

## Curriculum Vitae

### **Brian G. Ragan**

#### Work:

University of Northern Iowa  
School of Health, Physical Education, & Leisure Services  
Division of Athletic Training  
203 Wellness/Recreation Center  
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## **I. EDUCATION**

### **A. Educational Background**

- 2004      University of Illinois at Urbana-Champaign, Urbana, IL  
Doctor of Philosophy Kinesiology, emphasis in Kinesmetrics (Measurement and Evaluation)
- 2001      University of Illinois at Urbana-Champaign, Urbana, IL  
Master of Science in Kinesiology, emphasis in Sports Medicine/Athletic Training  
NATA accredited graduate athletic training educational program
- 1997      Canisius College, Buffalo, NY  
Bachelor of Science in Athletic Training  
CAAHEP accredited undergraduate athletic training educational program

### **B. Certifications**

National Athletic Trainers' Association (#059702472)  
Certified Strength and Conditioning Specialist (#989206) expired 1/07  
Licensed Athletic Trainer in the State of Iowa (#00457)  
Licensed Athletic Trainer in the State of Illinois (#096-001250)  
Certified New York State Athletic Trainer (#000348-1)  
Emergency Medical Technician with Defibrillation in New York (#242811) expired 5/02  
Approved Clinical Instructor University of Illinois Athletic Training Education Program  
Certified in First-Aid by American Red Cross  
Professional Rescuer by American Red Cross  
Approved New York State First-Aid Instructor for coaches

### **C. Statistical/Software Package Proficiency**

SAS – Statistical Package  
SPSS – Statistical Package  
SPSS Answer Tree – Classification algorithms

Comprehensive Meta Analysis – meta analyses  
 Neurosolution 5 – Neural networks  
 Assessment Architect – Comprehensive clinical assessment program  
 ArcGIS – Global info systems, Global Positioning System, Remote Sensing  
 Auxal 3.1 - Longitudinal data analysis  
 Bilog MG – Item response theory  
 Multilog 7.03 – Likert scale item response analysis  
 CEFA– Exploratory factor analysis  
 HLM 6.0 - Hierarchical linear Modeling analyses  
 WEKA – Data Mining Association rule analyses  
 Facets – Rasch Modeling  
 WinSteps – Rasch Modeling  
 GENOVA – Generalizability theory analyses

## II. RESEARCH: PUBLICATIONS

### A. Thesis/Dissertation Title

- Ragan, B. G.** (2004). An empirical investigation of several critical psychometrical issues in neuropsychological testing of mild traumatic brain injuries. Ph.D. University of Illinois at Urbana-Champaign, Urbana, IL
- Ragan, B. G.** (2001). An analysis of relationships of swimmer's shoulder pain to range of motion, strength and trigger points. M.S. University of Illinois at Urbana-Champaign, Urbana, IL

### B. Book Chapters/Sections

- Ragan, B. G., & Zhu, W.** (in review). Computer and on-line testing for alternative assessment. In W. Zhu (Ed.). *Principles and practices of alternative assessment for physical education*. Champaign, IL: Sagamore Publishing.
- Ragan, B. G.** (2002). Counterirritants. In W. Prentice (Ed.) *Therapeutic modalities for physical therapists* (2nd ed.). pp. 235-36. New York, NY: McGraw-Hill Medical Publishing.
- Ragan, B. G.** (2002). Counterirritants. In W. Prentice (Ed.) *Therapeutic modalities: for sports medicine and athletic training* (5th ed.) pp. 83-84. New York, NY: McGraw-Hill Medical Publishing.

### C. Journal Articles (Peer Reviewed)

- Baranowski, T., Masse, L., **Ragan, B. G.**, & Welk, G. (in press). How many days was that? We'er still not sure but we'er asking the question better!. *Medicine & Science in Sport and Exercise*.

- Ragan, B. G.**, Nelson, A. J., Bell, G. W., & Iwamoto, G. A. (in press). Salicylate-based analgesic balm attenuates pressor responses from skeletal muscle. *Medicine & Science in Sport and Exercise*.
- Doyle, R. J., **Ragan, B. G.**, Rajendran, K., Hsiao-Weckslar, E., & Rosengren, K. S. (in press). Generalizability of Stabilogram Diffusion Analysis. *Gait and Posture*.
- Mack, M. G., & **Ragan, B. G.** (in press). Development of the Mental, Emotional, and Bodily Toughness Inventory. *Journal of Athletic Training*.
- Kang, M., Zhu, W., **Ragan, B. G.**, & Frogley, M. (2007). Perceived exercise barriers and perseverance of children and youth with physical disabilities. *Rehabilitation Psychology*, 52(2), 170-176.
- Doyle, R. J., Hsiao-Weckslar, E., **Ragan, B. G.**, & Rosengren, K. S. (2007). Generalizability of Force Platform Measures of Quiet Standing. *Gait and Posture*, 25, 166-171.
- Northrup, R. L., **Ragan, B. G.**, & Bell, G. W. (2005). The Ottawa ankle rules and the "Buffalo" rule: A practical application. *Athletic Therapy Today*, 10(2), 56-59.
- Northrup, R. L., **Ragan, B. G.**, & Bell, G. W. (2005). The Ottawa ankle rules and the "Buffalo" rule: Overview and background. *Athletic Therapy Today*, 10(1), 56-59.
- Ragan, B. G.**, & Kang, M. (2005). Construction of a Classification/Decision Tree. *The Korean Journal of Measurement and Evaluation in Physical Education and Sports Science*, 7(1), 61-75.
- Ragan, B. G.**, Nelson, A. J., Foreman, J., Bell, G. W., & Iwamoto, G. A. (2004). Menthol based analgesic balm attenuates pressor responses evoked by muscle afferents. *American Journal of Veterinary Research*, 65, 1204-1210.
- Nelson, A. J., **Ragan, B. G.**, Bell, G. W., & Iwamoto, G. A. (2004). Capsaicin based analgesic balm decreases the pressor response evoked by muscle afferents. *Medicine and Science in Sports and Exercise*, 36(3), 444-450.
- Kang, M., Graber, K. C., & **Ragan, B. G.** (2003). Future physical educators' perceptions on grading standards: A qualitative analysis. *The Korean Journal of Measurement and Evaluation in Physical Education and Sports Science*, 6(5), 17-28.
- Ichiyama, R. M., **Ragan, B. G.**, Bell, G. W., & Iwamoto, G. A. (2002). Effects of topical analgesics on the pressor response evoked by group III and IV muscle afferents. *Medicine and Science in Sports and Exercise*, 34(9), 1440-45.

#### D. Journal Articles in Review

Kang, M., **Ragan, B. G.**, & Park, J. H. (in review). Issues in outcome research: An overview of randomization techniques for clinical trials. *Journal of Athletic Training*.

#### E. Invited Articles

**Ragan, B. G.** & Kang, M. (in press). Measurement issues in concussion testing. *Athletic Therapy Today*.

**Ragan, B. G.** & Kang, M. (2005). Current issues and concerns of reliability. *Athletic Therapy Today*, 10(6), 30-33.

#### F. Invited Commentaries

**Ragan, B. G.** (2006). Reliability of first ray position and mobility measurements in experienced and inexperienced examiners. *Journal of Athletic Training*, 41(1), 99-100.

#### G. Programs Developed

**Ragan, B. G.** & Gandhi, M. A. (2005). Short-term Memory Assessment Recall Tool (SMART) (version 1.0) [Computer software]. Urbana, IL.

#### H. Athletic Training Accreditation Material

Casey, M., Knaugle, K., & **Ragan, B. G.** (2001). Yellow section: Therapeutic Exercise. In G. W. Bell & **B. G. Ragan** (Eds.) *Clinical testing modules*, pp. 127-144. Urbana, IL: University of Illinois at Urbana-Champaign.

Ryan, A., Knechtel, K, Bell, G. W., & **Ragan, B. G.** (2001). Blue section: Assessment of injuries. In G. W. Bell & **B. G. Ragan** (Eds.) *Clinical testing modules*, pp. 165-192. Urbana, IL: University of Illinois at Urbana-Champaign.

**Ragan, B. G.** (2001). Orange section: Emergency procedures. In G. W. Bell & **B. G. Ragan** (Eds.) *Clinical testing modules*, pp. 115-126. Urbana, IL: University of Illinois at Urbana-Champaign.

**Ragan, B. G.**, & Addison, T. (2000). Acute care of injury and illness. In Bell, G. (Ed) *Clinical progression in athletic training*, pp. 139-208. Urbana, IL: University of Illinois at Urbana-Champaign.

### III. RESEARCH: GRANTS/ CONTRACTS

Middle Tennessee State University Faculty Research How Many Days of Physical Activity Measurement are Enough? A Generalizability Theory Approach Role: Consultant	9/01/07-8/01/08  Amount: \$7,188
NATA's Research & Education Foundation Development and Validation of a Movement and Activity in Physical Space (MAPS) Score as a Functional Outcome Measure Thesis project Role: Advisor/Co-investigator	8/01/07-7/1/08  Amount: \$1,000
NATA's Research & Education Foundation Psychometrics of Ankle Subjective Survey (PASS) Using Rasch Model to evaluate psychometric properties of commonly used ankle scales in athletic training. Thesis project Role: Co-investigator	3/01/07-2/28/08  Amount: \$1,000
US Department of Education Inquiry into Physical Science for Young Children. Developing curriculum to improve science learning in young children. Role: Statistical/Measurement Consultant	(submitted)  Amount: \$1,498,370
Mid-America Athletic Trainers' Association Validation of Accelerometers as a Measure of Shoulder Dysfunction. Validating accelerometers as rehabilitation functional outcome measure. Thesis project Role: Co-investigator	3/01/06-2/28/07  Amount: \$1,405
Mid-America Athletic Trainers' Association Reliability of Physical Activity as a Measure of Function in a Post-surgical Knee Population Establishing accelerometer reliability as an outcomes measure in rehabilitation. Thesis project Role: Co-investigator	3/01/06-2/28/07  Amount: \$1,556
Grow Iowa Values Fund Applied Research Grants Development and Validation of <i>Me-B-Tough</i> (Mental, Emotional, Bodily, Toughness) Inventory for physical activity. Constructing a new tool to measure mental toughness focusing on psychometric properties Role: Primary investigator	(Not Funded)  Amount: \$10,000

Carver Fellowships Summer Institute on Geospatial Technologies Develop and implement Geospatial technologies into athletic training measurement research Role: Research Fellow	6/01/06-5/1/07  Amount: \$3,000
NATA's Research & Education Foundation Validation of accelerometers as a measure of knee dysfunction. Validating accelerometers as rehabilitation functional outcome measure. Thesis project Role: Co-investigator	3/01/06-2/28/07  Amount: \$1,000
NATA's Research & Education Foundation Psychometric Rasch Evaluation of Shoulder Scales (PRESS) Using Item Response Theory to evaluate psychometric properties of commonly used shoulder function scales in athletic training. Thesis project Role: Co-investigator	7/01/05-6/30/06  Amount: \$1,000
University of Northern Iowa Summer Faculty Fellowship Development of Working Memory Computerized Tests for Cognitive Deficits in Mild Traumatic Brain Injuries Expand the Short-term Memory Assessment Recall Tool (SMART) program to include components of working memory and executive control to better evaluate and measure the effects of mild traumatic brain injuries. Role: Primary investigator	7/01/05-7/31/05  Amount: \$2,600
Mid-America Athletic Trainers' Association Development of an IRT-Based Knee Assessment Tool (K.A.T.) Item Bank Using Item Response Theory create an IRT-based item bank from commonly used knee assessment instruments. Role: Primary investigator	4/1/05-3/30/06  Amount: \$1,445
Mid-America Athletic Trainers' Association Development and validation of core stability model and measures Using the Delphi technique to compose a core stability model and then validate the model through factor analyses. Thesis project Role: Co-investigator	4/1/05-3/30/06  Amount: \$750

- National Institutes of Health (Not Funded)  
 Physiological effects of topical analgesics.  
 Using an animal model, the effects of topical analgesic balms were to be investigated including effects on muscle afferents and both local and central effects.  
 Role: Co-investigator Amount: \$1,100,000
- University of Illinois Robert Sprague Grant 4/21/04-4/20/05  
 Psychometric issues in computerized neuropsychological concussion testing.  
 Using Item Response Theory, several key issues in computer testing of mild traumatic brain injury are being examined from interpretation, administration, and construction.  
 Role: Primary investigator Amount: \$1,000
- University of Illinois' Athletic Training Research Fund 1/1/04-12/31/04  
 Development of Short-term Memory Assessment Recall Tool (SMART)  
 Windows-based visual basic program was developed to test and control for different administration procedures in order to be able to investigate several key issues in computer testing of mild traumatic brain injury.  
 Role: Primary investigator Amount: \$1,200
- NATA's Research & Education Foundation (Not Funded)  
 Physiological effects of topical analgesics.  
 Using an animal model, the effects of topical analgesic balms were to be investigated including effects on muscle afferents and both local and central effects.  
 Role: Co-investigator Amount: \$132,714
- University of Illinois Service Grant 3/1/01-2/28/02  
 Interactive back prevention program  
 Using multimedia applications, the purpose of this project was to design an interactive computer program to provide low back pain preventative exercises and behaviors.  
 Role: Co-investigator Amount: \$622

#### IV. RESEARCH: PAPERS PRESENTED

##### A. Refereed Presentations with Published Abstracts

\* indicates undergraduate student † indicates graduate student

- †Buchheit, P. B., Evans, T. A., **Ragan, B. G.**, Williams, R. B., & Dompier, T. P. (June, 2007). Psychometric Rasch Evaluation of a Shoulder Scale (PRESS). Paper to be presented at the annual meeting of the National Athletic Trainers' Association Annual Meeting and Clinical Symposia, Anaheim, California.

- \*Ericksen, E. S., Park, J. H., Kang, M., & **Ragan, B. G.** (June, 2007). Computer adaptive memory test maintains decision accuracy, reduces test length. Paper to be presented at the annual meeting of the National Athletic Trainers' Association Annual Meeting and Clinical Symposia, Anaheim, California. (**2007 NATA Foundation Undergraduate Student Research Award Winner**)
- \*Hahn, H. M., \*Rich, L. E., & **Ragan, B. G.** (June, 2007). Investigating the relationship between neural tension and hamstring injury on active knee range of motion. Paper to be presented at the annual meeting of the National Athletic Trainers' Association Annual Meeting and Clinical Symposia, Anaheim, California.
- \*Harris, W. R., \*Abel, R. L., & **Ragan, B. G.** (June, 2007). Standardized Assessment of Concussion items lack appropriate difficulty and discrimination. Paper to be presented at the annual meeting of the National Athletic Trainers' Association Annual Meeting and Clinical Symposia, Anaheim, California.
- †Herrmann, S.D., **Ragan, B. G.**, \*Harris, W.R., & \*Abel, R. L. (June, 2007). Rasch calibration of the Standardized Assessment of Concussion. Paper to be presented at the annual meeting of the National Athletic Trainers' Association Annual Meeting and Clinical Symposia, Anaheim, California.
- Ragan, B. G.** (June, 2007). Rasch Calibration of the Knee Injury and Osteoarthritis Outcomes Score (KOOS). Paper to be presented at the annual meeting of the National Athletic Trainers' Association Annual Meeting and Clinical Symposia, Anaheim, California.
- \*Rich, L. E., \*Hahn, H. M., & **Ragan, B. G.** (June, 2007). Investigating the relationship between upper and lower extremity neural tension. Paper to be presented at the annual meeting of the National Athletic Trainers' Association Annual Meeting and Clinical Symposia, Anaheim, California.
- †Sweet, S. L., Dompier, T. P., †Stoneberg, K., & **Ragan, B. G.** (June, 2007). Self-reported parent stature is acceptable in estimates of maturity status in youth soccer players. Paper to be presented at the annual meeting of the National Athletic Trainers' Association Annual Meeting and Clinical Symposia, Anaheim, California.
- Lee, J. O., Kang, S. J., **Ragan, B. G.**, & Kang, M. (March, 2007). Effect of conditional feedback by a pedometer-based algorithm on the amount of physical activity. Paper to be presented at the American Alliance for Health, Physical Education, Recreation and Dance National Conference, Baltimore, Maryland. *Research Quarterly for Exercise and Sport*.
- Ragan, B. G.** (March, 2007). Rasch Calibration of the Knee Injury and Osteoarthritis Outcomes Score (KOOS). Paper to be presented at the annual meeting of the Mid-America Athletic Training Association Annual Meeting, Topeka, Kansas.

- Lee, J. O., Kang, S. J., Kang, M., & **Ragan, B. G.** (August, 2006). Comparison of self- and systematic- monitoring using pedometer for daily step goal attainment. *Educating Sport and Exercise Professionals: Current Approaches and Future Tasks*. Paper presented at the 2006 International Sport Science Congress (p. 380), Yongin, Korea: KAHPERD.
- Evans, T. A., Hertel, J. N., Denegar, C. R., Williams, R.B., & **Ragan, B. G.** (June, 2006). The Athletic Training Outcome Assessment instrument has severe psychometric limitations measuring treatment efficacy and outcomes. Paper presented at the annual meeting of the National Athletic Trainers' Association Annual Meeting and Clinical Symposia, Atlanta, Georgia. *Journal of Athletic Training, 41, S71.*
- \*Divis, W. R., \*Bradley, S. L., \*Walsten, S. L., Evans, T. A., & **Ragan, B. G.** (June, 2006). Capsaicin-based analgesic balm not effective in treatment of trigger points. Paper presented at the annual meeting of the National Athletic Trainers' Association Annual Meeting and Clinical Symposia, Atlanta, Georgia. *Journal of Athletic Training, 41, S97; S117-18. (2006 NATA Foundation Undergraduate Student Research Award Nominee)*
- \*Walsten, S. L., \*Divis, W. R., \*Bradley, S. L., Evans, T. A., & **Ragan, B. G.** (June, 2006). Tonic vibration improves trigger point pressure threshold. Paper presented at the annual meeting of the National Athletic Trainers' Association Annual Meeting and Clinical Symposia, Atlanta, Georgia. *Journal of Athletic Training, 41, S96-97; S117. (2006 NATA Foundation Undergraduate Student Research Award Nominee)*
- \*Bradley, S. L., \*Walsten, S. L., \*Divis, W. R., Evans, T. A., & **Ragan, B. G.** (June, 2006). Capsaicin and acute massage does not alter sensory discrimination. Paper presented at the annual meeting of the National Athletic Trainers' Association Annual Meeting and Clinical Symposia, Atlanta, Georgia. *Journal of Athletic Training, 41, S94-95; S112. (2006 NATA Foundation Undergraduate Student Research Award Nominee)*
- †Craig, N. L., **Ragan, B. G.**, & Evans, T. A. (June, 2006). Assessing physical activity under free-living conditions: Accelerometers are valid functional measures following knee surgery. Paper presented at the annual meeting of the National Athletic Trainers' Association Annual Meeting and Clinical Symposia, Atlanta, Georgia. *Journal of Athletic Training, 41, S87; S95-96. (2006 NATA Foundation Graduate Student Research Award Nominee)*
- Williams, R. B., **Ragan, B. G.**, Evans, T. A., \*Stephenson, A., & Dompier, T. P. (June, 2006). Generalizability Theory: Reliability analysis of center of pressure excursion velocity. Paper presented at the annual meeting of the National Athletic Trainers' Association Annual Meeting and Clinical Symposia, Atlanta, Georgia. *Journal of Athletic Training, 41, S52.*
- Ragan, B. G.**, Evans, T. A., Hertel, J. N., Denegar, C. R., & Williams, R. B. (June, 2006). Item response theory calibration of the Athletic Training Outcome Assessment self-report instrument using Rasch modeling. Paper presented at the annual meeting of the National Athletic Trainers' Association Annual Meeting and Clinical Symposia, Atlanta, Georgia. *Journal of Athletic Training, 41, S70.*

- Hertel, J. N., Evans, T. A., Denegar, C. R., & **Ragan, B. G.** (June, 2006). Validity evidence of the Athletic Training Outcome Assessment instrument: Applying the unified validity framework. Paper presented at the annual meeting of the National Athletic Trainers' Association Annual Meeting and Clinical Symposia, Atlanta, Georgia. *Journal of Athletic Training, 41*, S70-71.
- Denegar, C. R., Evans, T. A., **Ragan, B. G.**, & Hertel, J. N. (June, 2006). Factorial analysis of the Athletic Training Outcome Assessment self-report instrument does not support a five-factor structure. Paper presented at the annual meeting of the National Athletic Trainers' Association Annual Meeting and Clinical Symposia, Atlanta, Georgia. *Journal of Athletic Training, 41*, S70.
- \*Hughes, K. S., \*McElhinney, M. K., \*Ericksen, E., **Ragan, B. G.**, & Evan, T. A. (June, 2006). Grip strength is not affected by interferential analgesic parameters. Paper presented at the annual meeting of the National Athletic Trainers' Association Annual Meeting and Clinical Symposia, Atlanta, Georgia. *Journal of Athletic Training, 41*, S116-17.
- \*McElhinney, M. K., \*Hughes, K. S., \*Ericksen, E., **Ragan, B. G.**, & Evan, T. A. (June, 2006). Interferential pain control parameters increase Purdue Peg Board performance. Paper presented at the annual meeting of the National Athletic Trainers' Association Annual Meeting and Clinical Symposia, Atlanta, Georgia. *Journal of Athletic Training, 41*, S113-14.
- \*Ericksen, E., \*McElhinney, M. K., \*Hughes, K. S., **Ragan, B. G.**, & Evan, T. A. (June, 2006). Purdue Pegboard is a reliable functional outcome measure. Paper presented at the annual meeting of the National Athletic Trainers' Association Annual Meeting and Clinical Symposia, Atlanta, Georgia. *Journal of Athletic Training, 41*, S110.
- \*Minard, S. K., \*Alderson, L. K., \*Gorsh, K., \*Hahn, H., Dompier, T. P., & **Ragan, B. G.** (June, 2006). Contralateral effects of acute hamstring stretching. Paper presented at the annual meeting of the National Athletic Trainers' Association Annual Meeting and Clinical Symposia, Atlanta, Georgia. *Journal of Athletic Training, 41*, S115.
- \*Huddleston, L. D., \*Walusz, H. J., \*McLeod, M. M., Evans, T. A., & **Ragan, B. G.** (June, 2005). Ice massage decreases trigger point sensitivity and pain. Paper presented at the annual meeting of the National Athletic Trainers' Association Annual Meeting and Clinical Symposia, Indianapolis, Indiana. *Journal of Athletic Training, 40*, S95; S101. **(2005 NATA Foundation Undergraduate Student Research Award Nominee)**
- \*Stephenson, A. L., Evans, T. A., **Ragan, B. G.**, Dompier, T. P., & Williams, R. W. (June, 2005). There is no practice effect when assessing center of pressure excursion velocity. Paper presented at the annual meeting of the National Athletic Trainers' Association Annual Meeting and Clinical Symposia, Indianapolis, Indiana. *Journal of Athletic Training, 40*, S95-S96; S102 **(2005 NATA Foundation Undergraduate Student Research Award Nominee)**

- \*McLeod, M. M., \*Huddleston, L. D., \*Walusz, H. J., **Ragan, B. G.**, & Evans, T. A. (June, 2005). Trigger point sensitivity and pain are not relieved with menthol-based analgesic balm. Paper presented at the annual meeting of the National Athletic Trainers' Association Annual Meeting and Clinical Symposia, Indianapolis, Indiana. *Journal of Athletic Training*, 40, S95; S101. (2005 NATA Foundation Undergraduate Student Research Award Nominee)
- \*Walusz, H. J., \*McLeod, M. M., \*Huddleston, L. D., Evans, T. A., & **Ragan, B. G.** (June, 2005). Ice massage alters sensory discrimination when compared to menthol-based analgesic balm and placebo. Paper presented at the annual meeting of the National Athletic Trainers' Association Annual Meeting and Clinical Symposia, Indianapolis, Indiana. *Journal of Athletic Training*, 40, S101.
- †Kirkwood, K. M., **Ragan, B. G.**, & Bell, G. W. (June, 2005). Item analysis of the Standardized Assessment of Concussion Test. Paper presented at the annual meeting of the National Athletic Trainers' Association Annual Meeting and Clinical Symposia, Indianapolis, Indiana. *Journal of Athletic Training*, 40, S115.
- †Jenkins, C. L., **Ragan, B. G.**, Shake, K. M., Bell, G. W., & Baitch, S. (June, 2005). Subtalar joint measurements using various techniques do not change results. Paper presented at the annual meeting of the National Athletic Trainers' Association Annual Meeting and Clinical Symposia, Indianapolis, Indiana. *Journal of Athletic Training*, 40, S108-S109.
- †Fricke, D. A., Williams, R. B., Dompier, T. P., Evans, T. A., & **Ragan, B. G.** (June 2005). Gastrocnemius pain in a high school football player. Paper presented at the annual meeting of the National Athletic Trainers' Association Annual Meeting and Clinical Symposia, Indianapolis, Indiana. *Journal of Athletic Training*, 40, S84-S85.
- †Nelson, A. J., **Ragan, B. G.**, Bell, G. W., & Iwamoto, G. A. (June, 2005). Salicylate-based analgesic balm attenuates pressor responses from skeletal muscle. Paper presented at the annual meeting of the National Athletic Trainers' Association Annual Meeting and Clinical Symposia, Indianapolis, Indiana. *Journal of Athletic Training*, 40, S88.
- Ragan, B. G.**, Zhu, W., Kang, M., Bell, G. W., & Stumpf, J. (June, 2005). Item Response Theory modeling reveals possible memory test construction problems. Paper presented at the annual meeting of the National Athletic Trainers' Association Annual Meeting and Clinical Symposia, Indianapolis, Indiana. *Journal of Athletic Training*, 40, S13-S14.
- †McElroy, M. S., **Ragan, B. G.**, Bell, G. W., & Kang, M. (June, 2005). Instructions on implementing the modified Angoff method to determine proficiency in athletic training. Paper presented at the annual meeting of the National Athletic Trainers' Association Annual Meeting and Clinical Symposia, Indianapolis, Indiana. *Journal of Athletic Training*, 40, S16.

- Kirkwood, K. M., **Ragan, B. G.**, & Bell, G. W. (March, 2005). Item analysis of the Standardized Assessment of Concussion Test. Paper presented at the annual meeting Great Lakes Athletic Trainers' Association, Toledo, Ohio. *Great Lakes Athletic Trainers Association Conference Proceedings*. Champaign, IL: Human Kinetics
- McElroy, M. S., **Ragan, B. G.**, Bell, G. W., & Kang, M. (January, 2005). Instructions on implementing the modified Angoff method to determine proficiency in athletic training education. Paper presented at the Athletic Training Educators' Conference, Montgomery, Texas. *Athletic Training Educators' Conference Proceedings*. Champaign, IL: Human Kinetics.
- Ragan, B. G.**, Kang, M., Marquez, T., Bell, G. W., & Zhu, W. (June, 2004). Graphic Pain Rating Scale Reliability using Generalizability Theory. Paper presented at the annual meeting of the American College of Sports Medicine, Indianapolis, Indiana. *Medicine and Science in Sports and Exercise*, 36(5), S295.
- Doyle, R. J., **Ragan, B. G.**, Melnyk, L. A., Hsiao-Wecksler, E. T., & Rosengren, K. S. (June, 2004). Generalizability of force plate measures. Paper presented at the annual meeting of the North American Society for Psychology of Sport and Physical Activity, Vancouver, Canada. *Journal of Sport & Exercise Psychology*, 26, S65.
- Ragan, B. G.**, & Zhu, W. (March, 2004). Review of commonly used missing data software. Paper presented at the American Alliance for Health, Physical Education, Recreation and Dance National Conference, New Orleans, Louisiana. *Research Quarterly for Exercise and Sport*, 75(1), A128.
- Kang, M., **Ragan, B. G.**, & Zhu, W. (March, 2004). Statistical Analysis of Spatial Behavior. Paper presented at the American Alliance for Health, Physical Education, Recreation and Dance National Conference, New Orleans, Louisiana. *Research Quarterly for Exercise and Sport*, 75(1), A125.
- Gao, Y., Lee, L., Zhu, W., **Ragan, B. G.**, & Yilmaz, T. T. (March, 2004). Physical Activity Space of Blind Individuals: A Preliminary Investigation. Paper presented at the American Alliance for Health, Physical Education, Recreation and Dance National Conference, New Orleans, Louisiana. *Research Quarterly for Exercise and Sport*, 75(1), A125-A126.
- McElroy, M. S., **Ragan, B. G.**, Bell, G. W., & Kang M. (March, 2004). Implementing the modified Angoff method in determining proficiency in athletic training clinical Education. Paper presented at the annual meeting of the Great Lakes Athletic Trainers' Association, Chicago, Illinois. *Great Lakes Athletic Trainers Association Conference Proceedings*. Champaign, IL: Human Kinetics.

- Jenkins, C. L., Shake, K., Bell, G. W., Baitch, S., & **Ragan, B. G.** (March, 2004). Reliability analysis of subtalar joint measurements. Paper presented at the annual meeting of the Great Lakes Athletic Trainers' Association, Chicago, Illinois. *Great Lakes Athletic Trainers Association Conference Proceedings*. Champaign, IL: Human Kinetics.
- Shake, K., Jenkins, C. L., Bell, G. W., Baitch, S., & **Ragan, B. G.** (March, 2004). Medial orthotic heel wedges alter subtalar joint position. Paper presented at the annual meeting of the Great Lakes Athletic Trainers' Association, Chicago, Illinois. *Great Lakes Athletic Trainers Association Conference Proceedings*. Champaign, IL: Human Kinetics.
- Nelson, A. J., **Ragan, B. G.**, Bell, G. W., & Iwamoto, G. A. (June, 2003). Capsaicin based analgesic balm decreases the pressor response evoked by muscle afferents. Paper presented at the National Athletic Trainers' Association's 54th Annual Meeting and Clinical Symposia, St. Louis, Missouri. *Journal of Athletic Training*, 38(2), 34. **(2003 NATA Foundation Masters Student Poster Winner)**
- Ragan, B. G.**, Nelson, A. J., Bell, G. W., & Iwamoto, G. A. (June, 2003). Menthol based analgesic balm attenuates the pressor response evoked by muscle afferents. Paper presented at the National Athletic Trainers' Association's 54th Annual Meeting and Clinical Symposia, St. Louis, Missouri. *Journal of Athletic Training*, 38(2), 34. **(2003 NATA Foundation Doctoral Student Poster Winner)**
- Ragan, B. G.**, & Zhu, W. (April, 2003). Selecting and training judges. Paper presented at the American Alliance for Health, Physical Education, Recreation and Dance National Conference, Philadelphia, Pennsylvania. *Research Quarterly for Exercise and Sport*, 74(S1), A-97.
- Ragan, B. G.**, & Zhu, W. (April, 2003). Review of commonly used statistical software for multi-level analysis. Paper presented at the American Alliance for Health, Physical Education, Recreation and Dance National Conference, Philadelphia, Pennsylvania. *Research Quarterly for Exercise and Sport*, 74(S1), A94-95.
- Ragan, B. G.**, Bell, G. W., & Kang, M. (January, 2003). Verifying the factorial construct of the clinical affiliation evaluation form. Paper presented at the bi-annual Athletic Training Educators' Conference, Montgomery, Texas. *Athletic Training Educators' Conference Proceedings*. Champaign, IL: Human Kinetics.
- Ragan, B. G.**, Bell, G. W., & Kang, M. (January, 2003). Calibration of a clinical affiliation evaluation instrument using Rasch scaling model. Paper presented at the bi-annual Athletic Training Educators' Conference, Montgomery, Texas. *Athletic Training Educators' Conference Proceedings*. Champaign, IL: Human Kinetics.

- Bell, G. W., **Ragan, B. G.**, Turk, J. V., & Iehl-Morse, K. (January, 2003). Development of a clinical education model based on the NATA education council competencies and the 2001 JRC-AT CAAHEP athletic training accreditation standards. Paper presented at the bi-annual Athletic Training Educators' Conference, Montgomery, Texas. *Athletic Training Educators' Conference Proceedings*. Champaign, IL: Human Kinetics.
- Zheng, N., **Ragan, B. G.**, Marvar, P. J., Fleisig, G., & Barrentine, S. (August, 2002). Normalization of surface EMG signals - comparison among effort, joint position and processing method. Paper presented at the Fourth World Congress of Biomechanics, Calgary, Canada. *Fourth World Congress of Biomechanics Conference Proceedings*.
- Ragan, B. G.**, Zhu, W., Frogley, M., & Kang, M. (May, 2002). Evidence of construct validity for a barriers of exercise scale. Paper presented at the annual meeting of the American College of Sports Medicine, St. Louis, Missouri. *Medicine and Science in Sports and Exercise*, 34(5), S38.
- Kang, M., Frogley, M., Zhu, W., & **Ragan, B. G.** (May, 2002). Exercise barriers of children and youth with physical disabilities. Paper presented at the annual meeting of the American College of Sports Medicine, St. Louis, Missouri. *Medicine and Science in Sports and Exercise*, 34(5), S167.
- Kang, M., Zhu, W., & **Ragan, B. G.** (April, 2002). Finding association rules among outside physical activities in elementary school children. Paper presented at the American Alliance for Health, Physical Education, Recreation and Dance National Conference, San Diego, California. *Research Quarterly for Exercise and Sport*, 73(S1), A-37-38.
- Ragan, B. G.**, Zhu, W., Kang, M., & Flegel, M. J. (April, 2002). Construction of an ankle injury diagnostic decision tree. Paper presented at the American Alliance for Health, Physical Education, Recreation and Dance National Conference, San Diego, California. *Research Quarterly for Exercise and Sport*, 73(S1), A-38.
- Ragan, B. G.**, Zhu, W., & Liu, Y. (April, 2002). An analysis of dietary composition of fat, protein, and carbohydrates in lean and obese women. Paper presented at the American Alliance for Health, Physical Education, Recreation and Dance National Conference, San Diego, California. *Research Quarterly for Exercise and Sport*, 73(S1), A-36.
- Ragan, B. G.**, Addison, T. K., Bell, G. W., & Zhu, W. (June, 2001). Psychometric evaluation of the graphic pain rating scale. Paper presented at the National Athletic Trainers' Association's 52nd Annual Meeting and Clinical Symposia, Los Angeles, California. *Journal of Athletic Training*, 36, S-106.
- Ragan, B. G.**, Doyle, R. J., Flegel, M. J., & Bell, G. W. (January, 2001). University's health center as a clinical rotation: an investigation using educational competencies for undergraduate student athletic trainers. Paper presented at the bi-annual Athletic Training Educators' Conference, Dallas, Texas. *Athletic Training Educators' Conference Proceedings*. Champaign, IL: Human Kinetics.

Marvar, P. J., **Ragan, B. G.**, Dolan, M. G., & Bibi, K. W. (June, 2000). Effects of focal and circumferential compression on non-traumatized ankle volumes. Paper presented at the National Athletic Trainers' Association's 51st Annual Meeting and Clinical Symposia, Nashville, Tennessee. *Journal of Athletic Training*, 35, S-50.

**Ragan, B. G.**, Marvar, P. J., Dolan, M. G., & Bibi, K. W. (June, 2000). Effects of magnesium sulfate (Epsom salts) and warm bath on non-traumatized ankle volumes. Paper presented at the National Athletic Trainers' Association's 51st Annual Meeting and Clinical Symposia, Nashville, Tennessee. *Journal of Athletic Training*, 35, S-43.

**Ragan, B. G.**, Flegel, M. J., & Bell, G. W. (March, 2000). Investigation of Ottawa ankle rules with the buffalo malleolar experience modification in a university health center. Paper presented at the annual meeting of the Great Lakes Athletic Trainers' Association, Detroit, Michigan. *Great Lakes Athletic Trainers Association Conference Proceedings*. Champaign, IL: Human Kinetics.

## **B. Refereed Presentations**

**Ragan, B. G.** (April, 2005). Software tools for time-series analysis: A review. Paper presented at the American Alliance for Health, Physical Education, Recreation and Dance National Conference, Chicago, Illinois.

**Ragan, B. G.** (April, 2005). Clinical trials 101: An overview. Paper presented at the American Alliance for Health, Physical Education, Recreation and Dance National Conference, Chicago, Illinois.

Boscolo, M., **Ragan, B. G.**, & Zhu, W. (April, 2005). Which reliability in validation of physical activity measures? Paper presented at the American Alliance for Health, Physical Education, Recreation and Dance National Conference, Chicago, Illinois.

**Ragan, B. G.** (March, 2005). Development of an IRT-Based Knee Assessment Tool (K.A.T.) Item Bank. Paper presented at the Mid-America Athletic Trainers' Association Annual Meeting, Topeka, Kansas.

Kang, M., **Ragan, B. G.**, & Zhu, W. (March, 2004). New testing theories and statistical methods for test validation. Paper presented at the American Alliance for Health, Physical Education, Recreation and Dance National Conference, New Orleans, Louisiana.

**Ragan, B. G.**, & Zhu, W. (March, 2004). Test or score reliability? Paper presented at the American Alliance for Health, Physical Education, Recreation and Dance National Conference, New Orleans, Louisiana.

**Ragan, B. G.,** Zhu, W., & Kang, M. (October, 2003). Methodological and psychometric concerns of neuropsychological tests of mild traumatic brain injuries. Paper presented at the 10th Measurement and Evaluation Symposium: Measurement Issues and Challenges in Aging Research, Urbana, Illinois.

Lee, M., Zhu, W., Gao, Y., & **Ragan, B. G.** (October, 2003). Culture and ADL measure of the Chinese older adults: A Rasch analysis. Paper presented at the 10th Measurement and Evaluation Symposium: Measurement Issues and Challenges in Aging Research, Urbana, Illinois.

Gao, Y., Zhu, W. Lee, M., & **Ragan, B. G.** (October, 2003). Determinants of ADL of the oldest-old Chinese. Paper presented at the 10th Measurement and Evaluation Symposium: Measurement Issues and Challenges in Aging Research, Urbana, Illinois.

**Ragan, B. G.,** Zhu, W., & Kang, M. (April, 2003). Developing an online pain assessment survey. Paper presented at the American Alliance for Health, Physical Education, Recreation and Dance National Conference, Philadelphia, Pennsylvania.

Kang, M., Zhu, W., & **Ragan, B. G.** (April, 2003). On-line adaptive testing for individual assessment. Paper presented at the American Alliance for Health, Physical Education, Recreation and Dance National Conference, Philadelphia, Pennsylvania.

### **C. Invited Presentations**

**Ragan, B. G.** (October, 2005). How many days? Using Generalizability Theory to make the decision. Invited presentation at the UIUC Kinesmetrics Symposium Series II: Walking for Health: Measurement and Research Issues and Challenges, Urbana, Illinois.

**Ragan, B. G.** (July, 2005). Implementing the Ottawa ankle rules with Buffalo malleolar modifications. Invited presentation at the annual meeting of the Iowa Athletic Training Society, Cedar Falls, Iowa.

**Ragan, B. G.** (June, 2005). Concepts and methods of reliability: A Generalizability perspective. Invited presentation at the National Athletic Trainers' Association Annual Meeting and Clinical Symposia, Indianapolis, Indiana.

**Ragan, B. G.** (March, 2004). Understanding and implementing decision criteria: Ottawa ankle rules with Buffalo malleolar modifications. Invited presentation at the annual meeting of the Great Lakes Athletic Trainers' Association, Chicago, Illinois.

## V. EMPLOYMENT AND WORK EXPERIENCE

### A. Work Experience

2006-present      Research Coordinator - University of Northern Iowa, School of Health, Physical Education, & Leisure Services, Division of Athletic Training

2004-present      Assistant Professor - University of Northern Iowa, School of Health, Physical Education, & Leisure Services, Division of Athletic Training

- 42T:110    Athletic Training Administration
- 42T:143    Therapeutic Modalities
- 42T:144    Therapeutic Modalities Clinical Experience
- 420:018    Prevention and Care of Injuries for the Physically Active
- 420:019    Prevention and Care Laboratory
- 42T:157    Therapeutic Exercise
- 42T:158    Therapeutic Exercise Clinical Experience
- 42T:162    Athletic Training Pharmacology
- 420:024    Anatomy and Kinesiology
- 420:151    Applied Kinesiology
- 42T:178    Current Trends in Athletic Training
- 42T:260    Current Topics in Athletic Training: Allied Health (graduate)

2002-2004      Lead Instructor - University of Illinois at Urbana-Champaign, Department of Kinesiology

- Kinesiology 120    Injuries of Sports
- Kinesiology 220    Fundamentals of Athletic Training
- Kinesiology 222    Bases for Prescription of Therapeutic Exercise
- Kinesiology 321    Therapeutic Modalities in Athletic Training

1999-2004      Teaching Assistant - University of Illinois at Urbana-Champaign, Department of Kinesiology

- Kinesiology 120    Injuries of Sports
- Kinesiology 121    Survey of Sports Medicine
- Kinesiology 220    Fundamentals of Athletic Training
- Kinesiology 222    Bases for Prescription of Therapeutic Exercise
- Kinesiology 188    Directed Observations in Athletic Training
- Kinesiology 288    Clinical Progression in Athletic Training I
- Kinesiology 289    Clinical Progression in Athletic Training II
- Kinesiology 294    Clinical Progression in Athletic Training III
- Kinesiology 295    Clinical Progression in Athletic Training IV
- Kinesiology 296    Clinical Progression in Athletic Training V
- Kinesiology 495    Research Methods in Kinesiology (graduate)

2002-2003	Teaching Assistant – University of Illinois at Urbana-Champaign, Department of Community Health • Community Health 244 Health Statistics
1999-2004	Research Assistant – Athletic Training Education/ Sports Injury Research Lab, University of Illinois at Urbana-Champaign
2001-2004	Research Assistant - Kinesmetrics Lab, University of Illinois at Urbana- Champaign
2001-2004	Research Assistant – Applied Neurobiology Lab, University of Illinois at Urbana-Champaign
2001-2004	Psychometric Consultant - Certification and Registry Board, American College of Sports Medicine, Indianapolis, Indiana
1999-2002	Graduate Assistant Athletic Trainer - SportWell Center, McKinley Health Center, University of Illinois at Urbana-Champaign
Summer 2000	Student Researcher - American Sports Medicine Institute, Birmingham, Alabama; Worked on the mathematical knee model for internal knee forces through conducting electromyography and force experiments
1997-1999	Certified Athletic Trainer - HEALTHSOUTH Sports Medicine and Rehabilitation Center, Tonawanda, New York (Also served as Continuing Education Coordinator and Lyme Disease Coordinator)

## B. Thesis Committees

- Herrmann, S. (in progress). Development and Validation of a Movement and Activity in Physical Space (MAPS) Score as a Functional Outcome Measure. University of Northern Iowa. M.S. University of Northern Iowa (**Chair**)
- Haak, T. (2007). Development of a core stability model. M.S. University of Northern Iowa. M.S. University of Northern Iowa (**Member**)
- Weichers, S. (2007). An Examination of Group Agreement among Functional Ankle Instability Participant Inclusion Criteria. M.S. University of Northern Iowa (**Member**)
- Buchheit, P. (2006). Psychometric Rasch Evaluation of Shoulder Scales (PRESS). M.S. University of Northern Iowa (**Member**)
- Jenkins, C. L. (2004). The use of original lines versus redrawn lines in measuring the effectiveness of medial orthotic wedges. M.S. University of Illinois at Urbana-Champaign (**Member**)

6. Northrup, R. L. (2003). The use of the Ottawa ankle rules with the Buffalo malleolar modification by high school athletic trainers. M.S. University of Illinois at Urbana-Champaign (**Member**)
7. Wright, S. A. (2003). Relationship of scapular stabilizer strength to shoulder pain in elite wheelchair basketball athletes. M.S. University of Illinois at Urbana-Champaign (**Member**)
8. Knechtel, K. L. (2002). Radiographic validation and reliability of clinical navicular drop test. M.S. University of Illinois at Urbana-Champaign (**Member**)

### **C. Dissertation Committees**

1. Lee, J. (2006). The effects of conditional feedback by pedometer-based algorithm on amount of physical activity in sedentary working women. Ph.D. Korea National Sport University (**Member**)

### **D. Professional Society Memberships**

1997-current	National Athletic Trainers' Association
2004-current	Mid-America Athletic Trainers' Association
2001-current	American Alliance for Health, Physical Education, Recreation and Dance
2001-current	American Association for Active Lifestyles and Fitness
2001-current	American College of Sports Medicine
2003-current	American Educational Research Association
2003-current	Measurement and Research Methodology Division of American Educational Research Association
2003-current	Rasch Measurement Special Interest Group of American Educational Research Association
2003-current	National Council on Measurement in Education
2004-current	Psychometric Society
1998-2006	National Strength and Conditioning Association
1996-1998	New York State Athletic Trainers' Association
1999-2004	Great Lakes Athletic Trainers' Association
1999-2004	Illinois State Athletic Trainers' Association

### **E. Awards and Honors**

2006	University of Northern Iowa Carver Graduate Education Summer Institute, on Geospatial Technologies (\$3,000)
2005	University of Northern Iowa Faculty Summer Fellowship (\$2,600)
2003	National Athletic Trainers' Association Research and Education Foundation's Doctoral Student Research Poster Award Winner (\$100)
2002 to 2003	National Athletic Trainers' Association Research and Education Foundation's "Jerry Rhea" Doctoral Scholarship sponsored by NFL Charities (\$2,000)

2001	Roger Morse Most Promising Graduate Student Award – Department of Kinesiology University of Illinois at Urbana-Champaign (\$1,500)
2000 to 2004	Incomplete List of Teachers Ranked as Excellent by their Students, University of Illinois at Urbana-Champaign
2000	Phi Kappa Phi Honor Society
1996 to 1997	Dean’s List for Academic Excellence – Canisius College
1995 to 1997	Canisius College Tuby Scarpino Scholarship

## **VI. SERVICE**

### **A. Professional Committees**

2007-present	Member of National Athletic Trainers’ Association Research & Education Foundation Free Communication Committee
2005-present	Member of the Measurement and Evaluation Council’s Advisory Committee in the American Association for Active Lifestyles and Fitness (AAALF) and the American Association for Leisure and Recreation (AALR)
2004-2006	Member of Examination Committee for Certification and Registry Board, American College of Sports Medicine
2004-2006	Oversight Psychometrician for Certification and Registry Board, American College of Sports Medicine

### **B. Academic Committees:**

2006-present	Chair of the Planning and Policies Committee: University of Northern Iowa, HPELS
2006-present	Member of the University of Northern Iowa Graduate School Outstanding Thesis Award Selection Committee
2005-present	Member of the School of Health, Physical Education, and Leisure Services Awards Committee: University of Northern Iowa, Athletic Training Division Representative
2005-present	Member of the Athletic Training Self Study Committee for Reaccreditation: University of Northern Iowa
2004-present	Member of the School of Health, Physical Education, and Leisure Services Planning and Policies Committee: University of Northern Iowa, Athletic Training Division Representative

2004-2005	Member of the School of Health, Physical Education, and Leisure Services Scholarship Committee: University of Northern Iowa, Athletic Training Division Representative
2003-2004	Member of University of Illinois' JRC-CAAHEP self-study committee for the undergraduate athletic training education program
2003-2004	Member of University of Illinois' NATA graduate self-study committee for the graduate athletic training education program
2003-2004	Member of Athletic Training Study and Review Group Department of Kinesiology, University of Illinois at Urbana-Champaign
2002-2003	Member of Department of Kinesiology Honors and Awards Committee, University of Illinois at Urbana-Champaign
2002-2004	Member of Athletic Training Selection and Retention Committee Department of Kinesiology, University of Illinois at Urbana-Champaign
2001	Section editor for Clinical Proficiency in Athletic Training, University of Illinois at Urbana-Champaign
2001	Coordinator and editor for Clinical Testing Modules, University of Illinois at Urbana-Champaign
2000	Section editor for Clinical Progression in Athletic Training, University of Illinois at Urbana-Champaign

### **C. Journal Editorial Boards:**

2007-present	Member of the Editorial Board as a statistical consultant for the Journal of Sports Rehabilitation
2005-present	Member of the Editorial Board for The Korean Journal of Measurement and Evaluation in Physical Education and Sports Science

### **D. Invited Manuscript Reviewer:**

2003-present	Journal of Athletic Training
2003-present	Athletic Therapy Today
2003-present	Research Quarterly for Exercise and Sport
2004-present	Adapted Physical Activity Quarterly
2005-present	Journal of Aging and Physical Activity
2005-present	Health Education Research
2005-present	Public Health Nutrition

- 2005-present      The Korean Journal of Measurement and Evaluation in Physical Education  
and Sports Science
- 2007-present      Journal of Sport Rehabilitation

**E. Grant/Special Invited Reviewer:**

- 2007-present      National Athletic Trainers' Association Research & Education Foundation  
General Grant Program
- 2004                Reviewer for Thomson Delmar Learning - Sports Medicine DVDs
- 2003                Reviewer for concussion curriculum to train primary care resident  
physicians and Sports Medicine fellows at Michigan State University  
Kalamazoo Center for Medical Studies
- 2003                Reviewer for Arnheim's Principles of Athletic Training. Ed. W. Prentice  
(2003). 11<sup>th</sup> Ed. New York: McGraw-Hill Publishing