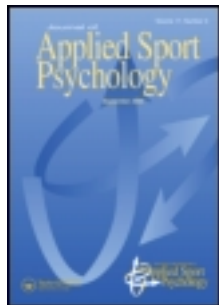


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Not the End of the World: The Effects of Rational-Emotive Behavior Therapy (REBT) on Irrational Beliefs in Elite Soccer Academy Athletes

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Not the End of the World: The Effects of Rational-Emotive Behavior Therapy (REBT) on

Irrational Beliefs in Elite Soccer Academy Athletes

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Abstract

Research applying Rational-Emotive Behavior Therapy (REBT) with athletes is sparse and findings are equivocal. REBT can be applied using education workshops, but previous studies in sport do not assess changes in irrational beliefs following REBT. This paper reports the effects of a single REBT education workshop on irrational beliefs in elite soccer academy athletes from pretest to posttest. The delivery of the REBT workshop is reported in detail. Statistical analyses indicate temporary reductions in irrational beliefs following the workshop. Results are discussed with reference to mechanisms of change, study limitations, workshop reflections, and recommendations for developing REBT workshops.

Keywords: youth sport, soccer, applied sport psychology, one group intervention, cognitive appraisal

Sport psychology literature has seldom documented the use of Rational-Emotive Behavior Therapy (REBT; Ellis, 1957) in applied settings (e.g., Turner & Barker, 2013), perhaps because of its clinical connotations (Marlow, 2009) or lack of anecdotal support from cognitive behavioral therapists (Trower & Jones, 2001). REBT is a cognitive behavioral counselling approach based on the premise that the beliefs an individual has in relation to failure, rejection, and poor treatment will mediate his or her perceptions of events, thus, influencing emotional and behavioral reactions (Ellis & Dryden, 1997). In REBT, rigid and extreme beliefs in relation to adversities are classified as irrational beliefs and lead to dysfunctional emotions (e.g., anxiety, unhealthy anger, depression), and in contrast, flexible and non-extreme beliefs are classified as rational beliefs and lead to functional emotions (e.g., concern, healthy anger, sadness; Dryden, 2009). Specifically, there are four types of irrational belief, and four types of rational belief, with both comprising a primary belief and three secondary beliefs derived from the primary belief (see Table 1 for a full description and examples of each irrational and rational belief). The propensity for humans to adopt irrational beliefs is based on the idea that it is difficult to think rationally in the face of important situations where preferences are particularly strong (Dryden & Branch, 2008).

The fundamental goal of REBT is to replace irrational beliefs with rational beliefs to reduce dysfunctional emotions such as anxiety, unhealthy anger, and depression (Ellis & Dryden, 1997). The therapeutic process of REBT first encourages the client or group to understand that in

the face of failure, rejection, and poor treatment, it is their irrational beliefs (B) that are causing dysfunctional emotional and behavioral responses (C), not the event (A) alone. Once this ABC framework is understood, the client is encouraged to dispute (D) their irrational beliefs and replace them with rational alternatives (E). The major purpose of disputation in REBT is to help the client to understand that their irrational beliefs are false, illogical, and unhelpful, and that rational alternatives are true, logical, and helpful (Dryden, 2009). Disputation comprises three main arguments: empirical (is B true or false?), logical (is B logical?), and pragmatic (is B helpful?). Once the irrational beliefs have been successfully disputed (rendered false, illogical, and unhelpful), rational alternatives are exposed to the same disputation process but are rendered true, logical, and helpful (Dryden & Branch, 2008; Dryden, 2009).

REBT can be considered a motivational theory (David, 2003) that broadly fits in with the cognitive appraisals paradigm asserted by Lazarus (1991). Irrational and rational beliefs represent specific types of hot cognition (e.g., Ableson & Rosenberg, 1958) or primary appraisal (Lazarus, 1991) that are strongly involved in the generation of emotion. In effect, irrational and rational beliefs are ways of appraising (hot cognition) particular representations of reality (cold cognitions) in terms of their personal significance to the individual (goal or motivational relevance; David, Lynn, & Ellis, 2010; Hyland & Boduszek, 2012). That is, general core irrational and rational beliefs are coded as schemas or propositional networks in the cognitive system (David, 2003). So in specific situations (e.g., failure, rejection, and poor treatment) irrational and rational schemas bias perceptions of the situation and generate specific irrational and rational beliefs, leading to dysfunctional and functional emotional responses.

Therefore, the therapeutic process of REBT is congruent with Lazarus' appraisal theory (Hyland & Boduszek, 2012) by subscribing to the notion that by altering irrational beliefs to rational beliefs, thus, changing the primary appraisal of a situation, the emotion experienced as a result will also be altered. For example, the primary irrational belief "I want to perform well and therefore I must" may lead to an athlete experiencing anxiety (which is considered an unhealthy emotion in REBT) prior to important competitions. Through REBT, new and effective rational beliefs are promoted such as, "I want to perform well, but that does not mean I have to," leading instead to concern (which is considered a healthy emotion in REBT). In essence, it is the irrational beliefs that elicit anxiety, not the situation (e.g., important competition) alone (Harris, Davies, & Dryden, 2006).

The Current Paper

The first and second authors were employed on a part-time basis (one 60 min education workshop per month) by a professional soccer academy in the United Kingdom (U.K.) to provide sport psychology education and support to all athletes aged 14 to 18 years. The structure of the U.K. academy system in soccer means that athletes can be incorporated into a club between the age of 8 and 16 years. Annually, new athletes can join the academy while deselection may also occur. At under-16s (athletes aged 15 years of age at the beginning of the season) some athletes are offered a two year academy contract, indicating that they have attained an appropriate standard to represent the full-time academy team (Evans, Slater, Turner, & Barker, in press; Harwood, Drew, & Knight, 2010). Progression to the full-time academy team allows the athletes to study for a variety of age appropriate academic courses (e.g., A levels). Often within U.K. professional soccer academy contexts there exists an ego-driven climate perpetuated by coaches,

parents, and athletes themselves (Harwood, 2008). A climate promoting the notion that winning is all that matters (Harwood et al., 2010), coupled with the irrational beliefs prevalent in athletes (Cockerill, 2002), may render some athletes simply too anxious to fulfil their potential in competitive circumstances or in training. It is unsurprising that an irrational shift from “want to” to “have to” occurs in sport amidst the pressures of competition and an obsession with results (Botterill, 2005), despite the fact that these irrational beliefs may have a negative influence on athletic performance (Balague, 1999; Cockerill, 2002; Marlow, 2009). In the current paper, athletes competing as part of the under-15s (athletes aged 14 years of age at the beginning of the season) academy team received an REBT education workshop.

REBT’s theory and efficacy has been supported in both clinical and nonclinical populations with youths and adults (David, Szentagotai, Eva, & Macavei, 2005). Some studies have successfully used REBT workshops with adolescents in educational settings to reduce anxiety (Egbochuku, Obodo, & Obadan, 2008), and increase self-confidence and emotional stability (Maxwell & Wilkerson, 1982). Furthermore, a meta-analysis of REBT delivered using education workshops (e.g., Rational-Emotive Education; Trip, Vernon, & McMahon, 2007) reported medium effects for reducing irrational beliefs ($d = .73$) and dysfunctional emotions ($d = .60$), and a large effect for reducing dysfunctional behaviors ($d = .85$). In sport, however, limited research has documented the use of REBT with athletes. Of the research that has used REBT, three studies have adopted education workshops as the primary method of applying REBT (Bernard, 1985; Elko & Ostrow, 1991; Yamauchi & Murakoshi, 2002). Findings indicated that some athletes were able to control aspects of their thoughts that influenced performance (Bernard, 1985), and experienced reduced anxiety and enhanced performance (Elko & Ostrow,

1991; Yamauchi & Murakoshi, 2002). In many applied settings, such as elite soccer academies, education workshops are often preferable to one-to-one support as part of the sport psychology provision, because workshops can be more time and cost effective for practitioner and club. Accordingly, in this paper we examine and describe in detail the use of a single 60 min REBT education workshop with a team of elite soccer academy athletes.

Previous studies (e.g., Bernard, 1985; Elko & Ostrow, 1991; Yamauchi & Murakoshi, 2002) have offered promising accounts of using REBT education workshops with athletes, but results are inconclusive regarding the effects of REBT education due to the omission of an irrational beliefs measure. As the fundamental aim of REBT is to reduce irrational beliefs and promote rational beliefs (Ellis & Dryden, 1997), failure to show changes in irrational beliefs leaves previous findings open to queries as to the mechanisms of change reported (e.g., reduced anxiety). Furthermore, previous studies appear to have used a mixture of group and individual sessions in order to maximize the impact of the programs (Bernard, 1985; Elko & Ostrow, 1991). Mixing group and individual sessions is obviously beneficial to the athletes, but in soccer academy contexts may be logistically problematic given the number of athletes in the academy, as well as making it difficult to ascertain the influence of the group elements alone in the program. Furthermore, Elko and Ostrow (1991) used a multimodal intervention comprising numerous REBT elements (e.g., Rational-Emotive Imagery, LFT awareness) so it is difficult to establish which element had an influence on anxiety and performance. In addition, scant attention has been paid to the exact content and delivery of REBT workshops with athletes, limiting the extent that the interventions can be replicated for research and or applied sport psychology purposes. In short, previous research offers a useful base to build on, but notable

measurement limitations and a lack of detail render the effectiveness and application of REBT workshops in need of further investigation.

In sum, research has indicated that irrational beliefs are prevalent in athletes (e.g., Cockerill, 2002) and can cause dysfunctional emotions that disrupt performance (e.g., Marlow, 2009). Therefore, ways that athletes can reduce irrational beliefs may be valuable, warranting the use and investigation of REBT in an elite soccer academy context. The first and second authors conducted a 60 min REBT workshop with academy soccer athletes ($N = 15$) at their academy training venue in the changing rooms before training. The first author is trained in REBT (Primary Practicum), is a Health and Care Professions Council registered practitioner psychologist, and had previously used REBT with academy soccer athletes. The second author is a trainee practitioner psychologist, and while not trained in REBT, had three years experience delivering sport psychology in professional soccer academy contexts.

The primary aim of the present study is to report the content and delivery of a 60 min REBT workshop in an elite academy environment, providing details where previous research has not. A secondary aim is to explore the effects of a 60 min REBT education workshop on irrational beliefs in soccer academy athletes. We hypothesized that a single REBT education workshop would decrease irrational beliefs.

Method

Participants

Participants were 15 male (10 = White British, 4 = Black British, 1 = Indian British) elite academy soccer athletes ($M = 6.93$ years experience, $SD = 2.43$) competing in the under-15s

team ($M = 15.13$ years of age, $SD = .74$). Informed consent and minor assent were obtained and approval was granted by the academy prior to data collection and intervention.

Research Design

We adopted a one group intervention study design as one team of 15 athletes were made available by the academy coaching staff to attend the REBT workshop. In this paper we focus on the delivery of REBT in an applied context, and therefore endeavored to adhere to a field-based scientific design as practically possible (Pain & Harwood, 2009). A pretest–posttest design with follow-up measurement was adopted, similar to other applied research employing single-session interventions (e.g., Windsor, Barker, & McCarthy, 2011). Self-reported irrational beliefs data were collected at three time-points; once prior to the workshop (pretest), once immediately after (posttest), and once six weeks following that (follow-up). The authors did not view the data until the completion of all time-points and did not provide feedback to the academy (including the athletes) until all data had been analyzed. Blinding ourselves to the data we hoped to control for potential response bias on self-report measures by making sure athletes were less able to use their own posttest scores as a reference point for follow-up responding. Social validation data were collected immediately after the workshop. It should be noted that while we were able to collect data from 15 athletes at pretest and posttest time-points, only nine attended follow-up data collection. This was because we conducted the workshop late in the season (March 2012), and six athletes had been informed that they would be deselected (contract terminated) and therefore were not attending training. In follow-up data collection, athletes were not briefed about the REBT workshop they had attended six weeks prior, as the sole purpose of the follow-

up was for the athletes provide irrational beliefs data for the final time and we did not want to bias their responses.

Measures

Irrational beliefs. The Shortened General Attitudes and Beliefs Scale (SGABS; Lindner, Kirkby, Wertheim, & Birch, 1999) consists of 26 items forming eight subscales. Total irrationality (22 items) is made up of self-depreciation (four items), other-depreciation (three items), need for achievement (four items), need for approval (three items), need for comfort (four items), and demand for fairness (four items). A rationality (four items) subscale is also included. Athletes were asked to indicate the extent that they agreed with each of the 26 statements on a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Higher scores indicate stronger beliefs. The SGABS has high test-retest reliability ($r = .91$; Lindner et al., 1999), good criterion, construct, concurrent, convergent, and discriminate reliability (MacInnes, 2003). In the current study, Cronbach's alpha coefficients indicated internal reliability with values ranging from .77 to .95 across the three time-points.

Social validation. Integral to intervention research, social validation was acquired at the posttest time-point. A social validation questionnaire was completed by each athlete that attended the workshop ($N = 15$) to ascertain perceptions of the intervention delivery and efficacy (Page & Thelwell, 2013). The questionnaire consisted of six questions asking athletes to indicate whether the workshop was important, useful, and whether they would modify their thoughts and behaviors because of it. Athletes responded on a 7-item Likert scale ranging from 1 (*do not agree at all*) to 7 (*completely agree*). This was followed by seven open-ended questions

regarding perceived changes in thoughts and emotions, intervention process, and future performance. Athletes were given ample space to write their responses.

Intervention Procedure

The soccer academy context as described in previous research (Barker, McCarthy, & Harwood, 2011) warrants the use of both educational and one-to-one sport psychology support, but due to budget restrictions the academy provided resources for sport psychology education only. For academy soccer athletes competing in the under-15s team, deselection means that they will either have to join another club, or unfortunately find a different career, perhaps partially explaining the high levels of stress ubiquitous in soccer academy settings (Reeves, Nicholls, & McKenna, 2009). In many of the sport psychology sessions throughout the season, the authors of the present paper observed frequent instances of the athletes expressing irrational beliefs regarding upcoming performances. For example, “I have to score in the next game” and “I must not concede any goals this week” were statements often used by the athletes to express their psychological approach to performance. In addition, athletes would often talk about a previous match being “awful” and how they performed “terribly.” A consultation with the coach revealed that the athletes “stress themselves out,” “let their heads drop after losing,” and “could learn to relax before matches.” Based on these observations we ensured that the content of the REBT workshop focused on the athletes’ demanding and awfulizing beliefs regarding success and failure.

Workshop plan. Informed by our observations we were able to tailor the workshop towards recognizing and disputing specific primary and secondary irrational beliefs in favour of rational beliefs. The workshop comprised three stages and used techniques advocated in REBT

literature (e.g., Dryden, 2009; Dryden & Branch, 2008; Ellis & Dryden, 1997; Ellis, Gordon, Neenan, & Palmer, 1997): REBT education, recognizing and disputing demands (primary irrational beliefs), and recognizing and disputing awfulizing (secondary irrational beliefs). We wanted the workshop to be relaxed and interactive to encourage discussion throughout. Only participating athletes were admitted into the changing room for the workshop, with non-participating athletes and coaching staff informed that they would not be required to attend. The workshop was delivered in three stages, REBT education, recognizing and disputing demands, and recognizing and disputing awfulizing. A detailed account of the REBT education workshop can be found in the supplementary material or is available on request from the first author.

REBT education. We educated the athletes in the ABC framework of REBT (Ellis & Dryden, 1997). We asked the athletes to write down their thoughts, feelings, and behaviors in response to being deselected from the academy, making a mistake that gives a goal away, and approaching the biggest match of season. We related the ABC model to what they had written. Next we asked the athletes whether their thoughts about the situations we had presented included: “I must (or have to) play well today and it is awful if I do not,” “I should not have made that mistake and I am rubbish (or an idiot) for doing that,” and “being deselected is terrible/awful.” Using a show of hands, consensus formed specifically on “must play well and it is awful if I do not” and “being deselected is terrible/awful.”

Recognizing and disputing demands. Many of the athletes had written down a demand to perform well, so in line with the REBT disputation (D), we first focused on recognizing and disputing their primary irrational beliefs. Following established REBT practices, we helped athletes to dispute their primary irrational beliefs using empirical, logical, and pragmatic

questioning. To initiate the replacement of irrational beliefs with rational alternatives (E), we asked the athletes what they could say to themselves instead of “I must” that would be more logical and helpful. In essence, we reinforced and encouraged suggestions that reflected preferences instead of demands. For example, the rational belief “I want to play well more than anything” reflects that a preference is not a weak belief and can in fact be a very strong preference. We explained that an athlete may want to play well more than anything, but it does not “have to” happen. The athletes felt that the statement “I want to play well more than anything” was motivational, whereas the irrational demand was threatening.

Recognizing and disputing awfulizing. In REBT the use of “awful” suggests that the situation is 101% bad. However, the situation can never actually be awful because awful does not exist outside the human mind (Dryden & Branch, 2008). So to help the athletes dispute this belief, we used a badness scale advocated for brief therapy (Ellis et al., 1997). Broadly, athletes were asked to place a number of life events written on sticky labels on a scale from 0-100%, with 0% representing *not at all bad* and 100% representing *worse thing possible*. Most athletes placed life events “being deselected” and “giving away a penalty in the last minute of a cup final” at around the 50% mark on the scale. We asked how can deselection or failure to perform well in important stations be awful, if the athletes did not place them anywhere near 100% on the badness scale? It was possible for the athletes to now understand that by using “awful” and “terrible” to describe what it would be like to underperform or be deselected, they were saying that these events were 101% bad, thus, potentially augmenting anxiety. Our main point was that if underperforming and deselection are perceived as “awful,” the prospect of failure becomes too threatening and consequently the athletes feel too anxious to perform effectively. Similar to

replacing the demand (primary irrational belief), we encouraged rational and preferential beliefs such as “it would be really bad to be deselected, but not the end of the world.” The session ended with a recap on what had been covered in the workshop.

Analytic Strategy

Prior to main analyses, Shapiro Wilks tests were performed. If the presence of significant ($p < .05$) outliers were indicated then z scores for significant outliers were assessed. Data-points with z scores greater than two were windsorized ($N = 2$; one data point for total irrational beliefs, and self-depreciation) following guidelines for a small sample size (Smith, 2011). Due to late season athlete deselection, only 9 of the 15 athletes completed follow-up measures of irrational beliefs. Therefore, we compared those that completed follow-up measures ($N = 9$) with those that did not ($N = 6$), using MANOVA to examine differences in irrational beliefs at the posttest time-point. No significant differences emerged, Wilks $\Lambda = .595$, $F(14, 11) = .54$, $p > .05$. Therefore the threat that participant attrition may have had on internal validity was mitigated. To maximize statistical power in the absence of complete follow-up data, we employed the expectation maximization (EM) technique. Prior to EM, we used Little's test to determine whether the data were missing at random or not. Data were missing at random, $X^2 = 18.77$, $df = 24$, $p > .05$, and therefore EM was used to estimate the missing values, providing a complete data set at the follow-up time-point ($N = 15$) for main analyses. Main analyses followed two steps. First, to assess the influence of the REBT workshop on irrational beliefs over the three time-points (pretest, posttest, follow-up) MANOVA was conducted for all irrational beliefs variables. Second, post-hoc Bonferroni pairwise comparisons and inspection of the means indicated where

significant changes had occurred and in which direction. All multicollinearity, homogeneity, normality and outlier checks met the assumptions necessary for all data analysis.

Results

Changes in Irrational Beliefs Across Time-points

MANOVA indicated a significant main effect for time, Wilks $\Lambda = .386$, $F(16, 70) = 2.67$, $p = .002$, $\eta^2 = .38$. Specifically, significant between subjects effects emerged for total irrational beliefs, $F(2, 42) = 4.78$, $p = .013$, $\eta^2 = .19$, other-depreciation, $F(2, 42) = 4.05$, $p = .025$, $\eta^2 = .16$, need for achievement, $F(2, 42) = 6.46$, $p = .004$, $\eta^2 = .24$, demand for fairness $F(2, 42) = 6.18$, $p = .004$, $\eta^2 = .23$, and a marginal effect for need for comfort, $F(2, 42) = 3.13$, $p = .054$, $\eta^2 = .13$. For each variable where a significant effect for time emerged, Bonferroni pairwise comparisons were examined (Table 2), and following relevant guidelines (Barker et al., 2011) effect sizes (Cohen's d ; Cohen, 1988) were calculated for each change with effect sizes of .2 considered small, .5 considered medium, and .8 considered large. For total irrational beliefs there was a significant decrease ($p = .022$) from pretest to posttest, and a significant increase ($p = .047$) from posttest to follow-up. For other-depreciation there was a significant increase ($p = .023$) from posttest to follow-up. For need for achievement there was a significant decrease ($p = .004$) from pretest to posttest, and a significant increase ($p = .031$) from posttest to follow-up. For demand for fairness there was a significant decrease ($p = .027$) from pretest to posttest, and a significant increase ($p = .006$) from posttest to follow-up. For need for comfort there was a marginal decrease ($p = .051$) from pretest to posttest. In sum, total irrational beliefs, need for achievement, need for comfort, and demand for fairness showed a temporary decrease from pretest to posttest. For all variables, pretest levels returned in the follow-up phase.

Social Validation

Social validation data suggested that participants felt that the workshop was important ($M = 5.30, SD = .62$), useful ($M = 5.43, SD = 1.04$), and would drive them to change their thoughts and behaviors ($M = 4.95, SD = 1.49$). In addition, of the 15 athletes, 14 felt that the workshop helped them to think more rationally about soccer. For example, one athlete realized “mistakes are not the end of the world,” and another recognized “losing is not the worst thing in the world” (anti-awfulizing), indicating that the workshop influenced specific irrational beliefs. In addition, there was evidence that the athletes gained an understanding of how their self-talk may influence emotions. To illustrate, one athlete noted the workshop brought about a “realization of what some words we use all the time actually mean,” while another athlete stated that they now realize “that sometimes I am being too harsh on myself.” In addition, despite the results-oriented climate of the academy setting, athletes described that in the future they would be more inclined to focus on enjoyment during training and competition, rather than the pressure of performing.

Importantly, athletes reported that they felt that the workshop would enhance their performance in various ways. For instance, two athletes suggested that performance would be enhanced because they felt more confident and one athlete indicated the session would “help me relax more.” Another athlete stated that the workshop would improve performance as “it can help you think more positively.” Such perceptions demonstrate the usefulness of the REBT workshop in helping the athletes to approach performance in a more positive and relaxed state. Indeed, one athlete remarked “it [workshop] has shown me how to think positively for performance.”

Responses further suggested that the workshop had a broad impact on the athletes' emotional responding. In particular, athletes noted the content of the session led them to gain perspective and could help them to "not feel as down" about adversity in the future. One athlete's response encapsulates this idea, "it [workshop] will help me manage situations differently because I have learnt ways to deal with them [emotions]." Interestingly, counter to our expectations, some athletes maintained that their thoughts regarding soccer performance would not change. To illustrate, one athlete stated he would "still put myself under pressure to do well," whilst another athlete indicated "I'll never change how I think about performances." Despite this, 11 athletes suggested they would recommend the workshop to other athletes, with one athlete offering that "basic words pressurize you without knowing," and another detailed "all athletes even though they think they don't need it [workshop], need it!"

Discussion

The primary aim of this paper was to detail the content and delivery of an REBT education workshop with elite soccer academy athletes. This paper extends the literature by offering a more detailed account of the workshop content and delivery (available in the supplementary material or on request from the first author), compared to previous research. Through our reflections and the social validation data, we gained an important understanding of how the athletes perceived the delivery and effectiveness of the workshop. Overall, athletes reported that the workshop was important, useful, and would help them to modify their thoughts and behaviors. Specifically, athletes said that the workshop would help them to adopt more rational perceptions of success and failure, and that the workshop would help them to regulate their emotions in training and competition. However, the athletes' best intentions at the time of

completing social validation may not predict actual utilization of rational thinking, highlighting the importance of longitudinal data collection points. The athletes' views on changes in thoughts and feelings were important, alongside their views on how the workshop was delivered. We wanted to reduce irrational beliefs in the REBT workshop, but we also wanted the athletes to enjoy and engage in the workshop. Athletes are unlikely to benefit from a workshop that is neither fun nor interesting. We feel that the interactive changing room delivery may have contributed to the athletes' positive perceptions of the workshop and their willingness to recommend it to other athletes.

The results indicated that immediately after the workshop athletes reported a reduction in total irrational beliefs, need for achievement, need for comfort, and demand for fairness. However, these effects disappeared in the follow-up phase as irrational beliefs scores increased to pretest levels, suggesting that the influence of the workshop on irrational beliefs was temporary. That is, a single REBT workshop was not sufficient to cause longer term changes in irrational beliefs. This finding highlights the importance of adhering to recognized REBT practices such as setting homework assignments (work to be completed by participants outside of formal sessions) and providing one-to-one support in addition to education workshops (Ellis & Dryden, 1997). In this paper, we did not set homework assignments or provide one-to-one support as our intention was to explore the effects of a single bout of REBT education. Therefore, exposing participants to a single session is not enough to effect longer term changes in irrational beliefs.

It is unsurprising that most variables relating to needs and demands showed temporary reductions, because the aim of the REBT workshop was to educate about, and dispute, primary

(demands) and secondary (awfulizing) irrational beliefs. Most notable was the reduction in need for achievement. This was a core element of the workshop designed to alter the athletes' beliefs surrounding the ego-threatening environment within which they train and perform (Harwood, 2008). Our observations, and previous research, indicated that the demand to perform well (need to achieve) is particularly prevalent in youth athletes, often leading to dysfunctional emotions such as anxiety and depression (MacInnes, 2003). In short, as disputing need for achievement was a core component of the workshop, reductions in need for achievement may be a result of specific workshop content.

Reductions in total irrational beliefs and components need for comfort and demand for fairness suggested that the workshop may have temporarily influenced other irrational beliefs. To explain, workshop content did not include recognition or disputation of need for comfort or demand for fairness, but by challenging demands relating to need for achievement it is possible that other components may have been influenced. For example, in the workshop the absolutistic use of the word must was disputed, which is at the core of irrational beliefs concerning others, achievement, comfort, and fairness. Furthermore, in the current study need for achievement was correlated with need for comfort ($r = .69$) and demand for fairness ($r = .67$) immediately after the workshop (all $p < .01$), also suggesting that the explicit disputation of one type of irrational belief may influence other types of irrational beliefs. Indeed, need for achievement is considered a major factor in all irrational beliefs, thus, explaining its significant association with other subscales (MacInnes, 2003).

In soccer, perceived unfairness is manifest in deselection, the introduction of trialists into the team, perceived harsh treatment by the coach, poor refereeing decisions, and having to

perform with an injury (e.g., Harwood et al., 2010). Similarly, discomfort may emerge when athletes face novel situations, such as the first time they appear in the full-time academy team, or when they are recovering from injury. Thus, by reducing demand for fairness and need for comfort, athletes may learn to accept unfairness and respond more functionally in uncomfortable situations. That is, helping athletes to recognize that although they may wish to be treated fairly, they do not “have to” be, may help to reduce dysfunctional emotional and behavioral responses (Ellis & Dryden, 1997).

The present paper highlights numerous research issues related to the use of REBT with athletes and to conducting research in professional soccer academy contexts. Notably, it is still unclear what influence irrational beliefs have on athletic performance. The current paper contains little evidence that the temporary reductions in irrational beliefs reported immediately after the workshop had any influence on soccer performance due to the absence of objective performance measures. However, social validation data indicated that the athletes felt that their performance might be facilitated by the workshop through changes in their psychological approach to performance. For example, enhanced self-confidence and the ability to relax were sighted as possible mechanisms, along with thinking positively for performance. Of course, social validation reflected the athletes’ intentions and perceived future benefits, so the actual influence the REBT workshop may have had on performance is unknown. The under-researched irrational beliefs-performance relationship presents an exciting challenge for future research, and can be explored in a number of ways. Mediation analyses (Baron & Kenny, 1986) could be used to explore the potential processes through which reductions in irrational beliefs may influence performance. More specifically, research has shown that REBT can reduce irrational beliefs and

anxiety in athletes (Turner & Barker, 2013), but how these REBT-induced psychological and affective changes influence performance is still yet to be established.

The limitations of the present study outline potential areas for future research. As practitioners in the field, we responded to the coach's and our own observations of athletes' irrational beliefs, and intervened using an economical and evidence-based strategy. We aimed to report the use of an REBT workshop with academy athletes and its effects on irrational beliefs, and did not place emphasis on devising a robust research design (e.g., Anderson, Miles, Mahoney, & Robinson, 2002). While the one group intervention study design we adopted is ecologically valid and has been previously used in research assessing single session interventions with elite athletes (e.g., Windsor et al., 2011), the use of a control group would have been a stronger study design. Future research should employ experimental and quasi-experimental designs to help rule out rival hypotheses (Shadish, Cooke, & Campbell, 2002), and could perhaps stagger the REBT workshop across different groups (e.g., Barker, McCarthy, Jones, & Moran, 2011). For example, originally we intended to conduct the REBT workshop with two different teams in the academy, which would have allowed us to stagger the delivery of the workshop across two groups. However, only the under-15s team coach agreed to the workshop, with the under-16s ($N = 11$ athletes) coach cancelling the workshop for reasons unexplained. Dividing the under-15s into two groups would have rendered the sample too small to conduct statistical analyses so we adopted a one group intervention study design. Therefore, future inquiry may explore the effects of REBT workshops across numerous groups within the same academy, delivering the intervention to different age groups at separate time-points. In addition, because the workshop was novel and dealt explicitly with irrational beliefs, participants may have

responded in a socially desirable manner. Future research could measure social desirability (e.g., Crowne & Marlowe, 1960) alongside irrational beliefs to help limit this potential confound. In light of the temporary reductions in irrational beliefs indicated in the present paper, employing multiple REBT workshops to elucidate the influence of repeated bouts of REBT education on irrational beliefs over time is warranted. Finally, the first two authors were employed by the professional academy on a part-time basis and were not fully immersed in the routine functioning of the academy. Practitioners fully immersed may find different results as rapport is considered an important component for effective applied sport psychology consultancy (e.g., Bull, 1997).

In sum, this paper makes a contribution to the literature by offering a detailed account of delivering an REBT education workshop with elite soccer academy athletes. In addition, this paper extends the extant literature by examining the effects of an REBT workshop on the irrational beliefs of athletes. Broadly, quantitative and social validation data indicated that the REBT workshop temporarily reduced the athletes' irrational beliefs, and that the athletes felt the workshop would facilitate their performance. Future research should include a control group and apply repeated REBT workshops to examine the prolonged influence of REBT on irrational beliefs. In this study we have outlined one way that REBT can be applied with athletes and it is hoped that this paper will encourage practitioners to apply and examine REBT with the athletes they work with.

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Table 1 *Description and examples of irrational and rational beliefs adapted from Dryden (2009)*

Beliefs	Rationality	Type	Description	Example
Primary	Irrational	Rigid and extreme demand	Assertion of preference transmitted into a demand.	"I want to succeed and therefore I must"
	Rational	Flexible and non-extreme preference	Assertion of preference and negation of demand.	"I want to succeed but that does not mean I have to"
Secondary	Irrational	Awfulizing	Person believes that if x happens: nothing could be	"I must succeed and it will be awful if I do not"

worse, x is not"
 worse than
 100% bad, and
 no good could
 possibly come
 from this bad
 event.

	Low frustration tolerance	Person believes that, in face of a struggle to put up with adversity: I will die if the discomfort continues, and I will lose the capacity to experience happiness if the discomfort continues.	"I must succeed and it is unbearable to fail"
	Self/other depreciation	Self and others are rated on the basis of one aspect.	"When I fail, it means that I am an idiot"
			"When people treat me poorly, it means they are bad people"
Rational	Anti-awfulizing	Person believes that if x happens: worse things could happen, x is not more than 100%	"I want to succeed but it will not be awful if I do not"

bad, and some good could possibly come from this bad event.

High frustration tolerance	Person believes that, in face of a struggle to put up with adversity: I will not die if the discomfort continues, and I will not lose the capacity to experience happiness if the discomfort continues.	"I want to succeed but it is not unbearable to fail"
Self/other acceptance	Self and others are not rated on the basis of one aspect. It is unconditionally accepted that self and others are fallible, unique, and un-rateable.	"When I fail, it is bad, but does not mean that I am an idiot"
		"When people treat me poorly it is bad, but it does not mean that they are bad people"

Table 2

Means (SD) for Dependent Variables Across Time-points

	Time-point				
	Pretest	Posttest	Cohen's <i>d</i>	Follow-up ^a	Cohen's <i>d</i>
Total irrational beliefs	2.80 (.41)	2.30 (.49)*	1.11	2.75 (.74)*	.74
Rational beliefs	3.70 (.74)	3.67 (.82)	.04	4.11 (.19)	.74
Self-downing	1.72 (.42)	1.75 (.49)	.07	1.96 (.68)	.35
Other-downing	2.74 (.64)	2.31 (.66)	.66	2.96 (.60)*	1.03
Need for achievement	3.36 (.63)	2.47 (.71)**	1.33	3.17 (.80)*	.93
Need for approval	2.55 (.66)	2.31 (.57)	.39	2.45 (.64)	.23
Need for comfort	2.90 (.54)	2.37 (.61)	.92	2.58 (.63)	.39
Demand for fairness	3.23 (.70)	2.63 (.49)*	.99	3.33 (.57)**	1.32

Note. * $p < .05$. ** $p < .01$. ^a missing data imputed