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Abstract

Sport specialization and sampling are two ways youth athletes can play sports. Athletes playing in college, at the Division III level, sample sports throughout their childhood instead of specializing in one sport. There is not a lot of specific research done for each Division in the NCAA. This study is a cross-sectional survey of students and athletes at SJFC, which is a small Division III school in Western New York. Using surveys, data was found that supports the research question that Division III athletes and students sampled sports throughout their childhoods rather than specializing. This question can help parents determine what kind of athlete they want their children to be in order for them to play at a higher competition level.

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Burned Out: The Relationship between Coaching Style and Burnout in Elite Athletes

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Abstract

In elite training facilities pressure and expectation to perform at the highest level is always present and the ability to cope with this pressure is essential to an athlete's success. Burnout can be a result of these expectations and the lack of an athlete's ability and support to deal with those expectation. Much has been looked at from the athlete standpoint but little research has been done on trainers and how often they witness burnout in their athletes. This study aims to understand how coaching styles of trainers, athlete/ trainer relationships and athlete motivation types effect the likelihood of an athlete burning out. This study uses surveys of seven elite level trainers to understand frequency of burnout in training facilities and the causes of it. The results of this study contradicted prior research, showing that supportive coaching styles and internal athlete motivation did not strongly correlate with less burnout within elite athletes.

Burned Out: The Relationship between Coaching Style and Burnout in Elite Athletes

Imagine a kid who is obsessed with the sport of football, he can't get enough of it, he plays it every day and talks about it all the time. As he grows up he works harder to be great because he wants to be like the professionals, he wants to be the best. Once this young kid gets to middle school he and others around him realize he has the talent to be great so his parents decide to invest money so that he can train at an elite level in a training facility. This kid trains every day, sometimes two or three times a day, to ensure that he is the best on the field, in his mind there can't be anyone better.

As he continues to grow and enters high school people around him start pushing him to be the best. He has coaches, trainers, even his parents in his ear saying "work harder", "keep pushing", "you need to be the greatest". This doesn't bother him at first, it actually fuels him to keep working, but after a while those people in his ear become voices in his head, he hears them all the time, he can't escape from them. He begins to feel like he's no longer working for himself but for them, towards their goal, it's like by being the best he's making them successful, not himself. This begins to wear on him, he struggles to find the motivation to go to gym sessions, he feels like football is no longer a sport but a job with requirements that he must live up to everyday. The scholarship letters from universities mean nothing to him now they're just pieces of paper, like a job offer or a confirmation of what everyone else expects. He loses sleep at night always thinking and hearing voices of "push harder, you need to be the best" like the people telling him that are right there in the room with him. He's beginning to breakdown, he can't push any harder, he can't take one more person telling him to be perfect, he hates the sport, the training, all of it. He quits. All of that hard work and dedication to get to where he is

and he doesn't even want to think of football anymore. This story, although fictitious, gives a real understanding of what many elite athletes go through psychologically during training and competition that leads to burnout and potential withdrawal from sports.

Athlete burnout is a serious issue in elite sports and training facilities because of the pressure put on athletes to succeed and be the best at their respective sport. Coaching styles, attitudes and athlete motivation factors can play a significant role in the likelihood that an athlete will experience burnout (Frazer-Thomas, Cote & Deakin, 2008). The different relationships elite athlete trainers and strength coaches have with their athletes, the type of motivation elite athletes have and the type of coaching style these trainer's and coaches use can play a large role in athlete stability. Understanding how these factors affect burnout levels can help understand burnout and its prevalence in elite level athletes. Chunxiao, Wang, Pyun and Kee support this when they state that understanding the different symptoms associated with burnout can help coaches and trainers prevent it as well as helping to increase athletic performance (2013). This topic is important to coaches and personal trainers of elite athletes. As a coach you are constantly pushing your players to be the best that they can possibly be, urging them to work harder towards accomplishing their goals on the playing field. You are trying to draw the best out of each player for their own personal success and achievements as well as for the quality and success of the entire team. This can be a difficult task though because there is a very thin line between emphasizing hard work or urging an athlete to be the best that he or she can be and pushing an athlete so far that they experience burnout. Because of this delicate balance there is a serious need for both coaches and trainers alike to know and understand what burnout is and what the symptoms are.

Literature Review

What Is Burnout?

Athlete burnout is a relatively known concept in sports but can be tricky because of how many different ways it can appear, it can affect one athlete in a completely different way than another. Because of this many people have a vague understanding of what burnout is but don't really know the actual specifics of the psychological concept. According to Holmberg and Sheridan the main theory for burnout was composed by Raedeke and Smith and is composed of three main parts (2012). The first part deals with emotional and physical fatigue from the requirements that come with intense training and competition. The second part is a lacked or decreased sense of success in sport and often includes feelings of inadequacy and negative opinions about one's performance within their respective sport. The third dimension includes a reduced sense of value of one's sport and often times include negative feelings toward or a personal withdrawal from sport (Isoard- Gauthier, Guillet- Descas & Lemyre, 2012).

Holmberg and Sheridan further explain the theory of burnout in their article where they also cite Raedeke when talking about the different facets of burnout (2012). They include factors such as a deficiency of personal assets both emotional and physical, a belief that they have accomplished less than they should have in sport and last an overall devaluation of athletic achievements and of the sport they are playing as a whole (Holmberg and Sheridan, 2012). To go along with Raedeke's theory, Main and Landers look at burnout through a similar but slightly different frame (2012). They state three conceptual definitions for burnout that include, a cognitive effective model which looks at the inequality of demands on an athlete, resources that are available to the athlete to cope with those many demands and the mental

assessment of those inequalities. The second definition looks at athlete burnout as a finishing point to an excessive load of athletic training. The last definition states a complete and total physical withdrawal from sport activity after having put lots of time, energy and investment into that sport (Main & Landers, 2012).

Although each of these understandings of burnout are different in their own way they all give a similar view of burnout and present good information on the serious affects burnout can have on an elite athlete. By putting each of these views of burnout together they provide a full understanding of the different aspects of it to use in analyzing whether an athlete is in fact experiencing burnout. By better understanding this, personal trainers will be more educated and better equipped to prevent and handle burnout in their athletes.

Symptoms and effect on athletes

When looking at the affect burnout has on athletes, prevalence of burnout is something that needs to be considered. This can show whether or not burnout is actually as big an issue in elite athletics as it seems to be. Raedeke et al. estimate that six to eleven percent of all athletes suffer from extreme levels of burnout at some point in their career (as cited in Isoard- Gautheur et al., 2012). Appleton, Hall and Hill further elaborate on this by stating how an analysis of a small number of studies has shown that one to seven percent of athletes suffer from severe symptoms of burnout while almost 15 percent of athletes suffer from mild or lower level cases of burnout (2009). Although this may seem like a low percentage of athletes, because of how seriously it can negatively impact an athlete and their professional career it is actually a pretty significant amount.

There are a few key symptoms that an athlete might suffer from if he or she is experiencing burnout during their training. It is important for a trainer or coach to be aware and knowledgeable about these symptoms so they are able to spot them and adjust their athletes training to prevent burnout. According to Lemyre, Roberts and Stray-Gundersen, an athlete experiencing burnout will show severe signs of chronic fatigue, lack of motivation, feelings of helplessness, episodes of serious depression and poor sleep patterns (2007). In their article, Chunxiao, Wang, Pyun and Kee (2013) further discuss the symptoms of burnout, adding that athletes may experience affective, cognitive, physical, behavioral and motivational issues. Affective issues include depressed mood, cognitive includes issues such as cynicism, physical issues include illnesses to the body, behavioral looks at issues like diminished performance and motivational issues look at things like increased lack of enjoyment (Chunxiao et. al, 2013).

The symptoms that athletes experience when suffering from high levels of burnout can have an extremely severe and negative impact on an athlete's career. Lemyre, Roberts and Stray-Gundersen go into detail about how after experiencing high levels of burnout an athlete's performance in their sport is considerably diminished. They also state that an athlete's recovery timetable from burnout can take anywhere from several months to a few years (Lemyre et. al, 2007). This is very bad for an athlete because they have a limited number of years to participate in sport to begin with so the fact that recovery from burnout may take up to a few years can affectively ruin or end their career. Main and Landers reiterate this effect of burnout by stating that it may result in an athlete's complete withdrawal from their sport (2012). This relates back to the fact previously discussed that although the percentage of athletes who suffer from

burnout isn't extremely high, the many negative repercussions that come from burnout cause it to remain a serious issue in sports.

Causes of burnout

Perfectionism in elite athletics can be a major cause of athlete burnout. The constant need and push to be the best can cause athletes to experience extreme levels of stress. Appleton and Hill (2012) state that an obsessive fixation by athletes to be impeccable at their sport coupled with perfectionism provides the basis for athlete burnout. They discuss the fact that the reason perfectionism is the foundation for burnout is because it is seen as an extremely strict attachment to nonrealistic goals for athletic performance which are then provided as the basis of an athlete's self-worth. Furthermore Appleton & Hill (2012) mention the fact that perfectionism tends to bring with it harsh and excessive criticism from the athlete themselves and people surrounding the athlete. Because of this the sport realm is seen as extremely threatening to an athlete's morale and therefore brings the profound likelihood for crippling outcomes, which can lead to high levels of burnout (Appleton & Hill, 2012).

Adding to this, Hill, Hall, Appleton and Kozub (2008) discuss how perfectionism, if it is not based around negative criticism, can be a good thing with many motivational qualities that can assist in achieving a healthy pursuit of excellence on the playing field. Although this is true, they also state that when perfectionism is accompanied by a focus of inadequacies, both personal and impersonal, harsh criticism of one self and an analytical response style to inadequacies, it can cause motivational debilitation. Furthermore when citing Hewitt and Flett; Hill et al. discuss the three maladaptive states of perfectionism, which include socially prescribed perfectionism, self-oriented perfectionism and other oriented perfectionism.

Socially prescribed perfectionism looks at the belief that significant others (i.e. coaches and trainers) place unrealistic standards on the athlete. Subsequently, attempts to achieve these goals are strictly evaluated by coaches and peers and successfully accomplishing these standards will lead to approval from these significant others. Self-oriented perfectionism is characterized as the continual push to achieve ridiculously high expectations, which often go along with harsh, sometimes debilitating, personal criticism. The last type, other oriented perfectionism looks at the tendency to place unrealistic goals and standards on people around you. All three of these types of perfectionism have been associated or related to athlete burnout in some way (Hill, Hall, Appleton & Kozub, 2008).

Coach and athlete relationships

In sport, most coaches have different intrapersonal relationships with each of their athletes, which can be positive or negative. Because of the effects of these relationships, it is important for coaches and trainers to know and understand the different types of coaching styles, what type they are and how each of their players reacts to that style of coaching. According to Gillet, Vallerand, Amoura and Baldes there are two main types of coaching styles, autonomy-supportive and controlling (2010). The first type of coaching, autonomy-supportive, looks to accept athlete's personal feelings and attitudes as well as allow them to take part in the decision-making processes of the team. The second style of coaching which is controlling is associated with a highly directive type of interaction between players and coaches (Gillet, et al., 2010). Stebbings, Taylor and Spray (2015) concur and add that by promoting athlete's preferences and causality, showing confidence in their athlete's abilities and highlighting the value of each activity done, coaches are able to promote an autonomy-supportive climate.

Conversely they state that controlling styles comprise of seeking compliance from athlete's, paying little time and attention to them, making rewards based on completion of tasks, harsh criticisms of performance and using coach feedback to affect their athlete's thought and actions (Stebbing et al., 2015).

There is evidence to show that coaching styles and behaviors have a strong influence on motivation and wellbeing of athletes. According to Defreese and Smith, studies have shown that athlete burnout is negatively related to positive social support (2013). Citing both Reis and Uchino, they add that personal interaction, specifically in the context of social support, has been discovered to have significant effects on human health and functioning, having many positive effects on health responses as well as preventing the negative effects of social stressors (Defreese & Smith, 2013). Adding to this Gillet, Vallerand, Amoura and Baldes state that autonomy-supportive coaching styles are known for promoting and facilitating self-determined motivation, which is beneficial to an athlete's motivation and performance. This is in contrast to a controlling intrapersonal style, which has been shown to undermine an athlete's motivation and self-determination (Gillet et. al, 2010). Stebbings, Taylor and Spray further support this when they state that research has shown many advantages to autonomy supportive styles and an autonomy supportive style of intrapersonal relationship should be encouraged. In contrast they claim that a controlling style should be discouraged (Stebbing et. al, 2015).

The coaching environment an athlete is playing in can also have a large effect on their performance and well-being. Ivarsson, Stenling, Fallby, Johnson and Borg (2015) discuss this when they state that coaching environment can be one of the most important factors at any stage of athletic performance. In their article they discuss how good quality talent development

environments (TDE) can lead to an athlete's wellbeing and psychosocial development. Conversely they state that an environment that is lacking qualities like strong support networks and a long-term goal oriented focus rather than immediate goals, can lead to higher levels of stress, lack of motivation, burnout and even drop-out of sport in athletes. Adding to this Fraser-Thomas et. al discuss the importance of supportive social systems around an athlete in keeping that athlete motivated in their sport (2008). They state that strong support from not only coaches but also parents, friends and peers can have an extremely positive impact on athlete enjoyment, intrinsic motivation and want for challenges in sport (Fraser-Thomas et al., 2008). Furthermore, Ivarsson et. al claim that the coach motivational setting is strongly connected with athlete's morale and wellbeing. Ivarsson et al. state that coaching climates that are more task oriented tend to have positive connections with athlete wellbeing, whereas climates that focus on performance as the most important outcome have a negative connection with athlete morale and wellbeing (Ivarsson, Stenling, Fallby, Johnson & Borg, 2015).

Self Determination Theory

Self-determination theory (SDT) is a very important theory to look at when analyzing athlete burnout. Curran, Appleton, Hill and Hall state that SDT looks at personal motivation as a spectrum from self-determined to non-self-determined to amotivation. They add that self-determined motivation can be broken into intrinsic motivation, extrinsic motivation and amotivation (Curran, Appleton, Hill & Hall, 2011). Defreese and Smith further touch on this by adding that self-determination theory can be split into intrinsic motivation that is very self-determined and extrinsic motivation that ranges in how self-determined it can be (Defreese & Smith, 2013).

Intrinsic motivation is explained by Gillet, Vallerand, Ampoura and Baldes (2010) in their article when they state that intrinsic motivation looks at athletes participating in a sport because it brings them personal pleasure and enjoyment. Holmberg and Sheridan state that extrinsic motivation can be broken up into external regulation, introjected regulation, identified regulation and integrated regulation (2013). External regulation looks at doing something solely to respond to an outside demand or expectation and is the least self-determined type of motivation (Holmberg & Sheridan, 2013). Introjected regulation deals with feelings of guilt and negative self-esteem because athletes tend to base their self-worth on their athletic outcomes and accomplishments. The third type, integrated regulation, is associated with an athlete evaluating and incorporating behavioral goals to the self. The fourth and last form, identification regulation, looks at the act of putting emphasis on a goal and personally accepting it as one's own (Holmberg & Sheridan, 2013). Gillet et al. describe the last section of self-determination, amotivation. They state that amotivation deals with an athlete's absence of intention and overall lack of motivation to perform a specific activity (Gillet et. al, 2010). Lonsdale, Hodge and Rose add that need satisfaction increases self-determination, which then results in positive psychological effects (2009). Comparatively athletes whose personal needs are unsatisfied show larger amounts of amotivation and controlled motivation, which have been connected with negative outcomes like sport dropout (Lonsdale et. al, 2009).

The present information on athlete burnout and the causes of it provide a beneficial understanding of what burnout is and its negative affects through the eyes of the athlete. This project explores burnout through the view of a personal trainer or coach. The study will attempt to answer the following questions about the experiences that elite sport performance

trainers have had with burnout affecting their athletes. First what type of athlete/trainer relationships exist when training elite athletes? Secondly, what types and frequencies of motivations exist in elite athletes? To what extent does burnout exist in elite athletes and lastly, to what extent is there a relationship between athlete/trainer relationships and athlete motivation, athlete motivation and burnout and athlete/trainer relationships and burnout? Adding the information gained in this study on elite personal trainer's views of burnout to the vast amount of research that has already been done on burnout will provide future personal trainers the ability to better understand burnout helping prevent it and potentially end it all together.

Method

Participant Characteristics

Vast research had been done on burnout from the perspective of the athlete but little has been done to look at athlete burnout from the trainer/coach perspective. Data was collected from a sample of seven elite athlete performance trainers around the country who were willing and available to participate in the study. This gave a large enough cross-section of the elite performance trainer field to be able to make valid conclusions based on the information gathered. Furthermore, this sample size made the study reasonable and attainable seeing that there are few elite trainers around the country to begin with and contacting and interviewing them was a difficult task. The participants were selected using the convenience sampling technique based on availability and personal access. The participants represent professional level training facilities, Olympic Committee Certified training facilities and Division I collegiate athletic programs. The participants were selected strictly from these three categories

of training facility because they encompass the elite levels of sport participation. Facilities and trainers are considered to be at the elite level based on what types of athletes they train on a daily basis. All of the participants selected have worked with elite level athletes for no less than five years.

Research Design

The design that was used in this research was a cross-sectional study. The reason approach was chosen is because of the limited amount of elite athlete performance trainers around the country and the even more limited access there was to study these participants. In their book *Research Methods for Sport Studies*, Gratton and Jones support this by saying that the benefit of doing a cross-sectional study is that it makes it easier for the researcher when resources are limited, which was the case for this study (2010). Furthermore Gratton and Jones state that cross-sectional designs take a portion of a total population to study and are usually used for studies in the social sciences (2010). This represents exactly what this project attempted to do, take a small portion of the elite trainer population and performing a study on them to make conclusions about the total population.

The dependent variable that was tested in this study is frequency of burnout in elite athletes during intense training. This was quantified by getting a sense of the amount of experiences that the participants have had with their athletes burning out. The independent variables included in the study were training/coaching style, athlete-trainer intrapersonal relationships and type of athlete motivation. These provided a firm understanding of what truly

causes athlete burnout and how elite performance trainers identify and adjust to their athlete's physical and psychological needs in an effort to prevent burnout.

This study used a survey to obtain both numerical data and personal experiences to further understand burnout and the causes of it. Frequency of burnout was quantified by a percentage system that looked at number of elite athletes that train at each facility compared to the number that experience or have experienced burnout. Furthermore, the study examined the level of intrapersonal relationship between trainer and athlete based on a scale level looking at whether trainers and strength coaches have personal relationships with their athletes outside of training or if they look to keep it strictly to a professional environment. Strong versus weak relationships were determined by the type of relationship whether it be a friendship, strictly business relationship or coach-athlete relationship. The study quantified the level of self-motivation of the participant's athletes by providing a scale ranging from very self-motivated to amotivated. This range was evaluated by the trainer's personal opinions on what things motivate their athletes to continue to work hard. Whether that be internal factors like goal orientation and perfectionism or external factors such as expectations of their surrounding social environment or push from their trainers to be the best. Participants were also asked about the way they train their athletes and the style of coaching they use to motivate them, either a caring, understanding style or a harsh and controlling one. This provided information on how training style impacts athlete motivation and burnout. Lastly the survey also allowed participants an opportunity to provide details of personal experiences dealing with athlete burnout. This provided useful firsthand information to understand the true causes of athlete burnout. What about gathering demographics on the trainers themselves?

The data collection instrument that was used for this study was a survey presented to all of the participants. Cross-sectional studies tend to use surveys or interviews to obtain their data (Gratton & Jones, 2010), and most previous research about burnout, have used surveys.. For example, when performing their research, Defreese and Smith used a cross sectional study that involved online questionnaires to obtain the info they needed for their research (2013). Durand-Bush and Salmela also state in their methods that the data collection instrument they used for their study was a semi structured interview (2015). The survey used a mix of closed, open and scale questions. The survey contained a total of 20 questions, and also asked about respondent demographics of athletic experience, education level, number of certifications and length of time in the field. This provided a good range of data and personal experiences making it more accurate to come to conclusions about how trainer style affects burnout in elite athletes (see Appendix A for copy of the survey instrument).

Data Collection Procedure

To begin the data collection procedure the types of questions that would be asked on the survey were formed. The survey questions were then created so they were ready to be presented. The third step that was taken was to contact the seven chosen participants via email to see if they would be interested in participating in the study. Once the participants responded and agreed to take part in the study they were sent the survey by email. Analysis began when all seven surveys were returned.

Once the data was collected it was analyzed and broken up into sections. Frequency of burnout was analyzed by the answer that each participant selected and then tallied to see what responses were most occurring. Similarly, to understand the level and different types of athlete

motivation, analysis was done on the answers to the questions answered by the participants. Answers were tallied to see which ones were selected most frequently and inferences were made based on the percentages. This method was also used to understand the different types of athlete/ trainer relationships and the occurrence of these relationships. For the short answer survey questions, each participant's responses were analyzed and compared with the other six participants to see similarities and differences of experiences dealing with burnout. Comparing how each participant responded to both the scale response questions and the short answer questions helped form the conclusions made about the effect of the independent variables being tested on the dependent variable of athlete burnout.

Results and Discussion

The goal of this research was to analyze the different relationships that elite athlete trainers and strength coaches have with their athletes, the type of motivation elite athletes have and the type of coaching style these trainer's and coaches use with their athletes. Once understood, this research looked to establish the relationship that these factors had with elite athlete's experiencing burnout. The seven participants used in this study all worked with elite athletes at different participation levels ranging from collegiate to professional or Olympic. All participants used in this study were male. The majority of participants achieved their master's degree (n=#) with a select few only getting their bachelor's (n=#). In regard to certifications, the average amount that the participants had attained were 3.5 different certifications with the highest being six certifications achieved and the lowest being two. Lastly, every participant used in this study had at least 5 years of work experience, with the majority having at least ten

years' experience and a select few over 15 years (see Appendix A for a summary of the participants).

After completing the research, it is clear that burnout is extremely prevalent within elite level athletes and can have debilitating effects on their performance and careers. Both physical and mental/ emotional burnout can occur in an athlete during periods of intense training and the information provided by the participants paints a picture of just how serious burnout can be. Chris stated that burnout "takes away quality training time - at times we can lose 1-2 months of quality training time." This gives a good example of how severe of an impact burnout can have and how important it is for trainers to understand and properly handle it. (See Appendix B for a summary of burnout frequency)

When looking at the respondent's backgrounds, it was found that for the most part, more education did not have a significant impact on burnout levels in athletes but years worked did. Through analyzing the data it was found that there is a positive correlation between the amount of education an athlete trainer has and the frequency of athletes experiencing burnout ($r=.267, p>.05$). This data, although insignificant statistically, shows that elite athlete trainers with more education are not necessarily more equipped to prevent burnout in their athletes. Furthermore, it was found that there was a negative correlation between the number of certifications a participant had received and the amount of burnout experienced by their athletes ($r=-.772, p>.050$). The data was again insignificant but does show that the more certifications a trainer had the less likely their athletes were to experience burnout. Lastly looking at years of experience in the field there was a negative correlation between participant's number of years worked and frequency of athletes experiencing burnout ($r=-.769,$

$p < .05$). This shows with some significance that the more years a trainer has worked in the field the less likely they are to witness burnout in their athletes. This data shows that trainers and strength coaches with more education and certification are not always better at preventing burnout in their athletes but rather those with more years of experience working in the field are better able to work with their athletes in a way that limits burnout. This makes sense because more years worked in the field allows for trainers to better understand their elite athletes on a personal level and tailor their coaching and relationship, which is something education cannot teach.

The types and amount of burnout seen by the participants was interesting as well as alarming. In total the average percent of burnout seen by the participants over a year was about 30% of athletes. This is alarming because it is double that of the 15% of athletes burning out that previous research had showed (see Isoard- Gauthier et al., 2012). This could potentially show that athletes themselves are not self-reporting burnout but top level trainers and strength coaches have the ability and training to see it and record it. Within this 30% of athletes burning out, respondents indicated that the majority of that was psychological or emotional burnout with a little physical burnout being displayed. This is also alarming but makes sense because physical burnout is easier to see and correct whereas an athlete could be perfectly healthy on the outside but are feeling helpless and depressed on the inside which is near impossible for a trainer to notice without visual signs. One participant stated how serious psychological burnout can be when they said, “mental burnout is the most debilitating training effect I experience. Physical issues have tangible remedies. Helping an athlete re-invigorate their training to get back on track for peak performance is delicate and inexact” (Ben). This

provides a good example of how although psychological burnout is serious, it is much more easily regulated and corrected whereas psychological burnout can have drastic influences on performance and is very complicated to correct.

Motivation can have an enormous impact on burnout and when analyzing the data on motivation types, some unusual results were found. For the most part the elite trainers surveyed showed that the majority of their athletes have a good balance of intrinsic and extrinsic motivation (46% of athletes) compared to 22% intrinsically motivated athletes and 32% extrinsically motivated. This data was interesting because there was actually a larger percentage of extrinsically motivated athletes compared to internally motivated athletes despite the assumption that in order to achieve greatness you need to have autonomy and intrinsic motivation. For the most part the participants evaluated their athlete's motivation based on visual demeanor and excitement coming into the session as the main identifier. This shows the difficulty to judge an athlete's motivation because often times the only thing that a trainer can determine it by is external visuals which aren't always true.

In analyzing the relationship between motivation and burnout, there were a few contradictory findings. Looking at intrinsic motivation, there was actually a very strong positive correlation between athletes who are intrinsically motivated and the frequency of burnout seen in athletes ($r=.821$, $p>.05$). Although this relationship was not statistically significant, the strong positive relationship should be considered. Trainers can now be on the watch for burnout in individuals who are more intrinsically motivated. The data on extrinsic motivation presented a negative correlation to athlete burnout but was also not statistically significant ($r=-.492$, $p>.05$). This is interesting because previous research stated that intrinsic motivation was

most correlated with lower levels of burnout whereas extrinsically motivated athletes often suffered from higher burnout levels (see Curran, Appleton, Hill & Hall, 2011.). The findings of this study contradict this research and show that although it cannot be said that extrinsically motivated athletes are less susceptible to burnout, we can say that they this type of motivation is no more likely to cause burnout in athletes than intrinsic motivation.

In analyzing the coaching styles that trainers and strength coaches have, previous research stated that there were two main approaches, supportive and caring or harsh and critical, with supportive styles being used most often (see Gillet, et al., 2010). From surveying these participants, this previous research was confirmed. Participants stated that on average about 87% of the time they took the approach of a supportive coach to help encourage and motivate their athletes. Conversely participant's stated that about 27% of the time they took a harsh critical approach. This overlap in percentage shows that trainers may often use multiple approaches at the same time to critique their athletes in attempt to motivate them while still being supportive and caring for their needs. In addition, respondents did state other coaching styles they used including a teaching approach and acting as somewhat of a family member to their close athletes.

Looking at how these different coaching styles affect burnout in elite athletes not much conclusive data was found. Data on supportive coaching styles, although insignificant, actually showed a positive correlation with athlete burnout ($r=.155$, $p>.05$). Furthermore data on harsh coaching style was not statistically significant, but showed a weak, negative correlation to burnout levels in elite athletes ($r=-.347$, $p>.05$). This data contradicts prior research that supportive coaching styles are much more likely to prevent burnout in athletes (see Gillet, et

al., 2010). With that being said the insignificance in the correlations means that it cannot be said with any certainty that there is a direct positive or negative correlation between supportive or harsh coaching styles and burnout.

The final factor that was measured to understand how often trainers see and deal with burnout is the athlete trainer relationship. The three relationships that were analyzed were the coach/athlete relationship, a strictly business relationship and a friendship type relationship. When completing the survey, trainers showed a coach/player relationship 72% of the time. A friendship relationship was found to be the second most occurring (44% of the time) and strictly business relationships occurring only 35% of the time. This shows that often time's trainers can have multiple types of relationships with their athletes in order to keep the best possible intrapersonal relationships. The fact that coach player/relationship was identified as the most frequent occurring relationship and strictly business was the least occurring shows that trainers and strength coaches look to keep their relationships with athletes outside of sessions to a minimum but still feel a personal relationship is necessary for maximum intrapersonal communication and athlete performance.

These different types of relationships can have varying effects on how often trainers see burnout in their athletes but from analyzing the data gained from the participants it is difficult to put a clear answer to how severe of an impact each relationship type has on athletes experiencing burnout. Through looking at the data a positive correlation can be seen between strictly business relationships and athlete burnout ($r=.477$, $p>.05$). This data is not statistically significant but does show that keeping outside personal interaction between athlete and trainer extremely low or even nonexistent can potentially positively impact burnout levels in

athletes. Similarly when analyzing coach/player relationship styles the data was not statistically significant but this type of relationship was found to have a positive impact on burnout, although not as high a correlation ($r=.115$, $p>.05$). Lastly the athlete trainer relationship that was found to have a negative correlation to burnout was the friendship relationship style ($r=-.360$, $p<.05$). This relationship is statistically significant and indicates that being friends with your athletes and having a strong personal relationship outside of the training session may have a strong benefit in preventing them from burning out. From looking at this data it cannot be said that any of these athlete/ trainer relationship types have any real significant impact on burnout within elite athletes but the fact that friendship was the only one that showed a negative correlation can present the argument that the closer a trainer is with their athletes the less likely those athletes are to experience burnout.

Limitations

When performing this study a few variables were found that could not be accounted for. One factor that potentially could impact burnout in an athlete is parent/trainer relationship. This would most likely occur in younger elite athletes but could definitely play a role in burnout. If the athlete's trainer is telling them one thing and coaching them one way and then that athlete goes home to his or her parents who are expecting something completely different, that is a conflict of interest and could lead to the athlete losing enjoyment in the sport altogether. For privacy reasons this survey was not able to obtain information on the relationship trainers have with these parents. Another limitation of the research was the inability to meet with the participant's in person and view them working with their athletes. Because of the minimal scope of this research project and the inaccessibility of many of the participants it would not

have been feasible to meet with and view each of them in person although this could have given a much better understanding of the real interactions trainers and strength coaches have with their athletes. Researcher and subject bias were also limitations of this study as one of the participant's had a close relationship with the researcher. This could cause some bias in answers if the participant didn't want to give out too much information or wanted to protect themselves and their image with the researcher. Lastly the lack of responses from participant's to questions that the researcher already knew the answer to was a limitation that needed to be dealt with and handled in a proper way. These are a couple of factors that have not been accounted for that could impact the data and conclusions.

In addition to these factors, the number of participants used for this study had an impact on the statistical findings. Only seven participants across the entire country were used. Although for this study, being a cross-sectional method, seven was enough participants, in order to get a better understanding of how the independent variables analyzed truly do impact athlete burnout a much large study needs to be done using a greater number of personal trainers and strength coaches. This will yield more results and potentially give a more accurate representation of athlete burnout.

Directions for Future Research

Looking at future research on the topic of burnout a few things could be done to get better results and a better understanding of athlete burnout through the eyes of athlete trainers and strength coaches. The first thing would be to increase the sample size used for the study, examining a larger number of elite level trainers and strength coaches in a broad range of sports. This could give a more accurate representation of the data collected in this study.

Furthermore, the addition of data collection methods could be used. A cross-sectional study is good for this research but future researchers could add interviews to the study as well as using an observational method. These would present first hand data and give a more realistic understanding of athlete trainers and strength coaches' experiences with their athlete's burning out and what ways they look to prevent it.

Conclusion

The main takeaway from the research found in this study is that burnout is extremely prevalent in elite level athletes and can have severe impacts on careers and performance and the more experience a trainer or strength coach has in the field the more capable they are to see and prevent burnout. When looking at how athlete motivation impacts burnout the data found in this study disputed prior research by showing that although insignificant there was actually a positive correlation between intrinsic motivation and a negative correlation between extrinsic motivation and burnout, a stark contrast to what prior research stated. Similarly there was severe correlation that was found between type of coaching style used by trainers and level of burnout in athletes. Data on athlete/ trainer relationships did reflect what prior research showed in the fact that the more personal a relationship the trainer has with their athletes the less likely those athletes are to experience burnout.

The contradictory information found here indicates that more studies needs to be done on the issue of burnout in elite athletes using bigger sample sizes. The more research and knowledge found on this topic will help athlete's trainers and strength coaches understand burnout more thoroughly and therefore have the tools needed to prevent it resulting in better

more steady performance by their athletes. Need a final sentence or two that links back to your opening paragraph and your hypothetical athlete.

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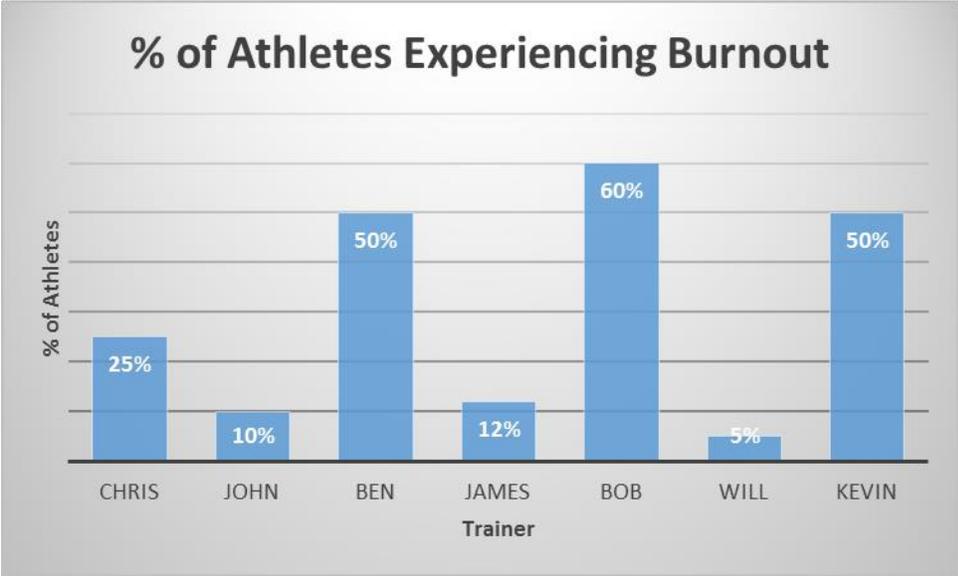
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Appendix A

Name	Job Title	Gender	Years Of Experience	Number of Certifications	Highest Level of Education
Chris	Olympic Strength Coach	M	5-10 years	4	Master's
John	NASM Master Trainer	M	11-15 years	6	Bachelor's
Ben	Elite Performance Trainer	M	5-10 years	2	Bachelor's
James	Elite Performance Trainer	M	More than 15 years	3	Bachelor's
Bob	Head Strength Coach	M	5-10 years	2	Master's
Will	Head Strength Coach	M	11-15 years	5	Master's
Kevin	Head Olympic Strength Coach	M	5-10 years	2	Master's

Appendix B



Appendix C

Main Effect	<i>r</i>	Sig.
Education x Burnout	0.541	0.267
Years Worked x Burnout	-0.769	0.043
Number of Certifications x Burnout	-0.772	0.072
Int. Motivation x Burnout	0.821	0.045
Ext. Motivation x Burnout	-0.492	0.322
Both Motivations x Burnout	-0.331	0.468
Support Coaching x Burnout	0.155	0.741
Harsh Coaching x Burnout	-0.347	0.446
Business Relationship x Burnout	0.477	0.417
Coach/ Player Relationship x Burnout	0.115	0.806
Friendship Relationship x Burnout	-0.36	0.483

Appendix D

Q25

The purpose of this survey is to examine burnout in elite level athletes.

Please answer the following questions honestly and the best to your ability. This survey will take approximately 5-10 minutes of your time. The results of the survey will remain anonymous without person-specific identifiers. Participation is strictly voluntary and you may refuse to participate at any time. Thank you for your participation.

+

-

+

Q26

The following series of questions relate to your background.

Q3

How many years have you worked in the field of athlete performance or as a strength coach?

Less than 5 years
 5-10 years
 11-15 years
 More than 15 years

Q27

Which of the following educational achievements do you have? Please check all that apply.

Bachelor's degree

Master's degree

Doctoral degree

Certification, if yes, what kind?

Q6

What was your main area of study during your college and/or graduate work?

Q8

What was your highest level of competition as an athlete in any sport?

Recreational
 High School
 Collegiate
 Professional
 Olympic

+

-

+

Q29

This series of questions asks for information about the athletes you serve. When answering these questions, please report only the numbers and characteristics that you feel are elite athletes. Elite can be considered in terms of who you feel has the capabilities to compete at the highest levels of their sport (now or in the future).

Q28

How many athletes of each level do you work with per year?

	None in that level	1-5 athletes per year	6-10 athletes per year	11-15 athletes per year	More than 15 athletes per year
Elite High School athletes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Elite Collegiate athletes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Professional athletes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Olympic-level athletes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q30

Please rank the top three sports based on the number of elite athletes trained (Male or Female). For example, if the majority of your athletes are football players and the next most are baseball players, move football into the first box and baseball into the second box.

Q30

Please rank the top three sports based on the number of elite athletes trained (Male or Female). For example, if the majority of your athletes are football players and the next most are baseball players, move football into the first box and baseball into the second box.

Items	Most Number of Elite Athletes
Football	<div style="border: 1px solid #ccc; height: 100px; width: 100%;"></div>
Basketball	
Baseball	
Soccer	<div style="border: 1px solid #ccc; height: 100px; width: 100%;"></div>
Hockey	<div style="border: 1px solid #ccc; height: 100px; width: 100%;"></div>
Tennis	<div style="border: 1px solid #ccc; height: 100px; width: 100%;"></div>
Volleyball	<div style="border: 1px solid #ccc; height: 100px; width: 100%;"></div>
Softball	<div style="border: 1px solid #ccc; height: 100px; width: 100%;"></div>
Lacrosse	<div style="border: 1px solid #ccc; height: 100px; width: 100%;"></div>
Swimming	<div style="border: 1px solid #ccc; height: 100px; width: 100%;"></div>
Other <input type="text"/>	<div style="border: 1px solid #ccc; height: 100px; width: 100%;"></div>

Q17 +

Please enter percentages below that exhibit the breakdown in motivational styles of your elite athletes. Your total should equal 100%.

Those that are primarily intrinsically motivated	<input type="text" value="0"/>
Those that are primarily extrinsically motivated	<input type="text" value="0"/>
Those that have a good balance of both intrinsic and extrinsic motivation	<input type="text" value="0"/>
Total	<input type="text" value="0"/>

-

+

Q18 +

What are some of the signs that help you understand how your athletes are motivated?

Q13 +

Display This Question: ✕

If How many athletes of each level do you work with per year? **Olympic-level athletes - 1-5 athletes per year** Is **Selected** [Edit](#)

Or How many athletes of each level do you work with per year? **Olympic-level athletes - 6-10 athletes per year** Is **Selected** [Edit](#)

Or How many athletes of each level do you work with per year? **Olympic-level athletes - 11-15 athletes per year** Is **Selected** [Edit](#)

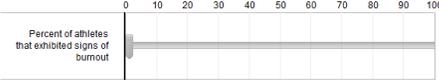
Or How many athletes of each level do you work with per year? **Olympic-level athletes - More than 15 athletes per year** Is **Selected** [Edit](#)

Typically how old are your Olympic-level athletes?

Q29 +

Please move the slider to indicate the percentage of elite athletes that you've worked with personally in the past year that exhibited burnout.

0 10 20 30 40 50 60 70 80 90 100



Percent of athletes that exhibited signs of burnout

 If Percent of athletes that ex... is Less Than or Equal to 0, Then Skip To This section of questions asks about ... Skip Logic ▾

Page Break

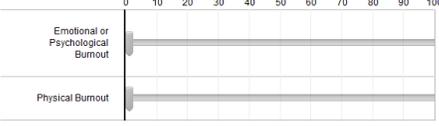
Q32 +

Display This Question: ✕

If In the past year, what percentage of your elite athletes exhibited signs of burnout? **Percent of athletes that exhibited signs of burnout** Is **Greater Than 0** [Edit](#)

What percentage of your elite athletes exhibit the following types of burnout? Total can be more than 100% combined as some athletes exhibit both types.

0 10 20 30 40 50 60 70 80 90 100



Emotional or Psychological Burnout

Physical Burnout

-

+

Q33 +

Display This Question: ✕

If In the past year, what percentage of your elite athletes exhibited signs of burnout? **Percent of athletes that exhibited signs of burnout** Is **Greater Than 0** [Edit](#)

What kinds of symptoms do you notice in athletes who are suffering from emotional or psychological burnout?

-

+

Q34 +

Display This Question: ✕

If In the past year, what percentage of your elite athletes exhibited signs of burnout? **Percent of athletes that exhibited signs of burnout** Is **Greater Than 0** [Edit](#)

What kinds of symptoms do you notice in athletes who are suffering from physical burnout?

Q35 +

Display This Question: ✕

If In the past year, what percentage of your elite athletes exhibited signs of burnout? **Percent of athletes that exhibited signs of burnout** Is **Greater Than 0** [Edit](#)

What effect does burnout have on the motivation of your elite athletes?

Q36 [Settings] [Close]

This section of questions asks about the interaction between the trainer and the athlete.

Q37 [Settings] [Close]

What are the factors that help to determine the type of *training relationship* that you have with your athletes?

Q21 [Settings] [Close]

Please indicate what percent of the time you exhibit each of the following coaching styles during your training activities.

	0	10	20	30	40	50	60	70	80	90	100
Supportive coaching style											
Harsh/ critical coaching style											
Other, please label your style											

Q20 [Settings] [Close]

What are the factors that help to determine the type of *outside of training* relationship you have with your athletes?

Q19 [Settings] [Close]

Please indicate what percent of the time you exhibit each of the following athlete-trainer relationships outside of training.

	0	10	20	30	40	50	60	70	80	90	100
Strictly business relationship											
Coach/ player relationship											
Friendship											
Other, please label your style											

----- Page Break -----

Q33 [Settings] [Close] [Add]

If you would like to, please describe a specific situation where you dealt with burnout of a particular elite athlete.

[Add] [Remove] [Add]

[Copy Items From...] [Create a New Question]

Minimize Block [Add Block]