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Research Paper

Exploring the efficacy of a rational emotive behaviour therapy intervention on football referees: A single case study approach

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ABSTRACT

This study presents a single case study that assessed the effectiveness of a rational-emotive behaviour therapy (REBT) intervention in reducing irrational beliefs, decreasing negative, unhealthy emotions, and improving performance with a sports official. Following initial assessment, a 43-year-old male football referee participated in a 5-week REBT intervention programme. Irrational beliefs and anxiety were measured using the Irrational Beliefs Scale for Sports Officials and the Sport Anxiety Scale respectively. Following the 5-week intervention, measures of irrational beliefs and anxiety were collected at three follow-up points, taken every 6-weeks, throughout the 2023/24 football season, and again eight weeks after the conclusion of the season. Performance was assessed using observer marks from Football Association Referee Observers, and Club Marks, collected from representatives of teams refereed by the participant. Results showed a medium (d = 2.34) decrease (-43.28 %) in irrational beliefs between pre- and post-intervention stages, and a small (d = 0.67) decrease (21.97 %) in irrational beliefs between the post-intervention and retention stages. A large (d = 5.36) decrease (-31.12 %) in anxiety was reported between pre- and post-intervention stages, and a small (d = 0.18) increase (2.19 %) in anxiety was also reported between the post-intervention and retention stage. Performance enhancement was seen via a small (d = 0.26) increase (1.18 %) in Club Marks, and a medium (d = 2.09) increase (1.05 %) in observer marks. Alongside social validation interviews held with the participant, referee coach and observer, the study provides evidence to inform applied practice and supports the potential value of REBT with sports officials.

1. Introduction

The potential impact that officials and their performance have on sports competitions, and the financial implications of success and failure, has resulted in increased attention being paid to the study of this population in recent years (Hancock et al., 2021, Webb, 2022). Researchers have identified numerous challenges that sports officials face, such as physiological demands that are comparable to athletes (Elsworthy & Blair, 2024), time constraints regarding decision-making and operating in a practice poor environment due, in part, to difficulty replicating role demands (Helsen et al., 2024). Consequently, the need for increased psychological skills training and support for officials is frequently encouraged (see Mojtahedi et al., 2022; Webb, 2017; Webb et al., 2021).

The justification for enhanced psychological support strategies within officiating populations is two-fold. First, while decision-making has been identified as the most important quality in officiating and is reflected in the dominance of this topic in related research (Hancock et al., 2021), traditional reductionist approaches to officiating development (e.g., video training; Schweizer et al., 2011) fail to acknowledge the multi-dimensional nature of officiating, such as contextual information (e.g., pre-match sources of information such as player research) and individual emotions, previously identified as mediating decision-making accuracy (Adie et al., 2024; Kostrna & Tennenbaum, 2022). Support for this view is seen in research that found judgments were influenced by previous decisions, attributing this conclusion to a desire for impartiality rather than the isolated incident (Plessner & Betsch, 2001), and evidence that emotion (e.g., anxiety) is correlated

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with inaccurate decision-making due to crowd bias (Sors et al., 2019). Consequently, approaches that enhance individual qualities such as emotional regulation and minimise the impact of real or perceived criticism may develop officiating performance.

The second justification for psychological support for sports officials is decreasing retention rates, an issue of urgent concern (Cleland et al., 2018; Livingston et al., 2017; Webb et al., 2021). While several factors contribute to withdrawal in officiating, such as lack of financial renumeration and recognition, negative events such as abuse have been identified as among the most pertinent amongst interactor officials (e.g., referees who have high levels of interaction with participants; Downward et al., 2023; Plessner & MacMahon, 2013; Ridinger et al., 2017; Warner et al., 2013). However, while officials from a variety of sports worldwide experience abuse (Webb et al., 2018; 2019; 2020), not all withdraw. Hence, it is the impact of the abuse, rather than the abuse in isolation, that promotes withdrawal. This view is supported by Brick et al. (2022), who concluded that, while abuse is positively associated with intention to quit, abuse is also positively associated with anxiety and depression. Therefore, it would be advantageous for any psychological support offered to officials to minimise negative, unhealthy emotions such as anxiety, and promote helpful emotions, such as concern and resilience, categorised as adaptive behaviours and growth following adversity (Dryden & Branch, 2008; Youssef & Luthans, 2007). Further, approaches that encourage approach-orientated coping (e.g., reducing stress by addressing its source; Nicholls & Polman, 2007) are advised, as avoidance-based coping (e.g., physical and cognitive distancing from an event, including the suppression of emotions; Roth & Cohen, 1986) is not only detrimental to performance, but a commonplace strategy used by sports officials (Friesen et al., 2017; Nevill et al., 2017).

Rational-emotive behaviour therapy (REBT; Ellis, 1955) may provide a suitable foundation from which to provide psychological support for sports officials. The application and theory of REBT can be surmised by the interdependent GABCDE framework (Turner, 2022). In brief, when goals and values (G) are thwarted or met with adversity (A), it is deeply held and tacit beliefs (B) that determine the extent to which emotional and behavioural consequences (C) are unhealthy (maladaptive) or healthy (adaptive). REBT holds that irrational beliefs beget unhealthy consequences, whilst rational beliefs beget healthy outcomes. To promote healthy consequences, in REBT irrational beliefs can be disputed (D) and rational beliefs can be promoted; i.e., effective new beliefs (E). REBT has experienced recent growth in interest, application, and support for its use within performance environments (see Jordana et al., 2020), associated with negating unhelpful emotions and behaviours, and promotion of helpful alternatives. For instance, one-to-one REBT interventions and group workshops have reduced emotional reactivity in sales settings (Turner et al., 2024), increased self-determination, well-being, and performance in sport and exercise environments (Bailey & Turner, 2023; Davis & Turner, 2020; Turner et al., 2019), and enhanced stress management and resilience in policing (Jones & Turner, 2023). Further to these benefits, REBT is a time efficient intervention, with 2–11 sessions ranging between 30 and 90 min having been demonstrated to be effective (Jordana et al., 2020; Turner & Barker, 2013), an appealing quality given the time constraints on personal development reported by sports officials (MacMahon et al., 2015). Consequently, REBT holds appeal for those wishing to enhance psychological support for those operating in performance environments.

Enabling sports officials to respond to adversity in a more adaptive fashion may also benefit performance. To demonstrate how emotional regulation influences officiating performance, the threshold process model of decision-making posits officials shift from robust application of law to a flexible, 'game management' approach (Raab et al., 2020) once individual thresholds of tolerance are breached. This change may be explained by Lazarus (2000,1991) cognitive-motivational-relational theory, suggesting that individuals reappraise goals in response to emotions caused by perceiving a situation as harmful (e.g., negative evaluation of performance), threatening (e.g., loss of match control), challenging (e.g., the opportunity to improve skills), or beneficial (e.g., perceived gains that have already occurred). As REBT promotes high-frustration tolerance and goal-congruent action (e.g., approach behaviours to meet extant goals; Chadha et al., 2019), REBT interventions may assist sports officials in emotional regulation, a mediating variable in decision-making (Kostrna & Tennenbaum, 2022). This may be of particular benefit to lower-levels officials, who have attributed decision-making inaccuracy to the onset of negative emotions such as anxiety (Neil et al., 2013).

REBT has been successfully implemented with two elite rugby union referees reporting decreased irrational beliefs, anxiety and decision-making reinvestment, and one showing improved performance, following four REBT sessions (the performance of the other participant was not evaluated due to promotion prior to reassessment; Maxwell--Keys et al., 2022). However, there is need for further research investigating applied practice with sports officials. For example, the research in rugby union by Maxwell-Keys et al. focused on elite level referees which reflects the sampling bias towards professional officials found in existing research, whilst literature encourages the use of psychological support with lower-level participants given the differences in roles and stressors (e.g., less media scrutiny but increased potential for physical abuse; Cunningham et al., 2022; Webb et al., 2021). Therefore, it is important to investigate if REBT is effective in improving the well-being and performance of non-elite officials. Furthermore, while Maxwell-Keys et al. employed retention tests 12-weeks after the intervention, it would be useful to monitor and assess the impact of such an intervention over the course of an entire officiating season. This is due to the likelihood of officials experiencing negative events which, owing to the interdependent nature of goals, events, beliefs, consequences, may influence levels of irrational beliefs and related outcomes (Turner, 2022), and the lack of longitudinal studies with sports officials and in REBT literature (Cunningham et al., 2022; Jordana et al., 2020).

Due to the sampling bias in officiating research towards elite officials and REBT's potential benefit to a population in need of psychological support, this study sought to examine the effect of an REBT intervention on irrational beliefs, any relevant negative and unhealthy consequences, and performance of a non-elite sports official. Given the evidence for the positive effects of REBT across a range of participants in sport and exercise (Dixon & Turner, 2018; Jordana et al., 2020; Turner & Bennett, 2018), it was hypothesised that the REBT intervention would lead to a decrease in irrational beliefs and any maladaptive emotion reported by the participant, alongside improved performance. As REBT interventions have varied in length and disputation methods used, this exploratory study also sought to refine the delivery of REBT with sports officials to enhance efficacy. The investigation also employed a season-long longitudinal intervention and collected objective measures to address concerns regarding the often overreliance on self-reported data in REBT literature (Jordana et al., 2020).

2. Method

2.1. Participants

Gerard (pseudonym), a 43-year-old male, with 3 years' experience as a qualified official and who operated at Level 4 (men's football) and Level 3 (women's football) agreed to participate in this study. Determining skill level of officials is challenging given variable levels across sports and countries, and the importance of experience (Webb, 2017). However, Gerard's ability level may best be described as 'amateur with high certification' (see Kittel et al., 2019). Gerard was recruited after attending a webinar on sport psychology, but not specifically about REBT, that was led by the lead author who invited expressions of interest to participate in a new research project. Gerard received no other formal training or support beyond what his peers would have received throughout the season in which the intervention took place.

Post-intervention, two further participants, who were unaware of the intervention, were recruited to provide social validation. The first was Gerard's referee coach, a 46-year-old male. The second, a 75-year-old male, was one of the observers who evaluated Gerard's performance in the 2022/23 season and again in the 2023/24 season. Both were recruited via Gerard's invitation.

2.2. Design

A single-case experimental design approach was adopted to enhance consultant effectiveness, an integral feature of Vealey's (2024) framework for understanding mental training in sport. Further, by looking for changes in identified variables following intervention rather than using inferential statistics, a single-case study methodology is aligned to Frank's (1986) proposal that, regardless of the benefits of nomothetic science, findings must always be applied to the individual.

Replicating the approach used by Maxwell-Keys et al. (2022), an A-B design was adopted to assess pre-intervention (A) and post-intervention (B) scores of outcome measures, and because cognitive-based interventions cannot be removed and re-applied (i.e., making an ABA design inapplicable). Measures were administered prior to intervention and, to meet the longitudinal aim of the study, follow-up measures were taken each week during the intervention stage, and once every 6-weeks following completion of the intervention until the conclusion of the 2023/24 football season. This number of measurement points was more frequent than that employed by Maxwell-Keys et al. (2022) to satisfy recommendations of repeated measurement of dependent variables to increase internal validity (Campbell et al., 1963; Parsonson & Baer, 1978). For instance, only having one follow-up assessment does not necessarily provide an accurate representation of sport anxiety, as it could be taken when no sources of anxiety (e.g., the presence of an observer) are present. To assess retention of any psycho-behavioural benefits, a final measurement point was administered two-months after the conclusion of the football season. Upon completion of the season (May 2024), a semi-structured interview based upon the framework recommended by Rubin and Rubin (1995)) was conducted by the lead author with the participant's referee coach and observer simultaneously to provide social validation regarding intervention efficacy. Social validation interviews are typical to single-case study experimental designs (Page & Thelwell, 2013) and an interview was also held with Gerard following completion of the retention test. This interview was conducted by a researcher who, up to that point, was independent of the study, to minimise any 'conflict of power' between participant and interviewer (Buchbinder, 2010).

2.3. Measures

2.3.1. Irrational beliefs inventory for sports officials (IBSSO)

The IBSSO (Carrington et al., 2025) is a 16-item bespoke measure of irrational beliefs in sports officials. The IBSSO assesses four irrational beliefs (self-depreciation, peer rejection demands, emotional control demands, and approval) using a 5-point Likert scale that participants use to assess agreement with irrational statements. The IBSSO demonstrates good criterion, construct, and concurrent reliability (Cronbach's $\alpha = 0.89$ for composite score), and good convergent reliability ($r = 0.84$, $p < .01$; Carrington et al., 2025) with similar measures (e.g., the Irrational Beliefs Performance Inventory; Turner et al., 2018). Additionally, measures of irrational beliefs that are specific to populations are recommended (Terjesen et al., 2009), further justifying use of this inventory.

2.3.2. Sport anxiety scale-2 (SAS-2)

The SAS-2 (Smith et al., 2006) assesses trait anxiety prior to performance. Using a 4-point Likert scale across 21-items, the measure assesses somatic anxiety, worry, and concentration disruption. These factors, particularly anxiety and worry, were identified as negative, unhealthy and maladaptive emotional outcomes by the participant following an initial consultation and review of objective observer comments that identified avoidance of conflict over dissent as a key area for development. The SAS-2 reports good internal consistency ($\alpha = 0.91$), construct validity, test-retest reliability (Smith et al., 2006) and has previously been administered to sports officials (Maxwell-Keys et al., 2022), justifying its use.

2.3.3. Football association observer report & club marks

To address the limitation of an over-reliance on self-reporting in REBT literature (Jordana et al., 2020), performance was measured via Football Association (FA) observer reports and Club Marks. The FA observer, who must be a qualified referee and have completed the FA's observer training, assesses the referee using several criteria. These include the difficulty of the game, judgment of major decisions, match control and player management, with a total score out of 100 being awarded. To control for maturation (e.g., the natural improvement of a performer over time; Barker et al., 2011), and to enhance internal validity (e.g., to ascertain if any improvement was attributable to the intervention or other variables such as natural development), average changes in observer marks between the 2022/23 and 2023/24 seasons were collated. Observer marks for 86 officials over the two seasons were averaged to act as a control and thus determine the expected level of maturation for Level 4 officials in Gerard's pool.

In addition to observer marks, Club Marks were also collected from Gerard throughout the 2023/24 season and compared to the previous year. Club Marks are scores, out of 100, given to referees by the two teams that the official oversees. Marks are awarded using several criteria, including appearance, time management, match control, and key match decisions. Again, Club Marks from the other 86 Level 4 officials in Gerard's pool were also averaged for both the 2022/23 and 2023/24 seasons to determine expected levels of change.

2.3.4. Procedure and intervention

An initial screening interview was conducted over Zoom (Zoom Video Communications, California, USA) to meet two objectives. First, to outline to the participant what would be expected from him in terms of participation (e.g., participation in 5 60-minute weekly REBT sessions and completion of homework sheets after each session) and time commitments. This was done to improve participant commitment, an identified antecedent to effective mental training development in sport (Vealey, 2024). The second objective was to, if possible, establish the participant's 'critical adversity', an important feature of effective REBT interventions and defined as the most relevant inference in the chain of events (e.g., the underlying belief mediating unhealthy consequences; Bowman & Turner, 2022; Ellis & Dryden, 1999).

Using the GABCDE framework, the intervention involved 5 one-to-one sessions conducted online, each lasting approximately 60 min, and led by the lead researcher who holds the Primary Certificate in REBT. The number, and duration, of meetings was selected due to the number of sessions identified within studies that demonstrated rigorous inclusion criteria for a systematic review of REBT interventions being between 2–11 (Jordana et al., 2020), with the majority lasting longer than 30 min each. As social validation data from a referee exposed to 4 REBT-based interventions (Maxwell-Keys et al., 2022) indicated that they would have liked to have discussed REBT on more occasions, 5 meetings was justified. Turner (2019) identified six stages for the application of REBT with athletes ((i) recognise: education about the GABCDE framework and understanding of the effects of irrational beliefs; (ii) evidence: assistance in disputation of beliefs using evidence; (iii) logic: assistance in disputation of beliefs using logic; (iv) pragmatics: assistance in disputing beliefs based on functionalism; (v) replace: work with participant to develop new, rational beliefs; (vi) commit: assistance with how the participant can apply their effective, new beliefs independently). Therefore, each session progressed sequentially through each stage, with replacement of beliefs and

commitment to new beliefs combined as seen in recent literature (e.g., Maxwell-Keys et al., 2022; Turner, 2019). In addition to themes of each session, strategies to dispute irrational beliefs (e.g., imagery, credos, paradoxical arguments; Ellis, 1995; Turner, 2022) were discussed when appropriate. Based on examples given by Ellis and Dryden (1999), strategies used to dispute irrational beliefs and other parts of session content were reinforced with worksheets completed independently by Gerard between sessions. The use of worksheets is identified as fundamental to the practice of REBT and applied in the majority of REBT interventions (Dryden & Branch, 2008; Jordana et al., 2020). Table 1 provides an overview of the indicative content for each session and worksheet tasks.

Measures were distributed each week following an REBT session, and thereafter every six weeks until the end of the football season, totalling three 'follow up' points. This time frame was chosen to allow for a suitable amount of time to elapse following the intervention and for naturally occurring events that may promote irrational beliefs and unhealthy, negative emotions (e.g., referee observations, mistakes) to occur. Additionally, taking multiple measurement points increases the internal validity of results (Barlow et al., 2009; Campbell & Stanley, 1963). Eight weeks later, measures were completed again to assess retention.

To enhance social validation of the findings, one interview with Gerard and one with Gerard's coach and one of his observers from the previous two seasons took place. The interview with Gerard's coach and observer lasted approximately 45 min and was conducted to ascertain whether the coach and observer, both experienced stakeholders in referee development, noticed any changes in Gerard over the 2023/24 season and, if so, whether this was, or was not, consistent with what would be expected because of maturation. To accomplish this aim, the researcher did not disclose any details of the intervention, including its findings, and asked the coach and observer for their views on Gerard's performance over the 2023/24 season. When improvements were identified, participants were asked what they attributed such developments to. Following transcription of the interview, quotes were triangulated with graphical and statistical data to increase internal validity, by identifying no other possible causes for any behavioural change, and ecological validity. The social validation interview with Gerard lasted approximately 60 minutes and took place after the retention test (July 2024), with the independent researcher and lead author identifying themes independently before discussing results and establishing a consensus of findings.

Table 1
Overview of REBT session titles, indicative content and homework themes.

Session number	Title of session	Indicative content	Worksheet themes
1	Recognise	The GABCDE framework; the mediating effect of beliefs; the role of emotions in Stoicism	A-C/ABC thinking; questioning how helpful our goals are; identifying demands we have regarding our goals and the emotions they produce
2	Evidence	Questioning critical adversity using truth; self-acceptance	Disputation exercises; checking understanding of universal self-acceptance; the 'I' task (acknowledging we, as humans, do good and bad things, but neither define us); questioning the truth of their demands
3	Logic	Defining and using logic to challenge beliefs; why we do not have to, even if we want to; benefits of rational thinking	Disputation of critical adversity; cue card exercise (writing irrational beliefs on one side, and their rational alternative on the other); understanding the benefits of rational beliefs
4	Pragmatics	Contemplation around the utility of our beliefs; 'double-think' of beliefs (e.g., when they might be useful); paradoxical arguments	Review of the GABCDE model; the writing of their own refereeing 'credo' (see Deen et al., 2017); paradoxical arguments
5	Replace and commit	Establishing new, rational alternatives and a review of activities to reinforce them; imagery	Review of the referee's credo; 'what if' situations and rational responses; rational imagery

2.3.5. Analytic strategy

Consistent with traditional methods of data analysis in single-case research, quantitative data (e.g., IBSSO and SAS scores) were primarily analysed visually (Barker et al., 2011). Graphical analysis of data (e.g., observing graphs) is recommended to identify clear effects of an intervention (Kinusaga et al., 2004). Additionally, the single-case study design and less than five data-points in some stages discouraged strategies such as autocorrelation (Crosbie, 1993; Ottenbacher, 1986; de Winter, 2013). Furthermore, graphical analysis is best placed to meet Hrycaiko and Martin's (1996) suggestion that significant effect of an intervention is determined by observing immediacy of effects, minimal number of overlapping data points, and the magnitude of effect size between pre-and post-intervention stages.

To complement the visual analysis of data, the percentage of non-overlapping data (PND) statistic (Scruggs & Mastropieri, 2001) was calculated to further meet Hrycaiko and Martin's (1996) recommendations, as well as the use of Cohen's *d* between each stage to calculate the strength of the intervention. Interpretation of Cohen's *d* was based upon previously identified criteria for small (< 0.87), medium (0.87 – 2.67), and large (> 2.67) effect sizes (Parker & Vennest, 2009). Qualitative data collected from the observer and coach interview was assessed to complement data analysis and support internal validity, reflecting the pragmatic position of the lead researcher. Pragmatism posits that practical problems require practical solutions (Giacobbi et al., 2005). Therefore, to avoid misattributing benefits, an independent researcher conducted and analysed the interviews with the observer and coach.

3. Results

Initial consultation with Gerard indicated he would like to achieve promotion to Level 3 and identified that not dealing with dissent was a significant area of feedback that had been previously provided by his coach and observers. Gerard stated that concern about confronting dissenting individuals would potentially highlight real or perceived errors, resulting in the unhealthy behaviour of avoidance, came from his belief that he should be seen as competent. The emotion promoted by this demand was identified as anxiety in the initial consultation, with Gerard disclosing that he often feels very nervous both immediately prior to matches and days before.

3.1. Irrational beliefs

A medium ($d = 2.34$) decrease (61 to 34.60; −43.28 %) in compound irrational beliefs was reported between pre- and post-intervention stages (Table 2). There were also medium reductions across peer-rejection demands (8 to 4.80; −40 %), emotional control demands (8 to 5.40; −32.50 %), and self-depreciation (27 to 15.60; 42.23 %; $d = 1.56$; 1.94; 2.09 respectively), and a large ($d = 3.32$) decrease (18 to 8.80; −51.12 %) in approval. Between the post-intervention and follow-up stage (average of three scores taken at six-week intervals), a medium ($d = 1.11$) decrease (34.60 to 24.33; −29.68 %) in irrational beliefs was reported, with small to medium ($d = 0.77$ to 2.19) decreases (−20.45 % to −44.44 %) across the four factors measured by the IBSSO. A small ($d = 0.67$) decrease (34.60 to 27; −21.97 %) in irrational beliefs was seen between the post-intervention and retention stages (taken 26-weeks

Table 2
Mean values, standard deviations, percentage change and effect size scores for the core and compound irrational belief scores between pre-intervention phase (A), intervention phase (B), follow-up stage average (A-FU), and retention stage (R). Mean, percentage change scores, and effect size scores have also been presented for the core and compound anxiety scores for the pre- and post-intervention time-point, post-intervention and follow-up time-point (mean average), and the post-intervention and retention time-point.

	Pre-Intervention (A)	*Post-Intervention (B)*	*A-B (% change)*	*A-B (Effect size)*	*Follow-up 1 (FU1)*	*FU2*	*FU3*	A-FU (% change)	*B-FU (% change)*	*B-FU (Effect size)*	*Retention (R)*	*A-R (% change*	*B-R (% change)*	*B-R (Effect size)*
Self-depreciation	27	15.60 (5.46)	−42.23	2.09	11	11	12	−53.84	−27.37	0.83	13	−51.85	−16.67	0.48
Peer-rejection demands	8	4.80 (2.05)	−40	1.56	3	3	3	−62.50	-37.5	1.10	3	−62.50	−37.50	0.88
Emotional control demands	8	5.40 (1.34)	−32.50	1.94	3	3	3	−62.50	−44.44	2.19	3	−62.50	−44.44	1.79
Approval	18	8.80 (2.77)	−51.12	3.32	7	6	8	−61.11	−20.45	0.77	8	−55.56	−9.09	0.29
IBSSO score	61	34.60 (11.30)	−43.28	0.2.34	24	23	26	−60.11	−29.68	1.11	27	−55.74	−21.97	0.67
Worry	21	10.20 (0.84)	−51.43	12.91	13	12	13	−39.67	+24.22	3.26	10	−52.38	−1.96	0.24
Concentration disruption	6	5 (0.00)	−16.70	N/A	6	5	7	0	+20.00	1.73	6	0	+20.00	N/A
Somatic trait anxiety	18	12.20 (2.95)	−32.23	1.97	9	9	10	−48.17	−23.52	1.18	12	−33.33	−1.64	0.07
Sport Anxiety Scale score	45	27.40 (3.29)	−31.12	5.36	28	26	30	−37.78	+2.19	0.21	28	−37.78	+2.19	0.18
Observer score (average)	72.18 (± 0.48)	72.94 (± 0.19)	+1.05	2.09	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Club Marks (average)	78.50 (± 2.99)	79.43 (±3.97)	+1.18	0.26	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

after the intervention), as well as a medium ($d = 1.79$) decrease (5.40 to 3; −44.44 %) in emotional control demands, and small ($d = 0.29$ to 0.88) decreases (−9.09 % to −37.5 %) in the remaining factors.

Visual analysis specified that the PND between pre- and post-intervention stages was 100 % for irrational beliefs, as well as an immediate effect reported by the introduction of the intervention (Fig. 1). While there was a slight increase in irrational beliefs reported in week 3, this increase was lower than the pre-intervention score, with lower levels of irrational beliefs reported during intervention, post-intervention, and retention stages in comparison to the pre-intervention score.

3.2. Sport anxiety

A large ($d = 5.36$) decrease (45 to 27.40; −31.12 %) in anxiety was reported between pre- and post-intervention stages, with a large ($d = 12.91$) decrease (21 to 10.20; −51.43 %) in the worry dimension of the SAS, and a medium ($d = 1.97$) decrease (18 to 12.20; −16.70 %) in somatic trait anxiety. There was a decrease (6 to 5; −16.70 %) in concentration disruption, however no effect size could be calculated as the standard deviation (needed to calculate effect size) for both scores was 0. A small ($d = 0.21$) increase (27.40 to 28; 2.19 %) in anxiety was reported between the post-intervention and 18-week follow-up stage. A small ($d = 0.18$) increase (27.40 to 28; 2.19 %) in anxiety was reported between the post-intervention and retention stage, taken 26-weeks after the intervention.

Visual analysis specified that the PND between pre- and post-intervention stages was 100 % for anxiety, as well as an immediate effect reported by the introduction of the intervention (Fig. 1). Additionally, while there was a slight increase in anxiety reported throughout the follow-up stages, this was lower than levels reported pre-intervention.

3.3. Club marks

Gerard's average Club Mark results increased from an average of

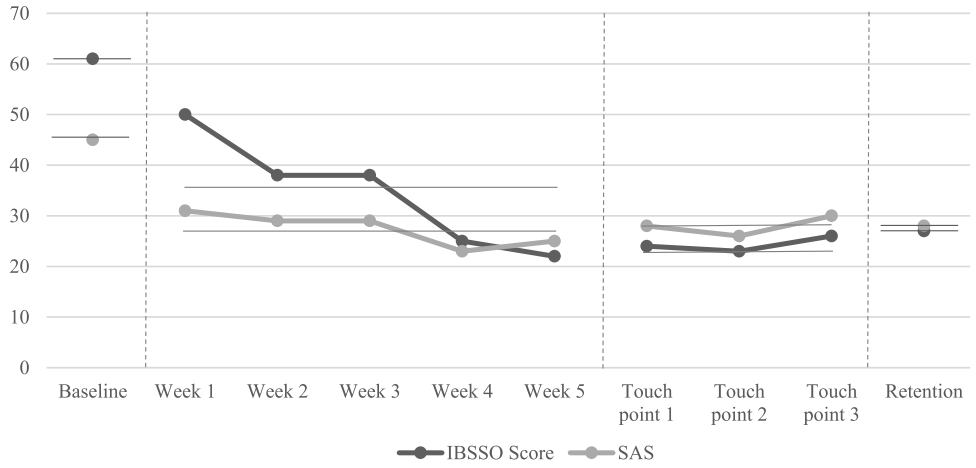

Fig. 1. Pre-intervention, intervention stage, follow-up stage, and retention scores for the Irrational Beliefs Scale for Sports Officials (IBSSO) and Sport Anxiety Scale-2 (SAS).

78.50 (SD = 2.99) pre-intervention to 79.43 (SD = 3.97) in his post-intervention year, representing a small (d = 0.26) increase (1.18 %) in performance from the perspective of club representatives (Table 2). The PND between Gerard's pre-intervention season (2022/23) and post-intervention season (2023/24) was 12 %. By way of comparison, referees in the same officiating pool (e.g., location and level) as Gerard reported an increase between season 2022/23 and season 23/24, from an average of 77.70 (SD = 1.86) to 78.11 (SD = 2.55), representing a small (d = 0.18) improvement (0.53 %).

3.4. Observer scores

Gerard's scores from observers increased between season 2022/23 and season 2023/24, from an average of 72.18 (SD = *0*.48) to 72.94 (SD = *0*.19), representing a medium (d = 2.09) increase (1.05 %) in performance from the perspective of qualified observers (Table 2). Reflecting results reported from club representatives, visual analysis of data (Fig. 2) shows increased pre- and post-intervention performance and consistency in performance. The PND between Gerard's pre-intervention season (2022/23) and post-intervention season (2023/24) was 100 %. The scores obtained by the referees in the same pool as Gerard between season 2022/23 and season 23/24 decreased from an average of 72.42 (SD = *0*.06) to 72.11 (SD = *0*.07), representing a large (d = 4.79) regression (−1.05 %) in performance.

3.5. Social validation data

A consensus between Gerard, his referee coach, and the observer was found to support the self-reported decrease in irrational beliefs and anxiety, as well as the benefits of reduced irrational beliefs on behaviour. For example, Gerard stated:

> I just really started to enjoy being on the pitch and I was relaxed a lot more. You could argue that if I'm doing an intervention to help me deal with dissent you'd expect my card count to go up. But actually, I don't think it changed that much because I was dealing with it on the pitch better, more proactively, and with more confidence…I know I can deal with it…I used to walk out onto a game with a, you know, big heartbeat and a bit of nervousness. But now I walk out thinking 'I know I can deal with it, so I might as well go out and enjoy it and crack on with it.'

Gerard's assertion that he was feeling calmer and more confident was echoed by his referee coach:

> We had this whole 'oh the assistant is late, what's our back-up plan?' And he managed the whole situation very well. He was very calm, very cool. He just managed this whole event. So, the biggest thing for me is that his management of the event has improved immensely. I'd also say his man-management improved, his management of people. He's now become a very good man-manager of people. Where possibly he was a little bit more 'straight down the line' with law last year, he now uses that grey area a bit more when he can…He's gone from a reactive referee to a proactive referee.

Proactive behaviour was also identified as an area of improvement by Gerard's observer, who commented:

> His management of players has improved. Everyone could see he was warning the player, 'be careful with the challenge', and even though there was only two minutes to go, he was there, and he was quick to respond to it.

In addition to the reduction of anxiety reported, an increase of enjoyment even when faced with real or perceived adversity was identified. For example, he stated: "I just really enjoyed it! Whereas before I definitely would have had that trepidation of 'oh this is a big observation.'" Gerard continued, "These interventions have made me enjoy my football a lot more…I feel really confident. I feel real pragmatic." Although not measured, self-efficacy was also identified by Gerard's observer as an area of improvement, "I would say he's more confident this year than he was last year. I think that's because he knows he's a better referee." Enhanced confidence was also seen off the pitch, with Gerard's coach stating:

> I would say away from refereeing he has become more competent in his support of others as well. I think that's a real strong point. He's become more competent at that. His overall confidence in his officiating, not just his own games but generally in the game has improved. And he's become a well-respected member of the team.

The long-term reduction in irrational beliefs and anxiety seen in the change in scores between the pre-intervention and retention stages are also validated in the interview with Gerard. For example, when asked if the intervention has helped his chances of promotion, Gerard said, "I think the key thing is how these changes have affected me positively on the football pitch…I think REBT is kind of like the 'oil in the engine.'"

While a consensus was demonstrated considering the effectiveness of an REBT intervention in decreasing irrational beliefs and maladaptive outcomes (emotional and behavioural), there was less of an agreement regarding the most effective disputation method and whether REBT could be applied to all officials. Use of the Athlete Rational Resilience

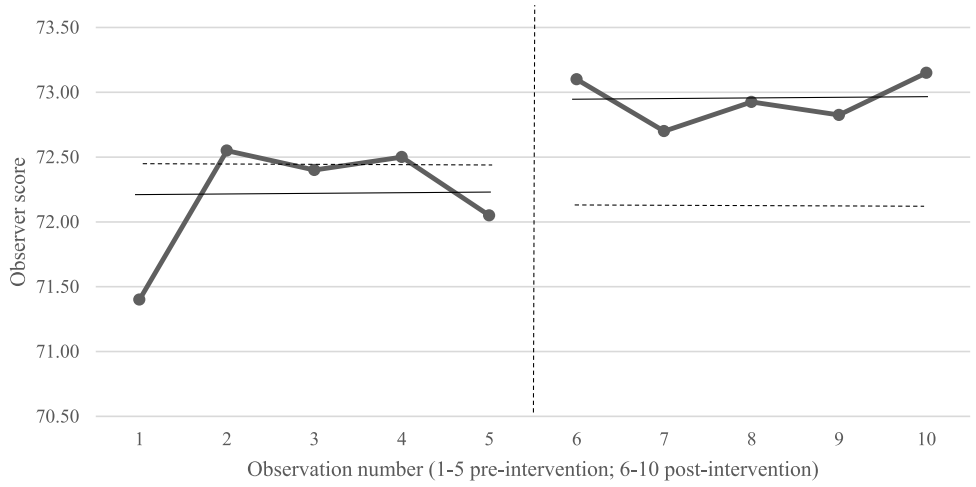

Fig. 2. Participant's referee observer scores for the 2022/23 season (pre-intervention) and the 2023/24 season (post-intervention), mean values for each stage (solid line), and average observer scores (dashed line) for Level 4 referee pool (N = 86).

Credo and cue cards to dispute irrational beliefs and promote rational alternatives was supported, as Gerard stated, "Putting the [personalised referee resilience] credo and cue cards into effect, and understanding the REBT framework, it was an effective intervention." Gerard also validated the use of the paradoxical argument: "That for me was really useful." However, when discussing the use of rational imagery as a method of both disputation and to establish effective new beliefs, Gerard claimed, "I didn't really engage [with] the imagery script…I read through it and I did it. But I didn't go back to it." The length of the intervention stage was also questioned, as while Gerard said, "I didn't feel the speed [of the intervention] was problematic", he also stated, "it [the intervention stage] definitely felt quite rushed." Regarding the content of the intervention stage, Gerard emphasised that, "Although the interventions were great, a lot of the good things came from the discussion."

4. Discussion

This study sought to evaluate the effectiveness of an REBT intervention on irrational beliefs, anxiety, and performance with a non-elite sports official over the course of a playing season. As hypothesised, an REBT intervention reduced irrational beliefs, with this reduction maintained throughout the officiating season and retained in the off-season (measured 26-weeks after the intervention was completed). Further, reduced sport related anxiety was reported following the intervention stage, and while there was a small increase in anxiety during the 18-week follow-up period, this (and the score reported at the retention point 26-weeks after the conclusion of the intervention) was lower than the pre-intervention score.

A decrease in anxiety following an REBT intervention is consistent with the predictions of REBT theory, which proposes that irrational beliefs promotes unhealthy negative emotions, and rational beliefs promoting healthy alternatives (Dryden & Branch, 2008; Ellis, 1998). It is also in-line with contemporary research findings that have reported reductions in anxiety amongst sporting populations following REBT interventions (e.g., see Bowman & Turner, 2022; Kara et al., 2023). The study reported here has extended the current literature base by assessing sport anxiety over the course of a football season, with longitudinal studies lacking in previous research concerning both REBT interventions and sports officials (Cunningham et al., 2022; Jordana et al., 2020). Although there was a small increase in sport related anxiety reported throughout the season, this was still lower than levels reported pre-intervention and likely attributable to perceived stressors (e.g., observations and negative social interactions). This finding is consistent with the assertion that REBT does not eliminate unhealthy negative emotions but reduces their frequency and intensity by replacing irrational beliefs with rational alternatives (Turner, 2022).

The increase in observer marks following the intervention is also consistent with recent research findings reporting an increase in sports performance following REBT interventions (e.g., Maxwell-Keys et al., 2022; Turner et al., 2019; Wood et al., 2017). While a methodological limitation in much REBT research is that emotional and behavioural consequences are self-reported (Jordana et al., 2020), the increase in officiating performance in this study was taken from scores by independent and qualified assessors. Additionally, the large decrease in performance seen in the participant's referee pool suggests that Gerard's improvement can be attributed to the intervention with qualitative data from the social validation interviews supporting this inference. While Gerard's Club Marks did not improve to a significant level above his peers, this may reflect the limitations of this metric (e.g., some teams may score higher or lower than others, or judge performance on whether decisions went in their favour). As Gerard's Club Marks improved in line with his peers, it suggests that approach behaviours do not harm perceived competence.

A specific, maladaptive behaviour that was identified as an area of improvement for Gerard by observers in the 2022/2023 season was not dealing with dissent effectively, with the cause for this identified as Gerard's irrational belief that he must be seen as competent, and therefore approved of, by others. Avoidance-based strategies have been previously identified in qualitative and quantitative research as an approach adopted by referees at all levels, and one that contributes to inaccurate decision-making and negative, unhealthy emotions (Neil et al., 2013; Nevill et al., 2017). The improvement in observer scores, which Gerard's coach and observer attributed to him being more proactive, represents the promotion of adaptative, goal-congruent behaviours. Thus, REBT may be an effective method when working with sports officials who, given the frequency of verbal abuse, criticism, and scrutiny they are subject to, may otherwise adopt avoidance-focussed strategies for coping (Brick et al., 2022; Lishman et al., 2024; Webb et al., 2021).

Results showed four other benefits following the REBT intervention. The first was an increase in enjoyment, identified by both Gerard and his coach in the social validation interviews. Enjoyment is a characteristic of intrinsic motivation, attributed in this intervention to enhanced self-determination (Deci & Ryan, 1985; Ryan & Deci, 2000). Given the growing concern regarding retention levels of sports officials worldwide (see Cleland et al., 2018; Hancock et al., 2022), the benefits of increased self-determination, such as decreasing withdrawal (Ryan & Deci, 2002) provide further evidence of REBT effectiveness with this population. The second benefit was the increase in self-efficacy reported by Gerard, his coach, and observer, a finding consistent with previous research reporting increased self-efficacy following REBT intervention (Wood et al., 2017). A third advantage of REBT's use is the sustained intervention effects, evidenced in the retention test. This is likely to be attributable to the efficacy of the disputation methods, as well as integral features of REBT. For example, the use of cue cards encourages individuals to continually add irrational beliefs when they experience events that trigger them. Hence, this strategy responds to suggestions that interventions should prepare participants to identify and dispute unhelpful beliefs when they are experienced (Maxwell-Keys et al., 2022). This lack of dependency on the consultant is an advantage of REBT over other therapeutic approaches (e.g., psychoanalysis), promoting participant autonomy (Ellis and Blau, 1998) and is consistent with REBTs aim of promoting long-range fulfilment rather than immediate and external gratification (Ellis, 1998; Turner, 2022). The final benefit can be seen following visual analysis of Gerard's observer marks, and IBSSO and SAS scores, with greater consistency in marks reported post-intervention for all measures. A possible explanation can be found in the Expanded Sport Official's Decision-Making Model (Kostrna & Tenenbaum, 2022), whose framework posits individual emotions mediate decision-making and subsequent behaviours. Consequently, increased emotional regulation promotes enhanced consistency in decision-making, a valued quality in sports officials.

Acknowledging the limitations of the study can further refine delivery of REBT to sports officials. From a methodological perspective, while there is no 'rule of thumb' regarding how many baseline measurements are necessary, several are recommended to establish stability (Barker et al., 2020). A pragmatic approach to baseline measures was taken due to time constraints enforced by the participant's desire to complete the intervention stage as close to the start of the season as possible, and to maximise the number of follow-up measurements recorded as well as ensure all observer marks were obtained post-intervention. However, this meant only one baseline measurement was recorded. While eight baseline assessments have been recommended (Barker et al., 2020), multiple baselines are not necessary should data still provide an appropriate (e.g., stable) evaluation (Barker et al., 2011). As the IBSSO has reported a test-retest reliability coefficient of 0.89 (Carrington et al., 2025), stability of IBSSO scores over time is likely, hence comparison between post-intervention score, follow-up scores, retention score and pre-intervention results is still meaningful. Furthermore, this study applied three follow-up assessment points, with previous research only employing one (e.g., Maxwell-Keys et al., 2022),

increasing reliability of data by promoting stability in this stage (Barker et al., 2011), and the Hawthorne effect was controlled for by demonstrating that, upon introduction of the intervention, the data reports a clear change in direction. Additionally, qualitative data gathered from social validation interviews enhanced the internal validity of the study, as well as providing opportunities for continual consultant reflections to shape future interventions. For example, an increased number of sessions may be beneficial to provide more opportunity for discussion, an aspect of REBT Gerard claimed to be valuable.

A further limitation may be the lack of specificity regarding selection of disputation methods. In the case of this study, all disputation methods were selected *a priori*, ergo it may be beneficial for future research to assess suitability of intervention methods. For example, while Gerard did not find the imagery intervention particularly helpful, it is uncertain as to whether this approach is ill-advised, contrary to commendations found in relevant literature (e.g., Aspin et al., 2023; Ellis & Dryden, 1999), or whether this approach was not suitable for him. To address this issue, administering measures to assess appropriateness of interventions, such as the Vividness of Visual Imagery Questionnaire (Marks, 1973), may be prudent. This is also a limitation of case study designs, in that wider application cannot be assumed. Therefore, further investigation with officials from a variety of ages, genders and levels (especially officials in their first two years of practice; see Webb et al., 2021) is advised to ascertain if a universal approach is recommended, or whether consultants are advised to recognise preferred strategies for individuals to enhance professional practice. Additionally, further investigation of REBT interventions with multiple participants and control groups may strengthen support for REBT as a suitable model of psychological support for sport officials. Consequently, results should be seen as preliminary with future research recommended. Finally, to better understand the effectiveness of each intervention and finesse delivery, assessing frequency and strength of irrational beliefs, along with their rational alternative, is advised in future studies (Ellis and Dryden, 1999; Turner, 2022).

The present study has reported a single case-study which has provided evidence that REBT offers suitable psychological support to referees that enhances performance. In doing so, it has also addressed two significant limitations of previous research identified by Cunningham et al. (2022), namely the need for non-expert samples and longitudinal studies when researching sports officials. The study has also addressed other limitations in REBT literature, in particular the lack of ecologically valid studies and the over-reliance on self-reported data (Jordana et al., 2020; Maxwell-Keys et al., 2022), and strengthens the efficacy of online interventions, an approach seemingly only used once to date in published research (Cunningham & Turner, 2016) which, considering the limited time officials have for development (MacMahon et al., 2015), is practically appealing. Given the urgency regarding referee retention, the need for effective and efficient psychological support, and increased scrutiny on sports officials' performance, this study provides a framework and offers support for the applied use of REBT with this population.

CRediT authorship contribution statement

Stuart C. Carrington: Writing – original draft, Project administration, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **Martin J. Turner:** Writing – review & editing, Supervision, Methodology, Conceptualization. **Jamie S. North:** Writing – review & editing, Supervision, Conceptualization. **Abbe Brady:** Writing – review & editing, Validation, Conceptualization. **Emily A. Martin:** Formal analysis, Data curation.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

References

Adie, J. M., Renshaw, I., Russell, S., Polman, R., & Mann, D. L. (2024). That's out! how expert umpires make leg-before-wicket judgements in cricket. *Journal of Sports Sciences, 42*, 455–464.

Aspin, G., Kaski, S., & Damgaard-Sørensen, U. (2023). Schema therapy (ST). In M. J. Turner, M. V. Jones, & A. G. Wood (Eds.), *Applying cognitive behavioural therapeutic approaches in sport* (pp. 95–106). Routledge.

Bailey, R., & Turner, M. (2023). The effects of a brief online Rational-Emotive-Behavioural-Therapy program on coach irrational beliefs and well-being. *The Sport Psychologist, 37*, 266–273.

Barker, J. B., McCarthy, P., Jones, M., & Moran, A. (2011). *Single-case research methods in sport & exercise psychology*. Routledge.

Barker, J. B., Slater, M. J., Pugh, G., Mellalieu, S. D., McCarthy, P. J., Jones, M. V., & Moran, A. (2020). The effectiveness of psychological skills training and behavioural interventions in sport using single-case designs: A meta regression analysis of the peer-reviewed studies. *Psychology of Sport & Exercise, 51*, Article 101746.

Barlow, D. H., Nock, M. K., & Hersen, M. (2009). *Single-case experimental designs: Strategies for studying behaviour change* (3rd edn). Pearson.

Bowman, A., & Turner, M. J. (2022). When time is of the essence: The use of rational emotive behaviour therapy (REBT) informed single-session therapy (SST) to alleviate social and golf-specific anxiety, and improve wellbeing and performance, in amateur golfers. *Psychology of Sport & Exercise, 60*. https://doi.org/10.1016/j.psychsport.2022.102167

Brick, N. E., Breslin, G., Shevlin, M., & Shannon, S. (2022). The impact of verbal and physical abuse on distress, mental health, and intentions to quit in sports officials. *Psychology of Sport & Exercise, 63*. https://doi.org/10.1016/j.psychsport.2022.102274

Buchbinder, E. (2010). Beyond checking: Experiences of the validation interview. *Qualitative Social Work, 10*, 106–122.

Campbell, D, T., & Stanley, J. C (1963). *Experimental and quasi-experimental designs for research*. Houghton-Mifflin.

Carrington, S. C., Turner, M. J., North, J., & Brady, A. (2025). Development, validation, and reliability of the Irrational Beliefs Scale for sports officials (IBSSO). *Frontiers in Psychology, 16*. https://doi.org/10.3389/fpsyg.2025.1571447

Chadha, N. J., Turner, M. J., & Slater, M. J. (2019). Investigating irrational beliefs, cognitive appraisals, challenge and threat, and affective states in golfers approaching competitive situations. *Frontiers in Psychology, 10*, 2295. https://doi.org/10.3389/fpsyg.2019.02295

Cleland, J., O'Gorman, J., & Webb, T. (2018). Respect? An investigation into the experience of referees in association football. *International Review for the Sociology of Sport, 53*, 960–974.

Crosbie, J. (1993). Interrupted time-series analysis with brief single-subject data. *Journal of Consulting & Clinical Psychology, 61*, 966–974.

Cunningham, I., Mergler, J., & Wattie, N. (2022). Training and development in sports officials: A systematic review. *Scandinavian Journal of Medicine & Science in Sports, 32*, 654–671.

Cunningham, R., & Turner, M. J. (2016). Using rational emotive behaviour therapy (REBT) with mixed martial arts (MMA) athletes to reduce irrational beliefs and increase unconditional self-acceptance. *Journal of Rational-Emotive & Cognitive-Behaviour Therapy, 34*, 289–309.

Davis, H., & Turner, M. J. (2020). The use of rational emotive behaviour therapy (REBT) to increase the self-determined motivation and psychological well-being of triathletes. *Sport, Exercise & Performance Psychology, 9*, 489–505.

Deci, E. L., & Ryan, R. M. (2002). Overview of self-determination theory: An organismic dialectical perspective. In R. M. Ryan, & E. L. Deci (Eds.), *Handbook of self-determination research* (pp. 3–33). University of Rochester Press.

Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behaviour*. Plenum Publishing Corporation.

Deen, S., Turner, M. J., & Wong, R. S. K. (2017). The effects of REBT, and the use of credos, on irrational beliefs and resilience qualities in athletes. *The Sport Psychologist, 31*, 249–263.

Dixon, M., & Turner, M. J. (2018). Stress appraisals of UK soccer academy coaches: An interpretative phenomenological analysis. *Qualitative Research in Sport, Exercise & Health, 10*, 620–634.

de Winter, J. C. F. (2013). Using the student's "t"- test with extremely small sample sizes. *Practical Assessment, Research & Evaluation, 18*, 1–13.

Downward, P., Webb, T., & Dawson, P. (2023). Referee abuse, intention to quit and well-being. *Research Quarterly for Exercise & Sport*. https://doi.org/10.1080/02701367.2023.2184459

Dryden, W., & Branch, R. (2008). *The fundamentals of rational emotive behaviour therapy*. Wiley.

Ellis, A. (1955). New approaches to psychotherapy techniques. *Journal of Clinical Psychology Monograph Supplement, 11*, 1–53.

Ellis, A. (1998). *How to control your anxiety before it controls you*. Robinson.

Ellis, A., & Blau, S. (1998). *The albert ellis reader: A guide to well-being using rational emotive behaviour therapy*. Citadel Press.

Ellis, A., & Dryden, W. (1999). *The practice of rational emotive behaviour therapy* (2nd Ed.). Free Association Books.

Elsworthy, N., & Blair, M. R. (2024). Movement, positioning, and awareness for officials. In T. Webb, D. J. Hancock, P. Phillips, & J. K. Tingle (Eds.), *Managing & developing sports officials: Officiating excellence* (pp. 163–175). Routledge.

Frank, I. (1986). Psychology as a science: Resolving the idiographic-nomothetic controversy. In J. Valsiner (Ed.), *The individual subject and scientific psychology* (pp. 17–36). Plenum Press.
Friesen, A. P., Devonport, T. J., & Lane, A. M. (2017). Beyond the technical: The role of emotion regulation in lacrosse officiating. *Journal of Sports Sciences, 35*, 579–586.
Giacobbi, P. R., Poczwardowski, A., & Hager, P. (2005). A pragmatic research philosophy for applied sport psychology. *The Sport Psychologist, 19*, 18–31.
Hancock, D. J., Bennett, S., Roaten, H., Chapman, K., & Stanley, C. (2021). An analysis of literature on sport officiating research. *Research Quarterly for Exercise & Sport, 92*, 607–617.
Hancock, D. J., Paradis, K. F., Martin, L. J., & Evans, M. B. (2022). Investigating perceptions of cohesion, performance, and satisfaction in sport officiating groups. *Managing Sport & Leisure, 29*, 706–721. https://doi.org/10.1080/23750472.2022.2092536
Helsen, W. F., Danevski, S., Dias, J., Monea, D., Ristić, M., & Sánchez, J. S. (2024). The acquisition of perceptual-cognitive expertise in sports officials: Can we make the human brain smarter and faster? In T. Webb, D. J. Hancock, P. Phillips, & J. K. Tingle (Eds.), *Managing & developing sports officials: Officiating excellence* (pp. 139–151). Routledge.
Hrycaiko, D., & Martin, G. L. (1996). Applied research studies with single-subject designs: Why so few? *Journal of Applied Sport Psychology, 8*, 183–199.
Jones, J., & Turner, M. (2023). Making a difference: A review and auto-ethnographic account of applying Rational Emotive Behaviour Therapy (REBT) in policing. *Journal of Rational-Emotive & Cognitive-Behaviour Therapy, 41*, 334–361.
Jordana, A., Turner, M. J., Ramis, Y., & Torregrossa, M. (2020). A systematic mapping review on the use of Rational Emotive Behaviour Therapy (REBT) with athletes. *International Review of Sport and Exercise Psychology*. https://doi.org/10.1080/1750984X.2020.1836673
Kara, E., Türküm, A. S., & Turner, M. J. (2023). The effects of Rational Emotive Behaviour Therapy (REBT) group counselling program on competitive anxiety of student-athletes. *Journal of Rational-Emotive & Cognitive-Behaviour Therapy, 41*, 362–379.
Kittel, A., Larkin, P., Elsworthy, N., & Spittle, M. (2019). Video-based testing in sporting officials: A systematic review. *Psychology of Sport and Exercise, 43*, 261–270.
Kostrna, J., & Tenenbaum, G. (2022). Developing and testing the Expanded Sport Official's decision-making model. *International Journal of Sport & Exercise Psychology, 20*, 586–611.
Kinugasa, T., Cerin, E., & Hooper, S. (2004). Single-subject research designs and data analyses for assessing athletes' conditioning. *Sports Medicine, 34*, 1035–1050.
Lazarus, R.S. (1991). *Emotion and adaptation.* New York.
Lazarus, R. S. (2000). How emotions influence performance in competitive sports. *The Sport Psychologist, 14*, 819–834.
Lishman, T., Shannon, S., McDevitt-Petrovic, O., Breslin, G., & Brick, N. (2024). The impact of abuse experiences and coping responses on distress and mental health outcomes in sports officials. *International Journal of Sport & Exercise Psychology*. https://doi.org/10.1080/1612197X.2024.2389218
Livingston, L. A., Forbes, S. L., Wattie, N., Pearson, N., Camacho, T., & Varian, P. (2017). Sport officiating recruitment, development, and retention: A call to action. *Current Issues in Sport Science, 2*. https://doi.org/10.15203/CISS_2017.011
MacMahon, C., Mascarenhas, D., Plessner, H., Pizzera, A., Oudejans, R., & Raab, M. (2015). *Sports officials and officiating: Science and practice*. Routledge.
Marks, D. F. (1973). *Vividness of visual imagery questionnaire (VVIQ)* [Database record]. *PsychTests*. https://doi.org/10.1037/t05959-000
Maxwell-Keys, C., Wood, A. G., & Turner, M. J. (2022). Developing decision making in rugby union match officials using rational emotive behaviour therapy (REBT). *Psychology of Sport & Exercise, 58*. https://doi.org/10.1016/j.psychsport.2021.102098
Mojtahedi, D., Webb, T., Leadley, C. B., & Jones, M. (2022). Match officials and abuse: A systematic review. *European Sport Management Quarterly*. https://doi.org/10.1080/16184742.2022.2099441
Neil, R., Bayston, P., Hanton, S., & Wilson, K. (2013). The influence of stress and emotions on association football referees' decision-making. *Sport & Exercise Psychology Review, 9*, 22–41.
Nevill, A. M., Hemingway, A., Greaves, R., Dallaway, A., & Devonport, T. J. (2017). Inconsistency of decision-making, the Achilles heel of referees. *Journal of Sports Sciences, 35*(22), 2257–2261.
Nicholls, A. R., & Polman, R. C. (2007). Coping in sport: A systematic review. *Journal of Sports Sciences, 25*, 11–31.
Ottenbacher, K. J. (1986). *Evaluation clinical change: Strategies for occupational and physical therapists*. Williams & Wilkins.
Page, J., & Thelwell, R. (2013). The value of social validation in single-case methods in sport and exercise psychology. *Journal of Applied Sport Psychology, 25*, 61–71.
Parsonson, B. S., & Baer, D. M. (1978). The analysis and presentation of graphic data. In T. R. Kratochwill (Ed.), *Single subject research: Strategies for evaluating change* (pp. 101–165). Academic Press.
Parker, R. I., & Vannest, K. (2009). An improved effect size for single-case research: Nonoverlap of all pairs. *Behaviour Therapy, 40*, 357–367.
Plessner, H., & Betsch, T. (2001). Sequential effects in important referee decisions: The case of penalties in soccer. *Journal of Sport and Exercise Psychology, 23*, 254–259.
Plessner, H., & MacMahon, C. (2013). The sport official in research and practice. In D. Farrow, J. Baker, & C. MacMahon (Eds.), *Developing sport expertise: Researchers and coaching put theory into practice* (pp. 71–95). Routledge.
Raab, M., MacMahon, C., Avugos, S., & Bar-Eli, M. (2020). The referee's challenge: A threshold process model for decision making in sport games. *International Review of Sport & Exercise Psychology*. https://doi.org/10.1080/1750984X.2020.1783696
Ridinger, L. L., Warner, S., Tingle, J. K., & Kim, K. R. (2017). Why referees stay in the game. *Global Sport Business Journal, 5*, 22–37.
Roth, S., & Cohen, L. J. (1986). Approach, avoidance, and coping with stress. *American Psychologist, 41*, 813–819.
Rubin, H. J., & Rubin, I. S. (1995). *Qualitative interviewing the art of hearing data* (2nd Ed.). London: Sage.
Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist, 55*, 68. https://doi.org/10.1037/0003-066X.55.1.68
Schweizer, G., Plessner, H., Kahlert, D., & Brand, R. (2011). A video-based training method for improving soccer referees' intuitive decision-making skills. *Journal of Applied Sport Psychology, 23*, 429–442.
Scruggs, T. E., & Mastropieri, M. A. (2001). How to summarize single-participant research: Ideas and applications. *Exceptionality, 9*, 227–244.
Smith, R. E., Smoll, F. E., Cumming, S. P., & Grossbard, J. R. (2006). Measurement of the multidimensional sport performance anxiety scale in children and adults: The Sport Anxiety Scale-2. *Journal of Sport & Exercise Psychology, 28*, 479–501.
Sors, F., Tomé Lourido, D., Parisi, V., Santoro, I., Galmonte, A., Agostini, T., & Murgia, M. (2019). Pressing crowd noise impairs the ability of anxious basketball referees to discriminate fouls. *Frontiers in Psychology, 10*, 2380. https://doi.org/10.3389/fpsyg.2019.02380
Terjesen, M. D., Salhany, J., & Sciutto, M. J. (2009). A psychometric review of measures of irrational beliefs: Implications for psychotherapy. *Journal of Rational Emotive & Cognitive Behaviour Therapy, 27*, 83–96.
Turner, M. (2022). *The rational practitioner*. Routledge.
Turner, M. J. (2019). REBT in sport. In M. E. Bernard, & W. Dryden (Eds.), *Advances in REBT: Theory, practice, research, measurement, prevention and promotion* (pp. 307–335). Springer.
Turner, M. J., & Barker, J. B. (2013). Examining the efficacy of rational-emotive behaviour therapy (REBT) on irrational beliefs and anxiety in elite youth cricketers. *Journal of Applied Sport Psychology, 25*, 131–147.
Turner, M. J., & Bennett, R. (Eds.). (2018). *Rational emotive behaviour therapy in sport and exercise*. Routledge.
Turner, M. J., Allen, M. S., Slater, M. J., Barker, J. B., Woodcock, C., Harwood, C. G., & McFayden, K. (2018). The development and initial validation of the irrational performance beliefs inventory (iPBI). *European Journal of Psychological Assessment, 34*, 174–180.
Turner, M. J., Costello, N., Miller, A., & Wood, A. G. (2024). When not hitting your sales target is 'the end of the world': Examining the effects of rational emotive behaviour therapy on the irrational beliefs and emotional reactivity of UK-based sales professionals. *Stress & Health, 40*. https://doi.org/10.1002/smi.3391
Turner, M. J., Kirkham, L., & Wood, A. G. (2019). Teeing up for success: The effects of rational and irrational self-talk on the putting performance of amateur golfers. *Psychology of Sport & Exercise, 38*, 148–153.
Vealey, R. S. (2024). A framework for mental training in sport: Enhancing mental skills, wellbeing, and performance. *Journal of Applied Sport Psychology, 36*, 365–384.
Warner, S., Tingle, J. K., & Kellet, P. (2013). Officiating attrition: The experiences of former referees via a sport development lens. *Journal of Sport Management, 27*, 316–328.
Webb, T. (2017). Elite soccer referees: Officiating in the Premier League. *La Liga and Serie A. Routledge*.
Webb, T. (2022). The evolution of referees in the English Premier League. *Soccer in Society, 23*, 400–410.
Webb, T., Dicks, M., Thelwell, R., van der Kamp, J., & Rix-Lievre, G. (2020). An analysis of soccer referee experiences in France and the Netherlands: Abuse, conflict and level of support. *Sport Management Review, 23*, 52–65.
Webb, T., Rayner, M., & Thelwell, R. (2018). An explorative case study of referee abuse in English Rugby League. *Journal of Applied Sport Management, 10*. https://doi.org/10.18666/JASM-2017-V10-12-8834
Webb, T., Rayner, M., & Thelwell, R. (2019). An examination of match official's perceptions of support and abuse in rugby union and cricket in England. *Managing Sport & Leisure, 24*, 155–172.
Webb, T., Rayner, M., Cleland, J., & O'Gorman, J. (2021). *Referees, match officials and abuse: Research and implications for policy*. Routledge.
Wood, A. G., Barker, J. B., & Turner, M. J. (2017). Developing performance using rational emotive behaviour therapy (REBT): A case study with an elite archer. *The Sport Psychologist, 31*, 78–87.
Youssef, C. M., & Luthans, F. (2007). Positive organizational behaviour in the workplace: The impact of hope, optimism, and resilience. *Journal of Management, 33*, 774–800. https://doi.org/10.1177/0149206307305562