. Conceptual framework

Source: Author's work

The conceptual framework is a plan that can be viewed as a starting point that captures the essence of the research activities (Adom et al., 2018). The following conceptual framework (Figure 1) was designed to facilitate each phase of the study, based on the evaluation of new findings through the following variables. It should be noted that the current framework was developed based on the researchers' review of the literature. This study aims to identify the strategies athletes pursue to minimize stigma and move from the perception of stigma to actual psychological functioning.

METHODS

Research Design

This study used a quantitative correlational design to explore how athletes' perceptions of stigma relate to their coping strategies, social adaptability, and subjective well-being. A correlational approach was chosen because the main goal was to examine

relationships and mediation patterns between variables, rather than to establish cause-and-effect relationships through experimental intervention (Kline, 2023; MacKinnon, 2020). Such a design is commonly used in psychosocial and sport psychology research, especially when the focus is on testing theory-based models that involve complex psychological processes. In this study, constructs such as stigma perception, coping strategies, and well-being are not directly observable or easily manipulated in experimental settings. Instead, they reflect ongoing psychological experiences shaped by social and performance environments. A correlational framework, therefore, allows these relationships to be examined in a realistic and ethically appropriate way (MacKinnon et al., 2020; Rudolph et al., 2024).

Data were collected using a cross-sectional survey, meaning that all variables were measured at one point in time. Here,

the term cross-sectional refers only to the timing of data collection, not to the overall research design. As highlighted in recent methodological discussions, cross-sectional data can still be used meaningfully for mediation analysis when hypotheses are clearly grounded in theory and specified in advance (Farzan et al., 2023; Maxwell et al., 2018; Rohrer et al., 2022). All analyses were guided by a predefined conceptual framework, which led to the formulation of four hypotheses (H1-H4) based on stigma theory, stress-coping models, and subjective well-being theory. To test these hypotheses, structural equation modelling (SEM) was applied. SEM was chosen because it allows multiple relationships to be examined simultaneously, accounts for measurement error, and provides a straightforward way to test both direct and indirect effects within a single analytical model (Kline, 2023).

Sampling and Data Collection

Participants were recruited from a national-level sports tournament in China, providing access to athletes competing under high visibility and performance pressure. This context is particularly relevant for stigma research, as elite and competitive sport settings often involve intense public scrutiny, social comparison, and judgment based on outcomes, all of which are closely linked to stigma formation and internalisation (Bu et al., 2024; Petersen et al., 2024). To improve accessibility and response rates, data were collected using a mixed-mode approach, combining online questionnaires with paper-based surveys. This strategy helped

accommodate athletes' varying access to digital devices during competition periods and reduced the risk of non-response bias. Recent research suggests that mixed-mode data collection is effective in sport and health studies when survey instruments are standardised across formats (Dillman et al., 2023).

The questionnaire was developed using well-established and internationally validated scales. Before full deployment, a pilot study was conducted with a small group of athletes to assess clarity, relevance, and ease of understanding. Feedback from the pilot phase led to minor adjustments in wording and item order, helping to ensure that the final instrument was precise, culturally appropriate, and easy for respondents to complete (Boateng et al., 2018). Sample size was determined using established power analysis guidelines for correlational studies and SEM. Following current recommendations, statistical power was set at 0.80, with a medium expected effect size and a significance level of $\alpha = .05$ (Soper, 2022). This indicated a minimum sample size of 385 participants. To allow for possible data loss during screening, 403 questionnaires were distributed, all of which were returned. After excluding incomplete or invalid responses, 398 questionnaires were retained for analysis, exceeding the minimum requirements for SEM and providing sufficient statistical robustness (Kline, 2023).

Efforts were made to recruit athletes from a wide range of backgrounds, including differences in gender, age, education,

competitive experience, and injury history. Including this variety helps ensure that the findings better reflect real sporting environments, where athletes occupy different social roles and career stages. In such settings, both exposure to stigma and the need to cope with it are likely to vary considerably across individuals (Petersen et al., 2024).

Research Instruments

Stigma Perception

In line with contemporary stigma theory, stigma perception was operationalised as a two-dimensional construct comprising public stigma perception and self-stigma perception. This dual conceptualisation reflects current consensus that stigma operates through both external social evaluation and internalised self-appraisal, each exerting distinct yet interrelated psychological effects (Grønnholm et al., 2023; O'Brien et al., 2023). Self-stigma perception was measured using an adapted version of Qi's self-stigma scale, modified to reflect the athletic performance context (Qi, 2014). The adapted items assessed internalised devaluation, self-blame, and stigma-related behavioural withdrawal. Such adaptation aligns with best practices in scale contextualisation, which emphasise theoretical equivalence rather than literal replication across populations (Boateng et al., 2018).

All stigma items were rated on a four-point Likert scale (1 = strongly disagree to 4 = strongly agree). Internal consistency estimates demonstrated excellent reliability

across stigma-related dimensions, with Cronbach's alpha coefficients exceeding .88, meeting contemporary psychometric standards for latent construct measurement (Hair et al., 2022).

Active Stigma-Coping Strategies

To address the lack of athlete-specific stigma coping measures, this study developed a contextually grounded active stigma-coping scale tailored to Chinese athletes. Scale development was guided by an integrative theoretical framework incorporating emotion regulation, self-efficacy, social support, and self-acceptance, which are widely recognised as core coping resources in performance and stigma contexts (Gross, 2018). The initial item pool consisted of 20 positively worded items rated on a four-point Likert scale, with higher scores indicating stronger adaptive coping capacity. Following pilot testing and item refinement, 16 items were retained based on item discrimination indices, item-total correlations, and theoretical relevance. The final scale demonstrated excellent internal reliability (Cronbach's $\alpha = .93$), consistent with recommended benchmarks for newly developed psychosocial instruments (Boateng et al., 2018; Hair et al., 2022).

Social Adaptability and Subjective Well-Being

Social adaptability was measured using a revised Chinese version of the Social Adaptation Self-Evaluation Scale, condensed from 21 to 10 items to enhance contextual relevance and reduce respondent

burden. Subjective well-being was assessed using a modified 10-item scale validated for Chinese populations. Both instruments demonstrated strong internal consistency ($\alpha > .90$), supporting their suitability for latent variable modelling (Kline, 2023).

Scale Development and Item Analysis

Item discrimination for the stigma-coping scale was assessed using the extreme-group method and item-total correlation analysis, following contemporary psychometric guidelines. Participants were divided into upper and lower quartiles based on total coping scores, and independent-samples t-tests were used to evaluate each item’s discriminative capacity. Items failing to meet statistical or conceptual criteria were removed. Exploratory factor analysis further confirmed factorial adequacy, with excellent Kaiser-Meyer-Olkin values and significant Bartlett’s tests of sphericity, indicating suitability for factor extraction. These procedures collectively ensured that the final scale exhibited strong construct validity, reliability, and analytical robustness for use in mediation analysis (Hair et al., 2022; Kline, 2023).

Scale Development and Validation Procedure

To ensure the psychometric adequacy of the active stigma-coping scale, a pilot study was conducted prior to the primary survey. The pilot sample comprised 100 athletes, whose demographic characteristics are summarised in Table 1. This preliminary phase aimed to examine item discrimination,

internal consistency, and factorial suitability of the scale.

Table 1
General demographic information of the 100 pre-test participants

		Frequency	Percentage
Gender	Male	53	53
	Female	47	47
Age	<20	12	12
	20-30	21	21
	30-40	20	20
	40-50	19	19
	50-60	12	12
	>60	16	16
	<5	10	10
Occupational length	5-10	17	17
	11-15	15	15
	16-20	17	17
	21-25	16	16
	26-30	15	15
Education	>30	10	10
	≤	34	34
	Undergraduate	34	34
	Postgraduate	32	32
Injury history	≥ Doctorate	57	57
	Yes	43	43
	No		

Source: Authors’ own work

Item Analysis and Refinement

Item analysis was conducted to evaluate the discriminative capacity of each item, defined as the ability to differentiate respondents with high and low levels of stigma-coping ability (Perkins et al., 2002). Two complementary procedures were employed: the extreme group method and item-total correlation

analysis. Using the extreme group approach, participants were ranked according to their total stigma-coping scores. The upper 25% and lower 25% of respondents were classified as the high- and low-groups, respectively. Independent-samples *t*-tests were performed to examine mean differences between the two groups for each item. Items demonstrating non-significant or weak discrimination were flagged for removal. In addition, item-total correlations were calculated to assess the degree to which each item correlated with the overall scale score. Consistent with established guidelines, items with correlation coefficients below .30 were considered to have inadequate discrimination (Pinquart, 2013). Based on these criteria, four items (Items 4, 9, 18, and 20) were removed due to non-significant group differences and/or insufficient item-total correlations. Detailed item-level statistics are provided in Table 2.

In addition, a secondary study was conducted using correlation analysis, a widely used approach for testing. The research used the item-total correlation approach to assess the items more thoroughly. This included computing the simple product-difference correlation coefficient between each item's score and the total score. This value was used as a measure of item discrimination. The findings are shown in Table 3.

Factorial Adequacy and Reliability

Following the removal of the item, exploratory factor analysis was conducted on the remaining items. The Kaiser-Meyer-

Table 2

Independent sample t-test results of extreme groups of each item in the scale

Item	Group	Mean	Standard deviation	t (CR value)
1	High group	3.50	0.51	-14.468**
	Low group	1.44	0.51	
2	High group	3.31	0.55	-13.788**
	Low group	1.32	0.48	
3	High group	3.42	0.50	-14.389**
	Low group	1.40	0.50	
4	High group	2.73	1.08	-1.749
	Low group	2.16	1.25	
5	High group	3.27	0.45	-12.692**
	Low group	1.56	0.51	
6	High group	3.46	0.51	-14.837**
	Low group	1.28	0.54	
7	High group	3.54	0.51	-14.153**
	Low group	1.52	0.51	
8	High group	3.46	0.51	-15.023**
	Low group	1.36	0.49	
9	High group	2.88	0.99	-1.956
	Low group	2.28	1.21	
10	High group	3.38	0.50	-15.72**
	Low group	1.28	0.46	
11	High group	3.35	0.56	-13.871**
	Low group	1.32	0.48	
12	High group	3.42	0.50	-14.818**
	Low group	1.36	0.49	
13	High group	3.38	0.50	-16.416**
	Low group	1.24	0.44	
14	High group	3.50	0.51	-14.483**
	Low group	1.40	0.50	
15	High group	3.35	0.49	-16.286**
	Low group	1.24	0.44	
16	High group	3.35	0.49	-16.286**
	Low group	1.24	0.44	
17	High group	3.31	0.62	-13.271**
	Low group	1.28	0.46	
18	High group	2.69	1.09	-1.044
	Low group	2.36	1.19	
19	High group	3.38	0.50	-15.153**
	Low group	1.32	0.48	
20	High group	2.42	1.14	1.213
	Low group	2.80	1.08	

Source: Authors' own work

Olkin (KMO) value of 0.966 indicated excellent sampling adequacy, and Bartlett's test of sphericity was statistically significant ($p < 0.001$), confirming the suitability of the data for factor analysis. The final version of the stigma-coping scale comprised 16 items and demonstrated excellent internal consistency, with a Cronbach's alpha coefficient of $\alpha = 0.928$. These results indicate that the scale is highly reliable and suitable for assessing active stigma-coping strategies among Chinese athletes.

Measurement of Outcome Variables

Social adaptability was measured using a revised Chinese version of the Social Adaptation Self-Evaluation Scale, adapted from Bosc et al. (1997) and Tse and Bond (2021). The original 21-item scale was reduced to 10 items to enhance contextual relevance and response efficiency. The revised scale demonstrated high internal consistency (Cronbach's $\alpha = 0.959$). Subjective well-being was assessed using a modified version of Xing's (2003) scale for Chinese populations. The final 10-item scale employed a four-point Likert response format and showed excellent reliability (Cronbach's $\alpha = 0.921$).

RESULTS AND DISCUSSION

Demographic

The demographic analysis of the 398 survey participants reveals a diverse and balanced sample across various characteristics, including gender, age, occupational length, education, sports event participation,

competition level, sports team affiliation, latest competition experience, competition results, and injury history. Table 4 presents the demographic characteristics of the 398 participants.

The demographic analysis of the 398 survey participants reveals a diverse and balanced sample, ensuring comprehensive representation within the sports community. Gender distribution was nearly equal, with 50.8% male and 49.2% female, providing a balanced perspective across genders. Participants spanned a wide age range, from under 20 years (16.8%) to over 60 years (19.3%), reflecting varied experiences across different life stages. Occupational experience varied significantly, with 16.1% having less than 5 years of experience and 11.6% having over 30 years of experience, reflecting both emerging trends and established practices. Educational attainment was high, with 41.2% holding a PhD or higher, indicating a knowledgeable participant base.

Sports event participation was almost evenly split between winter (50.5%) and summer sports (49.5%), ensuring applicability across different contexts. Competition levels ranged from district (19.6%) to international (20.1%), capturing a broad spectrum of competitive experiences. Team affiliations were diverse, including school teams (19.8%), clubs (21.9%), and national teams (16.1%). Regarding competition participation, levels varied from district (16.3%) to international (16.6%), providing a broad view of the competitive landscape. Competition results were diverse, with participants earning no prizes (19.6%),

Table 4

General demographic information of the 398 survey participants

		Frequency	Percentage
Gender	Male	202	50.8
	Female	196	49.2
Age	<20	67	16.8
	20-30	71	17.8
	30-40	56	14.1
	40-50	68	17.1
	50-60	59	14.8
	>60	77	19.3
Occupational length	<5	64	16.1
	5-10	63	15.8
	11-15	45	11.3
	16-20	62	15.6
	21-25	66	16.6
	26-30	52	13.1
	>30	46	11.6
Education	≤ undergraduate	121	30.4
	postgraduate	113	28.4
	≥ PhD	164	41.2
Sport event	Winter	201	50.5
	Summer	197	49.5
Highest level	District	78	19.6
	City	86	21.6
	Province	70	17.6
	State	84	21.1
	International	80	20.1
	Others	84	21.1
Sports team	School team	79	19.8
	Club	87	21.9
	Provincial team	84	21.1
	National team	64	16.1
	Others	84	21.1
	None	65	16.3
Latest competition	District competition	65	16.3
	City competition	60	15.1
	Provincial competition	70	17.6
	National competition	72	18.1
	International competition	66	16.6
	None	65	16.3
Latest results	No prize	78	19.6
	Won a place but no prize	67	16.8
	Bronze medal	87	21.9
	Silver medal	88	22.1
	Gold medal	78	19.6
Injury history	Yes	211	53
	No	187	47

Source: Authors' own work

bronze (21.9%), silver (22.1%), and gold medals (19.6%). Additionally, 53% of participants had experienced injuries, highlighting the physical demands of their sports.

Preliminary Analyses

Prior to hypothesis testing, preliminary analyses were conducted to ensure the suitability of the data. Harman’s single-factor test indicated that common method bias was not a significant concern, as the first factor accounted for 18.40% of the total variance, well below the recommended threshold of 40%. Exploratory factor analysis further confirmed sampling

adequacy, with Kaiser-Meyer-Olkin (KMO) values ranging from 0.946 to 0.983 across all constructs and statistically significant Bartlett’s tests of sphericity ($p < 0.001$), indicating that the data were appropriate for further multivariate analysis (refer to Tables 5 and 6).

Descriptive statistics and correlation analysis revealed significant associations among stigma perception, active stigma-coping strategies, social adaptability, and subjective well-being. The correlation coefficients were in the theoretically expected directions, providing preliminary support for the proposed hypotheses (Table 7).

Table 5
Common method bias test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.983
Bartlett’s Test of Sphericity	Approx. Chi-Square	18434.700
	df	1540
	Sig.	<0.001

Source: Authors’ own work

Table 6
KMO and Bartlett’s test results

Scale	KMO and Bartlett’s Test Results		
Public-stigma perception	Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.971
	Bartlett’s Test of Sphericity	Approx. Chi-Square	3438.692
		df	45
		Sig.	<0.001
Self-stigma perception	Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.946
	Bartlett’s Test of Sphericity	Approx. Chi-Square	3547.859
		df	45
		Sig.	<0.001

Table 6 (continued)

Scale	KMO and Bartlett's Test Results		
Positive Stigma Coping	Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.961
	Bartlett's Test of Sphericity	Approx. Chi-Square	2910.336
		df	120
		Sig.	<0.001
Social adaptability	Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.970
	Bartlett's Test of Sphericity	Approx. Chi-Square	3545.710
		df	45
		Sig.	<0.001
Subject Well-being	Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.952
	Bartlett's Test of Sphericity	Approx. Chi-Square	2140.644
		df	45
		Sig.	<0.001

Source: Authors' own work

Table 7
Correlation analysis results of variables

	Public-stigma perception	Self-stigma perception	Positive coping	Social adaptability	Subjective well being
Public-stigma perception	1				
Self-stigma perception	0.66**	1			
Positive coping	-0.738**	-0.716**	1		
Social adaptability	-0.743**	-0.853**	0.921**	1	
Subjective well-being	-0.732**	-0.640**	0.808**	0.867**	1

Source: Authors' own work

H1: Athletes Perceived Stigma is Negatively Associated with Social Adaptability

Hypothesis 1 proposed that athletes who perceive higher levels of stigma would show lower levels of social adaptability. The results supported this expectation. The structural equation modelling analysis showed a strong and significant negative relationship between stigma perception and

social adaptability ($\beta = -0.552$, $p < 0.01$). The confidence interval did not cross zero, indicating that the effect is stable and reliable (Table 8). In practical terms, this means that Chinese athletes who feel more stigmatised tend to experience greater difficulty adjusting socially, whether in team settings, training environments, or broader social contexts.

Table 8
The direct effect of stigma perception on social adaptability

Variables	Standardised coefficient	Standard Error	z	Lower CI	Upper CI
Social adaptability --> Stigma perception	-0.552**	0.073	-10.621	-0.943	-0.648

Source: Authors' own work

This finding is consistent with stigma theory, which views stigma as a social process that weakens individuals' confidence and willingness to engage with others (Goffman, 1963). In sport, where performance is constantly observed and compared, athletes who feel judged or labelled may struggle to manage their social identity and sense of belonging. When athletes expect negative evaluation or internalise stigmatising views, they may withdraw from social interaction, feel less comfortable expressing themselves, and experience tension in relationships with teammates and coaches (Maimon et al., 2023).

The results also align with the argument by Crocker and Major (1989) that repeated exposure to negative social evaluation can gradually damage self-evaluation and everyday social functioning. This mechanism appears particularly relevant in competitive sport environments, where public scrutiny and performance-based judgement are common. Recent studies among Chinese athletes provide further support for this interpretation. For example, Petersen et al. (2024) found that stigma related to mental health in sport was linked to social withdrawal, strained relationships, and lower engagement with

others. Similarly, Chen and Ni (2024) reported that stigmatisation of sport-related identities among Chinese students led to feelings of identity threat and difficulties in social integration.

Among elite athletes, stigma may also reduce the use of social support. Bu et al. (2024) showed that Chinese elite athletes who perceived higher stigma were less willing to seek help, suggesting lower trust and a weaker sense of safety in their social relationships. This reluctance to reach out reflects a broader pattern of reduced social adaptability, where stigma discourages open communication, cooperation, and mutual support within teams.

Overall, these findings suggest that stigma perception is not only a psychological burden but also a social stressor that interferes with athletes' ability to adapt to interpersonal and organisational demands. By demonstrating this relationship empirically within a structural model, the present study strengthens existing evidence that stigma undermines social functioning through identity threat, fear of rejection, and reduced social engagement (Brelet et al., 2021). Taken together, the results provide clear support for Hypothesis 1.

H2: Athletes’ Perceived Stigma is Negatively Associated with Subjective Well-Being

Hypothesis 2 examined whether athletes’ perceptions of stigma were related to their subjective well-being. The structural equation modelling results showed a clear and significant negative relationship between stigma perception and subjective well-being ($\beta = -0.241$, $p < 0.01$). In practical terms, athletes who felt more stigmatised tended to report lower life satisfaction and poorer psychological well-being (Table 9). The confidence interval did not include zero, indicating that this relationship was stable and reliable. On this basis, H2 was supported.

This finding fits well with Diener’s (1984) model of subjective well-being, which views well-being as a combination of how people evaluate their lives and how often they experience positive versus negative emotions. In sport settings, repeated exposure to stigma, especially when athletes begin to internalise negative labels, can gradually weaken self-confidence, emotional balance, and overall psychological health. Over time, these experiences may shape how athletes see themselves and their lives more broadly.

Recent research strongly supports this interpretation. For example, Petersen et al. (2024) found that mental health stigma in sport was closely linked to emotional exhaustion, reduced quality of life, and poorer psychological well-being. Similarly, Jackson et al. (2020) reported that stigma-related stress predicted lower happiness and greater difficulty regulating emotions among competitive athletes. These patterns are consistent with findings from wider health and performance research, which shows that stigma is associated with depressive symptoms, lower self-worth, and reduced life satisfaction (Bu et al., 2024; Gronholm et al., 2018).

Importantly, the impact of stigma on subjective well-being appears to extend beyond immediate emotional discomfort. In high-performance sport, athletes often build their identities around success, competence, and recognition from others. When stigma is present, it may disrupt this sense of purpose by undermining motivation, weakening commitment to personal and career goals, and encouraging withdrawal from meaningful activities. These longer-term disruptions directly affect the cognitive and motivational foundations of subjective well-being described in Diener’s framework.

Table 9
The direct effect of stigma perception on subjective well-being

Variables	Standardised coefficient	Standard Error	z	Lower CI	Upper CI
Subjective well-being --> Stigma perception	-0.241**	0.102	-3.338	-0.552	-0.147

Source: Authors’ own work

Taken together, these findings suggest that stigma perception functions as an ongoing psychosocial burden rather than a temporary stressor. Its effects accumulate over time, shaping how athletes feel about themselves, their achievements, and their lives as a whole. By confirming this relationship within a structural model, the present study adds to the growing body of literature on stigma and well-being in sport. It highlights the importance of addressing stigma-related experiences as part of efforts to protect and promote athletes' psychological quality of life.

H3: Active Stigma-Coping Strategies Mediate the Relationship Between Stigma Perception and Social Adaptability

Hypothesis 3 examined whether active stigma-coping strategies explain how stigma perception affects athletes' social adaptability. The results clearly supported this hypothesis. Structural equation modelling showed that higher stigma perception was strongly associated with lower use of active coping strategies ($\beta = -0.808$), whereas greater use of active coping strategies was associated with better social adaptability ($\beta = 0.473$). The indirect effect was substantial ($\beta = -0.384$), indicating that stigma perception reduces social adaptability not only directly, but also indirectly by weakening athletes' ability to cope effectively. Taken together, these findings confirm that active coping plays a meaningful mediating role, and H3 was supported.

From a stress-coping perspective, these findings fit well with the transactional model, which views stigma as an ongoing social stressor that repeatedly challenges how individuals see their control, competence, and acceptance by others. When athletes experience stigma as something threatening or challenging to manage, their confidence in using coping strategies tends to decline. As a result, their ability to function well in social situations is affected. Evidence from Chinese athlete populations supports this explanation. For example, Bu et al. (2024) found that stigma-related thoughts reduced athletes' willingness to seek help and to draw on social support, thereby weakening their engagement with teammates and support networks. Similarly, Chen and Ni (2024) showed that exposure to stigma was linked to poorer coping responses and weaker psychosocial outcomes, highlighting how central coping processes are in shaping the social impact of stigma.

Importantly, the present findings also show that athletes who actively cope with stigma are better able to stay socially engaged. Strategies such as reframing negative experiences, maintaining positive self-talk, and seeking emotional or practical support help athletes make sense of stigma in less damaging ways and continue to interact effectively with others (Wang et al., 2025). Recent studies strengthen this conclusion. Zuo and Bai (2025) reported that Chinese competitive athletes who used adaptive coping strategies experienced lower burnout and healthier interpersonal

relationships, whereas those who relied on maladaptive coping strategies were more likely to withdraw socially. In addition, mindfulness-based coping, which is closely related to cognitive reappraisal, has been shown to improve distress tolerance and social resilience by strengthening self-regulation and emotional control (Zhong et al., 2025).

From a stigma theory perspective, active coping reflects athletes' ability to respond with agency rather than passivity. Instead of accepting negative labels or judgments, athletes who cope actively are more likely to question, resist, or reframe stigmatising messages (Evans, 2022). By doing so, they protect their sense of self and maintain social connections, both of which are essential for adapting well in team-based and high-performance sport environments. This view is consistent with recent sport stigma research showing that the social harm of stigma is not unavoidable but depends on athletes' coping resources and the level of support available to them (Petersen et al., 2024).

Overall, these findings highlight active stigma-coping strategies as a key psychological buffer in the relationship between stigma perception and social adaptability. By demonstrating this mediating mechanism, the study helps explain how stigma disrupts athletes' social functioning and why strengthening coping skills is crucial for helping athletes remain socially engaged and adaptable under pressure.

H4: Active Stigma-Coping Strategies Mediate the Relationship Between Stigma Perception and Subjective Well-Being

Hypothesis 4 explored whether active stigma-coping strategies help explain how stigma perception affects athletes' subjective well-being. The results clearly supported this hypothesis. Specifically, higher perceived stigma was associated with lower use of active coping strategies ($\beta = -0.808$), whereas greater use of active coping strategies was associated with higher subjective well-being ($\beta = 0.613$). The indirect effect was substantial ($\beta = -0.495$), indicating that stigma reduces athletes' well-being not only directly, but also indirectly by weakening their ability to cope effectively. Taken together, these findings confirm that H4 was supported.

From a stress-coping perspective, the results suggest that stigma acts as a persistent psychosocial stressor that disrupts emotional balance and self-evaluation when athletes lack effective ways to cope (Xiang et al., 2025). Without strong coping resources, stigma-related experiences can accumulate and gradually erode psychological well-being. This interpretation is consistent with recent findings among Chinese elite athletes. For example, Bu et al. (2024) showed that stigma undermines psychological functioning and discourages help-seeking by limiting access to adaptive coping resources. However, they also found that social support and effective coping can partly restore athletes' well-being. Similarly, Petersen et al. (2024) reported that mental health stigma in sport is linked to lower well-being, greater

emotional exhaustion, and poorer quality of life, highlighting the long-term impact of stigma on athletes' mental health.

Importantly, the present findings emphasise active stigma-coping strategies as a key psychological buffer. Athletes who actively reframe negative experiences, regulate their emotions, and seek constructive support appear better able to manage stigma-related stress and maintain a positive sense of self. Evidence from recent studies supports this buffering role. Zhong et al. (2025) found that mindfulness-based coping improved athletes' ability to tolerate distress by strengthening cognitive reappraisal and mental toughness, both of which are closely tied to subjective well-being. Likewise, Zuo and Bai (2025) showed that athletes who relied on adaptive coping strategies experienced lower burnout and better psychological functioning. In contrast, those who used maladaptive coping strategies reported greater psychological strain.

From the perspective of subjective well-being theory, effective coping helps athletes stay connected to meaningful goals, supportive relationships, and a stable sense of identity, all of which are essential for life satisfaction and emotional balance (Maimon et al., 2023). When stigma weakens coping capacity, athletes may begin to withdraw from these important sources of meaning, leading to a noticeable decline in well-being. In contrast, active coping helps preserve emotional stability and psychological continuity, even in environments where stigma is present.

The mediation model showed an acceptable overall fit ($CFI = 0.934$; $SRMR = 0.073$), lending further support to the proposed relationships. Stigma perception was well represented by both public stigma ($\lambda = 0.71$) and self-stigma ($\lambda = 0.93$), confirming its multidimensional nature. Overall, the model validates the hypothesised direct and indirect pathways linking stigma perception, active stigma-coping strategies, social adaptability, and subjective well-being (Figure 2). These findings underline the importance of active coping as a central psychological pathway through which stigma influences athletes' well-being.

Although this study did not conduct formal subgroup analyses, the diverse participant backgrounds allow for a meaningful discussion of how stigma may affect different groups of athletes differently. Athletes who compete at higher levels, such as national or international competitions, are often under constant public attention from coaches, media, and spectators. This visibility increases their exposure to public judgment and criticism, making them more vulnerable to public stigma. Recent research shows that when athletes are obvious, they become more sensitive to how others evaluate them, especially when performance expectations are not met (Bu et al., 2024; Petersen et al., 2024). In these situations, mistakes or failures are not only noticed but also socially magnified, directly affecting both social relationships and psychological well-being.

Athletes with a history of injury form another group that may be particularly

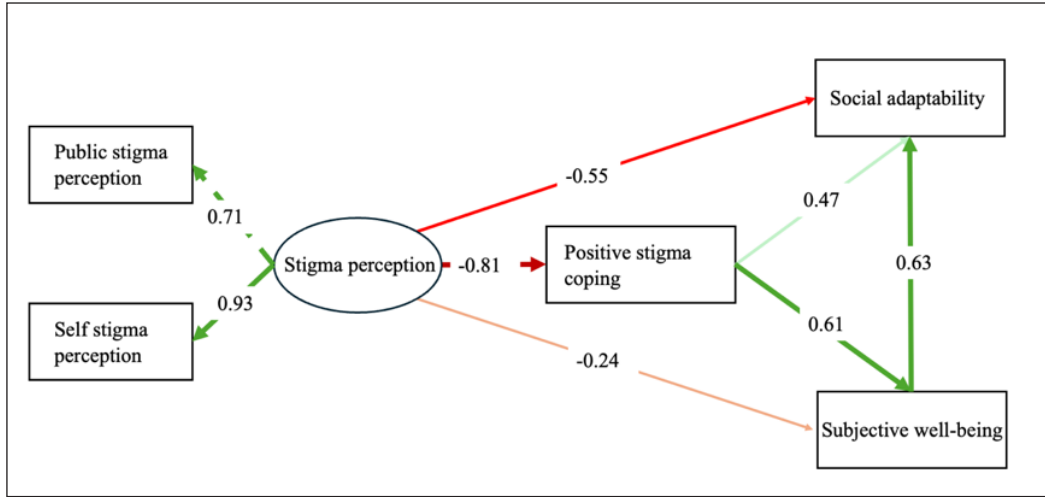


Figure 2. Structural equation model of variables
Source: Authors' own work

vulnerable to stigma. Evidence suggests that injuries can trigger self-stigma, as athletes may see physical limitations as a sign of weakness or reduced value within competitive sport cultures (Zuo & Bai, 2025). In this sense, injury is not only a physical challenge but also a threat to athletes' identities as capable performers. This can lead to negative self-judgements and place additional strain on coping resources. Studies indicate that injured athletes who lack effective coping skills are more likely to experience emotional instability, withdraw socially, and report lower levels of well-being (Zhong et al., 2025).

In contrast, sub-elite or club-level athletes may face different stigma-related pressures. These athletes often face uncertainty about their careers, concerns about underachievement, or feelings of marginalisation within the sport system.

Research on sport-related identity stigma among Chinese students suggests that such experiences create unique coping demands, including managing uncertainty, protecting self-esteem, and navigating social comparison with others (Chen & Ni, 2024). This highlights that stigma is not experienced in the same way by all athletes but is closely tied to their competitive level and career stage.

Coping capacity may also vary according to factors such as competition experience, career stage, and educational background. Recent studies among Chinese athletes show that those with more experience and better-developed psychological skills tend to use more adaptive coping strategies, such as reframing negative situations and seeking appropriate social support (Zuo & Bai, 2025). While these subgroup interpretations remain tentative, they add practical value to the findings and highlight the need for future

research that tracks athletes over time and compares subgroups more systematically.

By bringing together stigma theory, stress-coping theory, and subjective well-being perspectives, this study offers a more complete explanation of how stigma influences athletes' social and psychological functioning. Rather than viewing stigma only as a social label or a threat to self-esteem, the findings support the idea that stigma operates as an ongoing psychosocial stressor that shapes how athletes think, cope, and adapt socially (Dekker & Gradoz, 2022). Recent work in sport settings reinforces this view, showing that coping strategies and access to social resources play a decisive role in determining whether stigma leads to psychological harm or resilience (Bu et al., 2024; Petersen et al., 2024).

Overall, the findings highlight the important role of active stigma-coping strategies as psychological buffers that help protect athletes' social adaptability and subjective well-being. By clearly linking the results to Hypotheses H1-H4, the study strengthens theoretical consistency and contributes to a clearer understanding of how stigma, coping, and resilience interact in modern sport environments.

CONCLUSION

The findings of this study show clearly that stigma has a strong impact on athletes' ability to adapt socially and maintain their psychological well-being. In sport settings, stigma does not function as a general or abstract idea; instead, it acts as a real and ongoing source of stress

that affects how athletes think, feel, and interact with others. Recent studies in sport psychology consistently show that athletes who feel stigmatised, whether due to poor performance, mental health concerns, or identity-related issues, are more likely to experience social exclusion, reduced confidence in relationships, and emotional distress (Bu et al., 2024; Petersen et al., 2024). These effects go beyond negative attitudes and directly interfere with athletes' everyday social and psychological functioning in highly evaluative sport environments.

Evidence from recent research further suggests that stronger perceptions of stigma increase feelings of rejection, self-doubt, and withdrawal, which in turn weaken both social integration and overall well-being. Among Chinese elite athletes, stigma has been found to reduce help-seeking behaviour and weaken feelings of social safety, limiting access to emotional and psychological support that is essential for healthy adjustment (Bu et al., 2024). Similarly, exposure to stigma-related experiences such as negative media coverage or critical evaluation within teams has been linked to poorer emotional control and lower quality of life. These findings indicate that stigma is not a one-time event but a persistent stressor that accumulates over time (Chen & Ni, 2024).

Recent work also strengthens the stigma stress perspective by showing that stigma harms psychological health and social functioning through how athletes interpret and cope with social situations

(Xiang et al., 2025). Athletes who perceive stigma tend to see social interactions as threatening or beyond their control, which increases emotional strain and reduces their ability to respond constructively (Petersen et al., 2024). This helps explain why stigma often leads to social withdrawal and maladjustment, and it highlights stigma as an important factor connecting psychological vulnerability with social difficulties in sport settings.

Importantly, the present findings show that coping strategies matter greatly in shaping how stigma affects athletes. Athletes who use positive coping approaches such as reframing negative thoughts, managing emotions effectively, and seeking support are better able to deal with stigma and protect their social and psychological functioning (Xiang et al., 2025). Studies with competitive athletes consistently show that adaptive coping is linked to lower burnout, better emotional balance, and healthier social relationships. In contrast, poor coping responses tend to increase emotional distress and social disengagement (Zuo & Bai, 2025; Zhong et al., 2025).

Cognitive restructuring plays a significant role, as it helps athletes see stigma-related experiences as challenges that can be managed rather than as personal failures that define who they are. This shift in thinking reduces emotional harm and supports long-term well-being (Summers et al., 2018). In addition, mindfulness-based and reappraisal-focused strategies have been shown to strengthen emotional resilience and distress tolerance, allowing

athletes to stay socially engaged even under intense evaluation (Zhong et al., 2025). Support from teammates, coaches, and significant others also remains crucial, as stigma-sensitive social support helps reduce loneliness, build emotional safety, and promote healthier adjustment (Bu et al., 2024; Sawczuk et al., 2021).

Taken together, these findings suggest that addressing stigma requires more than awareness campaigns alone. There is a clear need to actively build athletes' coping skills at cognitive, emotional, and social levels. Interventions that strengthen these coping resources can reduce the harmful effects of stigma and contribute to healthier sport environments (Waqas et al., 2020). By encouraging supportive team cultures and equipping athletes with effective coping strategies, sport organisations can improve social adaptability, protect psychological well-being, and ultimately enhance athletes' overall quality of life.

IMPLICATION OF THE STUDY

The findings of this study carry significant theoretical and practical implications, particularly when interpreted in light of subgroup characteristics such as competition level, injury history, and career stage.

Theoretical Implications

This study contributes to stigma theory in sport by demonstrating that athletes' perceptions of stigma are more than social labels or negative opinions. Instead, it functions as an ongoing psychosocial stressor that gradually affects athletes'

social functioning and their feelings about their lives and themselves (Xiang et al., 2025). Recent research in sport psychology increasingly views stigma as part of the daily pressure embedded in high-performance environments, rather than as a one-time attitude or isolated belief (Bu et al., 2024; Petersen et al., 2024). By linking stigma theory with stress-coping and subjective well-being frameworks, the findings support a dynamic process in which stigma influences athletes' outcomes through how they interpret stress and how they cope with it (Sawczuk et al., 2018).

This integrated perspective addresses an important gap in the literature. Previous studies have often examined stigma, coping, and well-being side by side, focusing on their correlations rather than how they work together as connected psychological processes (Sawczuk et al., 2018). Evidence from Chinese athletes shows that stigma-related thoughts influence help-seeking behaviour, emotional regulation, and social interaction, highlighting the need for models that explain *how* these effects occur (Bu et al., 2024; Chen & Ni, 2024). Building on this work, the present study shows that stigma perception disrupts both social adjustment and psychological well-being through clear and identifiable coping pathways.

A second key theoretical contribution is the emphasis on coping capacity as a crucial mechanism that shapes how stigma affects athletes. Recent studies suggest that stigma does not automatically lead to poor adjustment; rather, its impact depends on whether athletes can use effective coping

strategies to manage social pressure and negative evaluation (Zuo & Bai, 2025; Zhong et al., 2025). By demonstrating that active stigma-coping strategies explain *how* stigma perception affects both social adaptability and subjective well-being, this study reinforces the idea that coping is not a secondary or optional factor. Instead, coping plays a central role in protecting athletes' psychological functioning under continuous performance demands and public scrutiny (Sawczuk et al., 2018).

Practical and Subgroup-Sensitive Implications

From a practical point of view, the findings show that not all athletes experience stigma in the same way, which means that support strategies should take context into account rather than relying on a one-size-fits-all approach (Talumaa et al., 2022). Athletes competing at elite or international levels are often under intense public scrutiny from the media, coaches, and sporting institutions. This high visibility makes them more exposed to public stigma, especially when performance expectations are not met. Recent studies suggest that constant evaluation heightens athletes' sensitivity to social judgment and strengthens the psychological impact of perceived failure (Bu et al., 2024; Petersen et al., 2024). In contrast, sub-elite athletes may face different forms of stigma, such as concerns about career uncertainty, marginal status, or being viewed as underperforming, which may call for different coping resources and support systems (Chen & Ni, 2024).

Athletes with a history of injury represent another group that appears particularly vulnerable. Research shows that injury experiences often trigger self-stigma, as athletes may interpret physical limitations as personal weakness or failure within performance-driven sport cultures (Zuo & Bai, 2025). Injury, therefore, acts not only as a physical challenge but also as a symbolic threat to athletes' identity and self-confidence, draining emotional and coping resources. In these situations, active coping strategies—such as reframing negative thoughts, regulating emotions, and seeking support from others become especially important for maintaining social involvement, emotional balance, and psychological recovery (Winder, 2023).

Taken together, these subgroup differences highlight the need for tailored psychological interventions, rather than uniform stigma-management programmes. Sport organisations, coaches, and practitioners should adjust stigma-reduction and coping-skills initiatives according to athletes' competition level, injury status, and career stage. Interventions that help athletes rethink negative experiences, build self-acceptance, practise mindfulness-based coping, and access social support have been shown to reduce stigma-related stress and strengthen psychological resilience in competitive sport settings (Bu et al., 2024; Zhong et al., 2025).

More broadly, the findings underline the central role of coping strategies in protecting athletes' mental health and performance. Stigma-related pressures can weaken social

functioning and psychological resilience by undermining athletes' ability to cope effectively, which in turn affects their social adjustment and overall quality of life (Summers et al., 2018). By demonstrating these mechanisms within a Chinese athlete population, the study provides contemporary support for stigma-stress models and extends them to sport-specific social and psychological outcomes.

In practice, sport psychologists, coaches, and support staff need a deeper understanding of how athletes perceive and internalise stigma. Targeted, mechanism-focused interventions such as individual or group counselling, psychoeducation, and resilience-building programmes can help athletes recognise stigmatising beliefs, challenge unhelpful thought patterns, and develop healthier coping strategies (Talumaa et al., 2022). At the organisational level, creating psychologically safe team environments and actively reducing stigmatising norms can ease social pressure, improve social adaptability, and support long-term well-being (Brewis & Wutich, 2020).

Finally, although subgroup differences were not examined statistically, the demographic diversity of the sample strengthens the real-world relevance of the findings. It also provides a solid foundation for future stratified and longitudinal research, which could more precisely identify subgroup-specific vulnerability patterns, coping pathways, and intervention needs across different levels of athletic participation.

LIMITATION AND RECOMMENDATION FOR FUTURE RESEARCH

Several limitations of this study should be noted. First, the study used a cross-sectional design, which captures stigma perception, coping, social adaptability, and well-being at a single point in time. While this approach is appropriate for examining relationships among variables, it does not allow for conclusions about causality. Future research would benefit from longitudinal designs that track athletes over time, allowing researchers to understand better how stigma and coping processes develop and influence well-being across different stages of an athletic career.

Second, the sample was drawn from a specific population of athletes within a single cultural context. As such, the findings may not be fully generalisable to athletes from other countries or sporting systems. Cultural norms, social expectations, and institutional practices may shape how stigma is perceived and managed. Future studies should therefore include more diverse and larger samples across different sports, competitive levels, and cultural backgrounds to strengthen the applicability of the findings.

Third, the study relied on self-reported measures, which may be influenced by social desirability or recall bias. Athletes may overestimate or underestimate their experiences of stigma or their use of coping strategies, particularly given the sensitivity of mental health-related topics in sport. Future research could improve

measurement accuracy by combining self-report data with other methods, such as behavioural indicators, peer or coach reports, or qualitative approaches.

Building on these limitations, several directions for future research are suggested. Longitudinal studies are needed to examine how stigma perception, coping strategies, social adaptability, and subjective well-being interact over time. Expanding research to include athletes from different sports, ethnic groups, and ability levels would also help clarify whether stigma processes operate similarly across contexts.

In addition, future research could explore other factors that may shape the relationship between stigma and well-being, such as personality traits, cultural values, team climate, and social support systems. Qualitative methods, including interviews or focus groups, may provide deeper insight into athletes' lived experiences of stigma and how they navigate social judgment in sporting environments. Finally, future studies should design and evaluate stigma-reduction and coping-skills interventions to examine their effectiveness in improving athletes' social adjustment and psychological well-being.

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REFERENCES

- Adom, D., Hussein, E. K., & Agyem, J. A. (2018). Theoretical and conceptual framework: Mandatory ingredients of a quality research. *International Journal of Scientific Research*, 7(1), 438-441. <https://doi.org/10.36106/IJSR>
- Ahmed, S., Newman, D., & Yalch, M. (2021). The stigma of borderline personality disorder. *Advances in Psychology Research*, 146, 163-183. <https://doi.org/10.52305/EHZM4404>
- Bamber, M., McCormack, J., & Lyons, B. J. (2021). Conceptualising within-group stigmatisation among high-status workers. *Work, Employment and Society*, 37(3), 757-775. <https://doi.org/10.1177/09500170211041287>
- Boateng, G. O., Neilands, T. B., Frongillo, E. A., Melgar-Quinonez, H. R., & Young, S. L. (2018). Best practices for developing and validating scales for health, social, and behavioural research: A primer. *Frontiers in Public Health*, 6, Article 149. <https://doi.org/10.3389/fpubh.2018.00149>
- Bosc, M., Dubini, A., & Polin, V. (1997). Development and validation of a social functioning scale, the Social Adaptation Self-evaluation Scale. *European Neuropsychopharmacology*, 7(1), S57-S70. [https://doi.org/10.1016/S0924-977X\(97\)00420-](https://doi.org/10.1016/S0924-977X(97)00420-)
- Brelet, L., Flaudias, V., Désert, M., Guillaume, S., Llorca, P., & Boirie, Y. (2021). Stigmatisation toward people with anorexia nervosa, bulimia nervosa, and binge eating disorder: A scoping review. *Nutrients*, 13(8), Article 2834. <https://doi.org/10.3390/nu13082834>
- Brewis, A., & Wutich, A. (2020). Stigma: A biocultural proposal for integrating evolutionary and political-economic approaches. *American Journal of Human Biology*, 32(4), Article e23290. <https://doi.org/10.1002/ajhb.23290>
- Bu, D., Zhang, C. Q., Liang, W., Han, Z., Yi, N., Su, N., & Huang, Z. (2024). Mental health literacy and help-seeking intention among Chinese elite athletes: The mediating roles of stigma and social support. *Frontiers in Psychology*, 15, Article 1332343. <https://doi.org/10.3389/fpsyg.2024.1332343>
- Caron, J. G., Benson, A. J., Steins, R., McKenzie, L., & Bruner, M. W. (2021). The social dynamics involved in recovery and return to sport following a sport-related concussion: A study of three athlete-teammate-coach triads. *Psychology of Sport and Exercise*, 52, Article 101824. <https://doi.org/10.1016/j.psychsport.2020.101824>
- Chen, J., & Ni, W. (2024). "Do I need to reinvent myself?" Stigmatisation of sport-related identities of Chinese students. *Frontiers in Psychology*, 15, Article 1386796. <https://doi.org/10.3389/fpsyg.2024.1386796>
- Crocker, J., & Major, B. (1989). Social stigma and self-esteem: The self-protective properties of stigma. *Psychological Review*, 96(4), 608-630. <https://doi.org/10.1037/0033-295X.96.4.608>
- Cui, H., Peng, Z., Cui, J., & Wang, H. (2024). Chinese athletes in ethnic minorities: Social support, ethnic identity, pride, and subjective well-being. *Social Behaviour and Personality: An International Journal*, 52(5), Article e13100. <https://doi.org/10.2224/sbp/13100>
- Dekker, E., & Gradoz, J. (2022). Managing repugnance: How core-stigma shapes firm behaviour. *Journal of Institutional Economics*, 19(6), 903-917. <https://doi.org/10.1017/S1744137422000455>
- Diener, E. (1984). Subjective well-being. *Psychological Bulletin*, 95(3), 542-575. <https://doi.org/10.1037/0033-2909.95.3.542>

- Dillman, D. A., Smyth, J. D., & Christian, L. M. (2023). *Internet, phone, mail, and mixed-mode surveys: The tailored design method* (5th ed.). Wiley.
- Evans, N. (2022). Coping with gendered welfare stigma: Exploring everyday accounts of stigma and resistance strategies among mothers who claim social security benefits. *Social Policy and Society*, 21(4), 690-700. <https://doi.org/10.1017/S1474746422000070>
- Farzan, R., Hosseini, S. J., Firooz, M., Tabarian, M. S., Jamshidbeigi, A., Samidoust, P., Sarafi, M., Mahdiabadi, M. Z., Vajargah, P. G., Mollaei, A., Karkhah, S., Takasi, P., Parvizi, A., & Haddadi, S. (2023). Perceived stigmatisation and reliability of questionnaires in survivors with burn wounds: A systematic review and meta-analysis. *International Wound Journal*, 20(8), 3391-3403. <https://doi.org/10.1111/iwj.14176>
- Goffman, E. (1963). *Stigma: Notes on the management of spoiled identity*. Prentice Hall.
- Grønholm, P. C., Bakolis, I., Cherian, A. V., Davies, K., Evans-Lacko, S., Girma, E., Gurung, D., Hanlon, C., Hanna, F., Henderson, C., Kohrt, B. A., Lempp, H., Li, J., Loganathan, S., Maulik, P. K., Ma, N., Ouali, U., Romeo, R., Rüsch, N., & Thornicroft, G. (2023). Toward a multilevel strategy to reduce stigma in global mental health: Overview protocol of the Indigo Partnership to develop and test interventions in low- and middle-income countries. *International Journal of Mental Health Systems*, 17(1), Article 6. <https://doi.org/10.1186/s13033-022-00564-5>
- Gross, J. J., & John, O. P. (2003). Individual differences in two emotion regulation processes: Implications for affect, relationships, and well-being. *Journal of Personality and Social Psychology*, 85(2), 348-362. <https://doi.org/10.1037/0022-3514.85.2.348>
- Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2022). *A primer on partial least squares structural equation modelling (PLS-SEM)* (3rd ed.). Sage.
- Hill, D. M., Cheesbrough, M., Gorczynski, P., & Matthews, N. (2019). The consequences of choking in sport: A constructive or destructive experience? *The Sport Psychologist*, 33(1), 12-22. <https://doi.org/10.1123/tsp.2018-0070>
- Jackson, S. D., Mohr, J. J., Sarno, E. L., Kindahl, A. M., & Jones, I. L. (2020). Intersectional experiences, stigma-related stress, and psychological health among Black LGBTQ individuals. *Journal of Consulting and Clinical Psychology*, 88(5), 416-430. <https://doi.org/10.1037/ccp0000489>
- Kang, N. E., Kim, H. Y., Kim, J. Y., & Kim, S. R. (2020). Relationship between cancer stigma, social support, coping strategies, and psychosocial adjustment among [incomplete reference].
- Kline, R. B. (2023). *Principles and practice of structural equation modelling* (5th ed.). Guilford Press.
- MacKinnon, D. P., Fairchild, A. J., & Fritz, M. S. (2020). Mediation analysis. *Annual Review of Psychology*, 71, 593-619. <https://doi.org/10.1146/annurev.psych.58.110405.085542>
- Maimon, M. R., Sanchez, D. T., Rodriguez, S., & Albuja, A. F. (2023). Personality traits as identity threat cues: Stigmatised perceivers infer prejudice from disagreeableness. *Journal of Personality*, 92(2), 620-635. <https://doi.org/10.1111/jopy.12855>
- Malik, N. I., Fatima, R., Ullah, I., Atta, M., Awan, A., Nashwan, A. J., & Ahmed, S. (2022). Perceived stigma, discrimination, and psychological problems among patients with epilepsy. *Frontiers in Psychiatry*, 13, Article 1000870. <https://doi.org/10.3389/fpsy.2022.1000870>
- Maxwell, S. E., Cole, D. A., & Mitchell, M. A. (2018). Bias in cross-sectional analyses of longitudinal mediation. *Psychological Methods*, 23(2), 221-237. <https://doi.org/10.1037/met0000148>

- Nombora, O., Lopes, L., & Marinha, L. S. (2022). An overview of the mental health problems among elite athletes - Is it a dream or a nightmare? *European Psychiatry*, 65(S1), S354-S355. <https://doi.org/10.1192/j.eurpsy.2022.901>
- O'Brien, L. T., Kulibert, D., & Waldon-Lee, T. (2023). Stigma and disadvantage. In *Oxford Research Encyclopedia of Psychology*. Oxford University Press. <https://doi.org/10.1093/acrefore/9780190236557.013.442>
- Perkins, T. S., Holburn, S., Deaux, K., Flory, M. J., & Klein, J. D. (2002). Children of mothers with intellectual disability: Stigma, mother-child relationship, and self-esteem. *Journal of Applied Research in Intellectual Disabilities*, 15(4), 297-313. <https://doi.org/10.1046/j.1468-3148.2002.00140.x>
- Petersen, B., Schinke, R. J., Coholic, D., Larivière, M., & Giffin, C. E. (2024). The social effects of mental ill-health stigma in sport. *Sport, Exercise, and Performance Psychology*, 13(3), 223-239. <https://doi.org/10.1037/spy0000351>
- Pinquart, M. (2013). Body image of children and adolescents with chronic illness: A meta-analytic comparison with healthy peers. *Body Image*, 10(2), 141-148. <https://doi.org/10.1016/j.bodyim.2012.10.008>
- Purcell, R., Gwyther, K., & Rice, S. M. (2019). Mental health in elite athletes: Increased awareness requires an early intervention framework to respond to athlete needs. *Sports Medicine - Open*, 5(1), Article 46. <https://doi.org/10.1186/s40798-019-0220-1>
- Qi, L. (2014). *The revision of the self-stigma of disability scale and the epidemiological investigation of self-stigma among hearing-impaired middle school students* (Doctoral dissertation, Huazhong University of Science and Technology). Huazhong University of Science and Technology.
- Rodrigues, J. M., Cruz, A. S., & Queirós, C. (2025). Understanding stigma in mental illness: A novel literature-based model of development. *Psychiatry International*, 6(1), Article 21. <https://doi.org/10.3390/psychiatryint6010021>
- Rohrer, J. M., Hünermund, P., Arslan, R. C., & Elson, M. (2022). That's a lot to process! Pitfalls of popular path models. *Advances in Methods and Practices in Psychological Science*, 5(2), Article 25152459221095827. <https://doi.org/10.1177/25152459221095827>
- Rudolph, K. E., Williams, N. T., & Diaz, I. (2024). Practical causal mediation analysis: Extending nonparametric estimators to accommodate multiple mediators and multiple intermediate confounders. *Biostatistics*, 25(4), 997-1014.
- Sawczuk, T., Jones, B., Scantlebury, S., & Till, K. (2018). The influence of training load, exposure to match play, and sleep duration on daily wellbeing measures in youth athletes. *Journal of Sports Sciences*, 36(21), 2431-2437. <https://doi.org/10.1080/02640414.2018.1461337>
- Sawczuk, T., Jones, B., Scantlebury, S., & Till, K. (2021). Influence of perceptions of sleep on wellbeing in youth athletes. *The Journal of Strength and Conditioning Research*, 35(4), 1066-1073. <https://doi.org/10.1519/JSC.0000000000002857>
- Sheehan, L., Palermo, C. V., & Corrigan, P. (2022). Theoretical models to understand stigma of mental illness. In *The Cambridge handbook of stigma and mental health* (pp. 11-30).
- Soper, D. S. (2022). *A-priori sample size calculator for structural equation models*. <https://www.danielsoper.com>
- Summers, J. K., Howe, M., McElroy, J. C., Buckley, M. R., Pahng, P., & Cortes-Mejia, S. (2018). A typology of stigma within organisations: Access and treatment effects. *Journal of Organisational Behaviour*, 39(7), 853-868. <https://doi.org/10.1002/job.2279>

- Talumaa, B., Brown, A., Batterham, R. L., & Kalea, A. Z. (2022). Effective strategies in ending weight stigma in healthcare. *Obesity Reviews*, 23(10), Article e13494. <https://doi.org/10.1111/obr.13494>
- Tse, W. S., & Bond, A. J. (2021). Focusing too much on individualistic achievement may generate stress and negative emotion: Social rank theory perspective. *Journal of Health Psychology*, 26(8), 1271-1281. <https://doi.org/10.1177/1359105319864650>
- Van Beukering, I. E., Smits, S. J. C., Janssens, K. M. E., Bogaers, R. I., Joosen, M. C. W., Bakker, M., Van Weeghel, J., & Brouwers, E. P. M. (2021). In what ways does health-related stigma affect sustainable employment and well-being at work? A systematic review. *Journal of Occupational Rehabilitation*, 32(3), 365-379. <https://doi.org/10.1007/s10926-021-09998-z>
- Walton, C. C., Baranoff, J., Gilbert, P., & Kirby, J. (2020). Self-compassion, social rank, and psychological distress in athletes of varying competitive levels. *Psychology of Sport and Exercise*, 50, Article 101733. <https://doi.org/10.1016/j.psychsport.2020.101733>
- Wang, M., Zhang, Y., Wang, M., & Zhao, X. (2025). Investigating the perception dimensions of sports disciplines stigma in China: Social identity and participation willingness. *Frontiers in Psychology*, 16, Article 1476138. <https://doi.org/10.3389/fpsyg.2025.1476138>
- Waqas, A., Malik, S., Fida, A., Abbas, N., Mian, N., Miryala, S., Amray, A. N., Shah, Z., & Naveed, S. (2020). Interventions to reduce stigma related to mental illnesses in educational institutes: A systematic review. *Psychiatric Quarterly*, 91(3), 887-903. <https://doi.org/10.1007/s11126-020-09751-4>
- Winder, T. J. A. (2023). Unspoiling identity: An intersectional expansion of stigma response strategies. *Sociology of Race and Ethnicity*, 9(2), 195-207. <https://doi.org/10.1177/23326492221146737>
- Xiang, J., Gao, J., & Gao, Y. (2024). The relationship between parenting style and the stigma of mental illness in adolescent athletes: The chain mediating role of self-esteem and mental toughness. *Current Psychology*, 43(27), 23130-23143. <https://doi.org/10.1007/s12144-024-06043-z>
- Xiang, M., Soh, K. G., Xu, Y., Ahrari, S., & Zakaria, N. S. (2025). Experiences and minority stress of sexual minority student athletes in Chinese collegiate sports. *Archives of Sexual Behaviour*, 54(4), 1391-1407. <https://doi.org/10.1007/s10508-025-03107-4>
- Xing, Z. J. (2003). Development of a short form for the subjective happiness scale for urban residents in China. *Chinese Behavioural Medicine Science*, 12(6), 103-105.
- Zhong, Z., Jiang, H., Wang, H., & Liu, Y. (2025). The association between mindfulness and athletes' distress tolerance: The mediating roles of cognitive reappraisal and mental toughness. *Behavioural Sciences*, 15(3), Article 298. <https://doi.org/10.3390/bs15030298>
- Zuo, J., & Bai, Y. (2025). Emotion regulation, coping strategies, and burnout among Chinese competitive athletes: A mixed-methods study. *BMC Psychology*, 13, Article 1147. <https://doi.org/10.1186/s40359-025-03458-6>