The Season-Long Effects of Rational Emotive Behavior Therapy on the Irrational Beliefs of Professional Academy Soccer Athletes

Martin. J Turner[a], Matthew. J Slater[a], Jamie. B Barker[a],

[a]Centre for Sport, Health, and Exercise Research, Staffordshire University, Brindley Building, Leek Road, Stoke On Trent, Staffordshire ST4 2DF, UK

Date of Submission: 15th November 2013

Abstract

The extant literature reveals an increasing use of rational emotive behavior therapy (REBT) with athletes. Recently, a single REBT education workshop was shown to reduce the irrational beliefs of athletes in the short-term. This paper reports the effects of multiple REBT education workshops (REBT program) on season-long irrational beliefs in elite soccer academy athletes. To assess the season-long effect of the REBT program, a quasi-experimental single-case A-B with follow-up design was used, so that immediate and long-term changes in irrational beliefs from pre-test levels could be examined. Visual analysis of data indicated that for the REBT program all irrational beliefs reduced at intervention onset and need for achievement and demand for fairness remained reduced long-term. Social validation data indicated perceived psychological and performance benefits underpinned by shifts in irrational beliefs. Results are discussed with reference to mechanisms of change, study limitations, and recommendations for using REBT in sport.

Keywords: youth sport, soccer, applied sport psychology, single-case design, control group

The Season-Long Effects of Rational Emotive Behavior Therapy on the Irrational Beliefs of Professional Academy Soccer Athletes

Throughout a competitive season, academy soccer athletes are required to cope with the psychological demands of performing under pressure, team and personal failure, and rejection (Turner & Barker, in press). One approach that helps to elucidate how athletes deal with adversity is rational emotive behavior therapy (REBT; Ellis, 1957), which posits that it is the individual's beliefs about adversity that determines whether their emotional and behavioral reactions are adaptive or maladaptive. In short, irrational beliefs lead to dysfunctional emotions (e.g., unhealthy anxiety) and maladaptive behaviors (e.g., avoidance), and rational beliefs lead to functional emotions (healthy emotions) and adaptive behaviors (e.g., approach). Research suggests that irrational beliefs are prevalent in athletes (e.g., Cockerill, 2002) and can cause dysfunctional emotions that disrupt performance (e.g., Marlow, 2009). Predictably, research is beginning to emerge investigating the use of REBT in reducing irrational beliefs in athletes (e.g., Turner & Barker, 2013).

REBT was conceived as the first cognitive behavioral approach to counselling by Albert Ellis (1957), who proposed that it is rarely the adversity (failure, rejection, and ill treatment) that causes dysfunctional emotions and maladaptive behaviors alone, rather it is the beliefs about adversity that cause these unhealthy responses. Distinct from other cognitive behavioral therapies, in REBT *irrational* beliefs lead to *unhealthy* emotions and behaviors, and *rational* beliefs lead to *healthy* emotions and behaviors. Irrational beliefs comprise four types of belief (Dryden, 2012), one primary (demands) and three secondary (awfulizing, low-frustration tolerance, self-depreciation); the secondary beliefs are derived from the primary belief. Rational beliefs also comprise four types of belief, one primary (preferences) and three secondary (anti-awfulizing, high-frustration tolerance, self-acceptance); again the secondary beliefs are derived from the primary belief. REBT’s theory and efficacy have been supported

in both clinical and nonclinical populations with youths and adults (David, Szentagotai, Eva, & Macavei, 2005).

Theoretically, REBT is a motivational theory (David, 2003) akin to Lazarus' (1991) cognitive appraisal theory. Irrational and rational beliefs can be considered “hot cognitions” (e.g., Ableson & Rosenberg, 1958) or primary appraisals (Lazarus, 1991) involved in the generation of emotion (David, Lynn, & Ellis, 2010; Hyland & Boduszek, 2012). Therefore, the main therapeutic purpose of REBT is to reduce irrational beliefs in favour rational beliefs, thus changing the primary appraisal of an adversity (Hyland & Boduszek, 2012), and as a result changing the emotional and behavioral responses from unhealthy to healthy. To illustrate, an athlete's primary irrational belief “I want to be successful and therefore I must be” may cause unhealthy anxiety prior to crucial matches. REBT would encourage the athlete to abandon this irrational demand and replace it with a rational preference such as “I want to be successful but that doesn't mean I must be,” causing healthy anxiety (known as concern in REBT) instead. In short, irrational beliefs cause the unhealthy anxiety, not the situation (e.g., important competition) alone (Harris, Davies, & Dryden, 2006).

In REBT athletes are introduced to the ABCDE framework and encouraged to understand that activating events (A) alone do not cause unhealthy emotional and behavioral consequences (C), and that irrational beliefs (B) about the adversity are often the real cause (Ellis & Dryden, 1997). The athletes then learn to dispute (D) their irrational beliefs and are encouraged to form new effective rational alternatives (E). Disputation helps the athletes to understand that their irrational beliefs are false, illogical, and unhelpful, and that rational alternatives are true, logical, and helpful (Dryden, 2009; Dryden & Branch, 2008). Individuals can be introduced and guided through the ABCDE framework via one-to-one consultations, or using group educational methods.

In a meta-analysis for the effects of REBT delivered using education workshops with non-athletes (Trip, Vernon, & McMahon, 2007), medium effects for reducing irrational beliefs (d = .73) and dysfunctional emotions (d = .60), and a large effect for reducing dysfunctional behaviors (d = .85) were reported. Research reporting the use of REBT education with athletes has also yielded some promising results (Bernard, 1985; Elko & Ostrow, 1991; Turner, Slater, & Barker, 2013; Yamauchi & Murakoshi, 2001), with findings indicating that some athletes were able to control aspects of their thoughts that influenced performance (Bernard, 1985), experienced reduced anxiety and enhanced performance (Elko & Ostrow, 1991; Yamauchi & Murakoshi, 2001), and showed a short-term reduction in irrational beliefs from pre- to post-REBT (Turner et al., 2013).

Although much literature attests to the relationship between irrational beliefs and unhealthy emotions, the link between irrational beliefs and performance is still unclear due to sparse research directly examining performance alongside irrational beliefs. Of the REBT aligned research that has assessed performance, findings are equivocal. For example, one study found that irrational self-verbalisations were not related to persistence in a difficult puzzle task (Rosin & Nelson, 1983). But in a different study, irrational self-verbalisations were related to poorer behavioural efficiency (more errors) operationalized by performance in a mirror tracing task compared to rational self-verbalisations (Bonadies & Bass, 1984). An earlier study (Schill, Monroe, Evans, & Ramanaiah, 1978) found that irrational self-talk led to significantly more errors on a mirror tracing task (indicating less performance efficiency) than rational self-talk and a control condition. In REBT theory, irrational beliefs lead to maladaptive behaviours that inhibit goal achievement. For example, concerning threat or danger an irrational belief is proposed to lead to an individual withdrawing mentally and physically (Dryden & Branch, 2008), that in most athletic circumstances is unlikely to lead to peak performance. In contrast, a rational belief is proposed to lead to the individual facing up

to the threat and or taking constructive action to minimise danger (Dryden & Branch, 2008), which is more likely to facilitate performance. In sum, the promotion of rational beliefs as advocated in REBT should be beneficial for the performance of athletes, although this hypothesis is in need of more rigorous examination.

The measurement of irrational beliefs is fundamental to assessing the effects of REBT because the therapeutic aim of REBT rests on reducing irrational beliefs in favour of rational beliefs, however, only one study in sport has measured irrational beliefs (Turner et al., 2013), in which observed reductions in irrational beliefs returned to pre-test levels when follow-up measures were taken. Turner et al. suggest that the lack of long-term change in irrational beliefs is not surprising given that they used only one 60 minute REBT workshop. In sum, past research is promising although methodological limitations (e.g., lack of irrational beliefs measurement, use of a single workshop) prohibit the meaningful evaluation of REBT education with athletes.

This paper examines the effects of an REBT education program on irrational beliefs over a competitive soccer season in professional soccer academy athletes. In the soccer academy context, sport psychologists are taxed with providing psychology provision often under stringent time and cost constraints, and therefore, education workshops are frequently the preferred method for psychology support (Barker, McCarthy, & Harwood, 2011). The purpose of this paper is to build on past research by employing multiple REBT education workshops and examining the long-term effects of REBT on irrational beliefs in professional academy athletes. The first and second authors were employed on a part-time basis by a professional soccer academy in the United Kingdom (U.K.) to provide sport psychology education and support to all full-time athletes performing in the under-18s team (aged 16 to 18 years). The first and third authors are Chartered Psychologists (BPS, HCPC) trained in REBT (Primary Practicum), and had previously used REBT with academy soccer athletes.

The second author, while not trained in REBT, had four years experience delivering sport psychology in professional soccer academy contexts.

As full-time members of the professional academy, athletes study for a variety of age appropriate academic courses (e.g., A levels), and receive accommodation for two seasons. Athletes successful at this level can be selected to join the under-21s team, where they become professional athletes earning a salary and are available to go out on loan to adult teams. With a place in the under-21s team at stake, athletes performing at under-18s level do so under an ego-driven climate, and the ethos that winning is all that matters is perpetuated by coaches, parents, and athletes themselves (Harwood, 2008; Harwood, Drew, & Knight, 2010). The pressured nature of U.K. academy soccer, coupled with the irrational beliefs prevalent in athletes (Cockerill, 2002; Turner & Barker, 2013; in press), could perpetuate unhealthy emotional responses to adverse events, influencing athlete well-being and performance (Balague, 1999; Cockerill, 2002; Marlow, 2009). Therefore, as part of the sport psychology provision all athletes in the under-18s team received one of two emotional control programs; an REBT program or a general emotions program. A limitation of previous research is that REBT education interventions have not been examined alongside control conditions, thus changes in irrational beliefs were vulnerable to extraneous variables (Anderson, Miles, Mahoney, & Robinson, 2002; Shadish, Cooke, & Campbell, 2002). We hypothesized that irrational beliefs would show a season-long reduction from pre-test levels at the onset of the REBT program. In contrast, we hypothesized that irrational beliefs would show no change from pre-test levels at the onset of the general emotions (control) program.

Method

Participants

Participants were 17 male (Black British = 5, Mixed Caribbean = 1, White Australian = 1, White British = 9, White Irish = 1) elite academy soccer athletes (M = 5.21years

experience, *SD* = 2.81) competing in the under-18s team (*M* = 16.71years of age, *SD* = .61). Informed consent was obtained and approval was granted by the academy prior to data collection and intervention.

Experimental Design

We adopted a quasi-experimental single-case A-B design with follow-up (see Barker, McCarthy, Jones, & Moran, 2011). The 17 participants were randomly and unknowingly assigned to either an REBT program group (N = 9) or a control group (N = 8) by drawing athlete's participant number out of a bag one by one so that the first name was allocated to the REBT group, the second to the control group, the third to the REBT group, and this alternation continued until all names had been allocated. Random assignment of the athletes into the two groups was used to ensure that any differences between groups were not systematic at the outset. The single-case design employed in the present study allowed the within groups effects of the interventions to be examined for both REBT and control conditions. Previous research (Turner et al., 2013) has not included a control group and has therefore been unable to account for the effects of extraneous variables on reported data. The present study included a control group so that observed changes in the REBT group could be more confidently attributed to the intervention. In applied research the inclusion of a control group is atypical due to logistical (e.g., time vs. cost) and ethical factors. For example, giving a potentially helpful intervention to one group and not the other could be considered unethical (Hardy, 2012). To mitigate this ethical issue, the control group, rather than receiving nothing, received support and guidance relating to emotions that included emotional control strategies that did not draw from REBT principles. The REBT group received three consecutive (i.e., weekly) education workshops while the control group received three general emotion education workshops that excluded REBT relevant content.

Self-reported irrational beliefs data were collected at 8 time-points across a competitive season (October 2012 to May 2013); once prior to the workshops (pretest), five times immediately after the intervention had commenced (posttest), and twice in the follow-up phase (one month after posttest, and then again six weeks after that). An additional follow-up data point was collected for need for achievement only, two months after the second follow-up data point as a small window of opportunity was made available to us at the end of the season. Single-case guidelines (Barker et al., 2011) advocate repeated measurement at the pretest phase so that a stable baseline can be ascertained. However, due to contextual constraints only one pretest data point was collected. That is, as is common in applied sport settings the club wanted the intervention programs delivered as soon as possible, which hindered the collection of additional pretest data. However, we were able to collect extended retention data following the interventions (follow-up phase); a method recommended for single-case research but rarely utilized in sport research (Barker, Mellalieu, McCarthy, Jones, & Moran, 2013). The authors did not view the data and did not provide feedback to the athletes until all data had been analyzed. Social validation data were collected immediately after the final workshop. In the follow-up phases, athletes were not briefed about the workshops they had attended in the season as we did not want to bias 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 (4 items), other-depreciation (3 items), need for achievement (4 items), need for approval (3 items), need for comfort (4 items), and demand for fairness (4 items). A rationality (4 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), and good criterion, construct, concurrent, convergent, and discriminate validity (MacInnes, 2003). In the current study across all time-points, Cronbach's alpha coefficients indicated internal reliability with values ranging from .63 to .96 for the REBT program group and .86 to .97 for the emotional control group. For brevity we include data from subscales total irrational beliefs, need for achievement, need for approval, and demand for fairness, as these subscales emerged as important to the athletes in the first REBT workshop. However, these data can be viewed in the supplementary materials (available on request from the first author).

Social validation. A social validation questionnaire was completed by 13 athletes (N = 2 in the REBT group and N = 2 in the control group did not complete the questionnaire due to other commitments) to ascertain perceptions of the intervention delivery and efficacy (Page & Thelwell, 2013). Similar to Turner et al. (2013) the questionnaire consisted of six questions concerning the perceived importance, usefulness, and impact of the workshop on the athletes' thoughts and behaviors. Athletes responded on a 7-item Likert scale ranging from 1 (*do not agree at all*) to 7 (*completely agree*). This was followed by eight open-ended questions regarding perceived changes in thoughts and emotions in response to three competitive scenarios, evaluation of intervention process, and future performance. The question about perceived future performance was important in the absence of an objective individual performance measure.

Intervention Procedure

As part of the support provided to the academy by the first two authors, academy coaching staff and the head of sport science intimated that the players would benefit from workshops concerning emotions. To explain, in an academy sport science meeting early in the season, coaches and the head of sport science indicated the need for the athletes to

develop emotion management skills as poor emotional control had negatively influenced recent performances. Indeed, high levels of stress are ubiquitous in soccer academy settings (e.g., Reeves, Nicholls, & McKenna, 2009), in part augmented by a context in which athletes compete as a team competitively, and against each other for a place in the squad, to ensure selection into the under-21s team. Progression from under-18s to under-21s is a crucial step for academy athletes as they receive a more financially lucrative contract and make the step toward a place in a men's first team. To ensure each athlete received education on emotions, amidst academy budget restrictions, each athlete attended three education workshops as part of either the REBT or control group. The REBT group received an REBT program based on techniques advocated in REBT literature (e.g., Dryden, 2009; Dryden & Branch, 2008; Ellis & Dryden, 1997; Ellis, Gordon, Neenan, & Palmer, 1997), and the control group received a general emotions program that excluded specific REBT relevant content.

REBT program. Athletes received three 40-minute workshops that aimed to help them to recognize and challenge irrational beliefs by using the REBT ABCDE process (Ellis & Dryden, 1997). Workshops were informal and interactive to ensure athlete enjoyment and engagement as recommended for psychological education in academy settings (Barker et al., 2011). In the first workshop athletes reflected on their thoughts and feelings about adversities (success, failure, and ill treatment) they had experienced, and or may experience, in soccer. Of note, the irrational beliefs to emerge from the athletes at this stage reflected need for achievement (“I must succeed”), need for approval (“the coach must select me”), and demand for fairness (“my team mates and opponents must compete fairly”). In this workshop, athletes were introduced to the ABC elements of REBT, and the workshop chiefly focused on the notion that adversities cannot cause unhealthy emotions and maladaptive behaviors alone, it is their irrational beliefs about the adversities that cause unhealthy emotions and maladaptive behaviors. We used famous athlete quotes and self-reflection tasks to enhance athletes'

knowledge and understanding of the ABC elements. The second workshop built on the knowledge the athletes had gleaned from the first, and went into more detail as to why irrational beliefs cause unhealthy emotions and maladaptive behaviors, what these emotions and behaviors might be, and why they might be unhelpful for performance. Scenario-based activities were used to help the athletes to reflect on how irrational beliefs may emerge before, during, and after performances. In this session, athletes were also introduced to disputation and completed a number of tasks that disputed the absolute use of the word "must" in relation to soccer. For example, athletes were encouraged to think about the things that they must have or do in life (e.g., water, air, food) and to rationalize whether winning in soccer can be considered alongside those crucial necessities. Workshop three focused on completing the badness scale (Ellis, Gordon, Neenan, & Palmer, 1997) as a method for disputing awfulizing beliefs, where athletes rated ten adversities on a scale of 0% (*not bad at all*) to 100% (*worst thing imaginable*). Anything considered 101% bad is “awful.” As in previous research (Turner et al., 2013) soccer related adversities were rated at 40-60%, thus challenging the use of awfulizing in relation to soccer. Finally, athletes discussed how they could use rational beliefs instead of irrational beliefs and then created rational self-statements (e.g., Ellis, 1994; Tafrate & Kassinove, 1998) to take away from the workshop. Self-statements included “I want to succeed more than anything, but that does not mean I must,” and “failure is bad, but not awful.”

General emotions program. The general emotions program comprised three 40-minute workshops and was designed to help athletes to recognize their emotional responses without drawing on REBT-related ideas. In the first workshop athletes reflected on their emotional reactions to adversities. Athletes also considered the range of emotions professional athletes may experience in a typical season, helping to raise awareness of potential performance debilitating emotions, including anger, anxiety, shame, and depression

(non-clinical). The athletes put forth some real-world examples of athletes who have experienced performance consequences as a result of poor emotion management (e.g., David Beckham's red card vs. Argentina in 1998). In the second workshop, the athletes completed a task whereby they plotted the positive and negative events that have occurred throughout their academy soccer career. The purpose of engaging the athletes in reflective practice was to promote their awareness of the emotional highs and lows of soccer, but additionally to initiate discussion centered upon the techniques utilized by the athletes to manage emotions. Athletes disclosed problem-focussed strategies, such as walking away from the emotive situation and emotion-focussed strategies, including deep breathing (Jones, 2003). Despite the appropriate techniques outlined by the athletes we wished to introduce additional psychological skills that may be of benefit. Briefly, we outlined and worked with the athletes to apply cognitive techniques (positive self-talk, modelling), and arousal control techniques (progressive muscular relaxation, centering). For example, we guided athletes to restructure their self-talk to be more facilitative following failure, which in turn would improve athletes' emotional control. In the third workshop athletes were given various hypothetical scenarios for which they discussed the emotion that may be experienced by the individual involved in the scenario. For example, in one scenario they have been awarded a penalty in the last minute of a match with the score at 0-0, against a team one place above them in the league. The athletes were asked to discuss what they would feel as the penalty taker, the opposing goal keeper, the referee, a spectator, and their coach. It was intended that this exercise would help the athletes to understand how they and others emote in the same situation, similar to the experiential area of emotional intelligence as outlined in previous research (Crombie, Lombard, & Noaks, 2011).

Results

Visual Analysis

Following relevant single-case guidelines (Barker, McCarthy, Jones, & Moran, 2011) and in line with previous group-level research (e.g., Pain & Harwood, 2009) data from both groups were graphed (y axis scaled to one unit of the SGABS 5-point Likert scale) and visually analyzed to determine the effects of the REBT program (Figure 1) on irrational beliefs and the control group (Figure 2). Typically, in single-case research visual examination includes the comparison of mean changes for each subject case. In accordance with Pain and Harwood (2009) who treated a university soccer team as a single case and accordingly visually examined grouped data, we treat each intervention group as a single case. Three steps were taken to standardize analyses. First, the immediacy of change in irrational beliefs at the onset of the intervention was determined. Second, overlapping data points were calculated between pre- and post-test phases, with less overlapping points indicating more consistent changes in data. Finally, the size of the changes between each phase was determined using percentage change. That is, pre-test (timepoint one), post-test (timepoints two to six), and follow-up phase (timepoints seven to eight or nine) mean levels and the changes from pre-test to post-test and from post-test to follow-up were indicated by calculating the percentage increase of decrease between phases ((*Mean*2-*Mean*1)/*Mean*1) x 100; Turner & Barker, 2013).

REBT group. For total irrational beliefs, there was an immediate reduction at post-test, and there were no overlapping data points between pre- and post-test phases. Regarding mean levels, there was a -7.56% reduction from pre-test (M = 2.66) to post-test (M = 2.46, SD = .09), and a 4.60% increase from post-test to follow-up (M = 2.57, SD = .28) phases. For need for achievement there was an immediate reduction at post-test, and there were no overlapping data points between pre- and post-test phases. Regarding mean levels, there was a -12.99% reduction from pre-test (M = 3.25) to post-test (M = 2.83, SD = .14), and a -4.07% decrease from post-test to follow-up (M = 2.71, SD = .17) phases. For need for approval there

was an immediate reduction at post-test, and no overlapping data points between pre- and post-test phases. Regarding mean levels, there was a -13.02% reduction from pre-test (*M* = 2.41) to post-test (*M* = 2.09, *SD* = .18), and a 11.96% increase from post-test to follow-up (*M* = 2.34, *SD* = .17) phases. For demand for fairness there was an immediate reduction at post-test, and no overlapping data points between pre- and post-test phases. Regarding mean levels, there was a -12.23% reduction from pre-test (*M* = 3.31) to post-test (*M* = 2.90, *SD* = .26), and a 1.18% increase from post-test to follow-up (*M* = 2.94, *SD* = .09) phases.

In summary of the REBT group results, there was a meaningful reduction in all variables. Need for achievement and demand for fairness remained reduced from pre-test levels at the follow-up phase, but total irrational beliefs and need for approval increased towards pre-test levels at follow-up.

Control group. For total irrational beliefs there was no immediate reduction at post-test, and there were four overlapping data points between pre- and post-test phases. Regarding mean levels, there was a 14.00% increase from pre-test (*M* = 2.08) to post-test (*M* = 2.37, *SD* = .25), and a 10.61% increase from post-test to follow-up (*M* = 2.62, *SD* = .08) phases. For need for achievement, there was no immediate reduction at post-test, and there were four overlapping data points between pre- and post-test phases. Regarding mean levels, there was a 18.77% increase from pre-test (*M* = 2.14) to post-test (*M* = 2.55, *SD* = .36), and a 14.65% increase from post-test to follow-up (*M* = 2.92, *SD* = .20) phases. For need for approval, there was no immediate reduction at post-test, and four overlapping data points between pre- and post-test phases. Regarding mean levels, there was a 23.83% increase from pre-test (*M* = 1.76) to post-test (*M* = 2.18, *SD* = .38), and a 22.52% increase from post-test to follow-up (*M* = 2.67, *SD* = .18) phases. For demand for fairness, there was an immediate reduction at post-test, and two overlapping data points between pre- and post-test phases. Regarding mean levels, there was a -2.28% reduction from pre-test (*M* = 2.46) to post-test (*M*

= 2.41, *SD* = .29), and a 13.01% increase from post-test to follow-up (*M* = 2.72, *SD* = .02) phases.

In summary of the control group results, only demand for fairness showed a reduction from pre- to post-test phases, with all other variables showing an increase. All variables showed an increase above pre-test and post-test levels at the follow-up phase.

Social Validation

REBT program. Social validation suggested athletes thought the REBT intervention was important (*M* = 5.57, *SD* = 1.16), useful (*M* = 5.43, *SD* = 0.94), and would motivate them to change their thoughts and behaviors (*M* = 5, *SD* = 1.04). In addition, all seven athletes thought that the program helped them to improve their emotional control. For example, one athlete noted REBT "helped to take the words "must" and "need to" out of my thoughts, taking pressure off myself," while another stated REBT "helps to bounce back from failure and not dwell on things." Athletes improved emotional control was qualified by their responses to adverse competition scenarios (e.g., please detail your thoughts and feelings after a decision goes against you), with response such as "accept it and move on, things get better." Regarding performance and career development, six of the seven athletes believed REBT was beneficial. Broadly, athletes indicated performance would be improved through an improved ability to deal with adversity and to maintain positive thinking. Finally, all seven athletes would recommend the REBT education program given its applicability and usefulness to improve athlete's psychological approach to competition. For example, the REBT program was perceived as helpful "to channel anger and failures into positive things for performance."

General emotions program. Social validation indicated athletes thought the general emotions program was important (*M* = 4.9, *SD* = 1), useful (*M* = 4.6, *SD* = .47), and would motivate them to change their thoughts and behaviors (*M* = 4.2, *SD* = 1.12). In addition, four

of the six athletes believed that the general emotions program helped to improve their emotional control. For example, one athlete indicated the intervention will help to "change the way I'm thinking about a situation." Athletes' responses to the competitive scenario questions were mixed, with dysfunctional emotions such as anger and sadness reported, while another athletes noted "stay relaxed, focused on the task." In relation to performance, four out of six athletes perceived the intervention to be beneficial for competitive performance. Finally, five of the six athletes reported that they would recommend the program to other academy teams, with one player noting the workshops "can have implications and improve performance."

In summary, social validation suggested the REBT education program brought about intentional changes to reduce the use of rigid and demanding words (e.g., "must"), while the general emotions program engendered more broad emotional changes through self-awareness (e.g., "[I'm] more aware about the circumstances and importance of controlling frustration and anger.") In general, the social validation data indicated that both programs were effective in enhancing emotional control for performance. Specifically, athletes' perceived the REBT education program to be more important, useful, and applicable in terms of changing thoughts and behaviors than the athletes who received the general emotions program. Mann-Whitney U tests indicated that differences in importance (z = -1.18), usefulness (z = -1.68), changing of thoughts (z = -1.40), and changing of behaviors (z = -1.34) between groups were not statistically significant ($p > .05$).

Discussion

The purpose of this study was to examine the season-long effects of an REBT education program on the irrational beliefs of professional soccer academy athletes. This paper adds to the extant literature (e.g., Turner et al., 2013) by using a quasi-experimental single-case A-B design with follow-up (Barker, McCarthy, Jones, & Moran, 2011) to

compare the long-term effects of REBT education to a control condition, or more accurately, a condition in which athletes received no REBT guidance. This is the first study to compare the effects of REBT education with a control group on long-term changes in irrational beliefs in athletes.

Results indicated that the REBT education program was effective in reducing irrational beliefs but the general emotions program was not. Specifically, for the REBT education program there was a large and immediate reduction in all variables at intervention onset. But for the general emotions program there was a moderate and immediate reduction in only demand for fairness. In the longer term, for the REBT education program variables need for achievement and demand for fairness remained reduced at the follow-up phase, but after an initial reduction total irrational beliefs and need for approval increased towards pre-test levels at follow-up. In contrast, for the general emotions program all variables showed an increase above pre-test and post-test levels at the follow-up phase. Social validation data indicated that the REBT education program was perceived as more effective in controlling emotions than the general emotions program. Moreover, the perceived psychological and performance benefits reported for the REBT education program were underpinned by shifts in irrational beliefs, whereas the cause of the perceived benefits for the general emotions program were unclear.

The finding that irrational beliefs can be reduced using REBT (Turner & Barker, 2013) and REBT education (e.g., Trip, Vernon, & McMahon, 2007; Turner et al, 2013) supports previous research. However, the finding that some irrational beliefs variables remain reduced in the longer term and not others adds significantly to the extant literature. Unlike past research, we used multiple REBT education workshops and this may have contributed to the long-term effects reported in this paper. In addition, by using single-case methods, when analyzing the data we were more able to assess changes in irrational beliefs more frequently

over-time both during and after the intervention period, whereas past research has used only one data collection point for each pre-, post-, and follow-up phases (e.g., Turner et al., 2013). Therefore, we were able to examine the immediate and long-term effects of REBT education and a control condition for the first time in sport, so it is possible to more confidently attribute the reported changes in irrational beliefs to the REBT program rather than extraneous variables (Anderson et al., 2002; Shadish et al., 2002).

Results indicated that variables need for achievement and demand for fairness remained reduced in the longer term, echoing the findings of previous research that have used multiple one-to-one REBT sessions in a single-case design (Marlow, 2009; Turner & Barker, 2013). Coupled with the findings in past research that a single bout of REBT does not facilitate long-term change, the evidence that multiple bouts of REBT reported in this and previous papers suggests that for long-term gains REBT is best applied on numerous occasions (Ellis & Dryden, 1997). That is, it is not enough to deliver just one REBT workshop to athletes for irrational beliefs to be reduced long-term.

The long-term reduction in need for achievement is potentially important for the athletes because they function within a results driven climate where success is paramount (Harwood, 2008; Harwood et al., 2010). The importance placed on winning in professional academy settings can inspire an irrational need for achievement (Botterill, 2005), which in turn could lead to dysfunctional and maladaptive emotional and behavioral responses. To explain, the propensity for athletes to adopt irrational demands is due to the difficulty in thinking rationally in important situations where preferences for success are particularly strong (Dryden & Branch, 2008). In REBT, it is possible to recognize the importance of success, while retaining a rational want for achievement rather than a need. A preference for success is no less motivational, and can foster self-enhancing, adaptive behaviors (e.g., approach), and balanced thoughts, thus facilitating goal achievement (Dryden, 2009).

Similarly, the finding that demand for fairness was reduced in the longer term could be important especially in a professional academy setting, because the athletes are often subjected to adverse selection decisions that could be considered unfair. By adopting a rational preference for fairness instead of an irrational demand for fairness, athletes can assuage unhealthy anger often accompanied by regrettable outbursts that can damage important athlete-athlete and coach-athlete relationships. That is, in the face of unfairness a rational preference for fairness may leave an athlete feeling healthily angry, able to tolerate the decision while protesting constructively (Dryden & Branch, 2008).

While variables need for achievement and demand for fairness showed long-term reductions, need for approval and total irrational beliefs returned to pre-test levels after initial post-test reductions. The finding that some irrational belief variables remained reduced over the season and not others is both intriguing and perplexing, but there are some plausible explanations for these results. First, it may be that some irrational beliefs require more long-term or individually targeted REBT sessions for sustained beneficial effects to emerge. Specifically, need for approval is a particularly salient belief for academy environments because athletes are more likely to keep their place in the team if they gain the approval of the coaching staff and academy director. Therefore, helping athletes to dispute need for approval beliefs may require focused efforts, perhaps using one-to-one sessions. Indeed, Turner et al. (2013) found no reductions in need for approval after REBT education (a single session) in a similar athletic context (15-16 year old professional soccer academy athletes). Second, perhaps the content regarding need for approval across the three REBT workshops was not strong enough to foster long-term change, or was ambiguous in terms of applicability outside the guided REBT in the workshops. Social validation conducted after each workshop could be used in future research to examine perceptions of each element of the intervention for appropriateness and understanding.

There are some limitations that if addressed would strengthen the findings of the current paper. Although social validation data suggested that participants thoughts that the REBT program would improve their performance, performance markers were not utilized. Future research could use coach ratings, a notational analysis system (e.g., Carling, Williams, & Reilly, 2005), and or video performance analysis techniques at each time-point for each athlete, or perhaps devise experimental performance tasks to examine the influence of irrational beliefs on soccer skill performance. In addition, because REBT is proposed to help individuals control their emotions which may facilitate performance, a measure of emotions and or emotional control would strengthen the findings of this study. Previous research has reported reduced anxiety through REBT education (Elko & Ostrow, 1991; Yamauchi & Murakoshi, 2001), but an investigation of the impact of REBT on the broad spectrum of emotions including anger is still needed. Finally, this paper reports the use a quasi-experimental single-case design at a group-level, a methodology typically used with individual athletes (Barker et al., 2011). That is, in this paper we treat the team as the case, rather than the individual. This approach could be strengthened by collecting more pre-test data than in the present study, to conform better to single-case guidelines (Barker et al., 2011) and ensure a stable baseline prior to intervention. In addition, a counterbalanced design could have been adopted where both groups received the REBT program and the control program but at differing points in the season (e.g., Barker et al., 2011). Lastly, in retrospect if we had more evenly matched the two groups using baselines irrational beliefs scores, the comparison between REBT and control conditions would have been more accurate. While the single-case design we adopted is recommended for within-groups changes, a between-groups design could be achieved using similar methods to the current study.

This paper provides a number of applied research implications. First, because this research was conducted as part of the academy sport psychology provision, it was necessary

to rationalize the programs to the academy head of sport science. REBT is not widely recognized in professional sport settings as yet, therefore we presented the programs as "emotion programs" in which athletes would learn about emotions and methods for controlling them, and stipulated that two groups needed to be formed. Presenting the programs as "emotion programs" was important because REBT has some clinical connotations (Marlow, 2009) that may be unattractive to coaches. In addition, the academy head of sport science was kept blind to the different conditions to ensure that they were not able to reveal the differences between the content of each program to the two groups. Athletes were informed that both groups were to receive emotion programs so that the control group were not curious as to the content of the REBT group's program. Whilst difficult to put into practice, it was necessary to try to prevent cross-pollination of REBT concepts to the control group, that would have influenced the data. It is not possible from the data presented to know whether athletes from opposing groups shared workshop information, but social validation data from the control group intimated no shift in irrational thought processes.

In summary, the present study is the first to explore the season-long effects of multiple REBT education workshops and a control condition on the irrational beliefs of athletes. Broadly, results indicated that the REBT program reduced the irrational beliefs of professional academy soccer athletes from pre- to post-test. In addition, REBT had a long-term effect on need for achievement and demand for fairness, both variables remaining attenuated at follow-up. Social validation indicated that both REBT and control programs helped athletes to control their emotions and enhance performance, but the REBT program was perceived as more beneficial and able to alter irrational beliefs. The reported benefit of REBT education in this paper supports previous research with athletes (Elko & Ostrow, 1991; Turner et al., 2013; Yamauchi & Murakoshi, 2001). Future research should investigate the relationship between irrational beliefs and athlete performance, and also investigate the broad

spectrum of emotions relevant to REBT. Given the support starting to emerge for the use of REBT with athletes, we encourage more sport psychologists to explore the use of REBT with athletes and to report their findings so that a greater understanding of the ways REBT can and cannot be used in sport is garnered.

References

Anderson, A. G., Miles, A., Mahoney, C., & Robinson, P. (2002). Evaluating the effectiveness of applied sport psychology: Making the case for a case study approach. *The Sport Psychologist*, *16*, 432-453.

Balague, G. (1999). Understanding identity, value, and meaning when working with elite athletes. *The Sport Psychologist*, *13*, 89-98.

Barker, J. B., McCarthy, P. J., & Harwood, C. G. (2011). Reflections on consulting in elite youth male English cricket and soccer academies. *Sport and Exercise Psychology Review*, *7*, 58-72.

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

Bernard, M. E. (1985). A rational-emotive mental training program for professional athletes. In A. Ellis & M. E. Bernard (Eds.), *Clinical applications of rational-emotive therapy* (pp. 227-309). New York: Plenum.

Bonadies, G. A., & Bass, B. A. (1984). Effects of self-verbalizations upon emotional arousal and performance: A test of rational-emotive theory. *Perceptual and Motor Skills*, *59*, 939-948.

Botterill, C. (2005). Competitive drive: Embracing positive rivalries. In S. Murphy (Ed.), *The sport psych handbook* (pp. 37-48). Champaign, IL: Human Kinetics.

Carling, C., Williams, A.M., & Reilly, T. (2005). *Handbook of soccer match analysis: A systematic approach to improving performance*. Routledge.

Cockerill, I. (2002). In pursuit of the perfect performance. In I. Cockerill (Eds.), *Solutions in sport psychology* (pp. 74-88). London: Thomson.

Crombie, D., Lombard, C., & Noakes, T.D. (2011). Increasing emotional intelligence in cricketers: An intervention study. *International Journal of Sports Science and Coaching*, *6*, (1), 69-86.

David, D. (2003). Rational emotive behavior therapy (REBT): The view of a cognitive psychologist. In W. Dryden (Ed.), *Rational emotive behavior therapy: Theoretical developments* (pp. 130-159). New York: Brunner-Routledge.

David, D., Lynn, S., & Ellis, A. (2010). *Rational and irrational beliefs in human functioning and disturbances: Implications for research, theory, and practice*. New York: Oxford University Press.

David, D., Szentagotai, A., Eva, K., & Macavei, B. (2005). A synopsis of rational-emotive behavior therapy (REBT): Fundamental and applied research. *Journal of Rational-Emotive and Cognitive-Behavior Therapy, 23*, 175-221. doi: 10.1007/s10942-005-0011-0

Dryden, W. (2009). *How to think and intervene like an REBT therapist*. London: Routledge.

Dryden, W. (2012). The "ABCs" of REBT I: A premilinary study of errors and confusions in counselling and psychotherapy textbooks. *Journal of Rational and Cognitive-Behavior Therapy, 30*, 133-172. doi: 10.1007/s10942-011-0137-1

Dryden, W., & Branch, R. (2008). *The fundamentals of rational-emotive behavior therapy*. West Sussex: Wiley.

Elko, K. P., & Ostrow, A. C. (1991). Effects of a rational-emotive education program on heightened anxiety levels of female collegiate gymnasts. *The Sport Psychologist, 5*, 235-255.

Ellis, A. (1957). Rational psychotherapy and individual psychology. *Journal of Individual Psychology, 13,* 38-44.

Ellis, A. (1994). The sport of avoiding sports and exercise: A rational emotive behavior therapy perspective. *The Sport Psychologist, 8,* 248-261.

Ellis, A., & Dryden, W. (1997). *The practice of rational-emotive behavior therapy.* New York: Springer Publishing Company.

Ellis, A., Gordon, J., Neenan, M., & Palmer, S. (1997) *Stress counselling: A rational emotive behavior approach*. London: Cassell.

Hardy, L. (2012). Comment on McCarthy, Wilson, Keegan, and Smith. *Sport and Exercise Psychology Review, 8,* 17-21.

Harris, S., Davies, M. F., & Dryden, W. (2006). An experimental test of a core REBT hypothesis: evidence that irrational beliefs lead to physiological a well as psychological arousal. *Journal of Rational-Emotive and Cognitive-Behavior Therapy, 24,* 1-9. doi: 10.1007/s10942-005-0019-5

Harwood, C. G. (2008). Developmental consulting in a professional soccer academy: The 5C's coaching efficacy program. *The Sport Psychologist, 22,* 109-133.

Harwood, C. G., Drew, A., & Knight, C. J. (2010). Parental stressors in professional youth football academies: A qualitative investigation of specialising stage parents. *Qualitative Research in Sport and Exercise, 2,* 39-55.

Hyland, P., & Boduszek, D. (2012). A unitary or binary model of emotions: A discussion on a fundamental difference between cognitive therapy and rational emotive behavior therapy. *Journal of Humanistics and Social Sciences, 1* (1), 49-61.

Jones, M. V. (2003). Controlling emotions in sport. *The Sport Psychologist, 14, 471-486.*

Lazarus, R. S. (1991). Progress on a cognitive-motivational-relational theory of emotion. *American Psychologist, 46,* 819-834. doi: 10.1037//0003-066X.46.8.819

Lindner, H., Kirkby, R., Wertheim, E., & Birch, P. (1999). A brief assessment of irrational thinking: The shortened general attitude and belief scale. *Cognitive Therapy and Research, 23*, 651-663. doi: 10.1023/A:1018741009293

MacInnes, D. (2003). Evaluating an assessment scale of irrational beliefs for people with mental health problems. *Nurse Researcher, 10*, 53-67.

Marlow, C. (2009). Creating positive performance beliefs: The case of a tenpin bowler. In B. Hemmings & T. Holder (Eds.), *Applied sport psychology: A case based approach* (pp. 65-87). London: John Wiley & Sons Ltd.

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. doi: 10.1080/10413200.2012.663859

Pain, M., & Harwood, C. (2009). Team-building through mutual-sharing and open discussion of team functioning. *The Sport Psychologist, 23*, 523-542.

Reeves, C. W., Nicholls, A. R., & McKenna, J. (2009). Stressors and coping strategies among early and middle adolescent Premier League academy soccer athletes: Difference according to age. *Journal of Applied Sport Psychology, 21*, 31-48.

Rosin, L., & Nelson, W. M. (1983). The effects of rational and irrational self-verbalizations on performance efficiency and levels of anxiety. *Journal of Clinical Psychology, 39*, (2), 208-213.

Schill, T., Monroe, S., Evans, R., & Ramanaiah, N. (1978). The effects of self-verbalizations on performance: A test of the rational-emotive position. *Psychotherapy: Theory, Research, and Practice, 15*, 2-7.

Shadish, W. R., Cook, T. D., & Campbell, D. T. (2002). *Experimental and quasi experimental designs for generalized causal inference* (2nd ed.). Boston: Houghton-Mifflin.

Tafrate, R. C. & Kassinove, H. (1998). Anger control among adult males: Barb exposure with rational, typical, and irrelevant self-statements. *Journal of Cognitive Psychotherapy*, *12*, 187-212.

Trip, S., Vernon, A., & McMahon, J. (2007). Effectiveness of rational-emotive education: A quantitative meta-analytical study. *Journal of Cognitive and Behavioral Psychotherapies*, *7*, 81-93.

Turner, M. J., & Barker, J. B. (2013). Examining the efficacy of Rational-Emotive Behavior Therapy (REBT) on irrational beliefs and anxiety in elite youth cricketers. *Journal of Applied Sport Psychology*, *25*, 131-147. doi:10.1080/10413200.2011.574311

Turner, M. J., & Barker, J. B. (in press). Using Rational-Emotive Behavior Therapy with athletes. *The Sport Psychologist* (accepted 4th May 2013).

Turner, M. J., Slater, M. J., & Barker, J. B. (2013). Not the end of the world: The effects of Rational-Emotive Behavior Therapy on the irrational beliefs of elite academy athletes. *Journal of Applied Sport Psychology* (published online 1st August 2013). doi:10.1080/10413200.2013.812159

Yamauchi, R., & Murakoshi, S. (2001). The effect of rational-emotive behavior therapy on female soft-tennis players experiencing cognitive anxiety. Retrieved August 28, 2009, from http://www.jssp.jp/journal/vol28/yamauchi.html

Figure 1. Graphed data for the REBT group, including variables total irrational beliefs, need for achievement, need for approval, and demand for fairness.

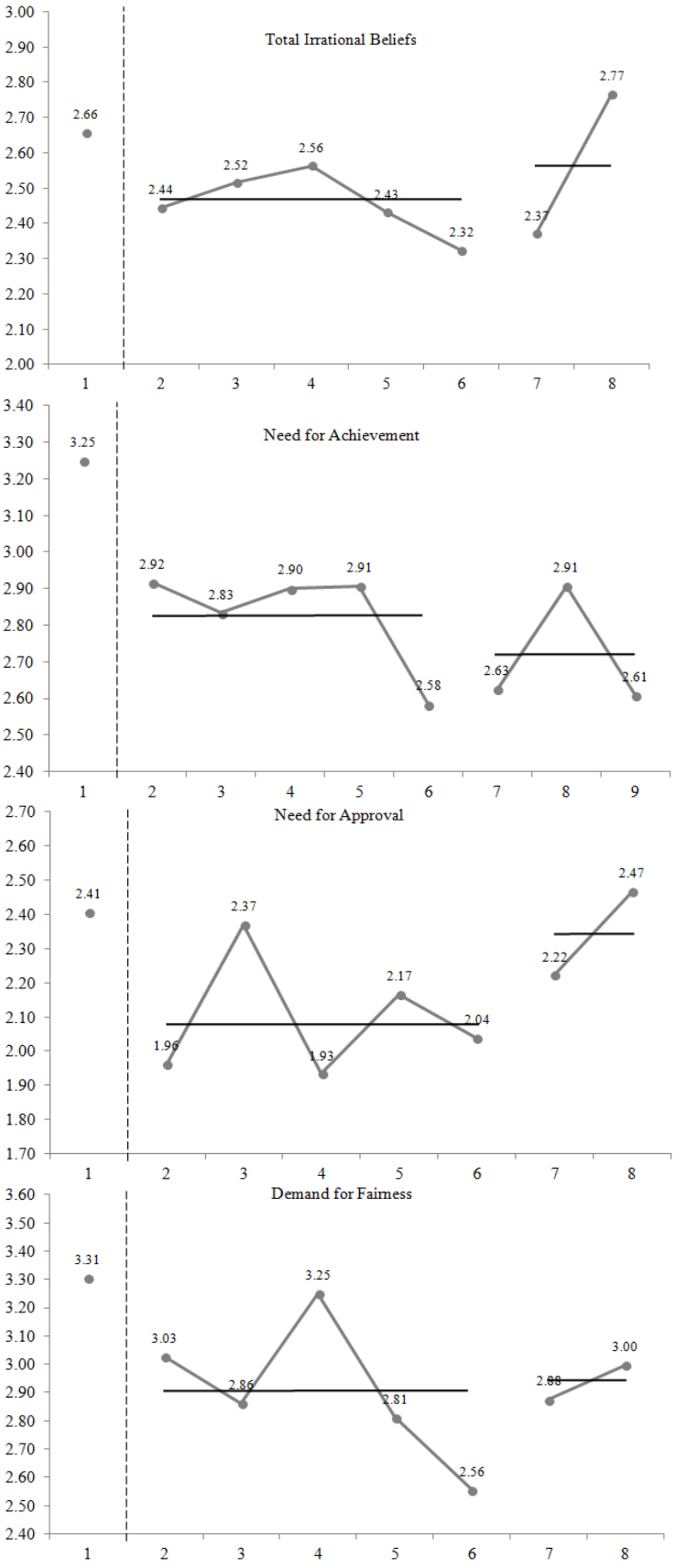

Figure 2. Graphed data for the control group, including variables total irrational beliefs, need for achievement, need for approval, and demand for fairness.

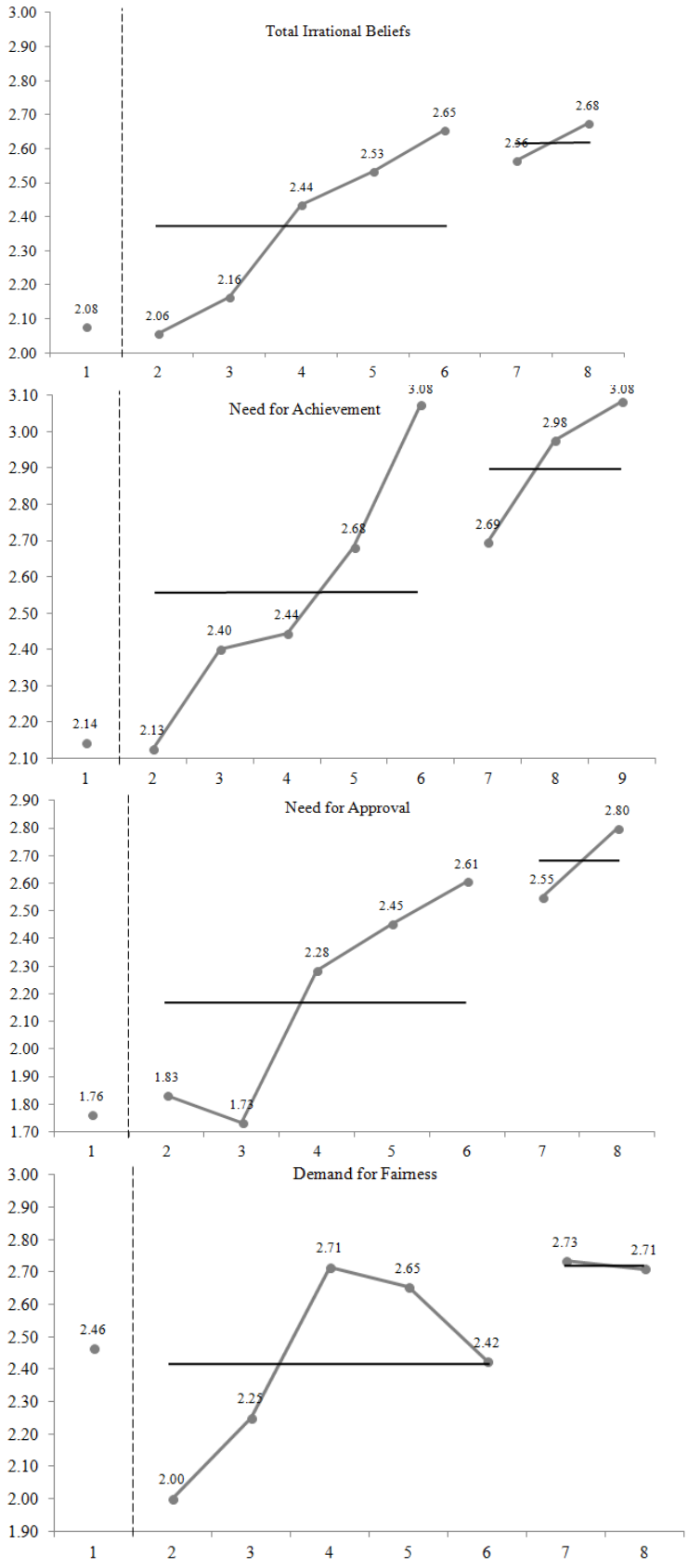

Figure Captions

Figure 1. Graphed data for the REBT group, including variables total irrational beliefs, need for achievement, need for approval, and demand for fairness.

Figure 2. Graphed data for the control group, including variables total irrational beliefs, need for achievement, need for approval, and demand for fairness.