

## Curriculum Vita

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Liu, Yuanlong, Ph.D.

Associate Professor  
Department of Health, Physical Education and Recreation  
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### PROFESSIONAL BACKGROUND

#### Education

Ph.D. (1999); M.P.E. (1993); B.Sc. (1982)

1999	Ph.D. Measurement and Evaluation Specialization School of Human Kinetics, University of British Columbia
1993	M.P.E. Measurement and Evaluation Specialization School of Human Kinetics, University of British Columbia
1982	BSc. Physics and Education Specialization Inner Mongolia Teacher's University
1982	Teaching Certificate (Applied Statistics) Hua-Zhong Normal University
1982	Teaching Certificate (Biomechanics) Physical Education Institute of Beijing

#### Professional Experience

2006-	Editor-in-Chief Measurement in Physical Education and Exercise Science (MPEES)
2002-	Associate Professor Research Methods, Statistics, and Measurement and Evaluation Department of Health, Physical Education, and Recreation Western Michigan University
1998-2002	Assistant Professor Research Methods, Statistics, and Measurement and Evaluation Department of Health, Physical Education, and Recreation Western Michigan University

1994-1998            Statistical Consultant  
Quantitative Research Lab., School of Human Kinetics  
The University of British Columbia

1991-1998            Research Assistant  
School of Human Kinetics  
The University of British Columbia

1997-1998            Graduate Academic Assistant  
Educational Computing Service Center  
The University of British Columbia

1982-1990            Lecturer and Researcher  
Statistics, Biomechanics  
Department of Physical Education  
Inner Mongolia Teachers University

## **PROFESSIONAL RECOGNITION**

### **Professional honors and awards**

#### ***Editor-in-Chief (2006-)***

Measurement in Physical Education and Exercise Science (Official Journal of Measurement and Evaluation Council of the American association for Physical Activity and Recreation)

#### ***Expert (2007-)***

Who's Who among American Teachers & Educators (one of the nation's most prestigious teacher recognition program)

#### ***Research Consortium Fellow (2003-)***

American Alliance for Health, Physical Education, Recreation and Dance

#### ***Reviewer Award (2003)***

Measurement in Physical Education and Exercise Science

#### ***Doctoral Fellowship (1996)***

Social Science and Humanities Research Council of Canada

#### ***Graduate Fellowship (1992-1993, 1993-1994, 1994-1995, 1995-1996)***

The University of British Columbia

#### ***T. K. Terry Fellowship Award (1996)***

The University of British Columbia

### **Keynote Presentations**

Liu, Y. (2007). Perception & Future of MPEES. Keynote Presentation: American Association for Physical Activity and Recreation (AAPAR).

- Liu, Y. (2007). Good Research from An Editor's Eyes. Keynote Presentation: International Chinese Society for Physical Activities and Health (ICSPAH).
- Liu, Y. (2007). Cultural Diversity: My experience as an AAHPERD professional. Panel Presentation: National Association for Sport and Physical Education (NASPE).
- Liu, Y. (2005). Promotion and Tenure Process: Make It Smooth and Secure. The Chinese-American Professional Affiliated with AAHPERD. AAHPERD Convention.
- Liu, Y. (2003). Preparation of research project for conference presentation. *Student Research Conference Proceedings* Mid-west AAHPERD.

### **Publications**

- Liu, Y. (2007). Measurement in Physical Education and Exercise Science: Past Accomplishment and Future Challenges. *Measurement in Physical Education and Exercise Science*, 11, 189-195.
- Xiang, P., McBride, R., Bruene, A., & Liu, Y. (2007). Achievement goal patterns and their impact on fifth graders' motivation in physical education running programs. *Pediatric Exercise Science*, 19, 179-191.
- Liu, Y., Shen, J., Warren, W., & Cowart, L. E. (2006). Assessing the factorial structure of high school history teachers' perceptions on teaching American history. *Teacher Development*, 10, 379-391.
- Liu, Y. (2006). Carrying forward the cause and forging ahead into the future: MPEES is moving. *Measurement in Physical Education and Exercise Science*, 10, 147-149.
- Liu, Y., & Wang, Y. (2004). Reliability of the kinetic measures under different heel conditions during normal working. *Measurement in Physical Education and Exercise Science*, 8, 21-31.
- Liu, Y. (2004). Track and Field Performance Data and Prediction Models: Promises and Fallacies. In Sergiy Butenko, Panos Pardalos, and Jaime Gil-Lafuente (Eds). *Economics, Management, and Optimization in Sports*. New York: Springer-Verlag
- Liu, Y., & Schutz, R. (2003). Statistical validity of using a simple ratio in human kinetics research. *Research Quarterly for Exercise Science and Sport*, 74, 226-235.
- Liu, Y., & Schutz, R. (2003). Determining an optimal game structure: Overtime in the national hockey league. *International Sports Journal*, 7, 1-8.
- Liu, Y. (2002). Track and field performances and competitions in the new millennium: Will it be a thematic change? *International Sports Journal*, 6, 28-35.

- Liu, Y. (2002). Analyzing and presenting the RM ANOVA related data in SPSS10. *Measurement in Physical Education and Exercise Science*, 6, 43-60.
- Paul, S., Liu, Y., Ottenbacher, K. J. (2002). Brief report: Research productivity among occupational therapy faculty in the United States. *American Journal of Occupational Therapy* 8, 331-334.
- Paul, S., Stein, F., Ottenbacher, K. J., & Liu, Y. (2002). The role of mentoring on research productivity among occupational therapy faculty. *Occupational Therapy International*, 9, 24-40.
- Berkey, D., Liu, Y., Lewis, J. (2001). Technology usage in health, physical education and recreation. *The Exchange and Development of Sport Culture in East and West*, 573-575.
- Liu, Y., & Schutz, R. (1998). Prediction Models in Track and Field Performances. *Measurement in Physical Education and Exercise Science*, 2, 205-223.
- Schutz, R., & Liu, Y. (1998). Statistical Modelling in Track and Field. In Bennett, J. (Ed.). *Statistics in Sport* (pp. 173-197). London: Arnold.
- Liu, Y., & Schutz, R. (1994). Overtime in the national Hockey League: Are shoot outs needed? *American Statistical Association 1994 Proceedings of the Section on Statistics in Sports*, 55-60.
- Schutz, R., & Liu, Y. (1993). Track and field world records: optimal models, data sets and projections. *American Statistical Association 1993 Proceedings of the Section on Statistics in Sports*, 52-57.
- McGarry, T., Liu, Y., Eom, H. J., & Schutz, R. (1993). Paired comparisons: validity and efficiency of six tournament structure. *American Statistical Association 1993 Proceedings of the Section on Statistics in Sports*, 34-39.
- Liu, Y. (1988). A systematic analysis of the all-round events results in track and field. *Track and Field Guide*, 7, 52-58.
- Liu, Y. (1988). Textbook structure and teacher's knowledge in teaching biomechanics of sports science. *Inner Mongolia Teacher's University Journal*, 3, 51-54.
- Liu, Y. (1987). On the best teaching model in teaching biomechanics of sports. *Inner Mongolia Teacher's University Journal*, 2, 49-52.
- Liu, Y. (1986). Factor analysis of men's 100m dash and choice of the teaching models. *Studies of Statistics in Sports Science*, 69-81.

### **Research abstract publication (refereed)**

- Shen, J., Liu, Y., Warren, W., & Cowart, L. (2007). Assessing the factorial structure of high school history teachers' perception of teaching American history. American Educational Research Association.
- Liu, Y., Xiang, P. (2006). Classification of elementary school children based on the achievement goals in physical education: A comparison of clustering techniques. *Research Quarterly for Exercise Science and Sport*, 77 (Suppl.), A39.
- Liu, Y., Guan, H. (2006). Using intraclass correlations to assess the reliability of kinesiology measures: Why, when and how. *Medicine & Science in Sports & Exercise*, 38 (Suppl.), S529.
- Liu, Y. (2005). Optimization research in sports: What's it all about, and who cares? *Research Quarterly for Exercise Science and Sport*, 76 (Suppl.), A12.
- Liu, Y., Chen, L., Shin, S., & Wang, D. (2005). Assessing the best track and field performances from east to west: Is sky the limit? *Medicine & Science in Sports & Exercise*, 37 (Suppl.), S408-S409.
- Liu, Y. (2004). Appropriately analyzing compositional data in kinesiology: Problems and solutions. *Research Quarterly for Exercise Science and Sport*, 75 (Suppl.), A126.
- Thio-Henestrosa, S., & Liu, Y. (2004). CoDaPack – an Excel and Visual Basic based software for compositional data analysis. *Research Quarterly for Exercise Science and Sport*, 75 (Suppl.), A126-127.
- Li, W., & Liu, Y. (2004). Ability conceptions and the influence of natural ability, effort, luck, mood, and task difficulty in physical activity: A compositional data analysis. *Research Quarterly for Exercise Science and Sport*, 75 (Suppl.), A127.
- Liu, Y., Kang, S., Jwo, H., & Jwo, C. (2004). Physical preference of middle school students: Similarity and difference between US and Korea. *Medicine & Science in Sports & Exercise*, 36 (Suppl.), S263.
- Cramer, S., Liu, Y., Michael, T., & Weideman, C. (2004). Effects of Beta-blockers on maximal oxygen consumption. *Medicine & Science in Sports & Exercise*, 36 (Suppl.), S211.
- Chen, L., Olich, T., Zhang, J., Liu, Y., & Posner, S. (2004). Gender Difference of Perception Toward Membership Incentives of Professional Associations Among Head Coaches. *Research Quarterly for Exercise Science and Sport*, 75 (Suppl.), A116.

- Liu, Y., Paul, S., & Orchanian, D. P. (2003). Demographic information of falls among community dwelling elderly adults over 65 of age in Michigan. *Medicine & Science in Sports & Exercise*, 35 (Suppl.), S334.
- Liu, Y. (2003). Preparation of research project for conference presentation. *Student Research Conference Proceedings Mid-west AAHPERD*.
- Hajiefermides, G., Michael, T., Zabik, R., Liu, Y., Dawson, M., & Carl, D. (2003). Comparison between stationary and moving handlebar elliptical trainer. *Medicine & Science in Sports & Exercise*, 35 (Suppl.), S192.
- Armour, A., Michael, T., Zabik, R., Liu, Y., Dawson, M., & Carl, D. (2003). Comparison between stationary and moving handlebar elliptical trainer. *Medicine & Science in Sports & Exercise*, 35 (Suppl.), S310.
- Liu, Y., & Wang, Y. (2002). Reliability of the kinetic measures under different heel conditions during normal walking. *Medicine & Science in Sports & Exercise*, 34 (Suppl.), S254.
- Liu, Y., & Zhu, W. (2002). Simultaneous analysis of compositional data: A review. *Research Quarterly for Exercise Science and Sport*, 73 (Suppl.), A35-36.
- Liu, Y., & Paul, S. (2002). Simultaneous assessment of the sensory integration sub-domains: A study on preschool children with learning disabilities. *Research Quarterly for Exercise Science and Sport*, 73 (Suppl.), A105-106.
- Zhu, W., Ainsworth, B., & Liu, Y. (2002). A comparison of urban black and white women's physical activity patterns. *Research Quarterly for Exercise Science and Sport*, 73 (Suppl.), A36.
- Ragan, B., Zhu, W., & Liu, Y. (2002). Analysis of dietary composition of fat, protein, and carbohydrates. *Research Quarterly for Exercise Science and Sport*, 73 (Suppl.), A36.
- Kang, M., Zhu, W., Kurz, K., & Liu, Y. (2002). Compositional data analysis of student teachers' time usage in physical education classes. *Research Quarterly for Exercise Science and Sport*, 73 (Suppl.), A36-37.
- Chen, L., & Liu, Y. (2002). Examining reliability and factorial validity of scale of coaching performance using the NCAA data. *Research Quarterly for Exercise Science and Sport*, 73 (Suppl.), A37.
- Liu, Y., & Schutz, R. (2001). Type I error rates in repeated measures ANOVA when using ratio variables (Suppl.). *Medicine & Science in Sports & Exercise*, 33, S170.

- Liu, Y., Lewis, J., & Berkey, D. (2001). Technology usage in health, physical education and recreation. (abs). *AIESEP 2001 International Conference Program and Abstract*, 138-139.
- Liu, Y., & Schutz, R. (2000). Reliability of body mass index for the assessment of physical activity and fitness. (abs). *Measurement in Physical Education and Exercise Science*, 4, 136-137.
- Zhang, J., Liu, Y., & Joseph, D. (2000). Marketable trends of adapted physical education career in public schools in the United States (abs). *Research Quarterly for Exercise and Sport*, 71(A), 115.
- Liu, Y., & Schutz, R. (1999). The reliability of body mass index for the assessment of physical activity and fitness. (abs.) *The Cooper Institute Conference Series: Measurement of Physical Activity*, 44-45.
- Liu, Y., & Schutz, R. (1999). Ratio variables in human kinetics research: Their uses, problems, and alternatives. (abs.) *Research Quarterly for Exercise and Sport (Suppl.)*, 70, A-61.
- Liu, Y., & Schutz, R. (1997). Statistical issues for using ratio variables in inferential statistics. In Wood, T. (Ed). *Proceedings of the 8<sup>th</sup> Measurement And Evaluation Symposium*, a-159.
- Liu, Y., & Schutz, R. (1997). The prediction of ultimate track and field performance: Is the sky the limit? (abs.) *Research Quarterly for Exercise and Sport*, 68, A-56.
- Liu, Y., & Kishor, N. (1996). Effect size definitions: Sensitivity to cell size inequality, standardized mean difference, and heterogeneity of variance. (abs.) *Research Quarterly for Exercise and Sport*, 67, A-63.

### **Presentations at international and national conferences**

- Liu, Y. (2007). Perception & Future of MPEES. Keynote Presentation at AAHPERD Convention.
- Liu, Y. (2007). Good Research from An Editor's Eyes. Keynote Presentation at AAHPERD Convention.
- Liu, Y. (2007). Cultural Diversity: My experience as an AAHPERD professional. A Panel Presentation at AAHPERD Convention.
- Shen, J., Liu, Y., Warren, W. J., Cowart, L. (2007). Assessing the factorial structure of high school history teachers' perceptions of teaching American history. Paper presented at the Annual Meeting of American Educational Research Association in Chicago, IL.

- Liu, Y., Xiang, P. (2006). Classification of elementary school children based on the achievement goals in physical education: A comparison of clustering techniques. A paper presented at AAHPERD Convention.
- Liu, Y., Guan, H. (2006). Using intraclass correlations to assess the reliability of kinesiology measures: Why, when and how. *Medicine & Science in Sports & Exercise*, 38 (Suppl.), S. ACSM Convention.
- Shen, J., Warren, W., & Liu, Y. (2006). Measuring Perceptions and Behaviors Related to Teaching History: Developing and Using an Instrument. A paper presented at TAH Convention.
- Liu, Y. (2005). Optimization research in sports: What's it all about, and who cares? A paper presented at AAHPERD Convention.
- Liu, Y., Chen, L., Shin, S., & Wang, D. (2005). Assessing the best track and field performances from east to west: Is sky the limit? *Medicine & Science in Sports & Exercise*, 37 (Suppl.). ACSM Convention.
- Liu, Y. (2005). Promotion and Tenure Process: Make It Smooth and Secure. The Chinese-American Professional Affiliated with AAHPERD. AAHPERD Convention.
- Liu, Y. (2005). Promotion and Tenure Process: Make It Smooth and Secure. The annual meeting of the Chinese Scholars in the field of Health, Physical Education, Recreation and Dance (HPERD-CS)
- Liu, Y. (2004). Appropriately analyzing compositional data in kinesiology: Problems and solutions. A paper presented at AAHPERD Convention. *Medicine & Science in Sports & Exercise*, 37 (Suppl.)<sub>2</sub> ACSM Convention.
- Thio-Henestrosa, S., & Liu, Y. (2004). CoDaPack – an Excel and Visual Basic based software for compositional data analysis. A paper presented at AAHPERD Convention.
- Li, W., & Liu, Y. (2004). Ability conceptions and the influence of natural ability, effort, luck, mood, and task difficulty in physical activity: A compositional data analysis. A paper presented at AAHPERD Convention.
- Liu, Y., Kang, S., Jwo, H., & Jwo, C. (2004). Physical preference of middle school students: Similarity and difference between US and Korea. *Medicine & Science in Sports & Exercise*, 36 (Suppl.)<sub>2</sub> S263 ACSM Convention.
- Cramer, S., Liu, Y., Michael, T., & Weideman, C. (2004). Effects of Beta-blockers on maximal oxygen consumption. *Medicine & Science in Sports & Exercise*, 36 (Suppl.)<sub>2</sub> S211 ACSM Convention.

- Liu, Y. (2003). Preparation of Research Project for Conference Presentation. A keynote speak at Midwest AAHPERD Student Research Symposium.
- Liu, Y., Paul, S., & Orchanian, D. P. (2003). Demographic information of falls among community dwelling elderly adults over 65 of age in Michigan. *Medicine & Science in Sports & Exercise*, 35 (Suppl.), S334. ACSM Convention.
- Liu, Y. (2003). Reliability of Kinesiology Measures: Classification and Clarification. A paper presented at AAHPERD Convention.
- Liu, Y. (2003). Preparation of research project for conference presentation. A paper presented at Student Research Conference.
- Hajiefermides, G., Michael, T., Zabik, R., Liu, Y., Dawson, M., & Carl, D. (2003). Comparison between stationary and moving handlebar elliptical trainer. *Medicine & Science in Sports & Exercise*, 35 (Suppl.), S192. ACSM Convention.
- Paul, S., Orchanian, D. & Liu, Y. (2003). Cognitive function deficits of community dwelling elderly in Southwest Michigan. A paper presented at the 10<sup>th</sup> Measurement and Evaluation Symposium.
- Armour, A., Michael, T., Zabik, R., Liu, Y., Dawson, M., & Carl, D. (2003). Comparison between stationary and moving handlebar elliptical trainer. *Medicine & Science in Sports & Exercise*, 35 (Suppl.), S310. ACSM Convention.
- Liu, Y., & Wang, Y. (2002). Reliability of the kinetic measures under different heel conditions during normal walking. *Medicine & Science in Sports & Exercise*, 34 (Suppl.), S254. ACSM Convention.
- Liu, Y., & Zhu, Weimo. (2002). Simultaneous analysis of compositional data: A review. *Research Quarterly for Exercise Science and Sport*, 73(Suppl.), A35-36. AAHPERD Convention.
- Liu, Y., & Paul, S. (2002). Simultaneous assessment of the sensory integration sub-domains: A study on preschool children with learning disabilities. *Research Quarterly for Exercise Science and Sport*, 73(Suppl.), A105-106. AAHPERD Convention.
- Zhu, W., Ainsworth, B., & Liu, Y. (2002). A comparison of urban black and white women's physical activity patterns. *Research Quarterly for Exercise Science and Sport*, 73(Suppl.), A36. AAHPERD Convention.
- Ragan, B., Zhu, W., & Liu, Y. (2002). Analysis of dietary composition of fat, protein, and carbohydrates. *Research Quarterly for Exercise Science and Sport*, 73(Suppl.), A36. AAHPERD Convention.

- Kang, M., Zhu, W., Kurz, K., & Liu, Y. (2002). Compositional data analysis of student teachers' time usage in physical education classes. *Research Quarterly for Exercise Science and Sport*, 73(Suppl.), A36-37. AAHPERD Convention.
- Chen, L., & Liu, Y. (2002). Examining reliability and factorial validity of scale of coaching performance using the NCAA data. *Research Quarterly for Exercise Science and Sport*, 73 (Suppl.), A37. AAHPERD Convention.
- Liu, Y., Lewis, J., & Berkey, D. (2001). Technology usage in health, physical education and recreation. *A paper presented at the AIESEP Taiwan 2001 International Conference*. AIESEP
- Liu, Y., & Schutz, R. (2001). Type I error rates in repeated measures ANOVA when using ratio variables. *A paper presented at the American College of Sports Medicine 48<sup>th</sup> Annual Meeting*.
- Bensley, R. J., Weideman, C., Liu, Y., & Lewis, J. B. (2001). Internet-based health assessment adherence to ethical principles. *XVIIth World Conference on Health Promotion and Health Education*, Paris.
- Liu, Y. (2000). Track and field performances in the new millennium: Will it be a thematic change? *A paper presented at 22<sup>nd</sup> ICPAFR International Sports Science Conference on "Physical Fitness and Activity in the Context of Leisure Education"*, Hongkong.
- Liu, Y., & Schutz, R. (2000). Reliability of using ratio variables in human kinetics research. *A paper presented at the AAHPERD National Convention*, Orlando, FL.
- Liu, Y., Berkey, D., & Yoder, D. (2000). Track and field performances at high school and collegiate level: Past, present, and future. *A paper presented at Midwest AAHPERD District Convention*, Chicago, IL.
- Bensley, R. J., Weideman, C. A., & Liu, Y. (2000). Analysis of internet-based health risk assessments. *A paper presented at American Public Health Association Convention*, Boston, MA.
- Lewis, J. B., Liu, Y., & Berkey, D. (2000). Faculty and student use of technology. *A paper presented at Midwest AAHPERD District Convention*, Chicago, IL.
- Liu, Y., & Schutz, R. (1999). The reliability of body mass index for the assessment of physical activity and fitness. *A paper presented at the Measurement of Physical Activity Conference*, Dallas, TX.
- Liu, Y., & Schutz, R. (1999). Ratio variables in human kinetics research: Their uses, problems, and alternatives. *A paper presented at the AAHPERD national convention*, Boston, MA.

- Liu, Y., & Schutz, R. (1998). Statistical models in ice hockey. *A paper presented at the AAHPERD national convention, Reno, NV.*
- Liu, Y., & Schutz, R. (1997). The prediction of ultimate track and field performance: Is the sky the limit? *A paper presented at the AAHPERD national convention, St. Louis, MO.*
- Liu, Y., & Schutz, R. (1996). Statistical issues for using ratio variables in inferential statistics. *A paper presented at the 8th Measurement and Evaluation Symposium, Corvallis, OR.*
- Schutz, R., & Liu, Y. (1996). The effectiveness of overtime in the national hockey league. *A paper presented at the 14th Triennial Conference (The International Federation of Operational Research Societies), Vancouver, Canada.*
- Liu, Y., & Kishor, N. (1996). Effect size definitions: Sensitivity to cell size inequality, standardized mean difference, and heterogeneity of variance. *A paper presented at the AAHPERD national convention, Atlanta, GA.*
- Liu, Y., & Schutz, R. (1994). Overtime in the national Hockey League: Are shoot outs needed? *A paper presented at the Annual Meeting of the American Statistical Association, Toronto, Canada.*
- Schutz, R., & Liu, Y. (1993). Will women soon outrun the men? as analysis of the current debate. *A paper presented at the 5th International Interdisciplinary Congress on Women, Costa Rica.*
- Schutz, R., & Liu, Y. (1993). Track and field world records: optimal models, data sets and projections. *A paper presented at the Annual Meeting of the American Statistical Association, San Francisco, CA.*
- McGarry, T., Liu, Y., Eom, H. J., & Schutz, R. (1993). Paired comparisons: validity and efficiency of six tournament structure. *A paper presented at the Annual Meeting of the American Statistical Association, San Francisco, CA.*

### **Grants (funded)**

#### ***Research and Evaluation Team Member.***

Experimental design, instrument development and data analysis in the federal grant: Content-focused, Data-driven Professional Development to Improve Elementary School Students' Achievement in Traditional American History (2007-2010, total \$986,135.00).

#### ***Research and Evaluation Team Member.***

Experimental design, instrument development and data analysis in the federal grant: Content-focused, Data-driven Professional Development to Improve Middle School Students' Achievement in Traditional American History (2005-2008, total \$992,696.00).

***Research and Evaluation Team Member.***

Experimental design, instrument development and data analysis in the federal grant: Content-focused, Data-driven Professional Development to Improve High School Students' Achievement in Traditional American History (2004-2007, total \$982,445.00).

***Evaluator and Researcher.***

Federal grant: Tradition and Transition in Senegal (2004-2005, total \$70,000.00).

***Co-Principal Investigator.***

Bronson Center Clinical & Community Health Research, (Stanley, P., Orchanian, D., Ponchillia, P., & Liu, Y., 2002-2003, \$12,090).

***Co-Principal Investigator.***

Bronson Center Clinical Community Health Research, (Stanley, P., Orchanian, D., Ponchillia, P., & Liu, Y., 2001-2002, \$12,090).

***Principal Investigator.***

Faculty Research and Creative Activities Support Fund, WMU, (2000, \$5,000).

***Co-Principal Investigator.***

Academic Program Technology Development Grant. College of Education, WMU. (Berkey, D., Lewis, J., Liu, Y., & Bensley, R., \$30,000).

***Faculty Research Travel Grant.***

WMU. (1998-2007, over \$6,000).

**Grants (submitted but not funded)**

***Principle Investigator***

SIMULTANEOUSLY ANALYZING COMPOSITIONAL DATA IN EDUCATIONAL EVALUATION AND RESEARCH (2005)

Funding sponsor: Department of Education, USA

Amount requested: 500,000.00

Your grant role/title: Principle Researcher

Status of proposal: Declined

***Principle Investigator***

Simultaneously Analyzing Compositional Data in Health Research (2005)

Funding source: Faculty Research and Creative Activities Support Fund

Amount requested: 7,177.00

Status of proposal: Declined

***Principle Investigator***

SIMULTANEOUSLY ANALYZING COMPOSITIONAL DATA IN EDUCATIONAL EVALUATION AND RESEARCH (2004)

Funding sponsor: Department of Education, USA

Amount requested: 500,000.00

Status of proposal: Declined

***Co-Principle Investigator***

Relationship Between amount of Light, ADL, and QOL in Elderly. Submitted to National Institute of Health, (\$100,000). Stanley, P., Orchanian, D., Ponchillia, P., & Liu, Y. (2001).

Status of proposal: Declined

***Co-Principle Investigator***

Relationship Between amount of Light, ADL, and QOL in Elderly. Submitted to Retirement Research Foundation, (\$200,000). Stanley, P., Orchanian, D., Ponchillia, P., & Liu, Y. (2001).

Status of proposal: Declined

***Principle Investigator***

Health Status and Self-care Patterns of Higher Education Faculty in Their middle and Late Adulthood. Submitted to The John A. Hartford Foundation, Inc. \$120,000. Liu, Y., Paul, S. (2000).

Status of proposal: Declined

***Co-Principle Investigator***

How the Self-Care and Lifestyle Affect the Elder Population: A Study on the Higher Educated People. Submitted to NIH. \$50,000. Paul, S., & Liu, Y. (2000).

Status of proposal: Declined

***Co-Principle Investigator***

Health and Quality of Life Aging Higher Education Faculty Who Are Retired or Approaching Retirement. Submitted to The Retirement Research Foundation. Paul, S., & Liu, Y. (2000).

Status of proposal: Declined

## PROFESSIONAL COMPETENCE

### Competence Honor

*2007 Who's Who among American Teachers & Educators*  
(one of the nation's most prestigious teacher recognition program)

#### Teaching activities

##### *Courses taught at Western Michigan University*

PEGR 690: Research Procedures in HPER

(Graduate Course)

PEGR 692: Analytical Techniques in HPER

(Graduate Course)

PEGR 591: Evaluation in HPER

(Graduate Course)

PEPR 315: Measurement and Evaluation in HPER

(Undergraduate Course)

PEPR 382: Measurement and Evaluation in Health Education

(Undergraduate Course)

PEPR 392: Measurement and Evaluation in Physical Education

(Undergraduate Course)

##### *Courses taught before WMU (at Inner Mongolia Teachers University)*

Applied Biomechanics in Physical Education and Sports

(Graduate Course)

Advanced Mathematics in Physical Education and Sports Research

(Graduate Course)

Applied Biomechanics in Physical Education and Sports

(Undergraduate Course)

Applied Statistics in Physical Education and Sports

(Undergraduate Course)

#### Semester workload

##### *Twelve credit hours*

Nine credit hours/semester teaching (3 classes/semester)

Three credit hours:   Student thesis advising  
                              Research project advising  
                              Student and faculty Statistical consulting  
                              Research activities  
                              Committee work

## **Curriculum development**

HPER3150: Measurement and Evaluation for Exercise Science, Health, and Physical Education

HPER3150 was developed when the HPER undergraduate programs were restructured in 2000. This course was designed for the multiple undergraduate programs in the department of HPER. It covers measurement and evaluation techniques in terms of understanding, interpretation, and application with emphasis on administration, selection, and use of tests; interpretation of results through statistical procedures; analysis of tests available in Exercise Science, Health, and Physical Education and techniques for developing assessment tools.

HPER3150 Lab (2000-2007, revised every year): Measurement and Evaluation for Exercise Science, Health, and Physical Education

HPER3150 Lab provides basic instruction for the usage of the statistical functions associated with Microsoft Excel, and Fitnessgram necessary for the unique needs of Exercise Science, Health, and Physical Education.

HPER6920: Analytic Techniques in HPER

HPER6920 was developed when the HPER graduate programs were restructured in 2000. This course is an introduction to analytical methods of handling data in HPER. The goal is to develop the following skills for the practitioners in all the fields of PEPR: (1) Understanding the uses and limitations of selected designs; (2) Correctly use of the selected analytical procedures; (3) Familiar with the statistical software to do data analysis; (4) Appropriately interpreting the results of completed research.

## **Teaching innovation**

### ***High Technology Implemented Teaching (2000-2007)***

The syllabi for all my courses have been accessed from the web-based teaching website. No hard copy syllabi are needed since the high technology was implemented in my teaching in 2004. The assignments and tests can also be accessed from internet. The technology-based teaching has been employed for Research Procedures in Health, Physical Education and Recreation (HPER6900) through laptop with Power Point, Internet, WestCat, and Dreamweaver.

## **Teaching materials**

Liu, Y. (2003-2007, update every semester). *HPER 3150 Course Package: Lecture Outlines and Study Guide*. Kalamazoo, MI: Copy Desk Publishing.

Liu, Y. (2003-2007, update every semester). *HPER 6920 Course Package: Lecture Outlines and Study Guide*. Kalamazoo, MI: Copy Desk Publishing.

Liu, Y. & Teaching Assistant. (2003-2007, update every semester). HPER3150 Lab Course Outline.

Liu, Y. & Teaching Assistant. (2000-2007, update every semester). HPER3150 Lab Course Outline.

Liu, Y. & Teaching Assistant. (1998-2000, update every semester). HPER392 Lab Course Outline.

### **Student evaluation**

Average Score = 1.5 (1998-2004)

Five point scale with 1=high and 5=low

The overall average was calculated based on the student evaluation for all the courses taught in each of the semesters since 1998.

Average Score = 4.2 (new evaluation system, 2005-2006)

Five point scale with 5=high and 1=low

There were 16 questions designed on my student evaluation form. The overall average was calculated based on the student evaluation for all the courses taught in each of the semesters since 2005.

### **Comments by HPER graduate**

An email from one of our graduates (A PhD student at the University of Utah) may indicate the quality of my teaching:

Hi, Dr. Liu,

How is everything going for you? I know you are really busy being that it is the beginning of a new semester. I am just e-mailing you to let you know that I have an intro to research and methods class and a nursing statistics class. I am way above the other students thanks to you. Many students are lost in both classes, not me because I had an awesome instructor at WMU-who could I be talking about? Ha ha. Anyways, I am just writing you to thank you for being such an awesome instructor, it is very helpful to be way above other students in at least two of my classes, now XXX is another story. I am feeling very lost and over whelmed in that class. Other than that I have loving it here in Utah and love hiking the mountains.

Keep in touch.

XX

### **Peer evaluation**

The peer evaluation has been always positive. Following is Dean's comments on my performance in 2002:

“Dr. Liu’s professional competence has been established in a tough arena – earning positive student evaluations in test and measurement areas is not easy given the combination of challenging content and students’ preparation for it, . . . His mean scores on student evaluations attest to his effort and achievement as a scholar who teaches well.”

### **Statistical consulting and research advising (1998-2007)**

The statistical consulting and data analysis service have been offered to the faculty and students. There have been numerous students and faculty members served. By offering the statistical consulting service, I have contributed to improve the quality of the research in the department.

### ***National wide advising***

My advising has gone nation wide recently because of my reputation in the field. Following are the institutions in which the faculty and/or graduate students I have helped:  
Georgia State University  
Texas A&M University  
University of Illinois at Urbana-Champaign  
Ithaca College  
Louisiana State University  
The University of Texas at San Antonio

### ***Graduate student research publication (under my advising)***

- Liu, Y., Guan, H. (2006). Using intraclass correlations to assess the reliability of kinesiology measures: Why, when and how. *Medicine & Science in Sports & Exercise*, 38 (Suppl.), S. ACSM Convention.
- Li, W., & Liu, Y. (2004). Ability conceptions and the influence of natural ability, effort, luck, mood, and task difficulty in physical activity: A compositional data analysis. *Research Quarterly for Exercise Science and Sport*, 75 (Suppl.), A127.
- Cramer, S., Liu, Y., Michael, T., & Weideman, C. (2004). Effects of Beta-blockers on maximal oxygen consumption. *Medicine & Science in Sports & Exercise*, 36 (Suppl.), S211.
- Hajiefermides, G., Michael, T., Zabik, R., Liu, Y., Dawson, M., & Carl, D. (2003). Comparison between stationary and moving handlebar elliptical trainer. *Medicine & Science in Sports & Exercise*, 35 (Suppl.), S192.
- Armour, A., Michael, T., Zabik, R., Liu, Y., Dawson, M., & Carl, D. (2003). Comparison between stationary and moving handlebar elliptical trainer. *Medicine & Science in Sports & Exercise*, 35 (Suppl.), S310.

Ragan, B., Zhu, W., & Liu, Y. (2002). Analysis of dietary composition of fat, protein, and carbohydrates. *Research Quarterly for Exercise Science and Sport, 73* (Suppl.), A36.

Kang, M., Zhu, W., Kurz, K., & Liu, Y. (2002). Compositional data analysis of student teachers' time usage in physical education classes. *Research Quarterly for Exercise Science and Sport, 73* (Suppl.), A36-37.

### **Self- Education**

2007 Convention of the American Alliance of Health, Physical Education, Recreation and Dance, Baltimore.

2006 Convention of the American Alliance of Health, Physical Education, Recreation and Dance, Salt Lake City.

2005 Convention of the American Alliance of Health, Physical Education, Recreation and Dance, Chicago.

2005 American College of Sports Medicine Annual Meeting, Chicago.

2005 Walking for Health: Measurement and Research Issues and Challenges. The 11<sup>th</sup> Measurement and Evaluation Symposium, Urbana-Champaign.

2004 Convention of the American Alliance of Health, Physical Education, Recreation and Dance, New Orleans.

2004 American College of Sports Medicine Annual Meeting, Indiana.

2003 Convention of the American Alliance of Health, Physical Education, Recreation and Dance, Philadelphia.

2003 American College of Sports Medicine Annual Meeting, San Francisco.

2003 Measurement Issues and Challenges in Aging Research. The 10<sup>th</sup> Measurement and Evaluation Symposium, Urbana-Champaign.

2002 Convention of the American Alliance of Health, Physical Education, Recreation and Dance, Orlando.

2002 American College of Sports Medicine Annual Meeting, St. Louis.

2001 Convention of the American Alliance of Health, Physical Education, Recreation and Dance, Cincinnati.

- 2001 American College of Sports Medicine Annual Meeting, Baltimore.
- 2000 Convention of the American Alliance of Health, Physical Education, Recreation and Dance, Washington, D.C.
- 2000 The 22<sup>nd</sup> ICPAFR International Sports Science Conference on “Physical Fitness and Activity in the Context of Leisure Education”, Hongkong.
- 1999 Convention of the American Alliance of Health, Physical Education, Recreation and Dance, Boston.
- 1998 Convention of the American Alliance of Health, Physical Education, Recreation and Dance, Reno.
- 1997 Convention of the American Alliance of Health, Physical Education, Recreation and Dance, St. Louis.
- 1996 Convention of the American Alliance of Health, Physical Education, Recreation and Dance, Atlanta.
- 1995 Convention of the American Alliance of Health, Physical Education, Recreation and Dance, Portland.
- 1994 Annual Meeting of the American Statistical Association, Toronto, Canada.
- 1993 Annual Meeting of the American Statistical Association, San Francisco.

## **PROFESSIONAL SERVICE**

### **Honor and Award**

- Editor-in-Chief: Measurement in Physical Education and Exercise Science (2006-)
- Reviewer Award: Measurement in Physical Education and Exercise Science (2003)
- Service Award: Chinese Association of Greater Kalamazoo (2007)

### **Leadership and National/international service**

- 2006- Editor-in-Chief: Measurement in Physical Education and Exercise Science
- 2006- Executive Board member: International Chinese Society for Physical Activities and Health
- 2006-2007 President: Chinese Association of Greater Kalamazoo
- 2005-2007 Executive Board Member: Chinese Association of Greater Kalamazoo

- 2005            Presider: The AAHPERD research consortium symposium. Fairness and optimization in sports: Can we do better? AAHPERD
- 2005            Presider: The Multi-level Modeling of Walking Behavior in the conference of Walking for Health: Measurement and Research Issues and Challenges ACSM
- 2005            Co-chair: The annual meeting of the Chinese Scholars in the field of Health, Physical Education, Recreation and Dance (HPERD-CS), AAHPERD
- 2004            Presider: The AAHPERD research consortium symposium. Appropriately analyzing compositional data in kinesiology: Problems and solutions
- 2004            Panel Reviewer: Measurement and Evaluation abstracts of Research Consortium 2005 AAHPERD convention
- 2003-2004      Editorial Advisory Board Member: International Sports Journal
- 2003-           External Reviewer: Journal of Physical Education in Higher Education
- 2003            Presider: Measurement Issues and Challenges in Aging Research Poster Section. The 10<sup>th</sup> Measurement and Evaluation Symposium. ACSM
- 2003-           Reviewer: Adapted Physical Activity Quarterly
- 2003-           Panel Reviewer: Measurement and Evaluation abstracts of Research Consortium 2004 AAHPERD convention
- 2002            Panel Reviewer: Measurement and Evaluation abstracts of Research Consortium 2003 AAHPERD convention
- 2002-           Presenter/Discussant of the ACSM thematic poster section (reliability of kinetic measures under different heel conditions during normal walking)
- 2001-2003      Secretary: Measurement and Evaluation Council of American Alliance for Health, Physical Education, Recreation, and Dance
- 2001-           Reviewer: Journal of Sport and Social Issues
- 2001- 2004     Chair: The Research Section, Midwest District of AAHPERD
- 2000-           Reviewer Board Member: Measurement in Physical Education and Exercise Science

- 1999- Reviewer: Research Quarterly for Exercise and Sport
- 1999-2003 Advisory Committee Member: Measurement and Evaluation Council of American Alliance for Health, Physical Education, Recreation, and Dance
- 1999-2000 Chair-Elect: The Research Section, Midwest District of AAHPERD

**National/International Association membership**

- 2006- An executive committee member: International Chinese Society for Physical Activities and Health
- 2003- Fellow in the Research Consortium of the American Alliance for Health, Physical Education, Recreation, and Dance
- 2001- A member of the American College of Sports Medicine
- 1998- A professional member of the American Alliance for Health, Physical Education, Recreation, and Dance
- 1995-1998 A student member o the American Alliance for Health, Physical Education, Recreation, and Dance
- 1993-1995 A member of the American Statistical Association.
- 1982-1990 A member of the China Sport Science Society

**University Service**

- 2000-2006 Faculty Senator at Western Michigan University
- 2004-2005 Chair of the Policy Committee in the Department of Health, Physical Education, and Recreation, WMU.
- 1999-2000 A member of the Academic and Professional Standards Committee in the College of Education, WMU.
- 1998-2007 A member of Graduate Council in the Department of Health, Physical Education, and Recreation, WMU.
- 1999-2006 A member of the Policies Committee in the Department of Health, Physical Education, and Recreation, WMU.
- 1998- A member of Graduate Council in the Department of Health, Physical Education, and Recreation, WMU.