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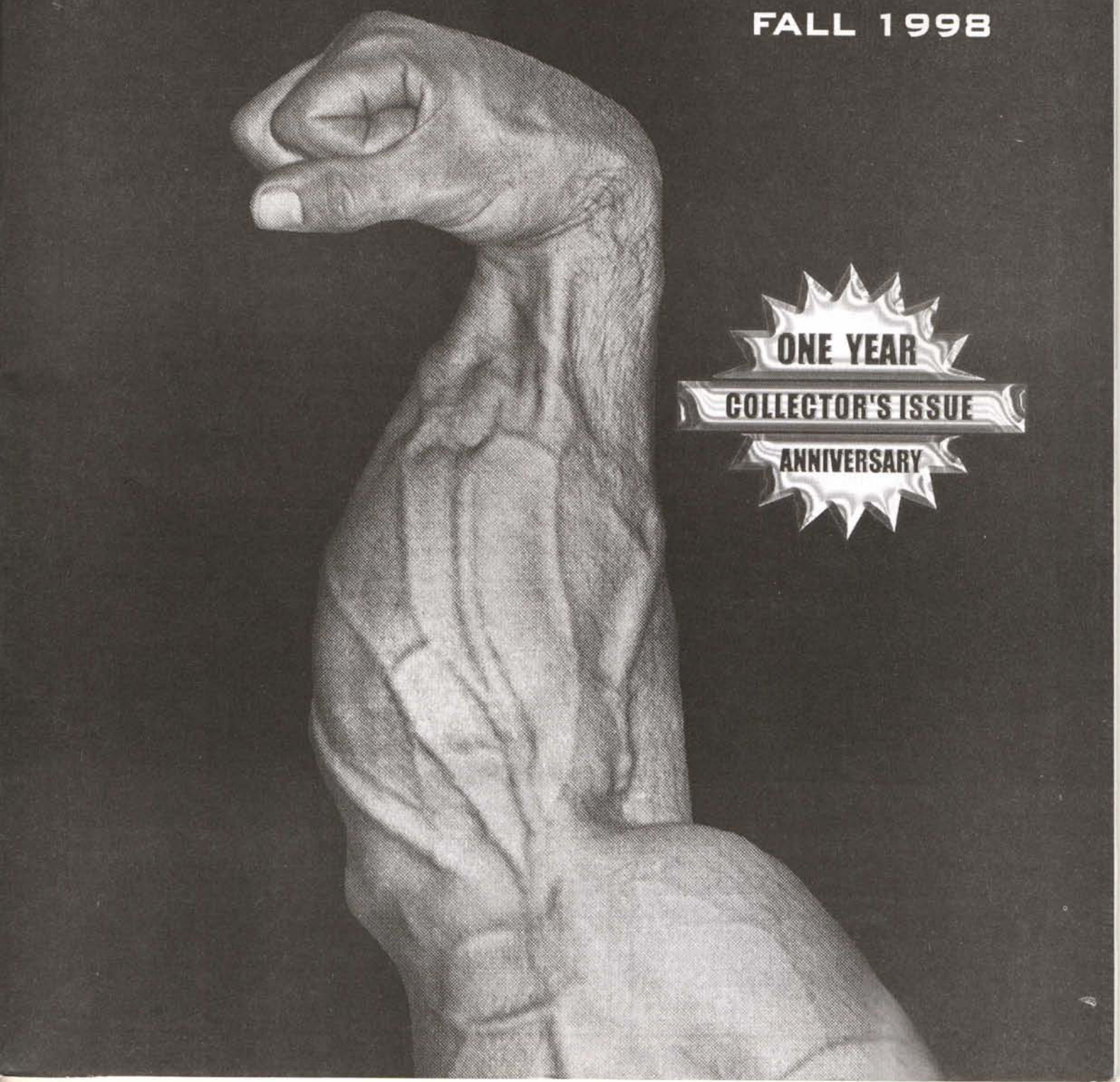

TRAINING TO MUSCULAR FAILURE

DOES IT "TEACH" FAILURE?

by Matt Brzycki

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In the first week of January 1996, I was one of six panelists who participated in a roundtable discussion during the National Strength and Conditioning Association (NSCA) 1996 Strength and Conditioning Conference for Football that was held in New Orleans, Louisiana. Three panelists represented the traditional, NSCA-hyped training philosophy (i.e., explosive movements, periodization, multiple sets, high volume, free weight bias, emphasis on the Olympic-style weightlifting movements and their derivatives such as the power clean, and so on). These three individuals were Mike Clark, the Strength Coach at Texas A&M; Mike Conley, a NASA pre-doctoral fellow and a Research Assistant at the University of Georgia; and Mike Stone, a professor at Appalachian State University and president (at the time) of the NSCA.

The other panelists represented the nontraditional, so-called HIT-style of training (i.e., basically the exact opposite of the NSCA's philosophy except no equipment bias). These three individuals were Ken Mannie, the Strength Coach at Michigan State; John "JT" Thomas, the Strength Coach at Penn State; and myself.

Near the end of the roundtable discussion, Stone made this comment (or words to the effect): "Training your athletes to muscular failure is teaching them to fail." That's from a Ph.D. And the 1991 NSCA Sport Scientist of the Year!

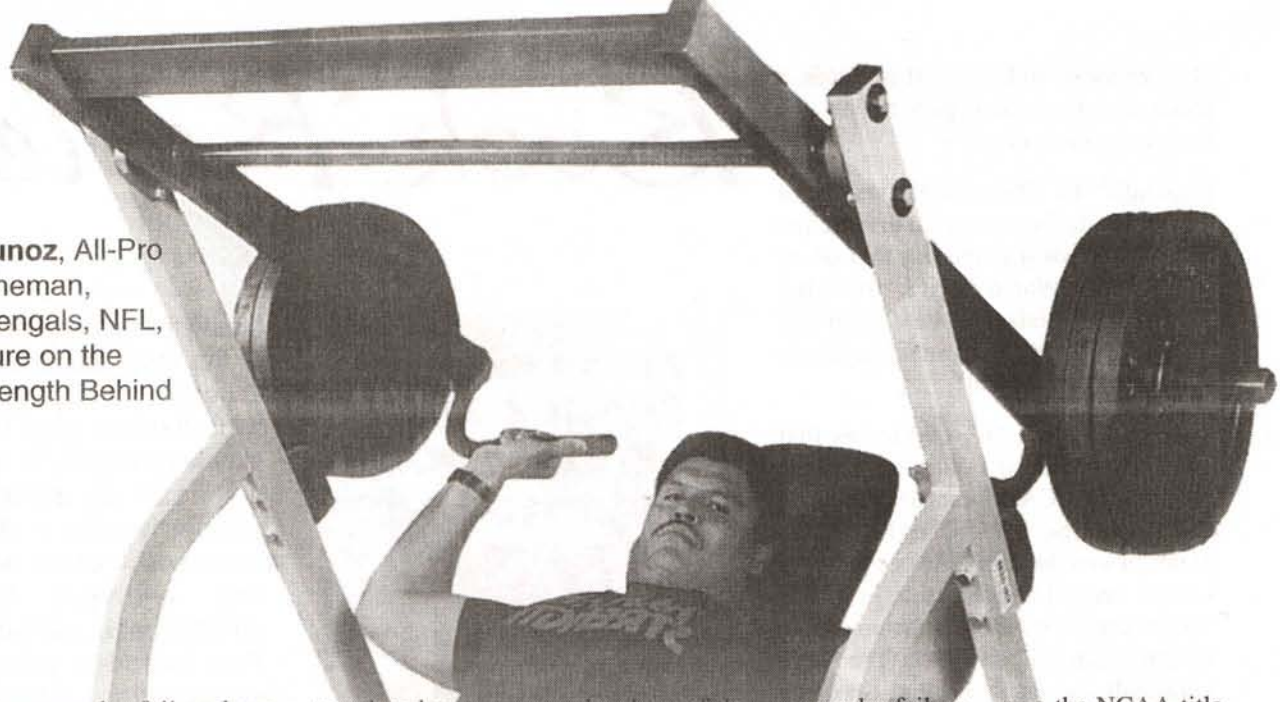
Training to 'Fail'?

The verb "fail" has several meanings including "to fall short" and "to be unsuccessful." In order to prove whether or not the claim "Training your athletes to muscular failure is teaching them to fail" is accurate, we must first identify the teams/individuals who train to muscular failure and then see whether or not their performance did "fall short" or was "unsuccessful."

In 1996-97, nine teams in the National Football League (NFL) primarily trained their players to muscular failure: the Arizona Cardinals, Carolina Panthers, Cincinnati Bengals, Minnesota Vikings, Philadelphia Eagles, Pittsburgh Steelers, San Diego Chargers, Tampa Bay Buccaneers and Washington Redskins. During the regular season, these nine teams had a record of 59-45 against teams that DID NOT train to muscular failure which is FOURTEEN GAMES OVER .500 and a winning percentage of .567. Or, stated otherwise, this means that the teams whose players DID NOT train to muscular failure were FOURTEEN GAMES UNDER .500 and a winning percentage of .433. In addition, four teams that trained their athletes to muscular failure made the playoffs (Pittsburgh, Carolina, Philadelphia and Minnesota). Training your athletes to muscular failure is teaching them to fail?

In 1997-98, nine teams in the NFL primarily trained their players to muscular failure: the Arizona Cardinals, Carolina Panthers, Cincinnati Bengals, Minnesota Vikings, New York Giants, Philadelphia Eagles, Pittsburgh Steelers, Tampa Bay Buccaneers and Washington Redskins. During the regular season, these nine teams had a record of 45-42-1 against teams that DID NOT train to muscular failure which is THREE GAMES OVER .500 and a winning percentage of .517. Or, stated otherwise, this means that the teams whose players DID NOT train to muscular failure were THREE GAMES UNDER .500 and a winning percentage of .483. In addition, four teams that trained their athletes to muscular failure made the playoffs (Pittsburgh, Tampa Bay, New York Giants and Minnesota). Training your athletes to muscular failure is teaching them to fail?

Football players for the Washington Redskins have been training to muscular failure since the 1982 season. In those 16 years, their regular season record is 149-101-1 (a winning percentage of .596) and their post-season record is 16-5 (a remarkable winning percentage of .762) including 3 Super Bowl championships (in 1982, 1987 and 1991) and one second-place finish (1983). Their overall record in those 16 seasons was 165-106-1 (a winning percentage of .609). Training your athletes to muscular failure is teaching them to fail? How many teams have even GONE to the Super Bowl three times since 1982 let alone WON it three times? Answer: not many. While on the subject, four other teams who have trained



Anthony Munoz, All-Pro Offensive Lineman, Cincinnati Bengals, NFL, trains to failure on the Hammer Strength Behind Neck Press

their athletes to muscular failure have made it to the Super Bowl: Cincinnati (twice), San Diego and Pittsburgh.

College football? At the Division I-A level in the 1996-97 season, five football programs who trained their players to muscular failure went to bowl games: Penn State, Michigan State, the University of Michigan, the United States Military Academy (Army) and Stanford University; in the 1997-98 season, five football programs who trained their players to muscular failure went to bowl games: Penn State, Michigan State, the University of Michigan, Stanford University and the University of Cincinnati. While this doesn't represent a large number of teams, it means that more than 60 Division I-A teams who didn't train to muscular failure didn't play in a bowl game during each of those two seasons.

The Penn State football team has won two national championships since 1982 (1982 and 1986). How many college football teams have won more than two national championships since 1982? Answer: not many. Penn State was also considered to be AT LEAST the second-best team in the country in 1994 (with a 12-0 record) and the third-best in the country on two other occasions (1981 and 1985) -- all while training their players to muscular failure.

In 1997, the University of Michigan football team -- whose players have been training to muscular failure for roughly two decades -- was voted a share of the national title. In addition, Michigan finished second in 1985 and has had two Heisman Trophy winners in the 1990s: Desmond Howard in 1991 and Charles Woodson in 1998. At the Division I-AA level in the 1997-98 season, Villanova University trained their athletes to muscular failure and finished the regular season ranked number one in the United States with an 11-0 record. At the end of the post-season, Villanova was ranked fifth in the country with a record of 12-1. Training your athletes to muscular failure is teaching them to fail?

And what about individual accomplishments of football players who trained to muscular failure? Besides Michigan's two recent Heisman winners, the name Anthony Munoz comes to mind. He trained to muscular failure for more than a decade with the Cincinnati Bengals and is regarded by many as the greatest offensive lineman in the history of football. And there are scores of other individual examples in football (as well as other sports). Training your athletes to muscular failure is teaching them to fail?

College basketball? The University of Kentucky players -- who train to muscular failure -- went to three consecutive Final Fours from 1996-98. They won the title in 1996, finished second in 1997 and won the title again in 1998. They also went to the Final Four in 1993. The University of Michigan players -- who also train to muscular failure -- won the NCAA title in 1989. They also finished second in 1992 and 1993. The University of Cincinnati -- a team whose players train to muscular failure -- made the Final Four in 1992.

In 1998, at least nine teams who train to muscular failure made the NCAA Tournament and two of those teams went to the Final Four: the University of Kentucky and Stanford University. And let's not forget the United States Women's Basketball Team who trained to muscular failure on their way to the gold medal in the 1996 Olympics. Training your athletes to muscular failure is teaching them to fail?

Ice Hockey? The Pittsburgh Penguins -- who trained to muscular failure -- won two Stanley Cups in 1990-91 and 1991-92. In men's ice hockey, the University of Michigan -- who trained to muscular failure -- won the 1997-98 NCAA Championship. Training your athletes to muscular failure is teaching them to fail?

Wrestling? You can't even begin to count the number of athletes who have been national champs or All-Americans in wrestling who trained to muscular failure. In 1988, Mark Coleman won the NCAA wrestling championship at 190 pounds for Ohio State. In addition, he won the tenth Ultimate Fighting Championship (UFC) -- a no-holds-barred contest. Here's an excerpt of some quotes made by the 6'1", 250-pound fighter:

"I do every set to failure. It just doesn't make sense if you don't go to failure. It's a wasted set otherwise."

Baseball? In 1996, the University of Miami baseball team trained to muscular failure yet made it all the way to finals of the College World Series, finishing second to Louisiana State University. Training your athletes to muscular failure is teaching them to fail?

Volleyball? In 1997, two teams that trained to muscular failure were in the finals of the NCAA Women's Volleyball Championships: Stanford and Penn State. Stanford won the championship that year -- their second national title in a row. Their records for their two championship seasons were 30-2 and 33-2. The men's volleyball team at Stanford also won an NCAA championship in 1997, finishing the season with a record of 27-3. Training your athletes to muscular failure is teaching them to fail?

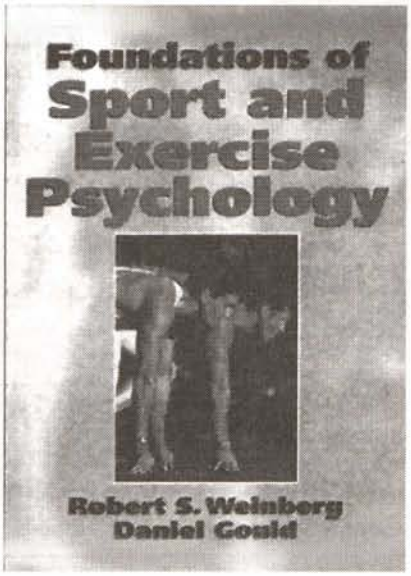
Tennis? In 1996-97, both the men's and women's NCAA Championship were won by Stanford -- it was the women's third straight national title. In 1997-98, Stanford repeated as the men's NCAA champion in tennis. Training your athletes to muscular failure is teaching them to fail?

Swimming? In 1997-98, both the men's and women's NCAA Championship were won by Stanford. Training your athletes to muscular failure is teaching them to fail?

The Bottom Line

Are athletes who train to muscular failure being taught to fail? You tell me. Training to muscular failure didn't cause any of the aforementioned athletes or teams to "fall short" or to be "unsuccessful." I'm not saying that athletes who train to muscular failure are more successful than athletes who don't. All I'm saying is that it's ridiculous to state that training your athletes to muscular failure is teaching your athletes to fail. That would be like saying, "Training your athletes to use dumbbells is teaching them to be dumbbells." Better yet, if training your athletes to muscular failure is teaching them to fail then perhaps stopping your athletes short of muscle failure is teaching them to *quit!*

Book Reviews



For optimal sport performance, no stone must be left unturned. Biomechanics and nutrition are well researched components of any sport, but what about behavior, motivation and emotions? These also are important components essential for peak performance in sport and everyday life. *Foundations of Sport and Exercise Psychology* is an attempt to give the reader an overview of the field and the impact it has on athletes.

To gain a better understanding of the book I will give a brief overview of the chapters. In chapter 1 and 2 we get background information on sport psychology including the history. Typically this is monotonous material but can easily be bypassed to the next chapter which concerns personality, how to test and interpret it for a better basic understanding of the athlete. Lacking in this chapter are examples of tests - they describe how and when to use them but don't show you what they are.

Motivation in chapter 4 and 5 is one of the most studied and important aspects of sport psychology. These two chapters give the reader an excellent lesson in this topic with emphasis on achievement and competitiveness in chapter 5. The next section of the book illustrates and analyzes the various environments pertaining to sport. This includes competition and cooperation (chapter 7) and feedback and reinforcement (chapter 8). The next sections deal with group studies including group and team dynamics in chapters 9 and 10, leadership in chapter 11, and communication in chapter 12. Now that you understand the aspects of sport psychology, you can move onto the techniques for helping athletes. Chapter 13 introduces you to psychological skills training, chapter 14 deals with arousal regulation, chapter 15 teaches you about imagery which can be quite effective, chapter 16 explains self confidence, 17 is about goal setting and 18 is about concentration.

I believe that sections 13-17 are the heart of the book because it deals with important mental skills for athletes. The authors give you the tools to recognize and understand problems and to implement regulation techniques for the mental stability needed to perform.. Skills can be practised to perfection but often the mental aspect of performance is ignored and problems surface in competition. Continuing in this vein, the authors discuss the psychological benefits of exercise in chapters 19 and 20.