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Wood, AG and Barker, JB and Turner, MJ (2017) Developing performance using rational emotive behavior therapy (REBT): A case study with an elite archer. *Sport Psychologist*, 31 (1). pp. 78-87. ISSN 0888-4781

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Version: Accepted Version

Publisher: Human Kinetics

DOI: <https://doi.org/10.1123/tsp.2015-0083>

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Developing Performance Using Rational Emotive Behavior Therapy (REBT): A Case Study

With an Elite Archer.

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Abstract

Rational Emotive Behavior Therapy (REBT; Ellis, 1957) is a psychotherapeutic approach receiving increasing interest within sport. REBT is focused on identifying, disputing and replacing Irrational Beliefs (IBs) with Rational Beliefs (RBs) to promote emotional well-being and goal achievement. This study provides a detailed case outlining the application and effect of seven one-to-one REBT sessions with an elite level archer who was experiencing performance-related anxiety, prior to and during competition. The case also offers an insight into common misconceptions, challenges and guidance for those who may consider applying REBT within their practice. Data revealed meaningful short and long –term (6-months) reductions in IBs and improvements in RBs, self-efficacy, perception of control and archery performance. The case supports the effective application of REBT as an intervention with athletic performers, promoting lasting changes in an athlete’s ability to manage their cognitions, emotions and behaviors in the pursuit of performance excellence.

Key words: Case Study, Anxiety, Archery, Irrational Beliefs, Emotions, Mental Skills

51 **Developing Performance Using Rational Emotive Behavior Therapy (REBT): A Case**
52 **Study With an Elite Archer.**

53 **Introduction**

54 The reported use of Rational Emotive Behavior Therapy (REBT; Ellis, 1957) with athletes is
55 fast emerging within the sport psychology literature. Recent research has yielded promising
56 findings, but there still exists scant research documenting and detailing the application of
57 REBT with athletes (Turner & Barker, 2014). REBT is a psychotherapeutic approach
58 established by Albert Ellis in 1955. Its philosophy is outlined by an ancient maxim stating
59 “men are not disturbed by things, but by the view which they take of them” (Epictetus, 55-
60 135 A.D.). REBT emphasizes it is one’s Irrational Beliefs (IBs) about adversity that leads to
61 dysfunctional and unhelpful, emotions, behaviors, and cognitive consequences; whereas,
62 Rational Beliefs (RBs) lead to functional and helpful alternatives. These beliefs consist of
63 four core beliefs each comprising of one primary and three secondary beliefs (Digiuseppe,
64 Doyle, Dryden, & Backx, 2013). The primary core irrational belief is a “rigid and extreme
65 demand” followed by three secondary beliefs of, “awfulizing”, “low frustration tolerance”,
66 and “self/other/life-depreciation”. In contrast, primary rational beliefs are a “flexible and a
67 non-extreme preference” followed by three secondary beliefs of, “anti-awfulizing”, “high
68 frustration tolerance”, and “self/other/life acceptance” (Digiuseppe et al.). IBs are dogmatic,
69 inflexible, inconsistent with social reality and hinder long-term goal attainment, instead RBs
70 are helpful, flexible, consistent with social reality and help long-term goal attainment.
71 Research suggests that in the face of adversity, IBs leads to dysfunctional and unhealthy
72 negative emotions (e.g., anger, anxiety, depression) that are associated with maladaptive
73 behaviors (e.g., avoidant and/or escape-based behaviors); whereas RBs generate functional
74 and healthy negative emotions (e.g., annoyance, concern, sadness) that facilitate adaptive

75 behaviors (e.g., problem-solving-based behaviors), the latter being more helpful towards the
76 attainment of goals than the former (David, Szentagotai, Eva, & Macavei, 2005; Dryden,
77 2002). The efficacy of REBT in dealing with psychological health has been validated
78 through meta-analyses (e.g., Engles, Garnefski, & Diekstra, 1993; Lyons & Woods, 1991),
79 establishing REBT as an effective model of human functioning.

80 Although scant, early REBT researchers reported the promising effects of REBT on
81 athletic performance (e.g., Bernard, 1985; Elko & Ostrow, 1991). Most recently, a line of
82 research systematically investigating the effects of REBT on athletic performance has
83 emerged. To illustrate, a study by Lerner, Morris, and Marchant, (2007) reported that
84 reductions in IBs and increases in RBs decreased the negative directional interpretation of
85 anxiety experienced by athletes. Furthermore, elite youth cricketers reported reductions in
86 IBs and cognitive anxiety after receiving three, one-to-one REBT sessions (e.g., Turner &
87 Barker, 2013). Using a workshop-based modality, elite soccer academy athletes reported
88 short-term reductions in IBs after receiving a single REBT workshop (e.g., Turner et al.,
89 2014a), as well as long-term reductions in IBs after receiving multiple REBT workshops
90 (e.g., Turner, Slater & Barker, 2014b). Collectively, research demonstrates the potential of
91 REBT to develop important psychological outcomes relative to athletic performance.
92 However, to date this research has not used objective markers of performance to better
93 ascertain the effects of REBT on athletic performance.

94 All humans have a propensity for both rational and irrational beliefs, where individual
95 differences are buffered by biological traits and cultural/educational influences (Neenan &
96 Dryden, 2004). The dysfunctional and maladaptive responses associated with IBs are
97 magnified within sport where athletes are expected to thrive when encountering competitive,
98 organizational, and personal stressors in pursuit of performance excellence (Weston,
99 Thelwell, Bond, & Hutchings, 2009). An athletes' inherent fixation upon success and failure,

100 perceived self-worth, and an experience of high quality treatment may encourage an irrational
101 shift from “want to” to “have to” (Botterill, 2005). REBT aims to facilitate profound change
102 in one’s thinking, feelings, and behaviors, shifting from an irrational to a rational philosophy
103 that addresses the root cause of a symptomatic issue. Ultimately, a rational philosophy
104 accelerates an individual’s recovery from failure towards constructive goal directed actions.

105 Research suggests that individuals’ beliefs are comparable to that of a primary
106 appraisal (Lazarus, 1991), hereby, influencing an individual’s particular representation of
107 reality (Hyland & Boduszek, 2012). Therefore, irrespective of the adversity, athletes have
108 autonomy over their emotional and behavioral response (i.e., functional/helpful vs.
109 dysfunctional/unhelpful responses; Dryden & Neenan, 2015). It is both unrealistic and
110 unhelpful to expect an athlete to respond indifferently, or with immediate positivity after
111 experiencing an adversity (e.g., failed selection), instead REBT encourages a healthy
112 negative response (Dryden & Neenan). Within the anxiety-performance literature the
113 regulatory subcomponent of the three-dimensional model (Cheng, Hardy, & Markland, 2009)
114 re-conceptualizes and supports the adaptive vs. maladaptive distinction in negative emotions.
115 Explicitly, athlete’s perceived control to cope and attain goals under stress is proposed to
116 influence both the intensity and adaptive quality of anxiety. For example, an athlete who
117 holds IBs will feel highly anxious (dysfunctional emotion) before a major competition
118 because the prospect of failing will conflict with their primary belief of demanding success
119 (e.g., “I would like to win, therefore I absolutely must”) and irrationally reinforcing their
120 secondary beliefs of awfulizing, and self-depreciation (e.g., “if I do not win, it would be
121 awful and therefore this would make me a complete failure”). An athlete would then place
122 greater demands on themselves, in turn reducing their perception of control and coping.
123 Whereas, an athlete with RBs will feel concerned (functional emotion) because the prospect
124 of failing will to a lesser extent conflict with their preference for success (e.g., I really want to

125 win), thus, reinforcing their secondary beliefs of anti-awfulizing and self-downing (e.g., “if I
126 am not successful, it is not awful and it doesn’t mean I am a complete failure, instead I have
127 only failed this time”; Turner & Barker, 2014). Athletes with RBs will place less demand on
128 themselves and experience a greater perception of control.

129 The investigation of REBT and sporting performance whilst emerging remains sparse (Turner
130 & Barker, 2014), additionally there exists no case study documenting the application of
131 REBT with an elite athlete. The value of case studies for sport psychologists has been
132 brought to recent attention, providing a beneficial insight into the application, influence, and
133 effects of sport psychology interventions (Giges & Van Raalte, 2012). The primary aim of
134 this study was to contribute to the growing body of research evidencing the application and
135 effects of REBT practice with athletes in managing performance related issues. This case
136 provided a detailed practitioner account and an athletes experience throughout the entirety of
137 an REBT program, informing sport psychology practitioners looking to adopt REBT within
138 their practice. The case also detailed the application of typical and novel techniques, common
139 misconceptions, and challenges faced when intervening using REBT with an athlete. The
140 participant provided informed consent to undertake the research and institutional ethics
141 approval was granted for the procedures of the study.

142

143 **Needs Analysis**

144 Zara (Pseudonym) was a 44-year-old nationally ranked elite level archer who had been
145 competing in archery at this level for 4 years, representing both county and district teams.
146 Zara trained four days a week split between the local and regional archery centers. Initially,
147 a meeting was organized with Zara by the consultancy team (lead and second author). The
148 use of consultancy teams has been advocated as an effective way of developing the
149 consultancy process and supporting the training of neophyte and current sport psychology

150 practitioners (Pitt et al., 2015). During the initial contact with Zara she presented exaggerated
151 bouts of anxiety prior to and during competition, which was having a detrimental effect upon
152 her performance. In addition, these dips in performance were exemplified during indoor
153 archery competitions that Zara considered the easier format compared to outdoor competition
154 (e.g., less extraneous variables, shorter distance, greater margin of error). To compound this
155 issue, Zara felt she did not have control or was able to regulate her emotions when
156 encountering challenging situations (i.e., recovering her form). To investigate further we
157 administered the Shortened General Attitudes and Belief Scale (SGABS: Lindner, Kirkby,
158 Wertheim, & Birch, 1999), in turn indicating the presence of high IBs and low RBs (Lindner
159 et al., 1999). Upon further correspondence it became apparent that when Zara perceived low
160 expectations from herself and others (i.e., difficult competition, a longer shooting range,
161 competing against superior opponents) her performance thrived, whereas when the
162 expectation to be successful was elevated (i.e., indoor competition, relatively novice
163 opponents, and perfect conditions) her performance suffered. The following extract was taken
164 from email correspondence where Zara commented on feelings similar to that of “the end of
165 the world”, after her form during a competition took an unexpected decline. Such a statement
166 is indicative of the extreme and unhelpful beliefs commonly associated with REBT, in turn
167 leading to unhealthy emotions and maladaptive behaviors.

168 “60 arrows in the morning were good and then the 60 in the afternoon were not
169 as good. Some arrows went wayward and I even had a miss. This made me feel
170 quite sick to my stomach because I felt I was doing the same form etc. I told
171 another archer who said 'it's not the end of the world' but it kind of felt like that
172 to me. I checked my equipment; it was fine so it must have been me. Other
173 archers were puzzled and seem astonished that my arrows could be so off”

174
175 This discrepancy in performance and psychological control between outdoor and indoor
176 competitions suggested Zara could be harboring an irrational approach to failure and success
177 underpinned by demands instead of asserted preferences (Dryden, 2009). Zara was

178 experiencing a somewhat common paradox within high performance sport; the more she
179 demanded success the harder it became for her to attain. Information collated from the needs
180 analysis provided sufficient justification that the application of REBT would provide an
181 appropriate intervention for Zara's case (see Turner & Barker, 2014).

182 **The Application of REBT**

183 The central purpose of REBT is to actively challenge and dispute the client's irrational
184 philosophy and replace it with an effective new rational alternative. REBT is proposed to be
185 at its most effective on a one-to-one basis, over a series of sessions. The lead author was a
186 supervised trainee Sport and Exercise Psychologist registered within the Division of Sport
187 and Exercise Psychology (DSEP), an accredited primary practitioner in REBT, and delivered
188 the seven one-to-one REBT sessions with Zara. Each session lasted for approximately 60
189 minutes and was conducted over a 3-month period. The REBT intervention was separated
190 into education, disputation, and reinforcement phases, guided by the ABCDE framework (see
191 Figure 1). For an overview of applying REBT in sport see Turner and Barker (2014).

192 **Education Phase**

193 The education phase aimed to teach the client that it is their beliefs (B) that determine
194 their emotional and behavioral consequences (C), rather than the adversity alone (A) (Dryden
195 & Branch, 2008). Here, an emphasis was placed on ownership and control over Zara's
196 emotional and behavioral response. Thus, irrespective of the adversity (A), Zara would gain
197 autonomy over the functionality of her emotions and behaviors through the alteration of her
198 beliefs (B). Before addressing the beliefs (B), Zara was asked to outline how she would like
199 to respond (C), a response that would be helpful in the pursuit of her goal of performing well.
200 Therefore, instead of feeling extremely anxious (dysfunctional emotion) Zara wanted to feel
201 nervous (functional), display behaviors that were adaptive in regaining her form, and

202 ultimately, revert back to her previous form. The following transcript examples the process
203 involved in eliciting IBs:

204 **Practitioner:** What are you telling yourself about the situation (A), which leads you
205 to feel and act like this (C)?

206 **Zara:** That I should be scoring higher, especially during easy indoor competitions

207 **Practitioner:** Why is it that should you be scoring higher?

208 **Zara:** Because I can shoot a lot better than I was shooting, especially during indoor
209 shoots. I just have to shoot better than I do outdoors.

210 **Practitioner:** Would it be fair to say that because you would like to perform well
211 when you expect to do so, that you believe you have to.

212

213 This led to establishing the irrational belief: “I would like to perform well when I compete in

214 relatively easy competitions, therefore I must, if not it would be awful, and this would be

215 unbearable for me”. Such a process is then repeated with other challenging situations

216 encountered. Throughout the education phase the client’s emotional responsibility was

217 emphasized, highlighting the B (Belief) – C (Consequence) connection, rather than the

218 adversity (A) being solely responsible for her response (Dryden & Neenan, 2015). To

219 reinforce Zara’s self-awareness an ABC diary was provided as an inter-session task (Ellis &

220 Dryden, 1997). During this phase, it was important to consider factors that influenced the

221 practitioner-client relationship that facilitated the receipt of REBT. From the outset, Zara’s

222 expectations and goals were addressed and regularly reviewed. Throughout the intervention

223 it was important for the practitioner to consider catering the pace of the sessions,

224 interpersonal style (e.g., level of disclosure, humor, formality), and matching the influence

225 base (e.g., expertise, likeability) to Zara’s preference (Dryden & Neenan, 2015). The

226 education phase developed Zara’s self-awareness, moreover it provided the building blocks to

227 access and dispute her core IBs, which can be difficult to access, and stubborn to change.

228 (Neenan & Dryden, 2004). At its early conception REBT was mainly an active-directive

229 therapy. However, contemporary advocates consider that as the REBT intervention

230 progresses, to encourage an active and self-directed client (Dryden & Neenan, 2015).

231 Disputation Phase

232 The disputation phase was the most critical aspect of the REBT intervention and took
233 place over three sessions. Practitioners have typically advised that each session is 45 minutes
234 or longer in a three-session schedule, to ensure a comprehensive disputation process (Dryden
235 & Neenan, 2015; Turner & Barker, 2014).

236 Disputing an individual's belief is a challenging and sensitive process. Therefore it was
237 important for the practitioner to manage the levels of humor (Sultanoff, 2013), as well as
238 including elements of practitioner self-disclosure, to help normalize Zara's position
239 (Peterson, 2002). Adopting an ABCDE model, the practitioner rather than disputing the
240 adversity (A), disputed (D) Zara's existing IBs (B) and strengthened her new effective (E)
241 RBs, thus promoting healthy emotions, and adaptive behaviors (Ellis & Dryden, 1997).
242 REBT acknowledges that the adversity (A) is assumed to be true and for the time being
243 accept that it cannot be altered. The intervention provides an elegant solution instead of an
244 immediate practical solution allowing the client to better manage and respond adaptively in
245 any situation that arises, thus promoting long-term fundamental changes. To illustrate, when
246 Zara became increasingly anxious of her 'poor' performance scores, REBT would not
247 challenge possible misperceptions over whether it was a poor performance (A). Instead,
248 through the promotion of her RBs (B) about that situation, REBT would facilitate a helpful
249 emotion allowing Zara to respond in an adaptive manner. The following extract from Zara
250 provides an example of an analogy that helped Zara to understand this process:

251 "We spoke of "minimizing the dip", so the recovery time is quicker and is a more
252 helpful response, instead of having a total flip out with several more errors after
253 those six, and it worked and you know minimize that and it works."

254 From the onset of the disputation phase it was important for the practitioner to manage
255 Zara's expectations and highlight the challenging nature of the disputation phase. To avoid
256 confusion and ensure a comprehensive disputation process the practitioner used a directive

257 and formulaic approach to dispute Zara's IBs, starting with the most significant: "I would like
258 to perform well when I compete in relatively easy competitions, therefore I must, if not it
259 would be awful and this would be unbearable for me". This process involved three strategies
260 based upon evidence, logic, and pragmatics (DiGiuseppe, 1991). The following transcript
261 outlines the initial disputation process, referring to evidence, logic, and pragmatics.

262 **Practitioner:** What *evidence* is there that you have to perform to your potential when
263 you compete in easy competitions?

264 **Client:** Well if I know I can shoot that well, I have to.

265 **Practitioner:** Where is the evidence that because you expect to do so, that you have to
266 shoot well?

267

268 **Practitioner:** What do you think about the belief, because you expect to perform well
269 that you absolutely must?

270 **Client:** Well that would make sense to me.

271 **Practitioner:** Is this *logical* that because you want something that you must have it?

272 **Client:** That is what drives me on, I have to perform well.

273 **Practitioner:** Has there ever been a time where you wanted something but was unable
274 to attain it?

275

276 **Practitioner:** How *helpful* is thinking that you have to perform well?

277 **Client:** Well that should be helpful for me.

278 **Practitioner:** How helpful has this belief been for your short and long-term goals?

279 This disputation process was then repeated with Zara's awfulizing belief (e.g., it would
280 be awful) and low-frustration tolerance belief (e.g., "this would be unbearable for me"). As
281 exemplified, Socratic questioning was adopted, in which the practitioner asked a series of
282 progressive and open questions that encouraged self-reflection (Dryden & Branch, 2008). As
283 the disputation unfolded Zara verbalized her understanding and agreement of the disputation
284 process, however, her para-verbal communication conveyed a somewhat uncertain undertone.
285 Zara became uncomfortable and teary during one session. Indeed, it is common for clients to
286 harbor doubts during the disputation process, so it was important for the practitioner to elicit
287 and collaboratively address these doubts (Dryden & Neenan, 2015). Zara voiced her
288 concerns that releasing this dogmatic demand for success would reduce her motivation
289 towards archery; this was particularly poignant because for Zara her determination was an

290 attribute she saw as her main strength. This is a common misconception of REBT, where
291 clients implicitly conclude that through abandoning rigid and dogmatic beliefs this will
292 reduce their motivation to overcome adversity and reach their intended goal, this being
293 incorrectly associated with promoting a philosophy of indifference (Dryden & Branch, 2008).
294 Instead, the new RBs rather than softening the importance of the adversity facilitated a
295 constructive view of the situation helping them to achieve their goals (Turner & Barker,
296 2014). The meaningful replacement of Zara's demand with a very strong preference became
297 her turning point in the REBT program. Accordingly, a set of new and effective RBs (E) was
298 established: "I really really really want to perform well, but that doesn't mean I have to. If I
299 don't it is not the end of the world. I will feel rubbish, but I can accept that". After two
300 sessions of disputing and replacing her IBs with new RBs Zara was able to comprehend that
301 losing her IBs would not reduce her motivation, instead alleviating a do or die approach,
302 which had been hindering her performances. The following extract was taken from a follow-
303 up interview outlining her struggle to dispute and quell her motivational concerns.

304 "You know sayings such as I would love to shoot to my potential but I don't have to,
305 that was difficult for me, to me that almost suggested that you might as well not try, but
306 that's not what it meant. That's when we added an extra part to the sentence, I struggled
307 to get my head around it, it was like climbing a mountain without the right equipment, I
308 still have the first rational statement laminated in my case for competition".

309
310 To reaffirm the new RBs the practitioner asked Zara to attempt to dispute the new
311 beliefs with evidence, logic, and pragmatics. The inevitable failure to dispute the new RBs
312 helps reaffirm the new RBs and extinguish the old IBs. This disputation process was then
313 repeated again with other significant IBs. Using the ABCDE framework, Zara understood
314 that she could largely influence and determine how helpful her emotional and behavioral
315 responses were when encountering adverse situations. To supplement the ABCDE model,
316 REBT provides various impactful methods that can be used to dispute the client's IBs (see
317 Turner & Barker, 2014; Dryden & Neenan, 2015). Specifically, with Zara a 'badness scale'

318 was used to challenge her awfulizing beliefs and help her gain perspective on the major and
319 minor incidents that she encountered in her life. Zara was asked to place a numerical degree
320 of badness of a series of example adversities onto a scale between 0-100% (Ellis, Gordon,
321 Neenan, & Palmer, 1997). The practitioner then provided Zara with a series of sport specific
322 adversities (e.g., missing an arrow in the final) of which she rated highly on the badness
323 scale. Following this, Zara was provided with a series of major adversities (e.g., loss of a
324 loved one) of which she attempted to rate highly on the badness scale. This process
325 eloquently highlighted for Zara that her perceptions about the severity of the situation were
326 disproportionate with reality and a dip in performance was not “the end of the world”.

327 **Reinforcement Phase**

328 The reinforcement phase is typically introduced towards the latter stage of an REBT
329 intervention and can be completed concurrently with the first two phases. First, an important
330 aspect of REBT is to provide homework tasks to help self-reflection and re-affirmation of its
331 principles (Ellis & Dryden, 1997). Furthermore, cognitive, emotional, and behavioral
332 methods were used to reinforce and internalize Zara’s rational philosophy. Cognitive methods
333 involved working through self-help ABCDE worksheets as well as creating rational self-
334 statements. Incorporating the influential research of Wolpe (1958) REBT utilizes behavioral
335 assignments allowing clients to actively seek and test out their newly developed rational
336 philosophies in challenging situations (Froggat, 2005). In this case, Zara was asked to
337 purposefully approach indoor competitions, where expectations to be successful were high.
338 Due to the intimate overlap between behavioral, cognitive, and emotive methods (Ellis,
339 2004), this assignment allowed Zara to cognitively (e.g., “my performance scores dropped a
340 bit, but it wasn’t awful”) and emotionally (e.g., “It didn’t feel like the end of the world, just
341 annoyed”) dispute her irrational philosophy with logic, evidence, and pragmatics, as well as
342 overcoming avoidance tendencies associated with anxiety.

343 As the intervention progressed it was important to gauge how Zara’s shift in beliefs
344 impacted upon her well-being and performance (Turner & Barker, 2014). During what would
345 be our last session together (7th), the practitioner and Zara were able to discuss and reflect
346 upon the previous six sessions. Zara cited that “it seems ridiculous now looking back at my
347 previous beliefs”, as well as noting she felt very positive about her archery and was enjoying
348 it a lot more. Whilst, facilitating positive affect is not the primary objective for REBT, it
349 encourages the client to abandon self-rating and self-esteem, in its place endorsing
350 Unconditional Self-Acceptance (USA; Chamberlain & Haaga, 2001). USA is defined as “the
351 individual fully and unconditionally accepting themselves whether or not they behave
352 intelligently, correctly, or competently, and whether or not other people approve, respect, or
353 love them” (Ellis, 1977, p. 101). The combination of abandoning self-rating and accepting
354 herself as a fallible human being may explain why Zara’s enjoyment of archery improved.
355 Additionally, in line with Self-determination Theory (SDT; Ryan & Deci, 2000) Zara’s shift
356 from a ‘have to’ to ‘want to’ was likened to a self-determined motivation, a state manifesting
357 in greater interest, excitement, confidence, and performance (Ryan & Deci, 2000).

358 REBT progressively encourages an active and self-directed client. As a result Zara
359 was encouraged to become self-sufficient in managing her emotions and behaviors in any
360 situation. A useful method to gauge and reassert Zara’s understanding of REBT was through
361 ‘Rational Reverse Role-play’ (RRR; Kassinove & Diguseppe, 1975). Here the practitioner
362 became the client who role-played an athlete with IBs, whilst Zara acting as the practitioner
363 actively elicited, disputed, and replaced the IBs with new effective RBs. During the seventh
364 and final session it was evident that Zara had made substantial progress, explicitly reporting
365 that she was increasingly able to manage challenging situations and that she no longer
366 required routine one-to-one sessions, instead feeling independent and capable in managing
367 from there onwards. It was then mutually agreed that no further sessions would be necessary

368 unless Zara requested additional support. Whilst communication was maintained for a period
369 of two months, no further REBT sessions were completed. REBT provides both a pro-active
370 and re-active framework. In the case of Zara, REBT provided a brief therapy (Ellis, 2013),
371 focused on dealing with and resolving Zara's specific issues. In cases where deeper problems
372 exist a longer program can be provided.

373 **Structured Intervention**

374 To ascertain intervention effects, self-report and performance scores were
375 collected throughout the intervention and at follow-up time points. To provide social
376 validity, a semi-structured interview was conducted with Zara at the end of the REBT
377 program (Page & Thelwell, 2013). Questions were oriented around changes in
378 dependent variables, the intervention process, and objective archery performance
379 (Hrycaiko & Martin, 1996). To monitor changes in Zara's IBs, the SGABS (Lindner et
380 al., 1999) was administered at pre-, middle, post-intervention, and at a three and six
381 month follow-up time points (see Figure 2). Using the SGABS, Zara reported
382 meaningful short and long-term increases in her RBs and decreases in her IBs. REBT
383 theory posits that RBs and IBs are not bi-polar constructs (e.g., high IBs does not
384 signify low RBs; David, Lynn, & Ellis, 2010). Overlapping with the disputation phase,
385 Zara reported increases in RBs simultaneously with decreases in IBs between sessions
386 one to five. This long-term maintenance supports the successful application of REBT,
387 guiding Zara from an irrational to a rational philosophy. Such a shift was reflected in
388 the following transcript:

389 "I wasn't convinced at the beginning that you could help. I followed what you
390 said to the letter, slowly I was surprising myself, my mind-set was changing as
391 well as improving my scores as I went along. I wasn't as anxious when little
392 issues arose I had those little statements which I carried which helped a lot."
393

394 IBs are detrimental for psychological well-being, yet within elite sport some
395 consider IBs to possess motivational qualities (Turner & Barker, 2014). To investigate
396 this matter, analysis of social validation interview indicated that Zara's motivation for
397 archery had been maintained, notably highlighting she had been enjoying competition a
398 lot more. The motivational effect of REBT can be exemplified in the following extract:

399 "I know I am a good archer, now I am physically fit, my style is excellent and my
400 head is now in the right place, because of everything we have worked through, I
401 do have a more relaxed attitude towards archery, which is benefiting my scores
402 greatly and I can put everything negative that happens in the right perspective and
403 minimize the gravity if you like. It helps me to recover better and I'm just more
404 chilled, and to do a good shot you have to be relaxed; it hasn't effected my
405 motivation and that was a big scare that it might".

406 Zara's strength of efficacy beliefs and perception of control scores across 10
407 performance markers were reported on a scale between 1 (cannot do at all) and 100 (highly
408 certain can do) on a session-by-session basis (Bandura, 2006). These markers included shot
409 accuracy, focus, shooting consistency, shooting control, appropriate shot timing, remaining
410 strong throughout the shot, maintaining composure, producing one continuous movement for
411 shots, maintaining shooting position, and performing to potential. Zara reported meaningful
412 short and long-term improvements in self-efficacy and perceptions of control across all 10
413 markers (see Figure 3). Zara's successful adoption of a rational philosophy, (i.e., the
414 formation of functional emotions and behaviors) led to greater emotional control and
415 behavioral functioning. Therefore, in line with the three-dimensional model (Cheng et al.,
416 2009), it was postulated that Zara's enhanced emotional control led to greater perceived
417 control in coping and attaining goals when under stress, in turn, supporting the adaptive vs.
418 maladaptive distinction in negative emotions as proposed by REBT theory.

419 In line with Bandura's taxonomy, an individual's emotional state is proposed to be a
420 key source of self-efficacy. As a result of the REBT intervention, we hypothesized that

421 increases in emotional control facilitated Zaras self-efficacy beliefs towards archery
422 performance. Accordingly, developments in both self-efficacy and perceived control were
423 coupled with meaningful and long-term improvements in Zara's archery performances. Zara
424 recorded a 9.24% increase in average percentage of maximum performance scores between
425 nine pre-intervention competitions ($M=75.64$, $SD=.09$) and nine post-intervention
426 competitions ($M=84.88$, $SD=.05$) (see Figure 4). We propose that such improvements in
427 performance provided Zara with experiences of successful previous accomplishments, an
428 important source of self-efficacy subsequently, reinforcing the reciprocal nature of Zara's
429 efficacy beliefs and performance scores (Bandura, 1997).

430 The precise influence of IBs on control, self-efficacy, and athletic performance has
431 received negligible attention within the extant literature. While this case provides tentative
432 postulations, further laboratory-based research is required to understand the precise effects of
433 REBT on performance. This case study adds to the extant research supporting the use of
434 REBT as an appropriate and effective approach for sport psychologists to use with athletes
435 who present with high IBs. However, to allow for causal and more reliable conclusions to be
436 drawn, future researchers should consider adopting applied research methods characteristic of
437 single-case research (Barker, McCarthy, Jones & Moran, 2011). To illustrate, single-case
438 designs ensure provision of an individualized intervention, allowing for the onset of the
439 intervention and meaningful changes in the dependent variables to be compared against stable
440 and representative baseline data (Hrycaiko & Martin, 1996); in turn, the precise effects of
441 REBT would be more accurately discernable.

442 **Considerations for Practitioners**

443 For practitioners the ABCDE framework central to REBT is seemingly simple to
444 comprehend and both logical and linear within its application. However, it would be
445 recommended for practitioners considering this approach to gain a broad theoretical and

446 applied understanding (e.g., primary practicum in REBT) before adopting REBT within their
447 practice. When contemplating the use of REBT practitioners are recommended to consider a
448 sufficient timescale (5-12 sessions) when providing clients with enough time to understand,
449 practice and re-affirm the principles of REBT (see Turner & Barker, 2014). It is important to
450 consider the pace and not overwhelm the client. This can be monitored through on-going
451 collaborative reflections and reviews of the client's progress. (Grant, Townsend, Mills, &
452 Cockx, 2009). When applying REBT the practitioner should manage misconceptions of
453 REBT, mainly the misinterpretation that individuals should adopt a stoic approach; that is an
454 emotionless and indifference to their predicament or the situation. REBT does not withdraw
455 negative emotions in response to adversity, instead encourages a helpful and adaptive
456 response. The process of reaffirming an individual new effective RB's requires long term
457 diligence from the client, where at the beginning REBT assumes an educational approach,
458 progressively the practitioner is encouraged to adopt a collaborative client centered approach
459 (Dryden & Neenan, 2015). This point is illustrated in the following extract:

460 "I don't feel lost without you which is good, although I know that you are at the end of
461 the telephone or email and I have my file with all my resources in. In times of doubt I
462 go through that, and reinforce that stuff we done together. I have my little sayings, you
463 know hesitance has ways of creeping back in so it was important to keep my mind
464 strong...these bouts of anxiety seems so long ago, it seems like we have made such
465 large leaps."

466 **Conclusion**

467 This case study documents the application of an REBT program and its short and long
468 term effects on an elite level archer. This study provides an insight into common
469 misconceptions, challenges and guidance for practitioners who may consider adopting it
470 within their practice. Supporting its core hypothesis it is clear that the case has shown REBT
471 to be a potentially effective psychological intervention to manage IBs and develop sporting
472 performance, allowing the athlete to manage and respond adaptively to adversities that they
473 will inevitably encounter. The maintenance effects found across all dependent variables

474 demonstrate how REBT targets the root of unhealthy and dysfunctional responses to
475 adversity, thus providing potentially long lasting and curative effects. Whilst not claiming to
476 be a panacea for all issues athletes may encounter, REBT is elegant in that the framework can
477 be used across all aspects of life, and not simply limited to sport. Avenues for future
478 investigation include exploration of the effect of REBT on athletes' motivational approach to
479 their sport, as well as its influence on positive affect. Additionally, in future, researchers may
480 wish to explore the effect of REBT used in conjunction with other psychological approaches
481 and techniques to further facilitate its effect. For example Personal-Disclosure Mutual-
482 Sharing and REBT can be utilized within group settings (PDMS; Dunn & Holt, 2004), the
483 use of Motivational Interviewing techniques (MI; Rollnick & Miller, 1995) could be
484 implemented to strengthen clients' motivation for change, and finally elements of positive
485 psychology (Seligman, 2012) could be adopted to actively promote positive affect within the
486 client.

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619 **Figure Captions**

620 *Figure 1. A schematic of the ABCDE framework used within the REBT process.*

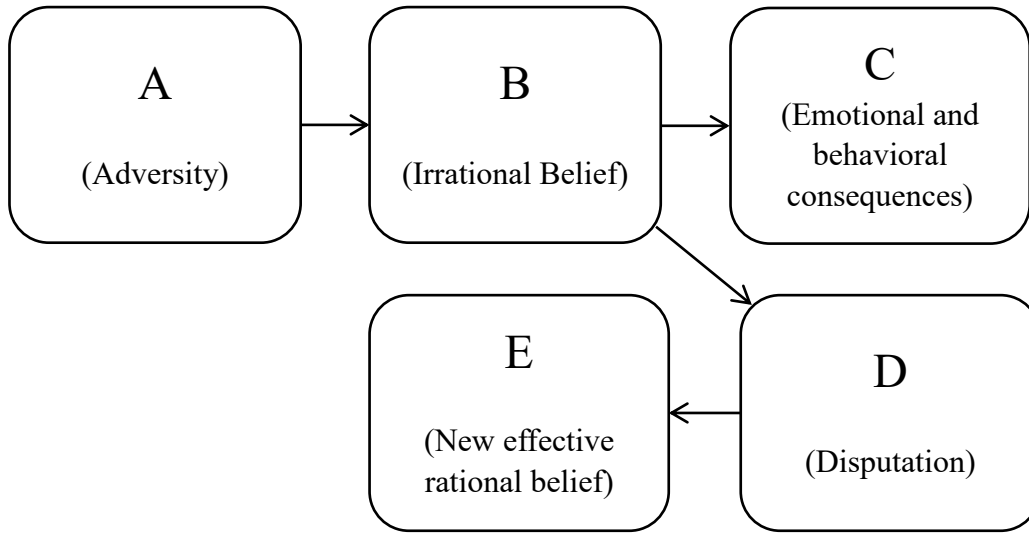
621 *Figure 2. Shortened General Attitudes and Belief Scale (SGABS) scores taken at session one,*
622 *mid-point, last session and at a 3 and 6-month follow up time point.*

623 *Figure 3. Self-efficacy and control scores for 10 archery specific performance markers taken*
624 *on a session by session and at a 6-month follow up time point.*

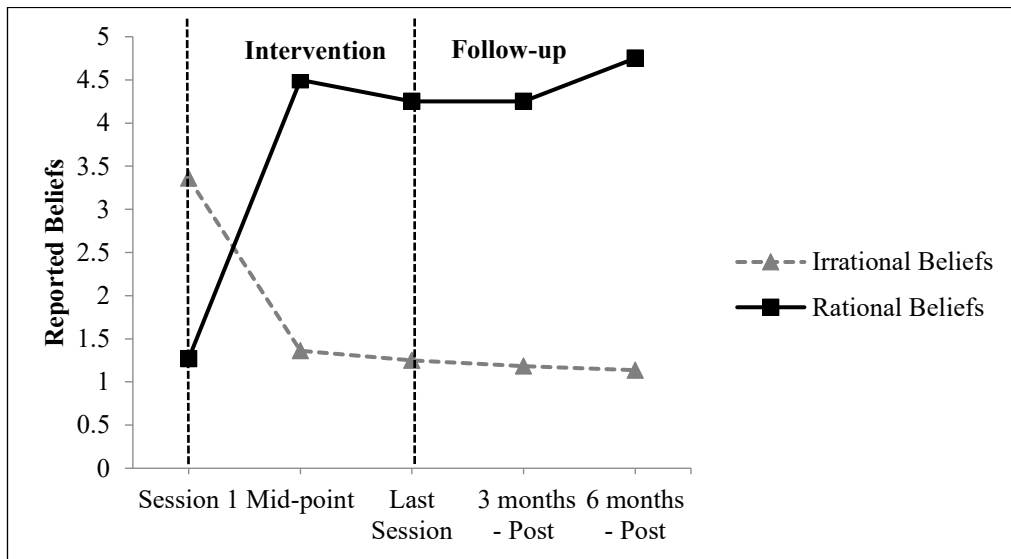
625 *Figure 4. Pre- and Post- Intervention competition performance scores - calculated as*
626 *percentage of maximum score attainable per competition.*

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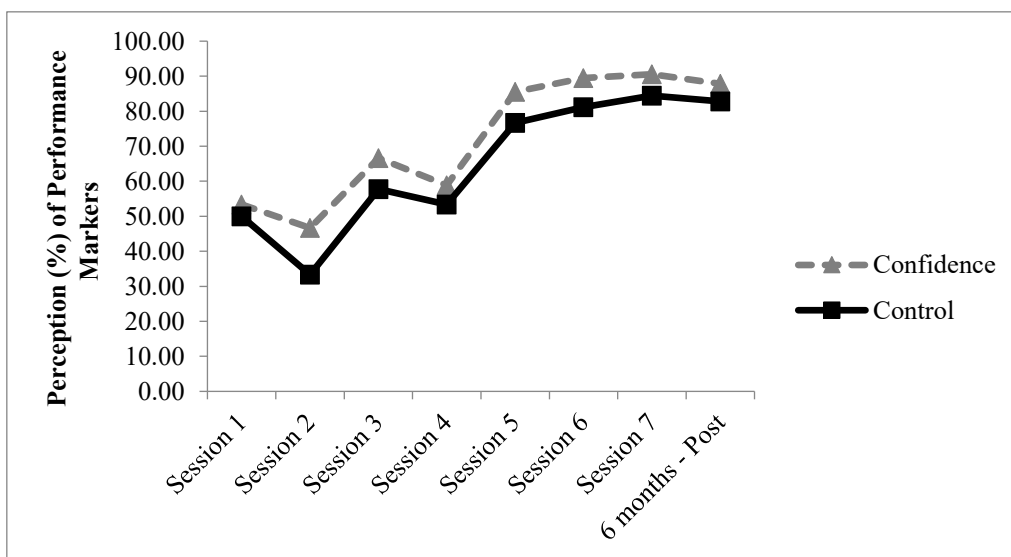
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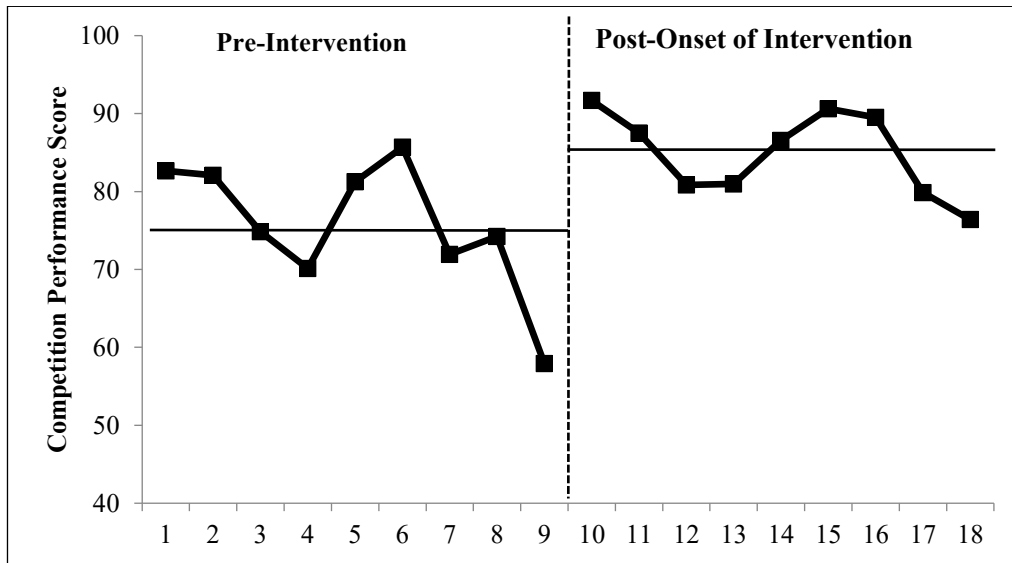
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