

The Female Athlete: Predictors of Sport-Injury Rehabilitation Adherence

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The Problem

- Injured athletes not adhering to rehabilitation programs
 - adverse effect on rehabilitation goals
 - unfavorable rehabilitation outcomes
 - increased time missed from competition
 - depression & other mood disturbances
 - adverse effects on team cohesion

The Problem (cont.)

- Many variables influence rehabilitation adherence
 - Over 200 (Meichenbaum, 1987)
- Psychologically based female specific factors relating to sports-injury have been researched but many have yet to be explained

Predictors of Adherence

- Independent Variables
 - Social Support
 - Self-Motivation
 - Perceived Exertion
 - Pain Tolerance
 - Scheduling
 - Environment
 - Predictors were selected from previous research: Duda et al. (1989), Fisher et al. (1988), Byerly et al. (1994), Udry (1997), Fields et al. (1995), Hamson & Sheu (in preparation)

Dependent Variable

- Definition of Adherence
 - Adhere: attended all rehabilitation sessions
 - Non-Adhere: did not attend all sessions

Data Composition

- Convenient Sample
- United States Women's Soccer
 - Subjects
 - 18 Females, Ages 16-21 years (mean = 19.7)
 - Injury sustained from participation in sport
 - Rehab criterion
 - ≥ 6 sessions (7-26, mean=14.5)
 - Injuries
 - 4 knee(22%), 1 shoulder(6%), 8 ankle(44%), & 5 thigh(28%)

Data Composition (cont.)

- Instruments of Measurement
 - Rehabilitation Adherence Questionnaire (RAQ)
 - 4-point scale (1-4)
 - 40 questions
 - pain tolerance (11), scheduling (6), environment (3), social support (10), perceived exertion (2), self-motivation (8)
 - Patient Demographic Survey
 - gender, age, ethnicity
 - Attendance at rehabilitation sessions

Sample Questions from the RAQ

Table 1. Sample Items from the Rehabilitation Adherence Questionnaire and Scoring

	SA	A	D	SD
Perceived Exertion: I nearly always work at 100% effort.	(4)	(3)	(2)	(1)
Pain Tolerance: My rehab program was physically painful.	(1)	(2)	(3)	(4)
Self-motivation: I enjoyed doing my rehab program.	(4)	(3)	(2)	(1)
Social Support: I found rehab to be very lonely and isolating.	(1)	(2)	(3)	(4)
Scheduling: My rehab program took up too much of my time.	(1)	(2)	(3)	(4)
Environment: The training room makes me nervous.	(1)	(2)	(3)	(4)

SA= strongly Agree

A= Agree

D= Disagree

SD= Strongly Disagree

Hypothesis #1

- Predictors of adherence in the elite female athlete will be:
 - Social Support
 - Self-motivation
 - Pain Tolerance
 - Listed in order of importance

Hypothesis #2

- Social support will be the most salient predictor of rehabilitation adherence of the elite female athlete

Descriptive Statistics

- Dependent Variable
 - Adherence Overall (83%)
 - Adhere (A) = 15
 - Non-Adhere (NA) = 3 (17%)

Descriptive Statistics (cont.)

- Predictors: Mean (Standard Deviation) Comparisons

»	Adhere (n =15)	Non-adhere (n =3)
– Environment:	2.73(sd=.474)	2.88(.510)
– Perc'd Exertion:	2.23(sd=.530)	2.50(.000)
– Social Support:	2.33(sd=.154)	2.30(.100)
– Self-motivation:	2.37(sd=.259)	2.25(.219)
– Pain Tolerance:	2.70(sd=.315)	2.61(.191)
– Scheduling:	2.83(sd=.437)	2.94(.344)

Results

- 6 predictors composed a model to predict sport-injury rehabilitation adherence (27% variance)
 - Social support
 - Self-motivation
 - Pain tolerance
 - Scheduling
 - Perceived exertion
 - Environment

Examining Variable Inter-Correlations

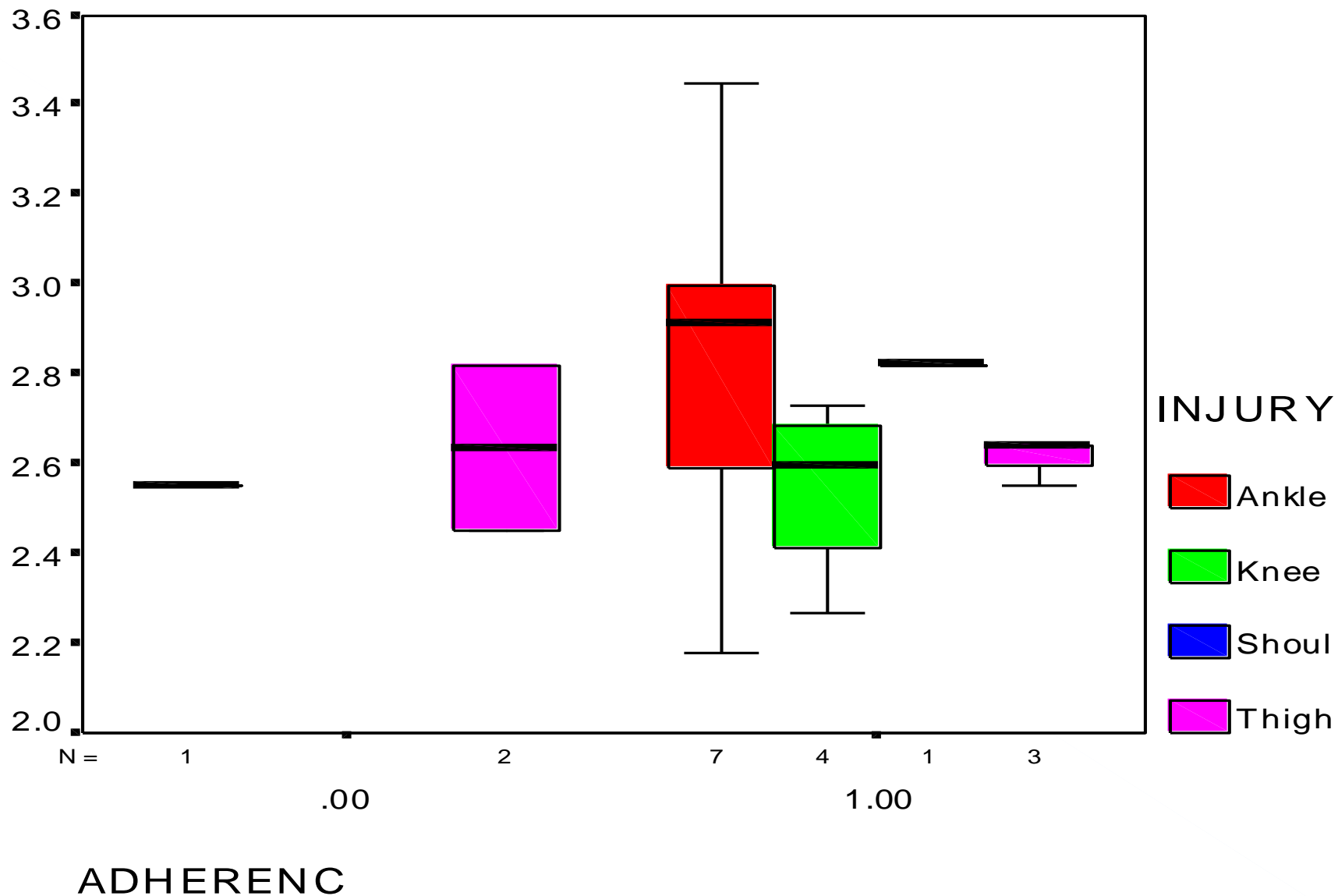
Correlations

		ADH	ENV	EXRT	SS	SM	S	PT
ADH	Pearson Correlation	1						
ENV	Pearson Correlation	-.121	1				**	
EXRT	Pearson Correlation	-.199	-.457	1		*		
SS	Pearson Correlation	.034	.193	.051	1			
SM	Pearson Correlation	.143	-.327	.570*	.082	1		
S	Pearson Correlation	-.061	.677**	-.147	.363	-.088	1	
PT	Pearson Correlation	.058	.184	-.086	-.14	-.036	.180	1

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

Problematic Predictor Selection: Variance



Conclusion

- Hypothesis #1: Not supported
 - A model with social support, self-motivation and pain tolerance only accounted for 3% of the total variance
 - A model with all six predictors accounted for 27% of the variance
- Hypothesis #2: Not Supported
 - Social Support was not the most important variable predicting adherence

Discussion

A large, bright white sphere, possibly a planet or moon, is the central focus of the image. It is set against a blue sky background. At the top of the image, there is a grid pattern of dark blue lines. The word "Discussion" is written in a bold, black, sans-serif font at the top center of the image.

Limitations

- Sample convenience
 - Random sampling
 - Access to elite athletes
 - Conclusions rest within this sample
- Sample size (n= 18)
 - sample is too small to make any salient conclusions
- Sport Specificity
 - Soccer only

Future Research Direction

- Expand focus to include subjects from other elite sports
 - Basketball, field hockey, crew, softball
- Additional predictors
 - Mood state
 - Role of position on the team
 - Individual v. Team sport athletes
 - Golf v. Soccer

Future Research (cont.)

- **Androcentrism:** Does it have an effect on the injury rehabilitation of women in sport?
- **Cultural Differences**
 - Asian
 - African
 - Hispanic