



5-8-2018

The Impact of Physical Therapy on an Athletes Decision to Return to Sport

Juliette Zielinski

Follow this and additional works at: http://vc.bridgew.edu/honors_proj



Part of the [Exercise Science Commons](#), and the [Rehabilitation and Therapy Commons](#)

Recommended Citation

Zielinski, Juliette. (2018). The Impact of Physical Therapy on an Athletes Decision to Return to Sport. In *BSU Honors Program Theses and Projects*. Item 259. Available at: http://vc.bridgew.edu/honors_proj/259

Copyright © 2018 Juliette Zielinski

The Impact of Physical Therapy on an Athletes Decision to Return to Sport

Juliette Zielinski

Submitted in Partial Completion of the
Requirements for Departmental Honors in Physical Education

Bridgewater State University

May 8, 2018

Dr. Christopher Swart, Thesis Director
Dr. Robert Haslam, Committee Member
Dr. Phillip Szlosek, Committee Member

The Impact of Physical Therapy on an Athletes Decision to Return to Sport

Juliette Zielinski

Submitted in Partial Completion of the
Requirements for Departmental Honors in Physical Education

Bridgewater State University

May 2018

Dr. Christopher Swart, Thesis Director

Date

Dr. Robert Haslam, Committee Member

Date

Dr. Edward Braun, Committee Member

Date

Table of Contents

Acknowledgements.....	1
Abstract.....	1
Introduction	2
Review of Literature.....	4
Psychology; Pre, Post and during Rehabilitation.....	4
Major Depressive Disorder.....	5
Social Cultural Effects on Injured Athletes.....	7
Motivation and Self Determination Theory.....	8
Summary.....	9
Proposed Research Methods.....	10
Participant Criteria	10
Instruments of Measurement.....	10
References.....	11
Appendix A.....	13

Acknowledgements

Thank you to Bridgewater State University Honors Program for giving me the opportunity to research a passion of mine. Thank you to Dr. Christopher A. Swart and Graduate Assistant Meghan Stanton for all of their support and continuous efforts to help me improve as a student, researcher, and professional. Thank you to my reading committee for your patience, persistence, and advice throughout the process. Finally, thank you to the Movement Arts Health Promotion and Leisurely Studies department for their continuous support and humor.

Abstract

Injury is a reality that many athletes face when performing sport. Throughout time an athlete can cause significant damage to their body. Injuries can range from torn tendons to spinal cord injuries. Some injuries simply require rest while other injuries require surgery. In either case, the application of physical therapy is often prescribed to assist an athlete to return to sport, and in most cases return stronger than before. Once an athlete receives physical therapy and is cleared to return to sport many choose not to return. This proposed research seeks to identify if physical therapy has an impact on the decision of an athlete returning to sport. The proposed research study will use a qualitative questionnaire seeking the sampled athletes' opinions on their attitude toward their sport and their physical and psychological ability to return to play. This research is relevant for those in the physical therapy field to understand how the process of physical therapy may impact an athlete's decision to return to sport. Physical therapy aims to help an injured athlete get back to play, but understanding how the process of physical therapy may influence an injured athlete's decision not only physically but psychologically and is vital for physical therapists so they may provide the best care for patients and assist in athletes achieving their goals safely. This proposed research aims to find how psychological and physical aspects of therapy contribute to an athlete's decision to return to sport.

Introduction

The primary goal of this proposed research is to identify how physical therapy has an impact on an injured athlete's decision to return to play. Physical therapy is often employed as a medical procedure to improve any person who may be injured so they may return to performing everyday tasks, or for an athlete, sport. The process of physical therapy can be demanding and often painful physically and psychologically. After receiving physical therapy, some injured athletes do not return to playing their sport even if they are physically capable of returning to sport. "Sport psychology research...reveals that athletes may be physically healed... but not necessarily psychologically prepared to return to competition" (Podlog & Eklund, 2004). This proposed research aims to identify the possible reasons why a recovered athlete makes the decision to return or not return to their sport, and how the process of physical therapy has influenced their decision. A poor or positive relationship with physical therapists is one consideration for an athletes' decision to return to sport; similar to a study in which social support from athletic trainers was found to be vital "for successful recovery in both the physical and psychological aspects for injured athletes" (Yang, Schaefer, Zhang, Covassin, Ding, & Heiden, 2014). With initial injury athletes express negative cognitive appraisals. After diagnosis and during rehabilitation athletes expressed feelings of frustration. Once returned to sport "they expressed some doubts related to their ability to return to play. These cognitive appraisals served as a precursor to the resulting emotional responses of nervousness and reinjury anxiety, as well as excitement. Throughout the various phases of rehabilitation, athletes reported seeking out social support ... from their athletic trainers" (Clement, Arvinen-Barrow, & Fetty, 2015).

Podlog and Eklund (2004) proposed the self-determination theory. Self-determination theory introduces the idea that the motivation underlying behavior has implications for health

and wellbeing independent of the behavior itself. Podlog and Eklund (2004) reported intrinsic motivations for returning to competition were associated with a positive renewed perspective on sport participation. Conversely, extrinsic motivations for returning to sport were associated with increased worry and concerns. The results indicate motivation underlying return to sport may play an important role in return to sport perceptions among elite and subelite athlete.

Clement et al (2015) analyzed injured athletes psychosocial responses during three different phases of injury rehabilitation. The three phases of injury rehabilitation discussed are reaction to injury, reaction to rehabilitation, and reaction to return to sport. The results reported appear to support the three phases of rehabilitation as a framework for understanding how physical and psychosocial factors impact the sport injury rehabilitation process furthermore impacting the decision to return to sport. Understanding this interaction may help athletic trainers and physical therapists better develop techniques to increase psychological support for injured athletes.

Yang et al (2008) concluded injured athletes with a higher level of satisfaction and social support from their athletic trainer demonstrated fewer depression and anxiety symptoms when they returned to play. Social support from athletic trainers during injury recovery has important implications for successful physical and psychological recovery for injured athletes. Future research should evaluate if newly certified/licensed athletic trainers and physical therapists have the proper psychology and human development education to meet the psychological needs of the injured athlete during recovery (Yang et al 2008).

Review of Literature

Psychology Pre, During & Post Rehabilitation

Psychological factors such as motivation, confidence, and fear factor into an athlete's decision to return to sport after rehabilitation. “Eleven studies evaluated 983 athletes and 15 psychological factors” (Arden, Taylor, Feller; 2012). Strong correlations of positive psychological factors such as motivation, confidence, and low fear have been shown to aid in sport injury rehabilitation and a greater likelihood to return to sport and return to sport more quickly. Athletes have shown negative to positive emotional changes toward sport through their time in rehabilitation. (Arden, Taylor, Feller; 2012)

Most athletic training rehabilitation programs are divided into three physiological phases known as: acute injury phase, repair phase, and remodeling phase. Athletic trainers have seen positive physiological results regarding athletes return to play without consideration of psychological responses (Clement, Arvinen-Barrow & Fetty 2015). Kamphoff et al. supports using a traditional phase like approach, but integrating it alongside psychological components. The three phases would now include reaction to injury, reaction to rehabilitation, and reaction to sport. While evaluating athletes physiologically, athletic trainers can use techniques for athletes such as visualization and positive self-talk to guide them through the three psychological phases (Kamphoff et al., 2013).

Through the athletic training stages of rehabilitation, athletes experience various psychological responses. At the onset of injury athletes who have a history of a previous injury experienced anxiety, while those without injury history were reportedly optimistic. Evaluations by medical professionals left athletes experiencing dissatisfaction and anger with treatment.

Athletes dissatisfied with treatment perceived medical personnel to have little knowledge, empathy, understanding, or respect for the athlete.

Athletes prescribed with rehabilitation in early stages reported feeling frustration and depression due to lack of participation within sport. Apathy and impatience to finish programs to return to sport were shown in the middle stages of rehabilitation. During the main period of rehabilitation, athletes would rate progress using pain, mobility, visibility and social support. Athletes who experienced positive social support showed greater progress and consistency in rehabilitation programs (Johnston & Carroll, 1998). During the final stage, athletes experience self-confidence concerns or fear of reinjury (Clement, Arvinen-Barrow, & Fetty, 2015). High levels of stress related to returning to sport are most likely the result of fear of reinjury. Elite skiers reported that social comparison to competitors, high-performance expectations, and poor competition results caused low confidence and stress. Some skiers reported these feelings up to three years after the return to sport. (Bianco et al. 2013; Gould., Hardy, 1992 et al. 1997).

The most frequent behavioral response during rehabilitation is seeking social support. Through all stages of rehabilitation, athletes sought social support primarily through significant others. Although, as athletes proceeded through the rehabilitation phase athletes who sought social support from sports medicine professionals magnified (Clement, Arvinen-Barrow, & Fetty, 2015).

Major Depressive Disorder

Depression is a word used to describe the feeling of being sad and low, whereas major depression is a term is used by sport scientists to describe psychiatric disturbance. Major depression is a mental health disorder that is diagnosed. Major depressive disorder relates to a number of symptoms including reduced motivation and/or interest for activities, low energy, loss

of pleasure, poor concentration, changes in sleep and/or appetite, and feelings of hopelessness (APA, 2000; NIMH, 2016). Major depressive disorder within the general population is commonly seen post physical illness, disability, and/or death (NIMH, 2016).

Athletes present a broad-spectrum of psychological factors post injury. Past literature has examined that athletes experience depression as one of the most common emotional responses to injury, and athletes with injuries have higher psychological distress comparative to peers without injuries (Appaneal, Levine, et al., 2009).

A study surveyed division I collegiate football players from the National Collegiate Athletic Association (NCAA) Using the Center for Epidemiological Studies Depression Scale (CES-D). Investigators compared depression symptoms amongst athletes with and without injuries. Injured athletes reported notably higher levels of depression than uninjured athletes (Brewer & Petrie, 1995). In a later study, Petrie, Brewer, & Buntrock (1997) compared injured and uninjured collegiate NCAA women and men. Injured women showed higher depression scores comparatively to injured men.

Leddy et al. (1994) investigated depression symptoms of 313 collegiate male athletes. Results indicated that 51% of athletes with injuries presented mild to severe major depressive disorder symptoms. 12% of the athletes had a severity comparable to adults in outpatient treatment with major depressive disorder diagnosis. This study did not give information regarding athletes recovery process or status.

A study measured post-injury depression using two depression measurement approaches: self-rated checklist and clinician-rated interview. The study included 164 student-athletes including both men and women between the ages of 14-25 with various injuries. Data analyzed included days absent participation using the research concluded 95% of injured athletes

measured rated major depression symptoms as moderate to severe. Men sustained more significant injuries than women, yet the genders did not have a significant difference of days in absent participation. Throughout the recovery process, both measurements indicated depression symptoms decreased over time (Appaneal et al. 2009).

Social Cultural Effects on Injured Athletes

Sport is a social institution seen in most cultures. Frey suggests that sport can contribute “to the process of socialization and social change” or simply focus on “participation-oriented activity that resembles a corporate form guided by the principles of commercialism and entertainment” (Frey & Etizen, 1991).

Pain and injury become part of an athletes’ “role-identity,” and pushing through pain and injury is viewed as positive “Sport-ethic,” (Curry, 1993). Athletes learn cultural beliefs that tolerance of pain is for the betterment of themselves, their team, and their character. Pain and injury are often seen as being “part of the game,” (Nixon, 1991). Athletes and spectators understand injury may get in the way of athletic goals; furthermore, social pressure from coaches, or the feeling of letting team members down may force athletes back to play before they are physically or psychologically prepared. (Podlog & Eklund).

Men who have been injured reported that other males were solely factors in their participation to sport, and early sports experience contributed to “formative gender socialization.” Masculinity is often seen through traits of strength, endurance, and discipline. Men in a research interview expressed values and ideas that align with hegemonic forms of masculinity. “Suck it up,” and “Sitting in the tub doesn’t get you in the club,” were words spoken by coaches to injured athletes to push through the pain. When men sought rehabilitation and

medical help they reported that experiencing pain through recovery was linked to self-improvement (Young et al., 1994).

Motivation and Self Determination Theory

Humans have three basic needs: autonomy, competence, and relatedness. Autonomy may be described as freedom of choice, the comprehension that behaviors are self-activated or personally chosen. Competence is distinguished by one's control to succeed in mastery or proficiency in an activity or skill. Relatedness is described as a feeling of belonging to a particular group (Ryan & Deci, 2000). If an environment fails to provide these needs symptoms of depression including apathy and lethargy may present themselves (Podlog & Eklund 2004). “Body related motivation was associated with greater depression and anxiety” (Frederick & Ryan, 1993).

Humans who are intrinsically motivated are performing a task with the goal of satisfaction and enjoyment. Humans who are extrinsically motivated are performing a task to obtain praise from others or material goods (Ryan & Deci, 2000).

Athletes whose attitudes were intrinsically motivated for returning to sport showed a positive perspective on sport participation, whereas athletes who showed extrinsic motivation for returning to sport were noted to having worry and concern. It is argued that various cognitive appraisals may indicate various types of motivation to return to sport from injury (Podlog & Eklund, 2004).

A study was completed with adolescents to “evaluate their desire to persist in sport.” 492 soccer players between the ages of 13 and 17 were sampled. Those who dropped out of sport within a year expressed more “amotivation, external regulation, and interjected regulation and by lower satisfaction of relatedness and autonomy needs” (Calvo et al. 2010).

Summary

Injured athletes experience a range of mental symptoms when physically injured such as depression, anxiety, stress and fear. During the rehabilitation process injured athletes sought out support primarily from significant others and family members who may have little if any sport psychology education. Injured athletes reported feelings of anger and dissatisfaction of treatment from medical personnel during time of diagnosis, and concluded that medical personnel had little knowledge, empathy, understanding, or respect for the athlete. Apathy and impatience was commonly seen among athletes during the rehabilitation process. Injured patients who had positive social support showed greater progress and consistency in rehabilitation programs and had a more positive outlook on sport participation. Strong correlations of intrinsic motivation and positive psychological factors aided in sport injury rehabilitation, and a greater likelihood to return to sport and return to sport more quickly.

Athletes with injured comparative to their peers without injury have consistently shown to experience major depression and higher psychological distress. Multiple studies concluded that injured women presented more severe symptoms of depression than injured males.

Cultures involved in sport have developed a “sport-ethic” that ignoring pain and injury is a positive characteristic that will better themselves and their team members. Social pressure often pushes injured athletes to play before they are physically and or psychologically ready.

Proposed Research Methods

Participant Criteria

A random sampling of normally healthy subjects will be used but must fit the following criteria: a current or prior athlete, have experienced a past orthopedic injury, between the ages of 18 and 50 years old, and participated in physical therapy within the last three years. The subjects experience in physical therapy is not required to directly relate back to sport.

Instruments of Measurement

To complete this research, the investigator will use a mixed process of qualitative and quantitative data. Each athlete will be asked to complete survey on Qualtrics research data base. Questions will include both open ended and Dichotomous Scales. Participants will answer 25 questions including the consent form and study criteria. Question type vary including open ended, and vector scale regarding their previous and or current competitive sports. Questions asked include how their injury occurred, relationship with their physical therapist, expectations regarding physical therapy, goals while in treatment, and if participants felt that they achieved their goals.

The data collected from the survey will be analyzed for emerging patterns and for insight regarding the athlete's decision to return to play or not. Also, current research studies which have been completed on the issue of returning to play after a sports injury will be reviewed and compared to the collected data to see if there is a correlation between past research and this research. (See appendix A)

References

- American Psychiatric Association (APA). (2000). Diagnostic and statistical manual of mental disorders: DSM-IV-TR (4 ed.). Washington, DC: American Psychiatric Association.
https://www.nimh.nih.gov/health/topics/depression/index.shtml#part_145397
- Appaneal, R. N., Levine, B. R., Perna, F. M., & Roh, J. L. (2009). Measuring postinjury depression among male and female competitive athletes. *Journal of Sport and Exercise Psychology*, *31*(1), 60-76. doi:10.1123/jsep.31.1.60
- Ardern, C. L., Taylor, N. F., Feller, J. A., & Webster, K. E. (2012). A systematic review of the psychological factors associated with returning to sport following injury. *British Journal of Sports Medicine*, *47*(17), 1120-1126. doi:10.1136/bjsports-2012-091203
- Brewer, B.W., & Petrie, T.A. (1995). A comparison between injured and uninjured football players on selected psychosocial variables. *Academic Athletic Journal*, *10*, 11–18.
- Clement, D., Arvinen-Barrow, M., & Fetty, T. (2015). Psychosocial Responses During Different Phases of Sport-Injury Rehabilitation: A Qualitative Study. *Journal of Athletic Training*, *50*(1), 95-104. doi:10.4085/1062-6050-49.3.52
- Calvo, T., Cervelló, E., Jiménez, R., Iglesias, D., & Murcia, J. (2010). Using self-determination theory to explain sport persistence and dropout in adolescent athletes. *The Spanish Journal of Psychology*, *13*(2), 677-684. doi:10.1017/S1138741600002341
- Curry, T. (1993). A Little Pain Never Hurt Anyone: Athletic career socialization and the normalization of sports injury. *Symbolic Interaction*, *16*(3), 273-290.
doi:10.1525/si.1993.16.3.273
- Cement, Arvinen-Barrow, Fetty. (2015) Psychosocial responses during different phases of sport-injury rehabilitation: A qualitative study. *50*(1): 95–104. doi: 10.4085/1062-6050-49.3.52
- Frederick, C. M., & Ryan, R. M. (1993). Differences in motivation for sport and exercise and their relations with participation and mental health. *Journal of Sport Behavior*, *16*(3), 124-146.
- Gould, D., Bridges, D., Udry, E., & Beck, L. (1997). Stress sources encountered when rehabilitating from season-ending ski injuries. *Sport Psychologist*, *11*(4), 361-378.
- Hardy L. Psychological stress, performance, and injury in sport. *Br Med Bull*. 1992;48:615-629.
- Howard L. Nixon, II (1992). A Social network analysis of influences on athletes to play with pain and injury', *Journal of Sport and Social Issues*, *16*, 2: 127-135
doi.org/10.1177/019372359201600208
- James H. Frey and D. Stanley Eitzen (1991) Sport and Society. *Annual Review of Sociology*, paged 503-522 doi 10.1146/annurev.so.17.080191.002443

Johnston, L. H., & Carroll, D. (1998). The Provision of social support to injured athletes: a qualitative analysis. *Journal of Sport Rehabilitation*, 7(4), 267-284. doi:10.1123/jsr.7.4.267

Kamphoff C, Thomae J, Hamson-Utley JJ. Integrating the psychological and physiological aspects of sport injury rehabilitation: rehabilitation profiling and phases of rehabilitation. In: Arvinen Barrow MM, Walker N, eds. *The Psychology of Sport Injury and Rehabilitation*. New York, NY: Routledge; 2013:134–155

Leddy, M. H., Lambert, M. J., & Ogles, B. M. (1994). Psychological consequences of athletic injury among high-level competitors. *Research Quarterly for Exercise and Sport*, 65, 347-54. <http://dx.doi.org/10.1080/02701367.1994.10607639>

Petrie, T.A., Brewer, B.W., & Buntrock, C. (1997). A comparison between injured and uninjured NCAA Division I male and female athletes on selected psychosocial variables. *Journal of Applied Sport Psychology*, 9, S144.

Podlog, L., & Eklund, R. C. (2004). Assisting injured athletes with the return to sport transition. *Clinical Journal of Sport Medicine*, 14(5), 257-259. doi:10.1097/00042752-200409000-00001

Ryan RM, Deci EL. (2000) Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *Am Psychol*. 2000;55:68-78.

Theresa Bianco , Susan Malo & Terry Orlick (1999) Sport injury and illness: elite skiers describe their experiences, *Research Quarterly for Exercise and Sport*, 70:2, 157-169,

Yang, J., Schaefer, J. T., Zhang, N., Covassin, T., Ding, K., & Heiden, E. (2014). Social support from the athletic trainer and symptoms of depression and anxiety at return to play. *Journal of Athletic Training*, 49(6), 773-779. doi:10.4085/1062-6050-49.3.65

Young K., White P., McTeer W. (1994) Body Talk: male athletes reflect on sport, injury, and pain. *Sociology of Sport Journal*, 11(2), 120-145

Appendix A - Survey Questions

Q1: The researcher requests your consent for participation in a study about your experience in Physical Therapy. This consent form asks you to allow the researcher to use data to find emerging patterns and for insight

This questionnaire includes open-ended questions, and we ask that you remain anonymous but not sharing any school, clinic, or personal names. This consent form asks you to allow the researcher to use your comments to enhance understanding of the topic.

Participation in this study is completely voluntary. If you decide not to participate there will not be any negative consequences. Please be aware that if you decide to participate, you may stop participating at any time and you may decide not to answer any specific question. The researcher will maintain the confidentiality of the research records or data. By participating in this questionnaire you may experience fatigue.

By submitting this form you are indicating that you have read the description of the study, understand the risks, are over the age of 18, and that you agree to the terms as described.

Thank you in advance for your participation!

Agree

Q2: Have you participated in Physical Therapy within the last three years?

Yes

No

*Skip To: End of Survey If Have you participated in Physical Therapy within the last three years?
= No*

Q3 Did your injury occur from sport?

Yes

No

Unknown

Q4 Have you been to physical therapy more than once within the past three years?

Yes

No

Skip To: Q5 If Have you been to physical therapy more than once within the past three years? = Yes

Q5 for the following questions please provide information regarding either your most recent physical therapy experience and/or one that affected your sports performance.

Continue

Q6 What sport(s) did you participate in competitively before you were injured?

Q7 How long have you participated in the sport(s)?

Q8 Please describe how your injury occurred.

Q9 How much did your injury affect performance in your sport(s)?

A great deal

A lot

A moderate amount

A little

None at all

Q10 What was your injury diagnosis?

Q11 Did you wait for your sports season to end before participating in physical therapy?

Yes

No

Q12 What were your goals when attending physical therapy?

- Return to sport
- Improve 100% function
- Recover from injury
- Other _____
- Other _____

Q13 Did your goals change during the process of physical therapy?

- Yes
- No

Skip To: Q14 If Did your goals change during the process of physical therapy? = Yes

Skip To: Q16 If Did your goals change during the process of physical therapy? = No

Q14 What did your goals change to?

Q15 Why did your goals change? ex. outside personal influence, upcoming competition, therapist or trainer suggestion etc..

Q16 Did you feel that you achieved any of your goals from physical therapy?

- Yes
- No

Skip To: Q17 If Did you feel that you achieved any of your goals from physical therapy? = No

Q17 What stopped you from achieving your goals?

Q18 What goals did you achieve from physical therapy?

Return to sport

Improve 100% function

Recover form injury

Other _____

Other _____

Q19 What were your expectations when attending physical therapy?

Be uncomfortable, or painful

Fun

Enjoyable

I would build a positive relationship with my therapist

Other _____

Q20 Did your expectations change while attending physical therapy?

Yes

No

Skip To: Q21 If Did your expectations change while attending physical therapy? = Yes

Skip To: Q22 If Did your expectations change while attending physical therapy? = No

Q21 How did your expectations change during physical therapy?

Q22 Did you receive positive support from your therapist?

- Yes
- No
- Sometimes

Skip To: Q23 If Did you receive positive support from your therapist? = Yes

Skip To: Q23 If Did you receive positive support form your therapist? = Sometimes

Q23 How did you receive positive support from your physical therapist?

Q24 Please rank the amount of support from greatest to least you felt you received from the following list

- _____ Immediate Family
- _____ Athletic Trainer
- _____ Significant Other
- _____ Coworkers
- _____ Please Rank This Last
- _____ Teammates
- _____ Physical Therapist

End of Survey Questionnaire