

**NFLPA Response to
Questions of October 12, 2007**

EXHIBIT

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MEDIA RELEASE

National Football League Players Association, AFL-CIO

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FOR IMMEDIATE RELEASE
THURSDAY, JANUARY 27, 1994

CONTACT: FRANK WOSCHITZ

A research study just completed by the National Institute for Occupational Safety and Health (NIOSH) suggests that professional football players live as long as the average American male.

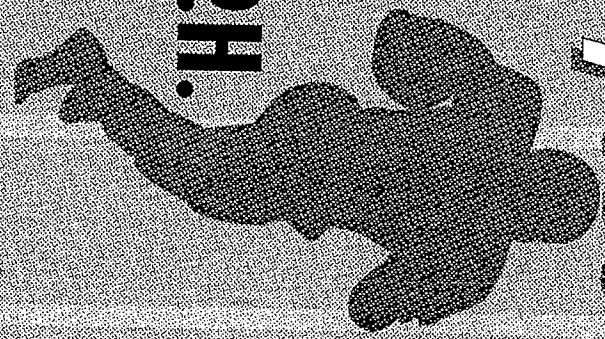
"This study should put to rest the myth that football players die in their early 50's," said Frank Woschitz, director of the NFL Players Association Retired Division, the organization that requested the study. "In fact, there is nothing in the study to indicate that players will die before their full expected life of 72 years (the national average for males) or even greater."

The NIOSH study, which examined 6,848 NFL players who played between 1959 and 1988, found that 46% fewer players died compared to an equal number of males of similar age and race in the general population.

Offensive and defensive lineman, however, had a 50% greater risk of dying from heart disease than the general population and 3.7 times the risk of dying from heart disease than other football players.

"Clearly the increased body size typical of these positions is contributing to the substantial risk," said NIOSH researcher Dr. Sherry Baron. "Anyone considering 'bulking up' to play football should also consider the very real threat of heart disease."

(MORE)



MIOSH Mortality Study of NFL Football Players 1959-1988

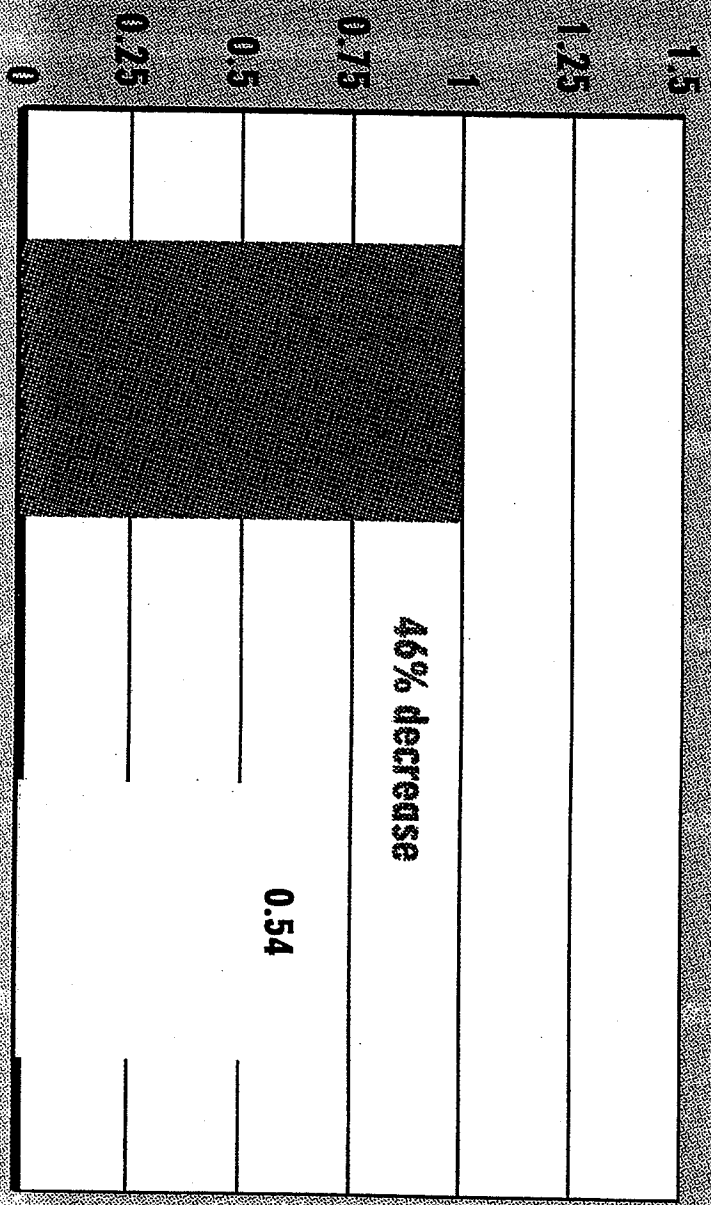
Sherry Baron, M.D., M.P.H.

NIOSH National Institute for
Occupational Safety and Health

Prepared by the
National Football League Players Association

Overall Rate of Death Among NFL Football Players

Standardized
Mortality Ratio



General
Population

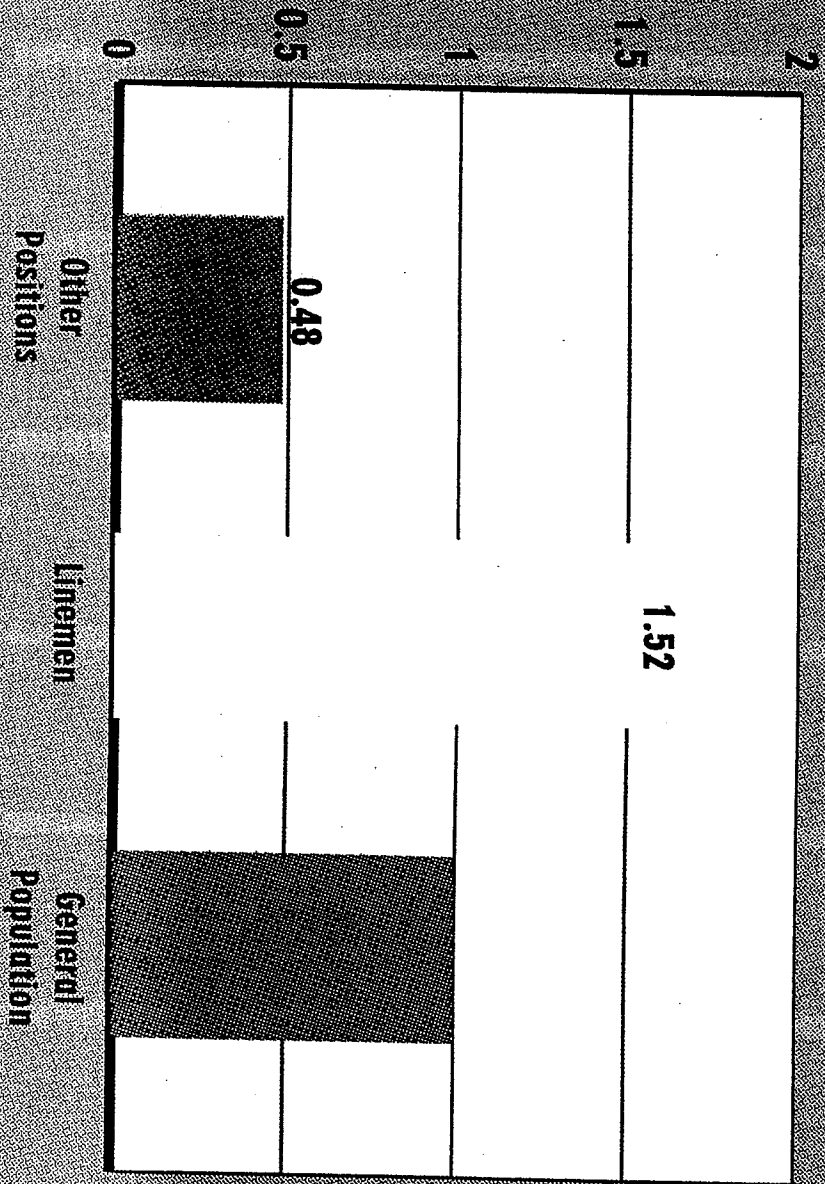
Football
Players

Reproduced by the
National Football League Players Association

Source: **NIRSA** National Institute for
Occupational Safety and Health

Rate of Death from Heart Disease

Standardized Mortality Ratio

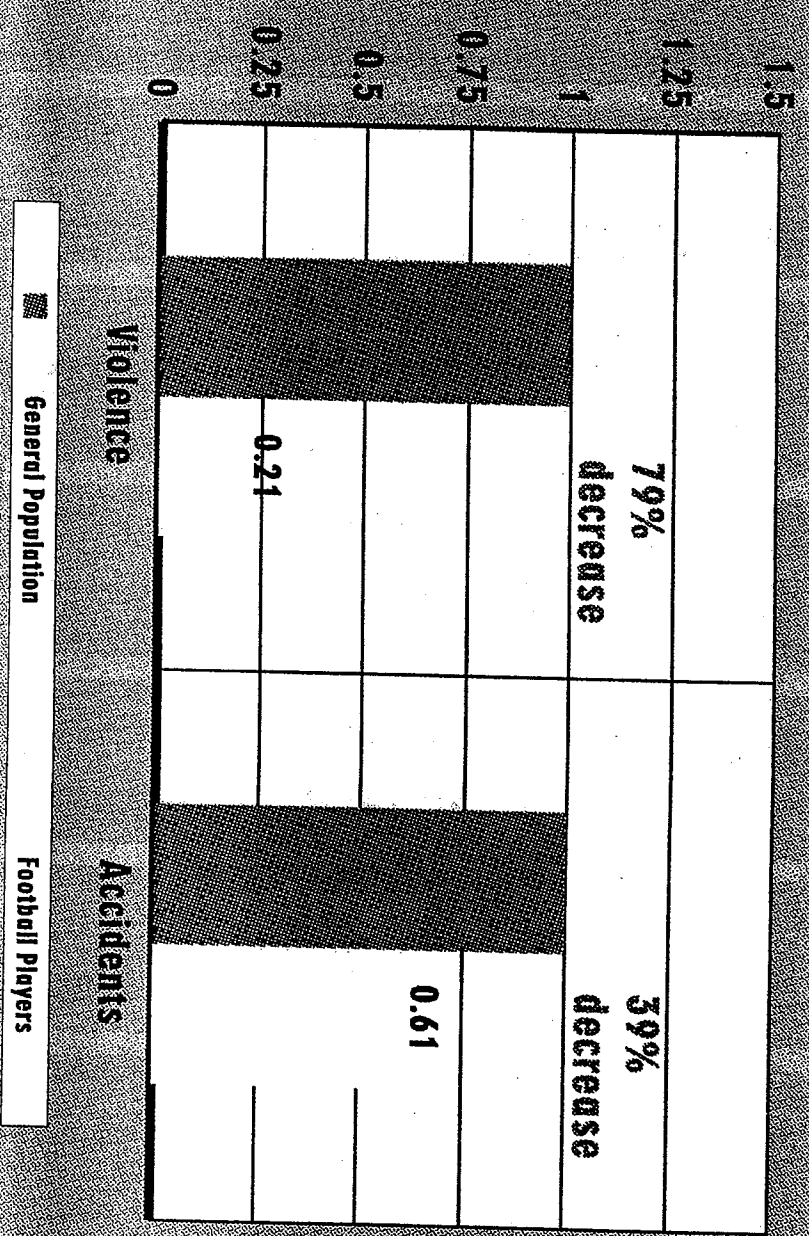


Reproduced by the National Football League Players Association

SOURCE: **NIOSH** National Institute for Occupational Safety and Health

Rate of Death Due to Violence and Accidents

Standardized Mortality Ratio



Prepared by the National Football League Players Association

SOURCE: **NFL** National Institute for Occupational Safety and Health

RECOMMENDATIONS

- **Players must be informed of the risks they face and encouraged to have regular medical checkups to help prevent heart disease.**
- **Players should take steps, both during their playing years and after they retire, to reduce their risk of death from heart disease.**
- **Coaches and players in high schools and colleges across the country must be informed of and acknowledge the critical public health message resulting from this study—the message that anyone considering “bulking up” to play football should also consider the very real threat of heart disease.**

What is NIOSH?

NIOSH is the federal research agency responsible for the prevention of work-related injury and disease. A part of the Centers for Disease Control and Prevention, NIOSH conducts research and provides scientific recommendations to the Occupational Safety and Health Administration (OSHA) and others. In addition, another congressionally mandated responsibility of the Institute is responding to requests from employers and employees for investigations of potential hazards in their workplace.

How did NIOSH get involved in this study?

The NIOSH Health Hazard Evaluation (HHE) Program responds to all requests for workplace investigations. Through this program, the NFL Players Association requested that NIOSH investigate concerns that players were dying prematurely. Prior to the study, many believed that the average age of death for football players was 55.

Who was studied?

NIOSH began the study by looking at all players included in the NFL pension fund since 1959, the year they began keeping detailed records. After excluding players for which information was unavailable, the final study group included 6,848 players.

However, prior to 1972, the pension fund only maintained information on vested players, that is, those who played five or more seasons. For the years 1972-1988, records were available for all players with at least one season of play. Researchers therefore divided the players into two groups—those who have played five or more seasons (3,420 players) and those who have played between one and four seasons (3,428 players).

The group with less than five years experience is younger and consequently had fewer deaths. For this reason, these results primarily focus on players with at least five seasons of play, particularly in light of the similarity of the findings in both groups.



**For more information contact Terry Hammond,
NIOSH Public Affairs Specialist, at (404) 639-3902**

A Study of Players who Left Professional Football In the 90s

Introduction

Four previous surveys of retired players conducted for the NFLPA have provided an overview of what happens to retired players when they leave professional football. Those studies were titled, *Life After Football: A Survey of Former NFL Players* (1989), *Aftermath of an NFL Career: Injuries* (1991), *Lifestyle After Football* (1994), and *Life After Football: Careers and Connections* (1996). All of these studies were conducted with players who were members of the NFLPA and had played from the 1940s through the mid 1990s and included 4,162 responses.

This study was designed to provide more information on a broad range of topics about players who left football in the late 90s. Players surveyed were all players who were on the severance list from 1996 through 2001. The survey contained questions asked on previous surveys as well as new questions. In February 2002, 1700 players were sent a mail survey; 500 surveys were returned for a 29 percent response rate.

It should be noted that the study provides summary data on self-reported information. The value of the data is that it provides an overview of players' lives and experiences as reported by them, which is information not available from other sources. The report also contains comparative information from this survey and previous surveys. As will be indicated in the report, the survey data from this study reinforce data from earlier studies. The longitudinal record from previous studies validates the results from this study.

Transition

Results of this study validate the concept that has evolved from previous studies: transition from football for all players is abrupt and difficult. Most players leave the game not of their own choice. Only 25.7 percent of the players in the survey reported that they elected to retire. Injury is also a large contributing factor to leaving football, thus making the transition more difficult; nearly 40 percent reported that an injury caused them to retire. Leaving the game is the decision of a player only half the time; 48 percent reported that the decision to leave football was made by the team, not the player. It is interesting to note that previous studies indicate that only 36 percent of pre-1970s players reported that the decision to leave football was made by the team.

Reason for Leaving Football

	%
Injury caused retirement	39.8
Waived, contract not renewed	29.8
Elected to retire	25.7
Other	4.8

Football players are less likely to have a voice in when they leave the game than players in other professional sports. The abruptness of the transition from football does create problems for players. Previous surveys indicate that transition has been difficult for players since the 70s, and it remains a difficult personal period for players of the 90s. One third of players who answered the survey indicated that they were affected all or most of the time by emotional problems such as anxiety, depression, or feelings of loss in the first six months after leaving football. Two thirds indicated that they experienced these problems at least some of the time during the immediate transition from the game.

Affected by Emotional Problems in the First Six Months of Transition

	%
All of the time	12.4
Most of the time	20.4
Not really sure	6.2
Some of the time	35.4
None of the time	25.2

The transition period for players may last for several years as they seek jobs, deal with injuries, and determine whether they have any future in football. Players indicated that there are a myriad of problems they experienced, but most transition problems were not covered in any counseling sessions they attended while playing. It is also interesting to note that 3.7 percent of players responding indicated that they are currently receiving professional assistance for emotional problems related to their football experience.

Problems Facing Players and Active Player Counseling

	<i>Players Who Experienced Problems</i>	<i>Covered in Counseling</i>
	%	%
Financial	25.8	7.8
Emotional	11.8	3.4
Marriage	17.6	3.2
IRS Audit	10.2	2.0
Divorce	7.8	1.8
Child-rearing	4.0	1.6
Alcohol	3.8	4.6
Drugs	1.6	4.0
Other	5.8	

(note: Players could mark more than one response. Numbers will not add up to 100%)

Although financial problems seem to be the biggest issue for players, 66 percent, or two thirds of players said they had help from a financial adviser when they were playing. Most players (58.8 percent) agreed that they were financially prepared to leave football. Evidently they were prepared to leave financially, but investments didn't produce what they had hoped. One half of the players responding said they didn't invest their money well enough to maintain a lifestyle in retirement similar to their playing days.

Financial Transition

	<i>I was Financially Prepared</i>	<i>I could Maintain Lifestyle</i>
	%	%
Strongly agree	23.3	12.2
Agree	35.5	25.1
Undecided	12.8	12.4
Disagree	17.7	32.7
Strongly disagree	10.6	17.6

The majority of players did not agree that football injuries caused financial problems. Two-thirds said that there was no connection between football injuries and financial problems.

Although many players indicate that financial transition is difficult, many believe that they were well prepared financially to leave football and transition to another career.

Education

Although there is still a strong belief that football players do not complete their college degrees, the evidence is to the contrary. A consistent number throughout all the studies, which included more than 4,000 responses, is that two-thirds of former professional football players have completed a bachelor’s degree. This study supports that data. In this study, most players (59.3 percent) report that they completed their bachelor’s degree while in college; an additional 22 percent report that they completed their degree while playing pro football.

In this study, 72.3 percent of the players responding reported that they held at least a bachelor’s degree, with 6.8 percent holding an additional graduate degree.

Educational Attainment

	%
Associate’s degree	3.8
Bachelor’s degree	65.5
Master’s degree	4.8
Doctorate	.2
Professional degree (MD, JD, DDS)	1.8
No degree	22.5

Obtaining the Bachelor’s Degree

	%
While playing college football	59.3
While playing pro ball	22.0
After pro career ended	11.0
Other	7.7

Of the players who have not completed their bachelor's degree, 12 percent reported that they are currently taking classes. That group also feels strongly that having no degree is a career hindrance; 43 percent said they believed the lack of a degree has limited their ability to achieve their career goals.

Personal Life

As has been consistent in prior studies, about 8 percent of players have experienced divorce. Of the 90s players reporting in this survey, 82 percent reported that they are currently married and 10 percent reported that they have never been married. Two-thirds reported that they were first married during their pro career.

Although transition seems to be a difficult time for marriage, most players (58.3 percent) think that their pro career had a positive effect on their marriage, and two-thirds of all players believe it had a positive effect on their children (69.9 percent).

More than half of all players (56 percent) said that they still stay connected to NFL teams. Some meet with old teammates, but only 28.6 percent said they attend pro games. Three out of four players (75 percent) are recognized by strangers as pro players, but 43 percent said they miss the attention they received as a pro.

Professional Career Effects on Family

	<i>On Marriage %</i>	<i>On Children %</i>
Very positive	17.3	24.7
Positive	41.0	45.2
Undecided	26.7	25.0
Negative	12.6	4.7
Very Negative	2.3	.2

Injury and Health

Injuries continue to be a major part of every professional football player's experience. Two-thirds of players (63.1 percent) reported that they left the game with a permanent injury. This number remains consistent throughout the other four studies. In this current study, 27.7 percent, or a little more than one out of four players, reported that they brought injuries from earlier playing days into pro football.

As was supported in earlier studies, 59.1 percent of players reported that they had at least one arthroscopic surgery while playing pro football, with the average number of surgeries at 2.8, meaning most players had two or three scopes while playing. Players also reported significant invasive surgery numbers while playing; 43.7 percent reported at least one invasive surgery during the pro career; 20.6 percent of players reported having at least one arthroscopic surgery and 11.4 percent reported having at least one invasive surgery after the pro career was over.

It is interesting to note that the data indicate that permanent injury has no effect on financial preparedness or on anger or resentment toward the game. It seems as if players expected to deal with injury after football.

Arthritis, neck, and back problems are the most common health problems for the 90s players; half of all players responding indicated they had these problems. Other health problems they reported include depression, irritability, headaches and head pains, and weakness in arms, hands, and legs. It may be important to note that 14.8 percent of players report loss of memory as a health problem.

Health Problems Since Leaving Football

	% Reporting
Arthritis	55.6
Neck, back, vertebrae	48.8
Depression and irritability	28.6
Headaches or head pains	20.6
Weakness in arms, hands, legs	18.6
Loss of memory	14.8
Hypertension	7.4
Decreased sperm count	4.0
Acne	3.2
Heart disease	2.0
Liver disorder	1.2
Kidney disorder	1.0
Shrinking testicles	1.0

Careers and Transition

Previous studies have consistently found that the most common job of former football players is owning their own businesses. In previous studies, one-third of players reported they owned their own business. That figure for this study was a consistent 31.8

percent. Other strong career areas include mid-level management, coaching and athletic management, and sales and promotion. Nearly 5 percent reported that they were not currently employed. Although 14.6 percent reported that they work in coaching or athletic management, 21.7 percent report that they are still active in football in some paid position. This is a much higher number than in earlier studies, when less than 10 percent reported working in football-related careers.

Finding a job is the primary concern of retired players. Nearly one-third (30 percent) reported that it took them longer than a year to find a job. Only 14.4 percent reported that they were already employed when they left football.

Finding the First Job

	%
More than a year to find a job	30.0
Employed within a year	24.6
Employed within six months	24.6
Employed before leaving pros	14.4
Retired after football	5.8

Players reported that they use their own connections and networks to find jobs rather than professional career counselors or consultants. More than half said that it was their own reputation and success that led to a first job.

Help in Securing the First Job

	%
Own reputation and success	52.8
Person already in the profession	13.2
Teammates, former pro players	6.6
Professional business contacts	8.6
Relatives	7.4
Coaches/ owners	2.8
College networks	3.2
Career counselors/ head hunters	2.0
Other	6.0

(Note: numbers will add up to less than 100%)

Greatest Problem for NFLPA to Address

	%
Job placement	34.8
Career transition counseling	34.0
Medical and health assistance	21.6
Personal transition counseling	17.8
Finishing education	16.0
Severance and pension assistance	15.4
Other	3.0

(Note: numbers will add up to more than 100 %)

Choosing to Leave Football and Transition

Although transition is difficult for all players, there are significant differences in the transition experience for players who choose to leave football and those who do not make that choice. Players who voluntarily left the game:

- Report significantly fewer emotional problems after leaving football.
- Believe they were better financially prepared to leave.
- Believe they invested their money to maintain their lifestyle.
- Have less anger toward the game than players who did not leave voluntarily.
- Believe football had a more positive affect on marriage than players who did not leave voluntarily.
- Believe they left more fully prepared to make the career transition.
- Were more likely to have received help from a financial adviser.
- Were less likely to believe that lack of a degree was a career hindrance.
- Were more fully prepared to make a career transition than players who did not leave voluntarily.

Summary

It is difficult to characterize individual players through survey research. However, data from this survey confirmed general information about retired players that has been substantiated in the four previous surveys.

Transition from football remains the greatest problem for players, whether they leave the game with a permanent injury or not. Although players reported that they believe they have done careful financial planning, many are not able to sustain the lifestyle they became accustomed to while playing pro ball. Job transition, career

counseling, and personal counseling about transition remain the biggest need for players leaving the game.

Education seems not to be the primary factor in preparedness to leave football. Most players have completed their education, have made career plans, and have sought financial advice. However, the job transition typically takes six months to a year, and job connections come through personal networking rather than support from teams, career counselors, or the NFLPA.

It also appears that players who leave the game abruptly through injury or waiver are likely to have more difficulty in transition than players who leave voluntarily. The first six months out of the game are difficult no matter how well prepared players are, but for those who don't choose the time, it is more difficult. Leaving the game at a time when they may be dealing with injury, at a time when they are not sure their football career is over, and at a time when they are not prepared for a new job means great difficulty in transitioning to a new life. That may mean that the NFLPA might want to focus more of their energies in assisting players who are leaving because of injury or who have been cut.

The attached comments provide more specific insight into individual concerns and should highlight some of the related issues. Transition preparedness is—and remains—the most important need for NFL players who leave football.

Beverley Pitts
Mark Popovich
Ball State University
June 2002

Life After Football: Careers and Connections

a research report prepared by

Dr. Mark Popovich

Dr. Beverley Pitts

Ball State University

September 1996

Methodology

A survey instrument was pretested with 30 former professional football players. A membership list from the National Football League Players Association was used for the survey. The instrument was then sent to all current members of the National Football League Players Association; 2,605 surveys were mailed. A return of 1,425 surveys yielded a 55 percent return rate.

Data were analyzed and cross tabulated to provide information by years played. Other variables were calculated. Information was compared with survey questions on earlier surveys of NFL Players conducted in 1989, 1991, and 1994.

It should be noted that the study provides summary data on self-reported information. The value of the data is that it provides an overview of players' lives and experiences as reported by them, information not available from other sources.

Findings

The attached tables provide detailed findings from the survey. Among the findings:

- 87 % of respondents have at least a bachelors degree. 84 % received that degree before or during their pro careers.
- One-third own their own businesses. The same number was reported in the 1989 survey.
- Only 9 % are in sports-related careers.
- The majority of players have some contact with football, but that is primarily through their contact with former teammates.
- Only 20% are season ticket holders.
- Only 13% had some contact from their team management..
- 29% are never recognized as a pro player, but 71% are recognized at least sometimes.
- Two-thirds of players responding (64%) do not miss the attention received as a pro.
- The majority of players who played before the 80s think their most successful point was during their career after football.

- 90s players are much more likely to report that they miss the structure of football and that their football career was the point at which they felt most successful.
- Most former pro players have been married only once.
- Only 7% are divorced during the first year out of football.
- The majority report that football did not have a negative effect of the marriage or their relationship with children.
- Financial problems during transition were greater for players in the 60s, 70s, and 80s than for players in the 90s.
- Emotional and marital problems occurred for about one out of five players.
- Very few players report any problems with drugs, alcohol.
- Only 4% have used professional assistance to deal with personal problems.
- Two-thirds of the respondents report that they left the game with a permanent injury. That number is consistent for players who played in the 50s, 60s, 70s, 80s and 90s. The same number was reported in studies in 1989 and 1991.
- Players with permanent injuries were slightly more likely to report that they experienced marital problems the first year out of football (28%) than players who did not have permanent injuries (15%).
- Players with permanent injuries were more likely to report that they experienced financial problems the first year out of football (36%) than players who did not have permanent injuries (25%).
- Players who left the game with a permanent injury were much more likely to take substances to help them play with injuries than players who left with no permanent injury.
- More than 70% report that they do not feel anger or resentment toward the game because of injury.
- Over half of the respondents reported that they took medications to play with injuries. Three-fourths of that group reported that the medications were prescribed by the team physician.
- Only 23% of the respondents reported that they took substances to enhance performance. Half of that group reported that the substances were given by the trainer. 29% reported that the substances were prescribed by the team physician.
- Nine out of ten reported that they had no emotional or physical problems from taking medications.
- Respondents who reported that they had a permanent injury from football were more likely to report that they experienced financial and marital problems during the first year out of football, but that number was still less than one-third.

General Conclusions

Results from this study and previous studies indicate that the portrait of the average player which emerges indicates that he is likely to be successful in business (one-third own their own businesses), have a college degree, be married, be living with some kind of permanent injury from football, be active in charitable activities as a former player and be linked to his pro football career primarily through the contacts with other former players. He is sometimes recognized as a former player but doesn't especially miss the attention he received as a pro. Characteristics such as these are true of players who played in the 50s or earlier, in the 60s, 70s, 80s and 90s, although younger retired players are more likely to miss the attention of the game.

The survey indicates that players do have difficulty in the transition period after football, but are basically satisfied with their lives and feel they have been successful. Younger players are more likely to miss the discipline of the game and the attention pro players receive. However, players who are older are much more likely to think that their career after football was their most successful point in life. Transition causes marital, financial, and personal problems for some players, but few receive any professional help to assist them during the transition. Since the transition out of football is usually abrupt for players, and often caused by injury, it is understandable that this period would be difficult for even the best prepared players.

Former football players have little link to the game. They have not been contacted by their former teams, they did not receive assistance in transition out of football, they are not in sports-related careers, they are not season ticket holders, and they are not often called on to meet with active players. Their primary association with the game is through their former teammates. The NFLPA Retired Players is likely their primary link to their former playing days.

Tables

1. Demographic Information

Total number of respondents	1425 out of 2605 mailed 54.7 % return rate
Respondents by decade played	<u>% return</u>
pre-59	18
1960s	18
1970s	27
1980s	25
1990s	12
Average number of seasons played	7.2 years
Average age of respondents	51

2. Education and Career

Highest degree obtained:	<u>Number responding</u>	<u>Valid %</u>
Associate degree	36	3
Bachelors degree	936	67
Masters degree	178	13
Doctorate	11	1
Professional degree	76	6
No degree	151	10

53 % reported that they earned their bachelor's degree before entering pro football.
25 % reported that they earned their bachelor's degree while playing pro football.

3. Career Information

Current career or career from which retired:

	<u>Number responding</u>	<u>Valid %</u>
Mid-level management	162	12
CEO or senior management	108	8
Own business	457	33
Professional	67	5
Salaried position in business or industry	123	9
Education-related	91	7
Sports-related	127	9
Independent consultant, self-employed	103	7
Hourly wage	41	3
Not currently employed	30	2
Other	76	5

4. Links to Pro Football

Currently connected to any NFL teams 53 %

Of that 53 %, how contacts made:

	<u>Number responding</u>	<u>Valid %</u>
Management made contact	174	13
Player contacted team	114	8
Stayed in touch with former teammates	530	38
Meet with active players	140	10
Receive regular mailings from teams	257	19

5. Current Involvement in Pro Football

General involvement in football activities as reported by all respondents:
(Note that numbers will add up to more than 100 percent because respondents could check all that applied)

	<u>Number responding</u>	<u>Valid %</u>
Attend pro games	625	45
Season ticket holder for own team	211	15
Season ticket holder for another team	67	5
Meet with former teammates	429	31
Meet with active players	225	16
Watch football on TV	1106	80
Invited to speak to former team or other teams	103	7
Other contacts	173	12
Career makes it difficult to continue football relations	195	14

6. Involvement in Public Activities

Current activities as representative of pro football and retired player:

	<u>Number responding</u>	<u>Valid %</u>
Public speaking opportunities	666	48
Charitable activities	908	65
Talk to youth	720	52
Talk to media about football issues	437	31
Other	109	8

7. Public Recognition

Recognition by strangers as a pro player:

	<u>Number responding</u>	<u>Valid %</u>
Always	122	9
Sometimes	869	62
Seldom	289	21
Never	108	8

Miss attention received as a pro:

Always	33	2
Sometimes	464	34
Seldom	495	36
Never	389	28

*Breakdown of responses by decade played
to "Miss attention received as a pro"*

<u>Decade played</u>	<u>% of players who reported "always" or "sometimes"</u>
pre 59	31
60s	31
70s	36
80s	38
90s	48

8. Personal Success

Point in career when respondents felt most successful:

	<u>Number responding</u>	<u>Valid %</u>
While playing college ball	145	10
While playing pro ball	446	33
During career since leaving football	655	48
Other	121	9

*Breakdown of responses by decade played
to "Felt most successful while playing pro ball"*

<u>Decade played</u>	<u>% of players who responded</u>
pre 59	20
60s	30
70s	28
80s	37
90s	57

*Breakdown of responses by decade played
to "Felt most successful during career since leaving football"*

<u>Decade played</u>	<u>% of players who responded</u>
pre 59	65
60s	54
70s	53
80s	40
90s	16

9. Football and Family

	<u>Number responding</u>	<u>Valid %</u>
Current status:		
(Note: 74 respondents did not respond to this question meaning 5% of the respondents have never been married)		
Married	1149	87
Divorced	144	11
Widowed	31	2
Divorced during career or within a year of retiring	178	14
Divorced during first year out of football	95	7
Effect of pro career on marriage:		
Positive or very positive	625	48
No effect	392	30
Negative or very negative	285	22
Effect of pro career on children:		
Positive or very positive	851	68
No effect	331	27
Negative or very negative	66	5
Number of times married:		
Once	982	74
Twice	296	22
More than twice	51	4
Would want son to play football:		
Yes	1102	80
No	132	10
Other	140	10

10. Problems with Transition

Experienced the following during first year out of football:

	<u>Number responding</u>	<u>Valid %</u>
Financial problems	379	27
IRS audit	182	13
Marital problems	252	18
Child-rearing problems	81	6
Problems with drugs	56	4
Problems with alcohol	116	8
Emotional problems	253	18
Other problems	105	8

*Breakdown of responses by decade played
for those reporting financial problems during first year out*

<u>Decade played</u>	<u>% of players who reported financial problems</u>
pre 59	21
60s	33
70s	39
80s	38
90s	18

11. Problems After Football

	<u>Number responding</u>	<u>Valid %</u>
Had emotional problems for which received or are receiving professional help	56	4
Miss the structure and discipline of football	426	31
Received counseling from team about transition	37	3
None offered by team	1315	96
Received career counseling from anyone else	73	5

12. Injuries and Medication

	<u>Number responding</u>	<u>Valid %</u>
Left football with any permanent injury	859	63
Feel anger and resentment toward game or any part of it (coaches, trainers, team doctors, owners) because of injury	314	29
Took substances to help play with injuries	743	54
Took substances to improve performance	324	23
Reported emotional problems caused by substances or medications taken during career	26	2
Reported physical problems caused by substances or medications taken during career	101	7

*Of the 54 % (743 respondents) who took substances to play with injuries ,
the respondents indicated that medications were:*

Taken secretly	80	11
Prescribed by personal physician	91	12
Prescribed by team physician	542	73
Given by trainer without knowledge of medication	146	20
Given by trainer with knowledge of medication	464	62
(Respondents could check more than one response)		

*Of the 23 % (324 respondents) who took substances to improve performance ,
the respondents indicated that substances were:*

Taken secretly	151	47
Prescribed by personal physician	28	9
Prescribed by team physician	94	29
Given by trainer without knowledge of medication	67	21
Given by trainer with knowledge of medication	169	52
(Respondents could check more than one response)		

This research project was conducted for the National Football League Players Association. For further information, contact Mr. Frank Woschitz, NFLPA office.

Depression and Pain in Retired Professional Football Players

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ABSTRACT

Purpose: To assess the prevalence of depressive symptoms and difficulty with pain in retired professional football players, difficulties with the transition from active athletic competition to retirement, perceptions of barriers to receiving assistance for those difficulties, and recommended programs to provide such assistance.

Methods: Survey sent to 3,377 retired members of the National Football League Players Association (NFLPA), with usable responses received from 1617 members (functional response rate 48.6%).

Results: Respondents were categorized as experiencing no-to-mild depression (n=1366, 84.5%) or moderate-to-severe depression (n=237, 14.7%). Respondents were also categorized according to whether they reported difficulty with pain as not or somewhat common (n=837, 51.8%) vs. quite or very common (n=769, 47.6%). Respondents most frequently reported trouble sleeping, financial difficulties, marital or relationship problems, and problems with fitness, exercise, and aging, all of which were strongly correlated with the presence of moderate-to-severe depression, and with quite or very common difficulty with pain. The same difficulties were even more commonly experienced by respondents who reported both moderate-to-severe depression and quite or very common difficulty with pain, compared to those who reported low scores in both domains.

Conclusion: Retired professional football players experience levels of depressive symptoms similar to those of the general population, but the impact of these symptoms is compounded by high levels of difficulty with pain. The combination of depression and pain is strongly predictive of significant difficulties with sleep, social relationships,

financial difficulties, and problems with exercise and fitness. A hypothesis explaining this association is that significant musculoskeletal disability and chronic pain interferes with physical activity and fitness during retirement and increases the risk of depression.

Key words: aging, physical activity, physical fitness, sleep disturbance, marital difficulty, financial problems

INTRODUCTION

Paragraph Number 1. The transition made by professional athletes from a full-time elite athletic career to retirement has received considerable comment in the sports media (4, 5), but little formal study. It is generally believed that the transition is difficult and traumatic because of the sudden cessation of the intense demands of elite athletic performance, compounded by the sudden loss of the athlete's intense devotion to professional athletic competition and its attendant rewards. At the elite level, the athlete's life is fully organized around his/her performance, as are support personnel and extensive logistical and financial resources. Upon retirement, athletes have reported jarring transitions to a life in which the focus of such intense commitment is unclear, the resources and personnel that organized and managed their lives away from the competition venue are lost, and the rewards, both emotional and financial, are diminished. Previous studies have assessed the risk of suicide in active college athletes (10), the risk of depression in college graduates who were previously varsity athletes (13), the association between concussion experienced during active professional football participation and the diagnosis of mild cognitive impairment later in life (8), and analyses of case series of suicide in professional athletes (4) or injured athletes (20), but we know of no studies in which the prevalence and impact of depression and pain have been assessed in a more structured way in retired National Football League (NFL) players.

Paragraph Number 2. We surveyed retired NFL players who are members of the National Football League Players Association (NFLPA) regarding the life domains in which problems were encountered in making the transition from active competition to retirement, the magnitude and impact of such difficulty, barriers to seeking and receiving assistance in resolving these difficulties, symptoms of and experiences with depression

and chronic pain, and recommendations for how these problems could be remedied and retirement made more successful and satisfying.

METHODS

Subjects

Paragraph Number 3. The sample of subjects to be surveyed was obtained from the active membership list of the NFLPA, Retired Players section (NFLPA-RP). A total of 3,377 surveys were sent to retired players via surface mail. Reminder postcards were mailed one week later, followed by a second survey mailed to all non-respondents approximately one month after the initial mailing. Follow-up surveys of non-respondents to assess the comparability of respondents and non-respondents could not be conducted due to financial and logistical constraints.

Survey

Paragraph Number 4. Each survey contained a cover letter that described the purpose of the survey and assured respondents that responses were completely confidential and would in no way affect their membership in the NFLPA. Names were connected with responses in a master list of names and identification codes kept in a locked and secured location. The cover letter carried the NFLPA-RP logo, and was signed by the Executive Director of the NFLPA-RP. A waiver of the documentation of informed consent was approved by the Institutional Review Board of the University of Michigan (#2005-279), based on minimal risk and the documentation of appropriate procedures to maintain confidentiality of all responses.

Paragraph Number 5. The survey assessed the experience of respondents with a range of life problems following retirement, such as employment, marital or financial problems, the barriers to receiving help for these problems, and the types of programs that might be helpful for retired players. The survey included a structured depression questionnaire (see below), a single question regarding chronic pain, and demographic questions.

Paragraph Number 6. Depression symptoms were measured by the PHQ-9, a validated screening questionnaire based on standardized diagnostic criteria (11, 21), including an assessment of the impact of depressive symptoms on personal and work roles. A self-rating of health status was made on a 5-point scale, followed by assessments of past or current difficulties with nutrition, exercise, alcohol use, smoking, and depression. Respondents were asked additional questions about problems with alcohol and the impact of chronic pain on normal work.

Paragraph Number 7. The survey was pilot-tested with the Detroit chapter of the NFLPA-RP, resulting in several modifications to its final form.

Analysis

Paragraph Number 8. Simple frequencies and summary statistics were calculated on all variables. The PHQ-9 responses were calculated to create a binomial depression severity classification using standardized cut-offs (11, 21) to distinguish between no or mild depression vs. moderate to severe depression. A binomial variable was also created from responses to the item "Difficulty with pain"; with "very" or "quite common" considered "high" pain, and "somewhat" or "not common" considered "low" pain. Using t-tests, chi-square where appropriate, comparisons were made between all items and both the depression severity classification and the pain ratings. In addition, a similar analysis was

conducted using a variable created by combining the two categorizations of depression (high vs. low) and two categorizations of pain (high vs. low), resulting in four mutually exclusive groups (high depression/high pain, high depression/low pain, low depression/high pain, low depression/low pain).

RESULTS

Sample

Paragraph Number 9. Usable responses were received from 1617 members (crude response rate 47.9%) with a functional response rate of 48.6% when accounting for surveys returned undelivered (n=36) or unable to be completed due to death (n=10) or mental incompetence (n=16). The mean age of all respondents was 53.4 years (+/- 14.5) and 80% were married. Roughly 30% (n=483) of respondents reported current involvement in football, most commonly through coaching at the high school or college level. The mean number of years for which respondents played professional football was 7.1 (+/- 3.6), and they played for a mean of 2.3 teams (+/- 1.3). The median time since retirement was 25 years. Roughly a third each of respondents reported being “cut” (n=557), meaning that they ended their career not due to injury and not of their own choosing, “retired of my own choice” (n=559), or retired due to a “career-ending injury” (n=470).

Common Retirement Problems

Paragraph Number 10. The most common retirement problems reported by respondents were (in descending order of frequency as “quite” or “very” common): difficulty with pain (48%), loss of fitness and lack of exercise (29%), weight gain, and trouble sleeping (28% each), difficulty with aging, and trouble with transition to life after professional football (27% each). The most commonly-reported barriers to seeking help for these

problems (reported as “important” or “very important”) were a preference to use spiritual means to deal with these issues (36%), preference to deal with these issues with family and friends (33%), lack of insurance coverage (33%), and lack of recognition that these problems were important (33%).

Depression

Paragraph Number 11. The mean PHQ-9 score for all respondents was 4.5 (out of a maximum total score of 27, +/- 5.3). The proportion of respondents responding in the no-to-mild category of depression (PHQ-9 score 0-9) was 84.5% (n=1366), and in the moderate-to-severe category (PHQ-9 score 10-27) was 14.7% (n=237) (no response by 14 respondents). Roughly 7% (n=117) rated the impact of depressive symptoms as making work or home life “very” or “extremely” difficult.

Paragraph Number 12. The odds ratios for respondents reporting various transition and retirement problems if they reported moderate-to-severe depression vs. no-to-mild depression are shown in Table 1. For example, respondents scoring as moderate-to-severely depressed were 11.2 times more likely to report trouble sleeping than those rated as no-or-mildly depressed, 7.8 times more likely to report a loss of fitness and lack of exercise, and 7.1 times more likely to report financial difficulties. Other problems reported significantly more commonly in respondents rated as moderate-to-severely depressed were lack of social support or friendships, the use of prescribed medication, alcohol or other drugs, and trouble with transition to life after professional football.

Paragraph Number 13. Similar to the analysis above, odds ratios for respondents reporting various barriers to seeking help if they reported moderate-to-severe depression vs. no-to-mild depression are shown in Table 2. Respondents reporting moderate-to-

severe depression were most likely to report that “I feel I would be weak if I got help”, “I would be embarrassed by what friends or family would think”, “help is too far away”, and “I didn’t recognize issues as important” compared to those with no-to-mild depression.

Pain

Paragraph Number 14. Difficulty with pain was reported as very common by 404 respondents (25.2%), quite common by 365 respondents (22.7%), and not or somewhat common by 837 respondents (52.1%). The odds ratios for respondents reporting various transition and retirement problems are shown in Table 3, comparing those responding that difficulty with pain is “quite” or “very common” vs. “not” or “somewhat common”. The most common transition problems for respondents for whom pain was common vs. those for whom pain was uncommon were “difficulty with aging”, “the use of prescribed medication, alcohol or other drugs”, “trouble sleeping” and “loss of fitness and lack of exercise”. The survey did not allow further analysis regarding specific types of injuries or sources of pain.

Interaction of Pain and Depression

Paragraph Number 15. Because of the common co-occurrence of pain with depression in the general population (2,6,12), the life experiences of respondents who had “quite” or “very” common difficulty with pain as well as moderate-to-severe depression scores (high depression/high pain) were compared to those having low scores in both pain and depression (Table 4). Of the total of 1594 respondents, 173 (10.9%) had high scores in both areas, 593 (37.2%) had high pain scores and low depression scores, 63 (4.0%) had low pain scores and high depression scores, and 765 (48%) had low scores in both. High depression/high pain respondents were 32 times more likely to report trouble sleeping

compared to those with low depression/low pain, with high odds ratios for “difficulty with aging”, “loss of fitness and lack of exercise”, “the use of prescribed medication”, alcohol or other drugs”, and “financial difficulties”.

Paragraph Number 16. The comparable analysis for the barriers experienced by respondents, according to having either both high or both low scores in pain and depression are shown in Table 5. The barriers reported as most common by those with high depression/high pain scores compared to those with low depression/low pain were “feel I would be weak if I got help”, “help too far away” and “didn’t recognize these issues as important—thought they were a part of life”.

Proposed Programs

Paragraph Number 17. Programs to help with the following problems were most commonly requested by respondents (percentage rated as “very” or “quite” helpful): “programs to help with fitness and exercise” (48%), “nutrition” (46%), “financial assistance” (46%), “pain management” (43%), “relaxation” (42%), “distress or depression” (42%), and “spirituality” (41%).

DISCUSSION

Paragraph Number 18. These self-report survey data from a large sample of retired professional football players give a structured assessment of depression and pain symptoms experienced by professional athletes after retirement. Their problems are not necessarily worse than those experienced by the general population in retirement, but also not necessarily better (9,15). While it is difficult to make comparisons of this population to other retired populations because of the difference in age at “retirement”, most studies would suggest that older adults have roughly similar levels of depressive symptoms, in

the range of 8-10% as measured by self-report questionnaires (14,15). The high profile of many of these retired professional athletes, and the concomitant financial benefits and emotional support they experience, appears to neither increase nor decrease the likelihood that the athlete will experience significant difficulties in retirement, although we could not make direct correlations with income or retirement assets. The prevalence of moderate-to-severe depressive symptoms as measured by the PHQ-9 is also roughly similar to that found in the general population (17), and appears to be higher than that in younger active athletic populations (10,16). The association of certain problems, such as trouble sleeping, use of prescription medications, drugs or alcohol, and loss of fitness, with higher depression symptom scores is also typical for patients in the general population, as are associations with a wide range of co-morbid medical conditions, including diabetes, cardiovascular disease, cancer and several neurological diseases (7).

Paragraph Number 19. It is the co-occurrence of depressive symptoms and pain that puts retired players at the highest risk of significant difficulties in retirement. The relationship between depression and pain is important and complex. A recent systematic review of almost 60 studies of the co-morbidity of pain and depression showed that roughly two-thirds of patients with major depressive disorder had significant pain symptoms, and roughly half of patients seen in chronic pain clinics met criteria for major depressive disorder, proportions that are roughly similar to the co-occurrence found in these subjects (2). For example, of 236 subjects in this study with high depression scores, 173 (73%) had high pain scores. Most patients eventually diagnosed as depressed in primary care settings present initially with somatic symptoms, mostly commonly pain complaints including back pain, chronic abdominal or pelvic pain, or headache (19). The biological and psychological mechanisms underlying these highly co-morbid conditions have been studied in depth (12) and suggest that depression more likely follows pain than vice

versa, and that the risk of developing depression is correlated with the severity of the pain complaints (6). Recent research has focused on approaches to screening and diagnosis of co-morbid pain and depression, since there is considerable symptom overlap, and combined approaches to treatment using both medications and psychotherapeutic interventions such as cognitive behavioral therapy (6). It also appears that the baseline level of pain in patients with both disorders detracts from the eventual response to treatments for depression (3). These data can be linked with findings in a recent study in which vigorous physical activity was highly protective of the development of depression in older former athletes (1) to suggest that a hypothesis worth further exploration is that the high level of physical disability and chronic pain with which these athletes leave their football career causes them to have significant difficulty maintaining their activity and fitness levels, and therefore predispose them to an increased risk of depression (14).

Paragraph Number 20. While pain and depression are commonly co-morbid in the general population (2, 12), the frequency with which retired professional football players report difficulty with pain appears to put them at additional risk of both developing depression as well as experiencing associated difficulties with retirement. The high level of psychosocial dysfunction and significant barriers to receiving help put a small but important subgroup of all retired NFL players at significant risk of adverse life events and disability, almost certainly including an increased risk of suicide (4). The respondents with high scores for either depression or pain endorsed a congruent set of programs for life assistance, including programs focusing on help with fitness and exercise, nutrition, financial assistance, sleep and marital and relationship problems. Given the significant barriers to effective treatment noted above, and the known difficulty in treating patients co-morbid for both depression and pain (6), future research should evaluate a range of clinical and educational outreach program to serve this population, including ways to

provide anticipatory guidance to active players as they plan for their future retirement. This is particularly true because retirement can occur suddenly with little opportunity for planning due to a career-ending injury or being unexpectedly cut from the team. Possible approaches that deserve development and evaluation include educational interventions to make players aware of potential future problems, self-assessment instruments, educational resources, and a network of clinical services organized around NFLPA chapters, most of which are based in current NFL team cities.

Paragraph Number 21. The most obvious limitation to this study is the self-report nature of both the depression and pain data, as well as the respondents' perceptions of the life problems they are experiencing, barriers to receiving help, and the types of programs most needed. The PHQ-9 has fair concordance with longer diagnostic interviews conducted by trained health care professionals, but is overly sensitive with a significant rate of false positives based on self-report symptoms that may not reflect a deeper and more enduring clinical depression (18, 22). Most studies in the general population suggest that roughly 25-40% of those screening positive for depression on any of several self-report instruments will have a criterion-based diagnosis based on a structured clinical interview (22). The single question asking about difficulty with pain is not likely to be as accurate as more detailed visual analog scales and other standardized questionnaires assessing pain, but was adequate for our initial purposes in understanding the basic issues faced by retired professional football players. More detailed assessments and interviews on a smaller population, with more objective data concerning clinical diagnoses, financial status or health insurance, for example, would be appropriate in order to characterize more fully the clinical and demographic characteristics of this study population.

Paragraph Number 22. The response rate of nearly 50% can be seen as literally either “half-full” or “half-empty” with regard to the generalizability of these results to the larger population of retired professional football players. Our inability to follow-up with non-respondents regarding their comparability to respondents is a significant weakness.

Retired players who chose to not respond could be more depressed and have more life problems, causing them to be less likely to take the time or have the energy to complete the survey. Or they may be less depressed and have less life difficulties, leading them to believe the survey does not apply to their life situation. A future study should explore methods to increase the response rate and make particular outreach to those who do not initially respond.

CONCLUSIONS

Paragraph Number 23. Retired professional football players experience depressive symptoms at a rate that is similar to that found in the general population, presumably with a corresponding, albeit reduced, rate of clinical depression. They bear an additional burden of substantial chronic pain. Depressive symptoms and pain interact to result in a strong correlation with self-report perceptions of the risk of sleeping problems, difficulty with aging, loss of fitness and lack of exercise, financial problems and concerns about their use of prescription and recreational drugs and alcohol. Retired professional football players bear the same stigma as does the general population with regard to barriers to seeking helping for their difficulties with depression and pain, including not recognizing the issues as important, not knowing where to seek help, feeling they would be weak if they sought help, and being embarrassed by what family members and friends would think. One hypothesis worth further exploration is that the high level of physical disability and chronic pain with which these athletes leave their football career causes them to have significant difficulty maintaining their activity and fitness levels, and

REFERENCES

1. Backmand H, Kaprio J, Kujala U et al. Influence of physical activity on depression and anxiety of former elite athletes. *International J Sports Med* 2003;24:609-619.
2. Bair MJ, Robinson RL, Katon W, et al. Depression and pain comorbidity: a literature review. *Arch Intern Med* 2003;163:2433-2445.
3. Bair MJ, Robinson RL, Eckert GJ, et al. Impact of pain on depression treatment response in primary care. *Psychosom Med* 2004;66:17-22.
4. Baum AL. Suicide in athletes: a review and commentary. *Clinics in Sports Medicine* 2005;24:853-869.
5. Burton RW. Mental Illness in Athletes, (in) Begel D, Burton RW. Sport Psychiatry, W. W. Norton and Co., New York, New York, 2000, p. 66.
6. Campbell LC, Clauw DJ, Keefe FJ. Persistent pain and depression: a biopsychosocial perspective. *Biological Psychiatry* 2003;54:399-409.
7. Evans DL, Charney DS. Mood disorders and medical illness: a major public health problem. *Biol Psych* 2003;54:177-180.
8. Guskiewicz KM, Marshall SW, Bailes J, et al. Association between recurrent concussion and late-life cognitive impairment in retired professional football players. *Neurosurgery*. 2005;57:719-26.
9. Kessler RC, McGonagle KA, Zhao S, et al. Life-time and 12-month prevalence of DSM-III-R psychiatric disorders in the United States. Results from the National Comorbidity Survey. *Arch Gen Psychiatry* 1994;51:8-18.

10. Kokotailo PK, Henry BC, Kosciak RE, et al. Substance use and other health risk behaviors in collegiate athletes. *Clin J Sport Med* 1996;6:183-189.
11. Kroenke K, Spitzer RL, Williams JBW. The PHQ-9. Validity of a brief depression severity measure. *J Gen Intern Med* 2001;16:606-613.
12. Ong KS, Keng SB. The biological, social, and psychological relationship between depression and chronic pain. *Cranio* 2003;21:286-294.
13. Paffenberger Jr RS, Lee IM, Leung R. Physical activity and personal characteristics associated with depression and suicide in American college men. *Acta Psychiatr Scand Suppl* 1994;377:16-22.
14. Paluska SA, Schwenk TL. Physical activity and mental health. *Sports Med* 2000;29:167-180.
15. Pennix BWJH, Guralnik JM, Ferucci L., et al. Depressive symptoms and physical decline in community-dwelling older persons. *JAMA* 1998;279:1720-1726.
16. Puffer JC, McShane JM. Depression and chronic fatigue in the college student athlete. *Clin Sports Medicine* 1992;11:327-338.
17. Rief W, Nanke A, Klaiberg A, Braehler E. Base rates for panic and depression according to the brief patient health questionnaire, a population-based study. *J Affective Disorders* 2003;82:271-276.
18. Schwenk TL. Screening for depression in primary care: a disease in search of a test. *J Gen Intern Med* 1996;11:437-439.
19. Schwenk TL. Diagnosis of late life depression. The view from primary care. *Biol Psychiatry* 2002;52:157-163.

20. Smith AM, Milliner EK. Injured athletes and the risk of suicide. *J Athl Train* 1987;29:337-341.
21. Spitzer RL, Kroenke K, Williams JB. Patient health questionnaire primary care study group. Validation and utility of a self-report version of PRIME-MD: the PHQ primary care study. *JAMA* 1999;282:1734-1744.
22. Valenstein M, Vigtan S, Zeber JF, et al. The cost-utility of screening for depression in primary care. *Ann Intern Med* 2001;134:345-360.

AFTER THE BATTLE:
Report on Lives of Former Players

by

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Todd Wetzel
Fitness study
7-12-94

**STUDY SHOWS INCREASED CONCERN OVER FITNESS AMONG FORMER
NFL PLAYERS**

Results of a survey of 1,219 NFL Retired Players Association members show that former NFL athletes are presently taking better care of themselves after retirement than they have in the past.

According to the study, 95 percent of the players continued some form of exercise regimen since ending their playing careers, with 73 percent working out at least once a week. Twenty-two percent reported exercising daily.

Dieting habits have changed as well for many players. Nearly three-fourths of the respondents have lowered intake of red meat, reduced salt, cut down on fat, reduced alcohol or have combined one or more of those actions. That, coupled with exercise, has helped prevent weight gain in a high number of players. The study reports that 61 percent of the former athletes have maintained their weight, with only four percent gaining more than 50 pounds.

Many players have also avoided smoking. Eighty-three percent responded that they did not smoke, and nine percent reported smoking occasionally. Only eight percent say they are regular smokers.

Players have shown in other ways they are concerned with maintaining their

-more-

health after they retire. At this year's Retired Players Convention in Fort Lauderdale, health seminars discussing various topics as player mortality, life styles, heart disease prevention and substance abuse were highly attended.

Figures from the study, however, indicate that life is not problem-free for former athletes. One-third of the players reported financial problems and one-fourth had family troubles within the first three years after leaving football. Nearly 50 percent of those surveyed also reported having arthritis, with a higher rate of offensive linemen reporting that and other health problems than any other position. Nonetheless, many players appear to be adjusting and living healthier lives, as is demonstrated by the increase in number of those who continue to exercise, adopt a healthier diet and avoid smoking.

The report, released in the spring of 1994, was prepared by Drs. Mark Popovich and Beverley Pitts, authors of the studies "Life After Football" and "Aftermath of an NFL Career: Injuries." This research follows a study by the National Institute for Occupational Safety and Health (NIOSH) that concluded the average life span of NFL players is ^{72 years,} the same as the rest of the population, refuting the myth that players died at a younger age.

###

1994 SURVEY RESPONDENTS

<u>By Decade</u>	<u>N</u>	<u>%</u>
Pre-1960's	167	13.7
1960's	202	16.6
1970's	425	34.8
1980's	424	34.8

By Position

Offensive Line	301	24.7
Defensive Line	181	14.8
Quarterback	62	5.1
Running Back	129	10.6
Wide Receiver	98	8.0
Linebacker	170	13.9
Defensive Back	170	13.9
Special Teams	71	5.8
Others	35	2.9

Approximately 55% of NFLPA membership responded

AVERAGE NUMBER OF YEARS IN NFL

By Decade Years

Pre-1960's	5.6
1960's	7.6
1970's	7.8
1980's	8.1

By Position

Offensive Line	7.8
Defensive Line	7.6
Quarterback	9.4
Running Back	6.5
Wide Receiver	7.3
Linebacker	7.5
Defensive Back	7.2
Special Teams	6.5
Others	8.1

Average

7.5

S.D. = 3.5

OVERALL SUMMARY OF 1994 SURVEY

Ave. no. of years played	7.5 yrs.
No. of teams played on	2.2 teams
Players with degrees entering pro football	54.4%
Players with degrees leaving pro football	72.3%
 Players receiving bachelor's degrees	64.9%
Players entering game with injuries	31.1%
Players leaving the game with injuries	61.1%
 Players missing at least two games	48.4%
 Players missing eight games once/twice	45.9%
Primary reason for leaving the game (Injury)	41.4%
Players finding jobs within 6 mos. after leaving game	67.0%
Most job assistance after leaving game (Relatives)	10.2%
Major problem facing former players (Financial)	35.8%
Major affliction facing former players (Arthritis)	47.2%
Former players currently 10-50 lbs over playing weight	34.6%
Former players who currently smoke	17.0%

**COMPARISON OF DEGREE WINNERS BY POSITION
UPON ENTERING/LEAVING NFL**

<u>Position</u>	<u>Entering</u>	<u>Leaving</u>
Offensive line	54.2%	75.4%
Defensive line	51.9	66.3
Quarterback	54.8	62.9
Running back	50.4	72.1
Wide receiver	58.2	77.6
Linebacker	56.5	75.9
Defensive back	55.9	71.8
Special teams	60.6	69.0
Others	40.0	65.7
Average	54.2	72.1

**COMPARISON OF RETIRED PLAYER INJURIES
BY POSITION ENTERING/LEAVING NFL**

<u>Position</u>	<u>Entering</u>	<u>Leaving</u>
Offensive line	32.3%	61.3%
Defensive line	35.9	66.9
Quarterback	43.5	59.7
Running back	26.4	59.7
Wide receiver	21.6	61.9
Linebacker	31.2	58.8
Defensive back	28.8	58.2
Special teams	32.4	56.3
Others	37.1	68.6
Average	31.4	61.1

**COMPARISON OF RETIRED PLAYER INJURIES
BY DECADE ENTERING/LEAVING NFL**

<u>Decade</u>	<u>Entering</u>	<u>Leaving</u>
Pre-1960's	23.0%	40.0%
1960's	26.4	57.2
1970's	30.2	66.9
1980's	37.5	65.4

**COMPARISON OF INURIES BY POSITION CAUSING PLAYERS
TO MISS 2 GAMES /8 GAMES MORE THAN ONCE**

<u>Position</u>	<u>2 Games</u>	<u>8 Games</u>
Offensive line	74.3%	58.3%
Defensive line	78.5	55.8
Quarterback	83.9	61.3
Running back	79.1	55.8
Wide receiver	82.5	63.9
Linebacker	81.4	52.9
Defensive back	74.1	50.0
Special teams	67.6	54.9
Others	68.6	51.4
Average	76.9	55.9

DECADE
**COMPARISON OF INURIES BY POSITION-CAUSING PLAYERS
 TO MISS 2 GAMES /8 GAMES MORE THAN ONCE**

<u>Position</u>	<u>2 Games</u>	<u>8 Games</u>
Pre-1960's	53.9%	26.1%
1960's	73.6	43.3
1970's	79.8	63.1
1980's	84.9	66.6
Average	77.0	55.9

**COMPARISON OF KNEE INJURIES BY POSITION REQUIRING
ARTHROSCOPIC/SURGICAL PROCEDURES**

<u>Position</u>	<u>Arthro During</u>	<u>Arthro After</u>	<u>Invasive During</u>	<u>Invasive After</u>
Offensive line	26.7%	19.0%	33.7%	12.0%
Defensive line	27.1	17.1	36.5	8.8
Quarterback	35.5	21.0	38.7	4.8
Running back	19.4	19.4	27.1	14.0
Wide receiver	24.7	24.7	29.9	13.4
Linebacker	22.4	18.2	32.4	7.6
Defensive back	24.7	14.7	25.3	7.6
Special teams	22.5	15.5	23.9	11.3
Others	34.3	14.3	22.9	2.9
Average	25.4	18.2	31.1	9.9

**COMPARISON OF KNEE INJURIES BY DECADE REQUIRING
ARTHROSCOPIC/SURGICAL PROCEDURES**

<u>Decade</u>	<u>Arthro During</u>	<u>Arthro After</u>	<u>Invasive During</u>	<u>Invasive After</u>
Pre-1960's	7.9%	13.9%	13.9%	15.1%
1960's	12.4	21.9	28.9	13.9
1970's	16.0	24.0	42.1	12.1
1980's	48.3	11.8	27.9	3.8
Average	25.5	18.0	31.1	10.0

COMPARISON OF PRE- AND POST-1970's INJURY REPORTS

<u>Injury Reports</u>	<u>Pre-1970's</u>	<u>Post-1970's</u>
Injuries upon entering game	24.9%	33.9%
Missed at least 2 games once	64.8	82.1
Missed at least 8 games once*	35.5	64.9
Knee /Arthroscope during season*	10.4	32.1
Knee/Arthroscope after season	18.3	17.9
Knee/Invasive surgery during season	22.1	35.0
Knee/Invasive surgery after season	14.5	8.0
Total Arthroscopic/invasive surgeries	49.5	66.1

*Denotes significant difference

**PRIMARY REASONS FOR LEAVING THE GAME:
PRE-1970's vs POST- 1970's**

<u>Reason*</u>	<u>Pre-70's</u>	<u>Post-70's</u>
Elected to retire (no injuries)	41.8%	22.0%
Injury caused retirement	30.3	46.2
Waived, no contract	18.3	26.1
Other reasons	8.5	4.8

*Denotes significant difference between two periods

**COMPARISON BY POSITION OF CURRENT WEIGHT
TO PLAYING WEIGHTS OF RETIRED PLAYERS**

<u>Position</u>	<u>Approx. Same</u>	<u>10 lbs or less</u>	<u>10-50 lbs more</u>	<u>Over 50 lbs</u>
Offensive line	24.3%	43.2%	26.9%	5.3%
Defensive line	22.7	37.6	35.9	3.3
Quarterback	41.9	19.4	33.9	1.6
Running back	32.6	22.5	35.7	8.5
Wide receiver	39.8	11.2	46.9	2.0
Linebacker	37.1	30.0	27.6	4.7
Defensive back	38.2	18.2	41.2	1.8
Special teams	33.8	19.7	45.1	1.4
Others	28.6	25.7	42.9	2.9
Average	31.6	29.1	34.8	4.0

**USE OF SUBSTANCES TO PLAY WITH INJURIES
AND TO ENHANCE GAME PERFORMANCE**

<u>Substance</u>	<u>For Injuries</u>	<u>For Performance</u>
Novocaine	45.1%	22.9%
Cortisone	55.4	22.9
Anti-inflammatories	44.4	22.0
Amphetamines	18.6	20.5
Caffeine tablets	5.9	5.6
Alcohol	5.4	.6
Anabolic steroids	5.1	5.1
Marijuana	1.9	.3
Cocaine	1.6	.8
No name	8.9	4.6
Others	9.0	4.4

Life After Football: Careers and Connections

a research report prepared by

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Methodology

A survey instrument was pretested with 30 former professional football players. A membership list from the National Football League Players Association was used for the survey. The instrument was then sent to all current members of the National Football League Players Association; 2,605 surveys were mailed. A return of 1,425 surveys yielded a 55 percent return rate.

Data were analyzed and cross tabulated to provide information by years played. Other variables were calculated. Information was compared with survey questions on earlier surveys of NFL Players conducted in 1989, 1991, and 1994.

It should be noted that the study provides summary data on self-reported information. The value of the data is that it provides an overview of players' lives and experiences as reported by them, information not available from other sources.

Findings

The attached tables provide detailed findings from the survey. Among the findings:

- 87 % of respondents have at least a bachelors degree. 84 % received that degree before or during their pro careers.
- One-third own their own businesses. The same number was reported in the 1989 survey.
- Only 9 % are in sports-related careers.
- The majority of players have some contact with football, but that is primarily through their contact with former teammates.
- Only 20% are season ticket holders.
- Only 13% had some contact from their team management..
- 29% are never recognized as a pro player, but 71% are recognized at least sometimes.
- Two-thirds of players responding (64%) do not miss the attention received as a pro.
- The majority of players who played before the 80s think their most successful point was during their career after football.

- 90s players are much more likely to report that they miss the structure of football and that their football career was the point at which they felt most successful.
- Most former pro players have been married only once.
- Only 7% are divorced during the first year out of football.
- The majority report that football did not have a negative effect of the marriage or their relationship with children.
- Financial problems during transition were greater for players in the 60s, 70s, and 80s than for players in the 90s.
- Emotional and marital problems occurred for about one out of five players.
- Very few players report any problems with drugs, alcohol.
- Only 4% have used professional assistance to deal with personal problems.
- Two-thirds of the respondents report that they left the game with a permanent injury. That number is consistent for players who played in the 50s, 60s, 70s, 80s and 90s. The same number was reported in studies in 1989 and 1991.
- Players with permanent injuries were slightly more likely to report that they experienced marital problems the first year out of football (28%) than players who did not have permanent injuries (15%).
- Players with permanent injuries were more likely to report that they experienced financial problems the first year out of football (36%) than players who did not have permanent injuries (25%).
- Players who left the game with a permanent injury were much more likely to take substances to help them play with injuries than players who left with no permanent injury.
- More than 70% report that they do not feel anger or resentment toward the game because of injury.
- Over half of the respondents reported that they took medications to play with injuries. Three-fourths of that group reported that the medications were prescribed by the team physician.
- Only 23% of the respondents reported that they took substances to enhance performance. Half of that group reported that the substances were given by the trainer. 29% reported that the substances were prescribed by the team physician.
- Nine out of ten reported that they had no emotional or physical problems from taking medications.
- Respondents who reported that they had a permanent injury from football were more likely to report that they experienced financial and marital problems during the first year out of football, but that number was still less than one-third.

General Conclusions

Results from this study and previous studies indicate that the portrait of the average player which emerges indicates that he is likely to be successful in business (one-third own their own businesses), have a college degree, be married, be living with some kind of permanent injury from football, be active in charitable activities as a former player and be linked to his pro football career primarily through the contacts with other former players. He is sometimes recognized as a former player but doesn't especially miss the attention he received as a pro. Characteristics such as these are true of players who played in the 50s or earlier, in the 60s, 70s, 80s and 90s, although younger retired players are more likely to miss the attention of the game.

The survey indicates that players do have difficulty in the transition period after football, but are basically satisfied with their lives and feel they have been successful. Younger players are more likely to miss the discipline of the game and the attention pro players receive. However, players who are older are much more likely to think that their career after football was their most successful point in life. Transition causes marital, financial, and personal problems for some players, but few receive any professional help to assist them during the transition. Since the transition out of football is usually abrupt for players, and often caused by injury, it is understandable that this period would be difficult for even the best prepared players.

Former football players have little link to the game. They have not been contacted by their former teams, they did not receive assistance in transition out of football, they are not in sports-related careers, they are not season ticket holders, and they are not often called on to meet with active players. Their primary association with the game is through their former teammates. The NFLPA Retired Players is likely their primary link to their former playing days.

Tables

1. Demographic Information

Total number of respondents	1425 out of 2605 mailed 54.7 % return rate
Respondents by decade played	<u>% return</u>
pre-59	18
1960s	18
1970s	27
1980s	25
1990s	12
Average number of seasons played	7.2 years
Average age of respondents	51

2. Education and Career

Highest degree obtained:	<u>Number responding</u>	<u>Valid %</u>
Associate degree	36	3
Bachelors degree	936	67
Masters degree	178	13
Doctorate	11	1
Professional degree	76	6
No degree	151	10

53 % reported that they earned their bachelor's degree before entering pro football.
25 % reported that they earned their bachelor's degree while playing pro football.

3. Career Information

Current career or career from which retired:

	<u>Number responding</u>	<u>Valid %</u>
Mid-level management	162	12
CEO or senior management	108	8
Own business	457	33
Professional	67	5
Salaried position in business or industry	123	9
Education-related	91	7
Sports-related	127	9
Independent consultant, self-employed	103	7
Hourly wage	41	3
Not currently employed	30	2
Other	76	5

4. Links to Pro Football

Currently connected to any NFL teams 53 %

Of that 53 %, how contacts made:

	<u>Number responding</u>	<u>Valid %</u>
Management made contact	174	13
Player contacted team	114	8
Stayed in touch with former teammates	530	38
Meet with active players	140	10
Receive regular mailings from teams	257	19

5. Current Involvement in Pro Football

General involvement in football activities as reported by all respondents:
(Note that numbers will add up to more than 100 percent because respondents could check all that applied)

	<u>Number responding</u>	<u>Valid %</u>
Attend pro games	625	45
Season ticket holder for own team	211	15
Season ticket holder for another team	67	5
Meet with former teammates	429	31
Meet with active players	225	16
Watch football on TV	1106	80
Invited to speak to former team or other teams	103	7
Other contacts	173	12
Career makes it difficult to continue football relations	195	14

6. Involvement in Public Activities

Current activities as representative of pro football and retired player:

	<u>Number responding</u>	<u>Valid %</u>
Public speaking opportunities	666	48
Charitable activities	908	65
Talk to youth	720	52
Talk to media about football issues	437	31
Other	109	8

7. Public Recognition

Recognition by strangers as a pro player:

	<u>Number responding</u>	<u>Valid %</u>
Always	122	9
Sometimes	869	62
Seldom	289	21
Never	108	8

Miss attention received as a pro:

Always	33	2
Sometimes	464	34
Seldom	495	36
Never	389	28

Breakdown of responses by decade played to "Miss attention received as a pro"

<u>Decade played</u>	<u>% of players who reported "always" or "sometimes"</u>
pre 59	31
60s	31
70s	36
80s	38
90s	48

8. Personal Success

Point in career when respondents felt most successful:

	<u>Number responding</u>	<u>Valid %</u>
While playing college ball	145	10
While playing pro ball	446	33
During career since leaving football	655	48
Other	121	9

*Breakdown of responses by decade played
to "Felt most successful while playing pro ball"*

<u>Decade played</u>	<u>% of players who responded</u>
pre 59	20
60s	30
70s	28
80s	37
90s	57

*Breakdown of responses by decade played
to "Felt most successful during career since leaving football"*

<u>Decade played</u>	<u>% of players who responded</u>
pre 59	65
60s	54
70s	53
80s	40
90s	16

9. Football and Family

	<u>Number responding</u>	<u>Valid %</u>
Current status:		
(Note: 74 respondents did not respond to this question meaning 5% of the respondents have never been married)		
Married	1149	87
Divorced	144	11
Widowed	31	2
Divorced during career or within a year of retiring	178	14
Divorced during first year out of football	95	7
Effect of pro career on marriage:		
Positive or very positive	625	48
No effect	392	30
Negative or very negative	285	22
Effect of pro career on children:		
Positive or very positive	851	68
No effect	331	27
Negative or very negative	66	5
Number of times married:		
Once	982	74
Twice	296	22
More than twice	51	4
Would want son to play football:		
Yes	1102	80
No	132	10
Other	140	10

10. Problems with Transition

Experienced the following during first year out of football:

	<u>Number responding</u>	<u>Valid %</u>
Financial problems	379	27
IRS audit	182	13
Marital problems	252	18
Child-rearing problems	81	6
Problems with drugs	56	4
Problems with alcohol	116	8
Emotional problems	253	18
Other problems	105	8

*Breakdown of responses by decade played
for those reporting financial problems during first year out*

<u>Decade played</u>	<u>% of players who reported financial problems</u>
pre 59	21
60s	33
70s	39
80s	38
90s	18

11. Problems After Football

	<u>Number responding</u>	<u>Valid %</u>
Had emotional problems for which received or are receiving professional help	56	4
Miss the structure and discipline of football	426	31
Received counseling from team about transition	37	3
None offered by team	1315	96
Received career counseling from anyone else	73	5

12. Injuries and Medication

	<u>Number responding</u>	<u>Valid %</u>
Left football with any permanent injury	859	63
Feel anger and resentment toward game or any part of it (coaches, trainers, team doctors, owners) because of injury	314	29
Took substances to help play with injuries	743	54
Took substances to improve performance	324	23
Reported emotional problems caused by substances or medications taken during career	26	2
Reported physical problems caused by substances or medications taken during career	101	7

*Of the 54 % (743 respondents) who took substances to play with injuries ,
the respondents indicated that medications were:*

Taken secretly	80	11
Prescribed by personal physician	91	12
Prescribed by team physician	542	73
Given by trainer without knowledge of medication	146	20
Given by trainer with knowledge of medication	464	62
(Respondents could check more than one response)		

*Of the 23 % (324 respondents) who took substances to improve performance ,
the respondents indicated that substances were:*

Taken secretly	151	47
Prescribed by personal physician	28	9
Prescribed by team physician	94	29
Given by trainer without knowledge of medication	67	21
Given by trainer with knowledge of medication	169	52
(Respondents could check more than one response)		

This research project was conducted for the National Football League Players Association. For further information, contact Mr. Frank Woschitz, NFLPA office.

Life After Football: A Survey of Former NFL Players

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ABSTRACT

Retired members of the National Football League Players Association were surveyed about their retirement from football. The 645 players who responded (43% return) played professional football from the 1940s through 1986. Results indicated that one out of three left the game because of an injury and two out of three live with a permanent injury from football. The transition period was characterized by emotional and personal problems for players. Injury increased the likelihood of problems. Although only one out of three left school with a degree; two out of three eventually completed their degree. Eight out of ten worked in white collar jobs but only one out of ten had a post-playing career in football.

Players since 1970 report more injuries, more difficulty with transition, and more resentment than those who played before 1970.

When Dave Williams retired from the Seattle Seahawks in 1976, he had played football for 10 years in the NFL. He isn't famous, but he is successful, having developed several businesses since leaving football. He still likes to play golf but has difficulty making it around the course because his ten knee surgeries, five on each knee, have not solved the injury problems for him. He now needs both hip and knee surgery again.

He, like many other former football players, is not an angry man and he does not regret his years in football. But, he found that the transition out of football was abrupt and difficult and he resents the way that he was treated. Data collected from former players, reported in this study, indicates that Williams is much more typical of the former NFL player than the stereotypical ex-star broadcaster the public often sees.

Over the decade, sport sociologists have become increasingly interested in how professional athletes approach retirement from their athletic careers, factors which influence their retirements, factors which influence their transition from the game, and the number and kind of subsequent careers with which they become involved.

The pool of data concerning athletic retirements has been slow in building, and investigators have uncovered more questions than they have answered at this point. Mihovilovic¹ studied Yugoslavian soccer players. Weinberg and Arond² traced the retirement careers of 95 boxers, and Hare³ expanded their study. Roy⁴ and Smith and Diamond⁵ were concerned with the retirement of professional hockey players. Haerle⁶ studied former baseball players, and Arviko⁷ contributed a thesis on the same subject. Lerch⁸ took a multivariate approach to a survey of 511 former baseball players to see if any of his variables were related to their life satisfaction after retirement. He found that five variables--health, present income, education, pre-retirement feelings and connection of present job to sports--accounted for 15% of the variance in his criterion variable--life satisfaction.

Professional football players have also been studied by sports sociologists. Beckly⁹ interviewed 21 former professional football players and surveyed 501 players who were currently active in the National Football League to assess how they perceived football as an influence in their obtaining off-season and second careers, and how they perceived a career

in which they lacked full autonomy. He concluded that most players were willing to accept less than full autonomy in the game because of their love for the game and because of the potential for high short-term financial gain. The majority of Beckley's subjects were not convinced that playing professional football would benefit them in finding second careers once they left the game.

Reynolds¹⁰ mailed a questionnaire to 2,675 professional football players who played at least one season between 1972 and 1976 to measure self-esteem, job congruency, job satisfaction and job status. He had a 22% return (596 replies). He found that self-esteem was not related to job congruency but support from others, job congruency, and job status were positively related to job satisfaction.

Washington¹¹ interviewed five retired professional football players to see if their adjustment to retirement supported any of three current social theories of aging. The researcher found that the activity theory appeared to be a more appropriate way to typify this small sample, rather than a disengagement or identity crisis theory.

Lerch¹² examined the impact of injuries, specifically spinal cord injuries, on the adjustment to retirement experienced by pro football players. He speculated that professional athletes possess a number of personal characteristics like good physical condition and high self-esteem which might make their adjustments easier than that of non-athletes. He called for an empirical study of the problem.

McPherson¹³, and Rosenberg¹⁴⁻¹⁵ and Coakley¹⁶ have presented literature reviews which focused on the strengths and weaknesses of research concerning professional team sports.

All of the studies point out that more data needs to be collected about the transition from pro sports, and particularly pro football. This study was an attempt to provide some data on what happens to players when they retire. Specifically, the study was concerned with the number of retired professional football players who had left the game because of injury and what effects those injuries had on the transition period. In addition, how players left the game, the kind of educational background and career guidance they had, the kinds of experience they had during transition, and the characteristics of their post football careers were addressed in the study.

METHODS

Using a mail survey we contacted all 1511 members of the National Football League Players Association. Of the total membership, 645 former players (43%) returned the survey. Membership was divided into four groups--players before 1959, players from 1960-1969, players from 1970-1979, and players from 1980 to the present.

As a check on the validity of the study, we compared the number of players who returned questionnaires in each group with the actual membership percentage for each group according to NFLPA records. The findings were as follows:

<u>Group</u>	<u>%Return</u>	<u>%NFLPA Membership</u>
pre-1959	11.5	10.4
1960s	15.6	15.5
1970s	49.8	46.3
1980s	23.1	27.8

By calculating a Chi-Square statistic ($X^2=3.98$, $p>.05$), we found that our mail return rate fell within the expected range of responses for the sample of NFLPA members involved in the study, which meant that our response rate was not significantly different from what we should have received.

The data was analyzed by means of the SPSS-X statistical package. Further analysis led us to believe that statistical significance might be obtained by grouping together pre-1959 and 1960s groups and comparing them to a group of both 1970s and 1980s players.

FINDINGS

The mean career length for players responding was 7.6 years. The range was one year to 21 years. The median career length was seven years and the mode was five years. Career length data compiled from the Sporting News Football Register by the NFL Players Association indicated that the average career length for NFL players in 1970 was 4.6 years and the average career length in 1986 had decreased to 3.2 years.

knee problems might not have ended a career. There was a relationship, however, between career-ending injuries and permanent injuries. 87% of those who left the game because of a disabling injury had a permanent injury. Only 54% of those who retired voluntarily had a permanent injury.

The number of years a player played the game did seem to have some effect of whether he was likely to be driven out of the sport by a disabling injury. Of the players who played one to three years, only 10% reported that they left the game because of injury. In contrast, 38% of the players who played four to six years and 32% of those who played seven to nine years left primarily because of injury. As playing years increased, the likelihood of leaving because of injury decreased. Of the players who played 10 to 12 years, only 15% reported leaving the game because of injury and that figure decreased to 5% for those who played more than 13 years.

In contrast, the number of years a player played the game seemed to have no effect on whether he was likely to live with a permanent injury from football. There was no significant difference in the percent who reported a permanent injury and the number of years played. For players who played one to three years, the percent who had a permanent injury was 66%, for four to six years, 62%; for seven to nine years, 66%; for 10 to 12 years, 57%; and for 13 or more years, 61%. The data indicated that no matter how many years a player played professional football, his chances were still two out of three that he would have a permanent injury.

Respondents did not resent football or feel anger toward the game because of injuries. 62% of those who reported a permanent injury said that they did not resent football because of the injury. Follow-up interviews indicated that players who were angry tended to feel resentment towards medical persons, coaches and other management officials because of the way their injuries were treated.

Statistically significant differences in injury data existed between pre-1970 players and post-1970 players (Table 6). Post-1970 players were more likely to leave football because of a disabling injury--28% for the pre-1970 player, 42% for the post-1970 player

($X=4.8$, $p<.05$). In addition, post-1970 players reported significantly more permanent injuries (66%) than pre-1970s players (51%, $X^2=4.6$, $p<.05$).

EDUCATION

Although 59% of the players reported that they held an undergraduate or graduate degree, only 29% held a diploma when they entered professional football. Survey results on education (Table 2) indicated that less than one third of the players earned a degree when they left college even though football requires that no athlete can be drafted until his college class graduates. The figure has not changed over the years, either. The percent of pre-1959 players who had obtained their degree before entering football was 28%, and the percent in 1980 was 30%, essentially the same.

The educational background of players did indicate a change, however, in the number who currently hold degrees. The pre-1959 players indicated that 47% currently held an undergraduate degree and 21% held some kind of graduate degree. In contrast, the 1970's and 1980's players indicated that only 37%, slightly over one-third, held an undergraduate degree. It appeared that about the same number of players over the years, one out of five, earned a graduate degree. That number dropped to 13% for the 1980s players, but it could be expected that they had not yet had time to complete graduate work.

86%, or nearly nine out of ten of the players who held a degree but did not have a degree completed when they entered football, reported that they completed their degree while they were playing football. Follow-up interviews with players indicated that those who had not completed their degrees when entering pro football needed only a final semester or a few hours to complete the degree.

TRANSITION OUT OF FOOTBALL

Players were asked about the six-month period immediately after they left pro football. No matter what circumstances prompted their leaving the game, players did

experience emotional problems in the months immediately after they left football. And the situation seemed to get worse over the years. The data indicated (Table 3) that 48% of the players who played before 1970, or nearly one out of two, said that they had at least some emotional problems during that transitional period. The number increased to two out of three, or 66%, for players who played after 1970 ($X^2=29.13$, $p<.00$). Only 21% of all respondents said that they had no emotional problems during the transition period.

Personal problems during transition out of the game also seemed to be on the rise. 50% of the post-1970s players reported that they had personal problems; the figure was only 30% for players who played before 1970 ($X^2=8.4$, $p<.01$).

Financial difficulties and divorce were the most commonly reported problems. 40% of the players who reported problems listed financial difficulties and 33% listed divorce as the major personal problem they faced.

For all players, no matter when they played, injuries did seem to be related to their emotional difficulties and personal problems during the six-month transition period.

Players who were driven from the game by injury reported more emotional problems than those who were not. Of those who were injured, 70.6% had emotional problems at least some of the time in the six-month transition period; however, only 56.2% of those who did not leave because of an injury reported emotional problems. In addition, more than one-third (37.4%) of the injured players said that they experienced emotional problems most or all of the time during the transition period. The figure was only 24.3% for non-injured players. Players who reported a permanent injury were also found to have a greater likelihood of emotional problems than players without permanent injury.

The results also indicated that injury had an effect on the severity of other personal problems during the transition period. There was a significant difference between the number of players who reported personal problems (51.5%) and the number of players who left for other reasons but who reported that they experienced personal problems (41.1%, $X^2=5.98$, $p<.05$).

Permanent injury also had an effect on the level of personal problems. Although one out of three non-injured players (32.5%) reported that they had personal problems

during transition, the figure increased to one out of two (54.2%) for players who reported permanent injuries ($X^2=9.38$, $p<.001$).

CAREER INFORMATION

Survey data indicated that the image of the football player who makes no plans for his career after the game was not a valid one. More than half (54%) of the players surveyed said that they had career goals beyond football when they entered the game, and 70% said that they had career goals when they left the game. Career planning has decreased over the decades for players, although not significantly. There is a trend downward from the pre-1959 era to the 1980s: 83% of the pre-1959 players had career goals when they left the game, but only 65% of the 1970s players said that they had such goals (Table 4).

Players who did plan ahead were able to achieve the career goals they set. 88% said that they were able to achieve their goals.

The breakdown of occupations (Table 5) indicates that many players used their money to invest in their own businesses. One out of three players reported that he owned his own business. That figure also remained stable over the decades, indicating that investment in a business has been a major way over the years for players to make the occupational transition out of football.

Sales and management positions were other sources of jobs for players. Broadcasting, a career that may seem to the public to be a primary post-football occupation, did not show up on any surveys except for four players who listed it as a part-time, additional job. At least 82% of the respondents had white collar jobs.

Career changes were also characteristic of retired football players. One out of five players (21%) had four or more career changes, and only one-third of the players reported that they had only one change--from football to another occupation.

Only 63 players, or less than 10% of those answering the survey, said that they were still active in some way in college or professional football. Career opportunities in football seemed limited for ex-players.

CONCLUSIONS

Retirement from pro football is an abrupt experience, one which sport sociologists would call socially disorganizing. Few players have the opportunity to select retirement; most find that the choice has been made for them, either because of injury, or waiver, or a combination of both. The abruptness of the job change may be one of the reasons that transition is difficult even for players who have planned well for it. The difficulty of the transition is compounded by the attitudes of management, which Rosenberg has characterized: "Sport is now an entertainment industry, and higher management has the same concern for the welfare of a player as a production foreman has for a replaceable machine part."¹⁵

Results of the survey of retired NFL players indicate that injuries are a part of the life of the player both during and after his playing career. Injuries are a major contributor to players' retirement, and two out of three players live with a permanent injury from football. These findings present the first indication of the stressful and traumatic impact that injuries have on the transition process in which professional football players become involved. Further research on the nature of career-ending injuries, medical treatment of players who are injured, and the long-term effects of injuries on players needs to be conducted.

Less than one out of three players enter pro football with a college degree, but two out of three eventually complete their degrees. Players do plan for careers after football and those who plan do accomplish their career goals. For one out of three players, the career after football is in a business he knows. This information is somewhat inconsistent with previous findings which maintain that most professional athletes either plan for second careers late in their active sport careers,⁶ or not at all.³ Over 82% of the pro football players in this study maintain white collar jobs. In contrast, 65% of baseball players hold similar positions.⁶ However, the percentage of football players who remain in the sport after their active careers (10% in this study) lags behind those who remain in other sports--29% in baseball, for example.⁶

One of the reasons for these discrepancies is the difference in "farm systems" which

professional teams use to train and develop future players. Pro football farm teams are colleges and universities which require future players to work toward a degree while they are playing; however, such requirements are not a part of other professional sports' developmental programs like baseball. Therefore, it might be expected that more pro football players would move into white collar careers, since preparation for such positions typically occurs in the academic setting. In addition, when professional football players desire to begin a career in coaching, they will most likely have to return to the colleges and universities, or secondary schools, all of which require a college degree to coach, yet many players have not completed degree requirements. In contrast, baseball players can begin coaching without the same requirement.

Whether players have career goals or not, whether they have completed their education or not, most find the transition out of the game emotionally difficult. They report that both emotional problems and other personal problems occur during the six-month period of transition. Problems like divorce and financial difficulties are the most prevalent. And the difficulty of coping with an injury in addition to the life change makes the transition even more difficult. Injured players report more emotional difficulty during the transition period than non-injured players. These findings help fill a void in data articulated by sports sociologists.

Data from players who have played in more than four decades indicate that retirement now is more difficult for players than it was before 1970. Players since 1970 are more likely to have been injured, more likely to have emotional problems during transition, more likely to experience personal problems during transition, and more likely to attribute those problems to their career in football. The increasing difficulties can not be attributed to education or career planning because players since 1970 have the same education background and career goals as earlier players. Changes in the game since 1970 have made the game and transition more difficult for players. The introduction of AstroTurf, longer playing schedules, greater disparity in player salaries, increased player size, and year-round training are a few of the reasons why the game is different than it was prior to the 1970s.

Increases in injuries mean fewer players have the opportunity to choose retirement

and plan for the transition. For most players, that transition happens in a matter of hours. It is not surprising, then, that the transition is as difficult and traumatic as players report. The distinguishing trait of a career in professional sports is that there is **no possibility at all** of a 'stable progression over the worklife' for the athlete. His worklife, as a player, will be over in his 30's, the age at which most of his birth cohorts are just beginning to hit their career stride.¹⁵

PRIMARY REASONS FOR LEAVING THE GAME

Years played:	<u>pre-59</u>	<u>1960's</u>	<u>1970's</u>	<u>1980's</u>	<u>all players</u>
Wanted to retire	37/51%	58/59%	122/39%	71/49%	288/45%
Waived/ no contract, no offers	23/32%	32/28%	171/54%	93/64%	319/49%
Disabling injury	14/19%	34/34%	137/43%	54/37%	239/37%

TABLE 1

EDUCATION BACKGROUND

Years played:	<u>pre-59</u>	<u>1960's</u>	<u>1970's</u>	<u>1980's</u>	<u>all players</u>
Obtained college degree BEFORE entering pros	15/28%	18/26%	63/30%	30/30%	126/29%
Highest degree now held:					
College	29/47%	34/39%	107/37%	50/37%	220/39%
Grad. degree	13/21%	23/26%	61/21%	18/13%	115/20
TOTALS	42/68%	57/65%	168/58%	68/50%	335/59%

TABLE 2

EXPERIENCED EMOTIONAL PROBLEMS FIRST SIX MONTHS OUT OF THE GAME

	<u>NO</u>	<u>HARDLY</u>	<u>SOME</u>	<u>MOST</u>	<u>ALL TIME</u>
Played before 1970	57/34%	30/18%	47/28%	13/8%	20/12%
Played after 1970	75/17%	76/17%	155/34%	87/19%	59/13%
All players	132/21%	106/17%	202/33%	100/16%	79/13%

EXPERIENCED OTHER PERSONAL PROBLEMS FIRST SIX MONTHS OUT OF THE GAME*

	<u>NO</u>	<u>YES</u>
Played before 1970	113/70%	49/30%
Played after 1970	223/50%	225/50%
All Players	336/55%	274/45% *p<.01/610

TABLE 3

CAREER PLANNING INFORMATION

Years played:	<u>pre-59</u>	<u>1960's</u>	<u>1970's</u>	<u>1980's</u>	<u>all players</u>
Had career goals when ENTERING football	45/63%	59/60%	151/48%	80/55%	335/54%
If yes, have been able to achieve those goals	38/88%	44/77%	121/80%	61/76%	264/80%
Had career goals when LEAVING football	57/83%	69/73%	199/65%	109/75%	434/70%
If yes, have been able to achieve those goals	50/93%	57/83%	175/90%	95/86%	337/88%

TABLE 4

OCCUPATIONAL INFORMATION

Years played: pre-59 1960's 1970's 1980's all players

CURRENT OCCUPATION:

Own business	16/26%	28/29%	95/32%	42/30%	181/30%
Sales or promotion	13/21%	12/13%	55/18%	23/16%	103/17%
Management in large business	11/18%	20/21%	45/15%	15/11%	91/15%
Professions (law, med.)	6/10%	15/16%	31/10%	12/9%	64/11%
Mgr. or partner small business	5/8%	7/7%	22/7%	17/12%	51/9%
Skilled work or labor	0%	3/3%	17/6%	11/8%	31/5%
Other	11/17%	11/11%	36/12%	20/14%	78/13%

MAJOR CAREER CHANGES INCLUDING TRANSITION FROM FOOTBALL:

One	29/40%	32/32%	95/30%	61/42%	217/34%
Two	14/19%	28/28%	72/23%	73/25%	151/24%
Three	15/21%	14/14%	74/24%	28/19%	131/21%
Four or more	15/20%	25/26%	74/23%	20/14%	134/21%

STILL ACTIVE IN COLLEGE OR PRO FOOTBALL

4/5%	8/8%	35/11%	16/11%	63/10%
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TABLE 5

PROFILE

PRE 1970 PLAYER VS. POST 1970 PLAYER

	Pre-1970's	Post 1970's
Left football through retirement	55%*	42%*
Left football by waiver, no offers	32%*	57%*
Left football because of injury	28%*	42%*
Left football with permanent injury	51%*	66%*
Feel anger/resentment toward game or any part of it because of injury	31%*	40%*
Experienced emotional problems during first 6 months out of game	48%*	66%*
Experienced other personal problems during transition	30%*	50%*
Attribute personal problems to football career	44%*	61%*

*p<.05

TABLE 6

REFERENCES

1. Mihovilovic M: The status of former sportsmen. *Int Rev Sport Soc* 1968; 3:73-91.
2. Weinberg K, Arond H: The occupational culture of the boxer. *Amer J Soc* 1952; 57:460-469.
3. Hare N: A study of the black fighter. In Talamini JT, Page CH (eds.) *Sport and society: an anthology*. Boston, Little Brown, 1973.
4. Roy G: The relationship between centrality and mobility: The case of the National Hockey League. Unpublished M.Sc. Thesis, University of Waterloo, 1974.
5. Smith M, Diamond F: Career mobility in professional hockey. In Gruneau R, Albinson J (eds): *Canadian sport: sociological perspectives*. Ontario, Addison-Wesley, 1976.
6. Haerle RK: Career patterns and career contingencies of professional baseball players: An occupational analysis. In Ball DW, Loy JW (eds.): *Sport and social order*. Reading, MA, Addison-Wesley, 1975.
7. Arviko I: Factors influencing the job and life satisfaction of retired baseball players. Unpublished M.Sc. Thesis, University of Waterloo, 1976.
8. Lerch SH: The adjustment to retirement of professional baseball players. In Greendorfer SL, Yiannakis A: *Sociology of sport: Diverse Perspectives*. West Point, NY, Leisure Press, 1981.
9. Beckley RE: Professional football as an occupation: A sociological study. Unpublished Ph.D. dissertation, The American University, 1975.
10. Reynolds MJ: The effects of sports retirement on the job satisfaction of the former football player. In Greendorfer SL, Yiannakis, A: *Sociology of sport: Diverse Perspectives*. West Point, NY, Leisure Press, 1981.
11. Washington MA: Consideration of selected social theories of aging as evidence by patterns of adjustment to retirement among professional football players. Unpublished Ed.D. Thesis, University of North Carolina-Greensboro, 1981.
12. Lerch S: The adjustment of athletes to career ending injuries. *Arena Rev* 1984; 8:54-67.
13. MCPerson BD: Retirement from professional sport: The process and problems of occupational and psychological adjustment. *Soc Sym* 1980; 30:126-143.

14. Rosenberg E: Professional athletic retirement. *Arena Rev* 1981; 5:1-11.
15. Rosenberg E: Social disorganizational aspects of professional sports careers. *J Sport & Soc Issues* 1980; 4:14-25.
16. Coakley J: Leaving competitive sport: Retirement or rebirth? *Quest* 1983; 35:1-11.

**AFTERMATH
OF AN NFL CAREER:
Injuries**

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Major injuries, the ones that cause players to miss eight or more games or that require surgery, are on the increase in the NFL according to a survey of former players.

The NFL Players Association survey of players who played from the 1940s through the 1980s indicates that 65% of the players reporting--two out of three--suffered at least one major injury during their careers.

And, the problem is increasing. Only two out of five pre-'59 players reported major injuries, but seven out of 10 players who played in the 1980s reported such injuries.

The survey was conducted in the spring of 1989 for the NFLPA by two Ball State University researchers, Beverley Pitts and Mark Popovich. Members of the NFL Players Association were asked about injuries they received during their playing careers and about the effects of the injuries on their lives; 870 players responded, a 55 % response rate.

Results indicated that surgery for football injuries is a common occurrence and it is on the increase. As might be expected, more players of the '70s and '80s reported having arthroscopic surgery: one out of two '80s players reported having arthroscopic surgery versus one out of 10 from the pre-'59 era.

But arthroscopic surgery hasn't replaced invasive surgery; it, too, is on the increase. One out of three pre-'59 players reported having at least one invasive surgery. That number increased to two out of three for players in the '70s and '80s decades. Surveyed players reported 1,093 surgeries, an average of 1.26 per player.

Although players are reporting more injuries in recent years, they are also returning to the game more often after those injuries. Twenty-seven percent of the pre-'59 group said that they were never able to return after a major injury, but only 16% of the 1980s players said that they never returned after a major injury. Fifty percent of the players who had surgery, either invasive or arthroscopic, were able to return two or more times to the game.

More

Among other findings from the study are:

*46% of the players said injuries were the reason for retirement.

*Knees remain the number one problem. One out of two players (54%) has had at least one knee surgery. The number increases to three out of five (60%) for '70s and '80s players. Two persons reported nine invasive knee surgeries.

*Minor as well as major injuries are on the increase. Significant increases exist in the number of both major and minor injuries reported by '70s and '80s players over the earlier decades.

*Nine out of ten '80s players said that they had at least one injury that took them out of two consecutive games.

*216 players reported having at least one arthroscopic surgery for a football injury; 500 players reported having at least one invasive surgery for a football injury.

Although knee injuries receive the vast publicity, players from all decades reported a wide range of chronic injuries.

An eight-year veteran who played in the '60s and '70s said: "The team doctor gave me the choice of missing the rest of the season by operating or waiting until the end of the season. In both cases the end of the season is too late. It was common in '65 to '72 to put the burden on the player to make that decision. As a result, I'm paying the price now on those injuries."

A five-year veteran from the '70s said: "Several concussions resulting in epileptic seizure disorders caused me to become completely disoriented, lose track of time and space. Loved ones have helped me to continue on with my life."

A pre-'59 veteran of nine years said: "My right knee was operated on. For the remainder of my career I favored it and did my cutting on my left knee. I would take my hits on the good knee. Last year, the good knee began aching. X-rays showed that the pad between the cartilage had worn out. I will be having corrective surgery soon. It took over 30 years for this weakness to show up."

A 12-year veteran from the '60s and '70s said: "I played a full year with a ruptured disc. I couldn't practice during the week but would play the games on Sunday."

A nine-year veteran from the '80s said: "I have dissipated the pad totally in the ball joint

More

area on the bottom of my foot. This is causing serious toe distortions and walking problems. All recreational sports have stopped. Walking up and down stairs is a problem at age 33 with three kids."

A 12-year veteran from the '60s and '70s said: "I lost sight to 20-900 in one eye from a torn retina."

Players of all decades agreed that the major life-style problems created by injuries are the ability to do physical labor and the ability to participate in recreational activities. In addition, one out of three former players said that injuries caused them to redirect their career goals.

One '80s player said: "My field of education is physical education. Due to the shoulder and knee injuries, I was unable to pursue my coaching career."

A '60s and '70s player said: "I was unable to gain employment as a coach since I am unable to run or stand for long periods of time. Injury loss affected me both physically and mentally."

Another '80s player said: "Football injuries have not affected my ability to compete in my chosen career directly; however, indirectly I feel that the injuries affect my work day at the office. Towards the end of the day, I am suffering from chronic pain and fatigue, neither of which helps my performance at work."

A teacher who played in the '70s said: "I can't stand, lay down, sleep, sit, or run for more than two hours at a time. My hands have had all the fingers broken or dislocated and it impairs my writing ability. My employment as a teacher is in serious jeopardy because of the injuries."

Since many of the chronic injuries show up after football, the cost of medical treatment most often falls to the individual player, the survey indicates. Only 17% said that their injuries were covered by football insurance. The majority (67%) paid for their treatment by personal or non-football insurance. Fourteen percent of the reporting players paid for treatment with personal funds and 2% reported that they didn't get needed treatment because of cost. One out of four players reported that injuries had caused some financial difficulty for them.

###

PLAYERS WHO RESPONDED

Last year played:	<u>Number</u>	<u>Percent</u>
1959 or earlier	123	14.1
1960-1969	157	18
1970-1979	376	43.2
1980-1988	214	24.6
Total	870	100

55 percent response rate

Average career length =7.7 years
Range reported--1 to 21 years

Table 1

RETIREMENT DECISION*

Years played	<u>pre-59</u>	<u>1960's</u>	<u>1970's</u>	<u>1980's</u>
	%	%	%	%
Player's decision	73	57	44	46
Team's decision	27	43	56	54
Totals	100	100	100	100

*p<.001, total responding =870

Table 2

REASON FOR RETIREMENT*

Years played	<u>pre-59</u>	<u>1960's</u>	<u>1970's</u>	<u>1980's</u>	<u>All players</u>
	%	%	%	%	%
Injury	30	44	50	48	46
Waived or Contract not renewed	14	19	27	26	24
Age	15	15	10	14	12
Other	41	22	13	12	18
TOTALS	100	100	100	100	100

*p<.001, total responding =868

Table 3

NUMBER OF SIGNIFICANT INJURIES

A significant injury is one that caused a player to miss at least two consecutive regular season games.

Years played	<u>pre-59</u>	<u>1960's</u>	<u>1970's</u>	<u>1980's</u>	<u>All players</u>
INJURIES:	%	%	%	%	%
one or two	45	52	45	40	45
three to five	22	23	32	39	31
six or more	2	8	9	11	8
total with significant injury*	68	83	86	90	84
no significant injury reported*	32	17	14	10	16
TOTALS	100	100	100	100	100

* $p < .05$, total responding = 868

Table 4

NUMBER OF MAJOR INJURIES

A major injury is one that caused a player to miss at least eight or more games or required surgery.

Years played	<u>pre-59</u>	<u>1960s</u>	<u>1970s</u>	<u>1980s</u>	<u>All players</u>
INJURIES	%	%	%	%	%
one or two	37	45	57	56	52
three to five	3	8	13	15	11
six or more	2	2	4	1	2
total with major injury*	42	55	73	72	65
no major injury reported*	58	45	27	28	35
TOTALS	100	100	100	100	100

*p<.05, total responding =864

Table 5

SURGERY

Years played	Reported at least ONE Arthroscopic Surgery*	Reported at least ONE Invasive Surgery*
	%	%
pre-1959	11	35
1960's	15	47
1970's	21	67
1980's	47	61

216 players (25%) reported at least one arthroscopic surgery.
103 players (12%) reported more than one arthroscopic surgery.

500 players (57%) reported at least one invasive surgery.
253 players (28%) reported more than one invasive surgery.

*p<.01

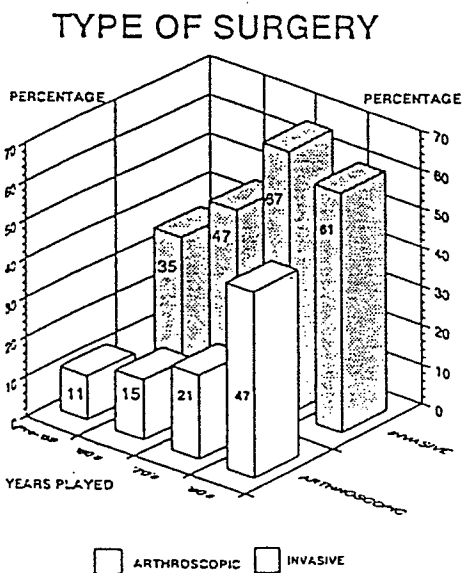


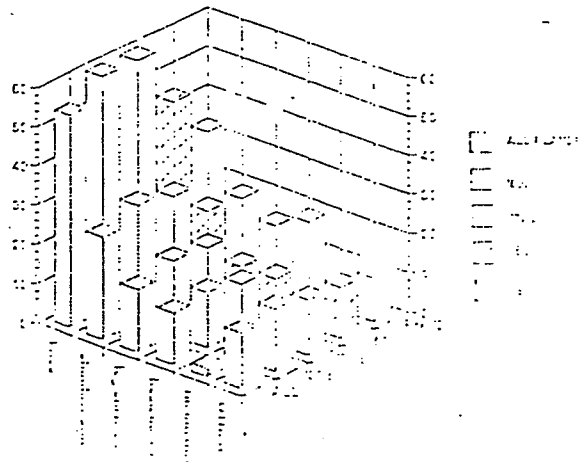
Table 6

SURGERIES AND TYPES OF INJURY

Years played	pre-1959	1960's	1970's	1980's	All players
Reported at least 1 surgery on:	%	%	%	%	
Knee	33	45	30	30	
Shoulder/arm elbow	19	20	23	30	
leg/ankle/foot	15	9	13	12	
head/back/neck	19	9	12	13	
rib/internal	3	1	2	3	
Other	11	13	14	13	

Surveyed players reported 1093 surgeries, on average of 1.26 per player.

Surgeries and Types of Injuries



KNEE SURGERY

Years played	<u>pre-1959</u>	<u>1960's</u>	<u>1970's</u>	<u>1980's</u>	<u>All players</u>
	%	%	%	%	%
Players reporting at least one arthroscopic knee injury	9	13	19	43	29
at lease one invasive knee surgery	24	38	52	45	44
Players reporting at least one knee surgery	33	45	60	60	54

total number of knee surgeries reported = 581
 two persons reported 9 invasive knee surgeries

Table 8

RETURNING FROM MAJOR INJURY

Years played	pre-1959	1960's	1970's	1980's	All players
	%	%	%	%	%
Players never returning from major injury	27	28	20	16	21

RETURNS FROM SURGERY

Number of returns	none	1	2-3	4-5
	%	%	%	%
Arthroscopic surgery	13	36	38	13
Invasive surgery	15	37	39	9

87% of the players who had arthroscopic surgery returned at least once
 85% of the players who had invasive surgery returned at least once

Table 9

INJURY EFFECTS ON LIFE-STYLE

	<u>disagree</u>	<u>undecided</u>	<u>agree</u>
	%	%	%
INJURIES:			
Affect participation in recreation and sports	31	6	63
Cause career goal redirection	58	8	34
Limit ability to do physical labor	40	8	52
Affect ability to compete in chosen career	74	10	16
Cause financial difficulty	65	10	25

Table 10

WHO PAID FOR MEDICAL PROBLEMS AFTER FOOTBALL

Years played	<u>pre-1959</u>	<u>1960's</u>	<u>1970's</u>	<u>1980's</u>	<u>All players</u>
COSTS PAID FOR:	%	%	%	%	%
By football insurance	7	13	14	31	17
By personal or non-football insurance	72	69	71	55	67
Other personal means	17	16	13	12	14
No treatment because of cost	4	2	2	2	2
TOTALS	100	100	100	100	100

total responding =755

Table 11

PLAYERS WHO ENDED CAREERS BEFORE 1970 VERSUS PLAYERS WHO ENDED CAREERS AFTER 1970

	pre-1970	post 1970
	35	35
Decision to retire made by team	36	53
Injury was major reason for retirement	38	50
Had at least one major injury	49	72
Had at least one knee surgery	42	30
Agree that injuries affect participation in sports	55	33
Agree that injuries cause redirection of career goals	25	39
Agree that injuries limit physical labor	47	55
Disagree that injuries cause financial difficulty	72	32
Medical costs paid by football insurance	11	20

Table 15

Table 16

LIFESTYLE AFTER FOOTBALL

NFLPA

**Dr. Beverley Pitts
Dr. Mark Popovich
Spring, 1994**

Lifestyle After Football
A Survey report prepared by
Dr. Mark Popovich
Dr. Beverley Pitts
Ball State University

Spring 1994

Methodology

A survey instrument was pretested with 100 former professional football players. A membership list from the National Football League Players Association was used for the survey. The instrument was then sent to all current members of the National Football League Players Association; 2,216 surveys were mailed. A return of 1,219 surveys yielded a 55 percent return rate

Data were analyzed and cross tabulated to provide information both by position played and by period played.

It should be noted that the study provides summary data on self-reported information. There is no medical verification of reported injuries. The value of the data is that it provides an overview of players' lives and experiences as reported by them, information not available from other sources. The survey respondents had an average career of six years, longer than the currently reported average of just over three years. Data on Table 1 provide further demographic information of respondents.

Findings

The attached tables provide detailed findings from the survey. Among those more interesting are:

- 73 percent of respondents indicate that they currently exercise regularly.
- 83 percent do not smoke.
- Only 8 percent reported that they are currently regular smokers.
- 61 percent have gained less than 10 pounds since their playing days.
- Positions carrying the most weight were most likely to make dietary changes (offensive and defensive linemen, linebackers).
- Arthritis is the most commonly reported health problem with 47 percent reporting problems with arthritis.
- 56 percent of respondents who played on the offensive line reported arthritis problems while only 31 percent of those playing on special teams and 37 percent of respondents who were quarterbacks reported arthritis problems.
- 8.7 percent of respondents reported problems with hypertension.
- Respondents indicate that financial and family problems are the primary problems they face in the first three years out of football.
- 72 percent have their college degrees when they finish their pro careers.
- 67 percent find a new job within six months of leaving pro football.

Conclusions

Much of the injury data verified results from previous studies completed by the same researchers in 1989 and 1990. It seems clear that injury drives at least one-third of the players from football and that since 1970, the number is larger, nearly one half. Also, at least one-half of the players responding missed eight games due to injury or had surgery at least once during their playing career. Two thirds leave the game with some kind of self-reported injury and at least one half report problems with arthritis.

Many personal stories of injury problems, lack of good medical advice, chronic problems with knees, and lack of good treatment abound in the survey results.

Although they are dealing with chronic injury problems, data indicates that the majority of players are taking care of themselves. Most have gained less than ten pounds since their playing days, work out regularly, do not smoke, and have made dietary changes in their lives.

This research project was conducted for the National Football League Players Association. For further information, contact Mr. Frank Woschitz, NFLPA office.

Table 1

Survey Respondents

<u>By Decade</u>	<u>N</u>	<u>% of total</u>
Pre '59	168	14
'60s	203	17
'70s	425	35
'80s-'90s	<u>425</u>	35
	1,219	
 <u>By Position</u>		
Offensive Line	301	25
Defensive Line	181	15
Quarterback	62	5
Running Back	130	11
Wide Receiver	98	8
Linebacker	171	14
Defensive Back	170	14
Special Teams	71	6
Others	<u>35</u>	3
	1,219	

Approximately 55% of NFLPA membership responded

Table 2

OVERALL SUMMARY OF 1992 SURVEY

Average number of years played	8
Number of teams played on	2
Players with degrees entering pro football	54%
Players with degrees leaving pro football	72%
Players receiving bachelor's degrees	65%
Players entering game with injuries	31%
Players leaving the game with injuries	61%
Players missing at least two games	77%
Players missing eight games once/twice	46%
Primary reason for leaving the game (injury)	41%
Players finding jobs within 6 months after leaving game	67%
Most job assistance after leaving game (Relatives)	10%
Major problem facing former players (Financial)	36%
Major affliction facing former players (Arthritis)	47%
Former players currently 10-50 lbs over playing weight	35%
Former players who currently smoke occasionally or regularly	17%

Table 3

Respondents Average Number of Years in NFL

<u>By Decade</u>	<u>Years</u>
Pre-'59	6
'60s	8
'70s	8
'80s	8
 <u>By Position</u>	
Offensive Line	8
Defensive Line	8
Quarterback	9
Running back	7
Wide Receiver	7
Linebacker	8
Defensive Back	7
Special Teams	7
Others	8
Average	8
S.D. =	3.5

Table 4
Reported Primary Reasons for Leaving Football

Reason*	<u>Played Before 1970</u>	<u>Played After 1970</u>
Elected to retire (no injuries)	42%	22%
Injury caused retirement	30	46
Waived, no contract	18	26
Other reasons	9	5

***Denotes significant difference between two periods**

Table 5

**Comparison of Reported Current Weight
to Playing Weight by Decade Played
and by Position**

	<u>less than 10 lb. gain</u>	<u>10-50 lb. gain</u>	<u>Over 50 lb. gain</u>
Primary Playing Years			
pre '59	57%	37%	6%
'60s	52	39	9
'70s	57	39	4
'80s-'90s	72	27	1
<u>Position</u>			
Offensive Line	68	27	5
Defensive Line	60	36	4
Quarterback	63	35	2
Running back	55	36	9
Wide receiver	51	47	2
Linebacker	67	28	5
Defensive back	56	42	2
Special teams	54	45	1
Others	54	43	3
<u>ALL</u>	61	35	4

Table 6

**Comparison by Decade Played of
Current Work Out or Exercise Pattern**

Primary Playing Years	<u>Work Out or Exercise Occasionally</u>	<u>Work Out or Exercise At Least Once A Week</u>	<u>Work Out or Exercise Daily</u>
pre-'59	24%	57%	24%
'60s	24	65	17
'70s	21	77	26
'80s-'90s	23	75	22
All	22	73	22

Notes: - only 5% report never exercising

Table 7

**Reported Dietary Change
Since Playing Days**

	Currently Eat Less Red Meat	Reduced Salt	Reduced Alcohol	Currently On Low Fat Diet	No Change
Primary Playing Years					
pre '59	57%	57%	33%	36%	31%
'60s	59	55	34	34	27
'70s	65	57	37	38	19
'80s-'90s	52	34	28	36	34
All	58	49	33	36	27

Table 8

**Comparison by Decade Played of
Reported Health Problems**

	<u>Arthritis</u>	<u>Heart Disease</u>	<u>Depression</u>
Primary Playing Years			
pre-'59	50%	10%	3%
'60s	47	5	6
'70s	51	2	14
'80s-'90s	42	1	17
All	47		12

Notes:

Other reported health problems:

Cancer	1.7%
Kidney	1.7
Liver	0.7
Hypertension	8.7

12% of linemen report hypertension versus 6 to 8% for other positions.

There is a significant difference in reports of problems with arthritis for some positions.

Offensive line	56%
Special teams	31
Quarterbacks	37

Table 9

**Percent of Respondents Reporting Problems
during First Three Years Out of Football**

	Primary Playing Years				All
	<u>Pre-'59</u>	<u>'60s</u>	<u>'70s</u>	<u>'80s-'90s</u>	
Financial Problems	21%	28%	42%	39%	36%
Family Problems	6	21	28	28	24
Divorce	5	13	16	11	12
Drug Problems	0	1	6	5	4
Alcohol Problems	3	10	13	9	10
Emotional Problems	3	13	23	22	18

Table 10

**Comparison by Position Played
of When College Degree Earned**

<u>Position</u>	<u>Had College Degree When Entering Pro Football</u>	<u>Had College Degree When Leaving Pro Football</u>
Offensive line	54%	75%
Defensive line	52	66
Quarterback	55	63
Running back	50	72
Wide receiver	58	78
Linebacker	57	76
Defensive back	56	73
Special teams	61	69
Others	40	66
Average	54	72

Table 11**Comparison by Position of Reported Knee Injuries
Requiring Arthroscopic/Surgical Procedures**

<u>Position</u>	<u>Arthro During</u>	<u>Arthro After</u>	<u>Invasive During</u>	<u>Invasive After</u>
Offensive line	27%	19%	34%	12%
Defensive line	27	17	37	9
Quarterback	36	21	39	5
Running back	19	19	27	14
Wide receiver	25	25	30	13
Linebacker	22	18	32	8
Defensive back	25	15	25	8
Special teams	23	16	24	3
Others	34	14	23	3
Average	25	18	31	10

Table 12

Comparison of Reported Injuries by Decade Played

<u>Decade</u>	<u>Injury Caused Player to Miss 2 Games</u>	<u>Injury Caused Player to Miss 8 Games</u>
Pre-'60s	54%	26%
'60s	74	43
'70s	80	63
'80s	85	67
Average	77	56

Table 13

**Comparison of Reported Injuries
By Position Played**

<u>Position</u>	<u>Injury Caused Player to Miss 2 Games</u>	<u>Injury Caused Player to Miss 8 Games or have Surgery</u>
Offensive line	74%	58%
Defensive line	79	56
Quarterback	84	61
Running back	79	56
Wide receiver	83	64
Linebacker	81	53
Defensive back	74	50
Special teams	68	55
Others	69	51
Average	77	56

Table 14

**Comparison of Reported Injuries and Surgeries
by Respondents Who Played Before and After 1970**

	<u>Played Before 1970</u>	<u>Played After 1970</u>
Injuries upon entering game	25%	34%
Missed at least 2 games once	65	82
Missed at least 8 games once*	36	65
Knee/Arthroscope during season*	10	32
Knee/Arthroscope after season	18	18
Knee/Invasive surgery during season	22	35
Knee/Invasive surgery after season	15	8
Total Arthroscopic/invasive surgeries	50	66

*Denotes significant difference

Table 15

**Comparison by Decade Played of Reported Knee Injuries
Requiring Arthroscopic/Surgical Procedures**

<u>Decade</u>	<u>Arthro During</u>	<u>Arthro After</u>	<u>Invasive During</u>	<u>Invasive During</u>
Pre-'60s	8%	14%	14%	15%
'60s	12	22	29	14
'70s	16	24	42	12
'80s	48	12	28	4
Average	26	18	31	10

Table 16

**Comparison by Decade Played of Reported Injuries Entering the Game
and Arthroscopic or Invasive Surgeries**

<u>Decade</u>	<u>Reporting Injuries When Entering Pro Football</u>	<u>Reporting Arthro or Invasive Surgery During or After Pro Career</u>
Pre-'60s	23%	40%
'60s	26	57
'70s	30	67
'80s	38	65

Table 17

**Comparison by Position Played of Reported Injuries
Entering the Game and Arthroscopic or Invasive Surgeries**

<u>Position</u>	<u>When Entering Football</u>	<u>When Leaving Football</u>
Offensive line	32%	61%
Defensive line	36	67
Quarterback	44	59
Running back	26	60
Wide receiver	22	62
Linebacker	31	69
Defensive back	29	58
Special teams	32	56
Others	37	69
Average	31	61