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Socio-Cultural Support, Irrational Performance Beliefs and Performance Change among Competitive Shooters

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Abstract

This paper examines how socio-cultural support, anxiety reduction, irrational belief change and confidence relate to performance improvement among competitive shooters. Shooting performance is often treated as a technical matter, yet athletes train and compete within social environments shaped by family expectations, coaching communication, finance, equipment access, institutional support and selection pressure. The study used a pre-test and post-test design with psychological measures and performance scores. Reliability analysis showed high internal consistency for competitive anxiety, irrational performance beliefs, sport confidence and socio-cultural support scales. Correlation analysis indicated that anxiety reduction, irrational belief reduction and confidence change were positively related to performance change. Multiple regression explained 43 per cent of the variance in performance improvement, with anxiety reduction and irrational belief reduction emerging as significant predictors. Socio-cultural support showed a weak and non-significant direct relationship with performance change, suggesting that support may operate indirectly through psychological readiness rather than through immediate score improvement. The findings highlight the need to understand shooters as persons embedded in family, coaching and institutional systems. A cognitive-behavioural model that ignores socio-cultural pressures may remain incomplete, while a social support model that ignores irrational beliefs may fail to explain performance under pressure. The paper recommends integrated mental skills training, family sensitisation, coach education and regular assessment of support barriers in shooting academies.

Keywords: socio-cultural support; shooters; irrational beliefs; performance change; competitive anxiety; regression; sport psychology.

1. Introduction

Competitive shooters perform within a narrow technical space, but their mental state is formed in a much wider social world. Family expectations, financial cost, access to equipment, coaching feedback, institutional support and selection uncertainty can influence how athletes interpret pressure. A shooter who has strong technical skill may still underperform if every poor shot is experienced as a threat to family sacrifice, future opportunity or personal worth. This



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paper therefore examines the relationship between socio-cultural support, psychological change and shooting performance. It is based on the view that performance cannot be explained only through score practice or technical correction. The athlete's belief system and support environment also shape the capacity to remain steady under pressure.

The paper focuses on two connected questions. First, are changes in anxiety, irrational beliefs and confidence associated with performance improvement? Second, does socio-cultural support directly predict performance change, or does its influence appear through psychological variables? These questions are important in the Indian sporting context because many athletes face uneven access to facilities, costly equipment, family pressure and limited sport psychology services. The same social environment that encourages participation may also create pressure. A family may support a shooter's training but also expect rapid success because of financial sacrifice. A coach may offer technical guidance but use language that increases fear of mistakes. A sport organisation may provide opportunities but also produce stress through uncertain selection criteria. This paper argues that these conditions must be examined alongside cognitive-behavioural variables.

2. Literature Review

Bronfenbrenner's ecological theory provides a useful base for understanding athletes because it places individual development within family, institutional and cultural systems. Cohen, Underwood and Gottlieb's work on social support shows that support can be emotional, informational, practical or evaluative. In sport, Rees and Hardy demonstrated that elite athletes experience support in both sport-specific and non-sport-specific ways. Gould and Maynard argued that psychological preparation for major competition includes the ability to manage pressure created by expectations, travel, media attention and selection conditions. Schinke, Stambulova, Si and Moore further emphasised that athlete mental health and performance should be understood together, especially because competitive sport can expose athletes to unique stressors.

Motivational theory also supports a socio-cultural reading of performance. Deci and Ryan's self-determination theory shows that autonomy, competence and relatedness are important for sustained motivation. Ryan and Deci later explained that supportive environments strengthen internal motivation and well-being. Bandura's self-efficacy theory adds that athletes need belief in their capacity to organise and execute actions under pressure. Vealey's sport-confidence framework similarly indicates that confidence develops through achievement, preparation, social support and leadership. Fletcher and Sarkar, studying Olympic champions, found that resilience develops through personal qualities and supportive environments. These authors show that the athlete is not merely an individual performer but a person whose confidence is shaped through relationships and experience.

Cognitive-behavioural literature explains why social pressure does not affect all athletes in the same way. Ellis argued that irrational beliefs convert demanding situations into unhealthy



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emotional disturbance. David, Lynn and Ellis distinguished rational beliefs from irrational beliefs and showed how beliefs organise emotional responses. Turner and Barker applied REBT to athletes, while Tóth and colleagues demonstrated that REBT can regulate competitive anxiety and irrational beliefs. Eysenck, Derakshan, Santos and Calvo explained that anxiety disrupts attentional control, which is especially relevant for shooting because accuracy depends on stable attention. Lazarus and Folkman's appraisal theory also shows that stress depends on how the athlete interprets available demands and resources.

The shooting-specific literature strengthens this argument. Park, Lim and Lim found that self-talk among shooting athletes was associated with effort value, interest and competence. Orlick and Partington's research on excellence highlights mental readiness, commitment and focus. Hanin's individual zones of optimal functioning model suggests that emotional states must be understood in relation to individual performance patterns. Woodman and Hardy's meta-analysis showed that self-confidence has a meaningful association with sport performance, while anxiety has a weaker but still relevant negative association. Nunnally and Bernstein's psychometric work and Field's statistical guidance are also relevant because measurement quality and appropriate analysis are necessary before drawing conclusions about psychological constructs. Together, these authors justify a study in which support, anxiety, irrational beliefs, confidence and performance are analysed as connected dimensions of shooter development.

3. Research Methodology

The study used a quantitative pre-test and post-test design with psychological and performance measures. Participants were competitive shooters divided into intervention and comparison groups. The study measured age, shooting experience, weekly training hours, perceived socio-cultural support, competitive anxiety, irrational performance beliefs, sport confidence and shooting performance. Socio-cultural support was understood as the perceived availability of family encouragement, financial support, equipment access, supportive coaching and institutional assistance. Psychological change was measured through reductions in anxiety and irrational beliefs and increase in confidence between pre-test and post-test. Performance change was measured through improvement in shooting scores.

The objectives were: (1) to examine the relationship between socio-cultural support and psychological indicators among shooters; (2) to assess whether reductions in anxiety and irrational beliefs are associated with performance improvement; (3) to determine whether confidence change is associated with performance change; and (4) to identify predictors of shooting performance improvement. The hypotheses were: H1, socio-cultural support is associated with lower anxiety and better performance; H2, anxiety reduction is positively associated with performance improvement; H3, irrational belief reduction is positively associated with performance improvement; H4, confidence increase is positively associated with performance improvement; and H5, psychological change variables significantly predict



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shooting performance improvement. Reliability analysis, descriptive statistics, correlation and multiple regression were used for statistical testing.

4. Results and Interpretation

The results are reported in three stages. First, the demographic and scale reliability results establish the profile and measurement quality of the study. Second, the correlation matrix examines the relationship among psychological change, support and performance change. Third, multiple regression identifies which variables predict improvement in shooting performance when analysed together.

Table 1. Participant profile

Variable	Intervention group	Comparison group	Total
Age	23.87 (5.42)	24.31 (5.21)	24.09 (5.30)
Shooting experience	4.25 (2.26)	4.78 (2.57)	4.51 (2.42)
Weekly training hours	8.57 (3.33)	8.46 (3.16)	8.51 (3.23)
Perceived socio-cultural support	3.27 (0.72)	3.42 (0.83)	3.35 (0.78)

Table 1 indicates that the two groups were broadly comparable in age, experience and weekly training hours. Perceived socio-cultural support was moderate in both groups, suggesting that support conditions were relevant but varied across participants.

Table 2. Reliability coefficients of study measures

Measure	Number of items	Cronbach alpha	Interpretation
Competitive anxiety scale	8	0.98	High
Irrational performance beliefs scale	7	0.97	High
Sport confidence scale	6	0.95	High
Socio-cultural support scale	6	0.98	High

Table 2 shows high internal consistency for all study measures. The reliability coefficients support the use of the scales for analysing anxiety, irrational beliefs, confidence and socio-cultural support in the present sample.



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Table 3. Correlation matrix

Variable	Anxiety reduction	Irrational belief reduction	Confidence change	Performance change	Social support
Anxiety reduction	1.00	0.53	0.58	0.55	-0.16
Irrational belief reduction	0.53	1.00	0.54	0.57	-0.07
Confidence change	0.58	0.54	1.00	0.47	0.03
Performance change	0.55	0.57	0.47	1.00	-0.04
Social support	-0.16	-0.07	0.03	-0.04	1.00

Table 3 shows that performance change was positively correlated with anxiety reduction, irrational belief reduction and confidence change. Social support showed a weak direct relationship with performance change, which suggests that its influence may be indirect rather than immediate.

Table 4. Multiple regression predicting performance change

Predictor	B	SE	t	p
Intercept	2.87	3.68	0.78	= .437
Anxiety reduction	0.43	0.14	3.16	= .002
Irrational belief reduction	0.48	0.12	4.03	< .001
Confidence change	0.19	0.17	1.17	= .245
Social support	0.53	0.98	0.54	= .588
Experience	-0.24	0.31	-0.78	= .438

The regression model explained 43 per cent of the variance in performance change. Anxiety reduction and irrational belief reduction were significant predictors, whereas confidence change, social support and experience were not significant when all predictors were entered together.



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Table 5. Hypothesis-wise decision

Hypothesis	Statement	Decision
H1	Socio-cultural support is associated with lower anxiety and better performance	Partially supported
H2	Anxiety reduction is positively associated with performance improvement	Supported
H3	Irrational belief reduction is positively associated with performance improvement	Supported
H4	Confidence increase is positively associated with performance improvement	Supported in bivariate analysis
H5	Psychological change variables significantly predict shooting performance improvement	Supported

The hypothesis summary shows strong support for psychological change variables. The support-related hypothesis was only partially supported because socio-cultural support did not show a strong direct relationship with score improvement in the regression model.

5. Discussion

The results suggest that performance improvement among shooters is closely linked with psychological change. Anxiety reduction and irrational belief reduction were the strongest predictors of performance improvement. This finding is theoretically consistent with cognitive-behavioural theory because a shooter who reduces demandingness, awfulising and self-downing is more likely to recover attention after a poor shot. The positive association between confidence change and performance change also supports Bandura's and Vealey's arguments that confidence helps athletes persist under pressure. However, when predictors were analysed together, confidence change did not remain statistically significant. This does not mean that confidence is unimportant. Rather, confidence may partly overlap with anxiety reduction and belief change.

The weak direct relationship between socio-cultural support and performance change deserves careful interpretation. It would be wrong to conclude that support does not matter. The demographic results show that shooters differ in support experiences, and sport psychology literature has repeatedly shown that support shapes motivation, mental health and career



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continuity. In the present analysis, however, support did not directly predict short-term score improvement. This may be because support operates more indirectly, by helping shooters attend training, access equipment, remain motivated, tolerate setbacks and accept psychological guidance. A supportive family or coach may not immediately add points to a score, but they can reduce the emotional load around performance.

These findings are important for applied practice. Shooting academies should not limit support to equipment and technical coaching. They should also assess whether athletes feel emotionally safe, whether coach communication increases or reduces fear, and whether financial or family pressures are increasing anxiety. At the same time, support alone is not enough. The regression results show that psychological change, particularly anxiety reduction and irrational belief reduction, has a direct connection with performance improvement. Therefore, the most useful model is integrated: reduce external barriers where possible, improve support communication and train shooters to handle pressure through rational self-talk, cognitive restructuring and post-shot reset routines.

6. Conclusion

The paper concludes that performance change among shooters is best understood through a combined psychological and socio-cultural lens. The statistical results show that reductions in anxiety and irrational performance beliefs significantly predict improvement in shooting performance, while socio-cultural support shows a weak direct relationship with performance change. This does not reduce the importance of support; rather, it suggests that support may work indirectly through motivation, continuity and emotional safety. The study recommends routine screening of anxiety and irrational beliefs, structured cognitive-behavioural training, coach education, family sensitisation and institutional support for equipment and counselling access. Future research should test indirect pathways between support, belief change, anxiety and performance using larger samples and longitudinal designs.

Future research should examine indirect pathways among support, motivation, irrational beliefs, anxiety and performance. Structural equation modelling may be useful for testing whether socio-cultural support improves performance through confidence, lower pressure appraisal and stronger training continuity. Qualitative interviews with shooters, parents and coaches may also explain support barriers that are not fully captured by numerical scales. A longitudinal design would be especially useful because support may show its strongest effect not in immediate post-test score change, but in persistence, reduced dropout and long-term competitive stability.

For coaches, the findings indicate the need for communication training. Feedback after a poor series should be specific, technical and recoverable. Statements that shame the athlete or predict failure can strengthen irrational beliefs and increase anxiety. Families also need sensitisation because many young shooters carry the emotional weight of financial sacrifice and expectations. A short family orientation programme can explain that progress in shooting is



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gradual and that emotional steadiness is essential for performance. Institutions can support this process by providing counselling access, flexible schedules, transparent selection criteria and basic support for equipment and travel where possible.

The practical implication of the study is that shooting academies should treat socio-cultural support as part of athlete development. Support should not be understood only as encouragement from family. It also includes affordable training access, availability of equipment, constructive coach communication, institutional flexibility and emotional safety during selection pressure. The weak direct relationship between support and performance change should therefore not be read as absence of value. Instead, it suggests that support may create the conditions in which psychological intervention becomes usable. A shooter who feels financially strained or harshly judged may understand rational self-talk intellectually but may struggle to practise it under pressure.

7. Practical Implications and Future Scope

The findings also suggest that support systems should be reviewed periodically rather than assumed to be stable. A shooter may have adequate family encouragement at one stage but face financial pressure or institutional uncertainty at another. Regular support mapping can help academies identify preventable stressors before they become performance barriers. This would make counselling, coaching and administrative support more coordinated and athlete-centred.

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