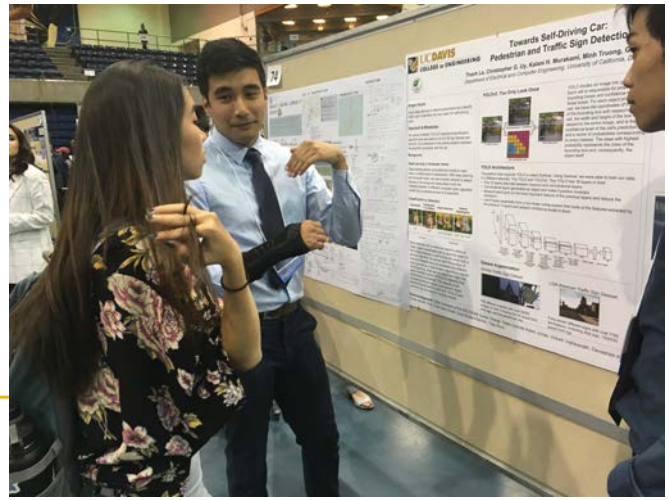
Making an Effective Research Poster

Elizabeth M. Nuñez
Assistant Director
Undergraduate Research Center

Why present a research poster?

- Great experience for first time presenters
- Experience presenting your research in a formal setting
- Get feedback from peers, faculty, and other experts
- Share ideas and learn from others
- Network with in your area of study
- Enhance your resume



What is a Research Poster?

- A summary of research
- A way to share ideas and generate discussion
- A visual display
- Includes a mixture of text, graphs, pictures, tables, etc.

Purpose of a Research Poster?

- Video: How to Design a Research Poster Part I

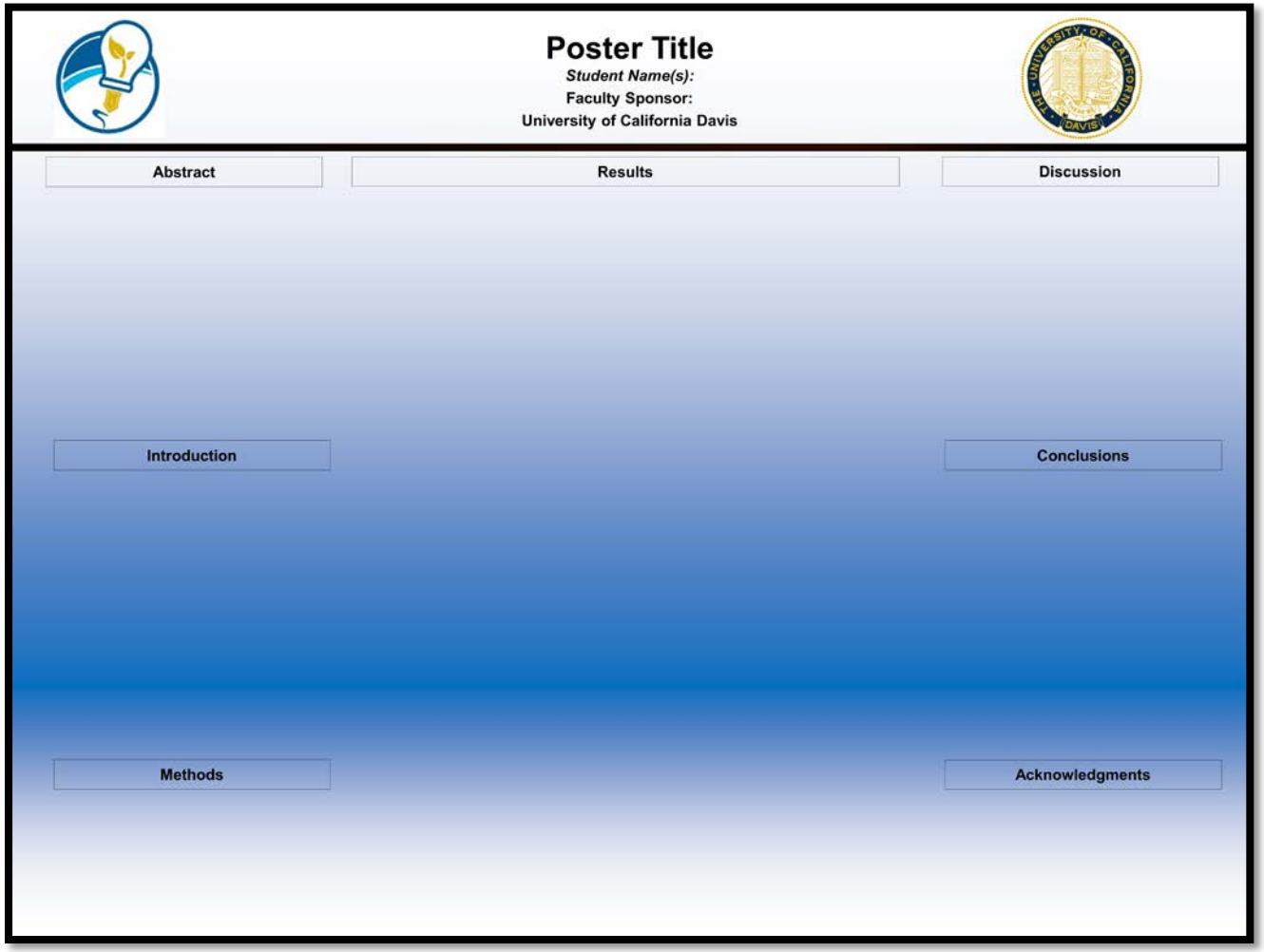
https://www.youtube.com/watch?v=WCKhmKeAXY0

Components of a Research Poster

- Title
  - Authors and Institutional Affiliation
- Abstract
- Introduction
- Methods
- Results/Findings
- Discussion/Conclusions
- Acknowledgements
- References
- Contact Information

Remember that posters may take different formats

Research Poster Template



Poster Title

Student Name(s):
Faculty Sponsor:
University of California Davis

Abstract

Discussion

Title: Keep it short, 10 words or less.

Introduction

Conclusions

Methods

Acknowledgments

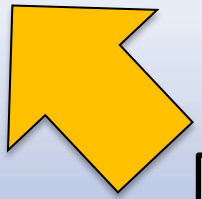
Poster Title

Student Name(s):
Faculty Sponsor:
University of California Davis

Abstract

Results

Discussion



Abstract: Should be concise and to the point, including the essential components of research. (not required for URC Conference – use an introduction)

Introduction

Conclusions

Methods

Acknowledgments

Poster Title

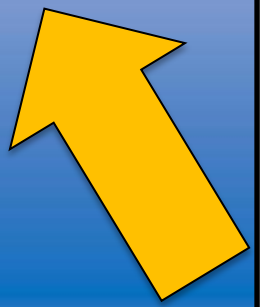
Student Name(s):
Faculty Sponsor:
University of California Davis

Abstract

Results

Discussion

Introduction



Introduction: Introduce your topic or issue, what is the purpose of your work, and provide any critical information needed for the audience to understand your research

Conclusions

Methods

Acknowledgments

Poster Title

Student Name(s):
Faculty Sponsor:
University of California Davis

Abstract

Results

Discussion

Introduction

Conclusions

Methods

Acknowledgments

Methodology:

This section outlines the methods, procedures, data collection process, and materials for your research.

Poster Title

Student Name(s):
Faculty Sponsor:
University of California Davis

Abstract

Results

Discussion

Results/Findings:
Outline the key findings of your research.

Utilize visual aspects of your data to support your findings such as quotes from interviews, charts, tables, or graphs that summarize the data.

Introduction

Conclusions

Methods

Acknowledgments

Poster Title

Student Name(s):
Faculty Sponsor:
University of California Davis

Abstract

Introduction

Methods

Results

Discussion

Discussion/Conclusion: Briefly review the purpose of your research, key findings, and most importantly for this section discuss why your work is relevant and important, and the future work if relevant.

Conclusions

Acknowledgments

Poster Title

Student Name(s):
Faculty Sponsor:
University of California Davis

Abstract

Results

Discussion

Introduction

Acknowledgements: Credit all individuals who have provided you with support in completing this work, including any funding support.

References: If any sources are cited, include a reference list, this can usually be in a smaller font

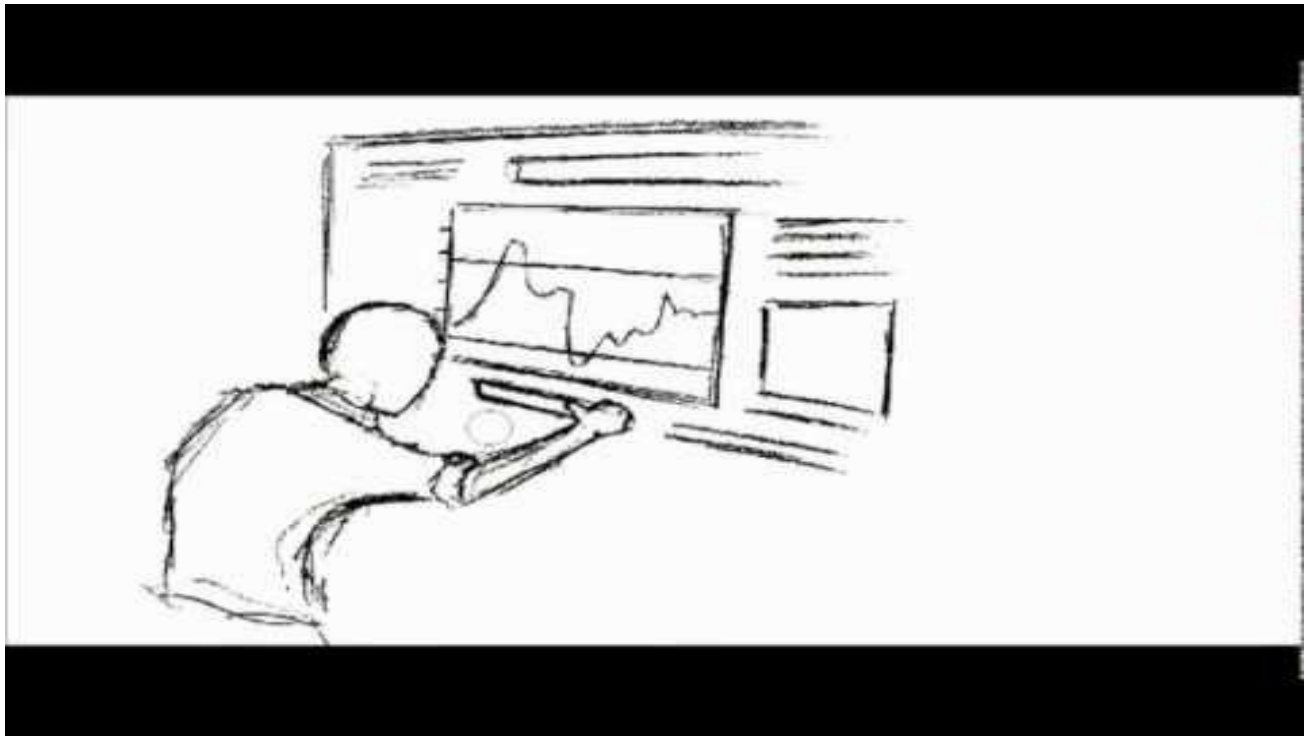
Conclusions

Methods

Acknowledgments

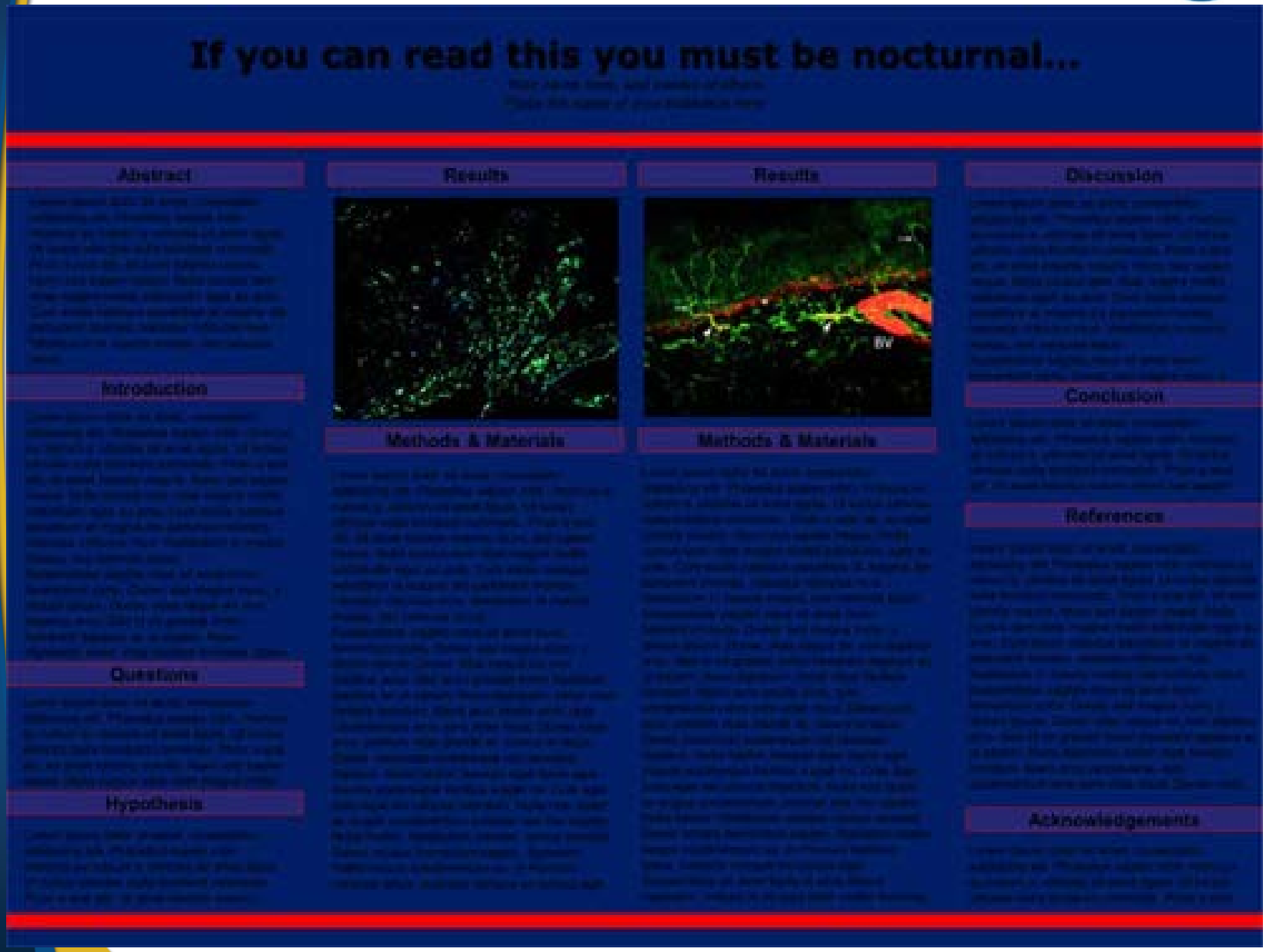
Research Poster Best Practices

- Video: How to Design a Research Poster Part II



https://www.youtube.com/watch?v=kD_zCBT3GUk

Examples of Research Posters



Examples of Research Posters

Examples of Research Posters

Active Video Game Use and its Effects on Sedentary Behaviors

Draycen D. DeCator, M.A., Yvette Ramirez, & Jocelyn Smith Carter, Ph. D.
DePaul University

Introduction

Despite a lot of research attention, the obesity epidemic in United States youth is a continuing problem (Centers for Disease Control and Prevention, 2012). The problem is receiving attention from researchers hoping to reverse the trend of increasing Body Mass Indices (BMI's). An area of focus revolves around the use of active video games (AVG's) to increase physical activity levels in youth (e.g., Maddison, Mhurchu, & Jull, 2012). Having an understanding of the way in which AVG's can help decrease BMI can lead to the creation of AVG's with an increased likelihood of being played, and can thus increase the number of youth that will benefit from the game.

Results from previous studies using AVG's have shown that children given an AVG spent less time playing sedentary video games and spent more time playing AVG's (Mhurchu et al., 2008). These children also had lower waist circumferences compared to the control group that did not receive an AVG. In a review by Active Healthy Kids Canada, the results did not support AVG's as a strategy to help children be more physically active (Chaput et al., 2013), but suggested that AVG's may help children to reduce sedentary time. Therefore, youth with high levels of baseline sedentary behavior may benefit most from AVG use. The success of introducing AVG's will also likely depend on characteristics of the youth, such as temperament (Wu, Dixon, Dalton, Tudiver, & Liu, 2011). That is, the findings of these studies may have been mixed because of relevant variables not being taken into consideration such as baseline sedentary levels and temperament (e.g., surgency/high intensity pleasure seeking).

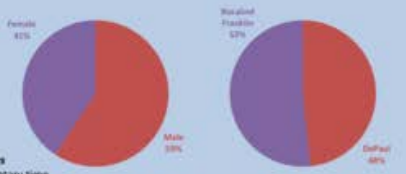
The current study researched: 1) whether sedentary time, AVG use, and levels of surgency predicted BMI, and 2) if any interactions were present.

Methods

The Active Project (TAP) for Kids is a broader research project being conducted by DePaul University and Rosalind Franklin University. TAP's aim has been to help understand what makes kids more likely to play active video games (AVG's), and how they can be encouraged to be more physically active through the use of AVG's.

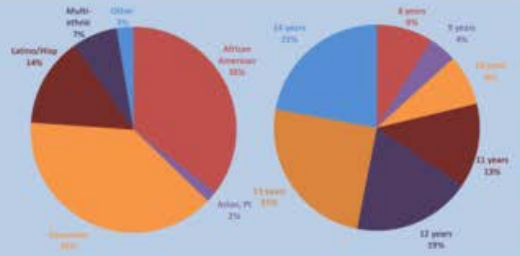
Participants

Participants in the current study consist of a subset of youth from the TAP for Kids project that had complete data for all study variables (n = 96). Participants for the study were youth between the ages of 8 and 14 from the Chicago area. The study measured sedentary time, AVG use, temperament, and BMI of each child.



Measures

- Sedentary time
  - Self-report
  - 6 items (3 tasks, weekdays and weekend days)
  - Combined for weekly average time
- AVG use
  - Self-report
  - Time during one week
- Temperament
  - Early Adolescent Temperament Questionnaire – Revised (EATQ-R; Rothbart, Ellis, Rosario Rueda, & Posner, 2003)
  - 6 items for surgency subscale
  - Example: "I would not be afraid to try a risky sport, like deep-sea diving"



Results

Data Analysis

Preliminary MANCOVAs were run to determine whether group differences existed (see Table 1). Hierarchical multiple regression was conducted to test the complete model (see Table 2)

Preliminary Analyses (Group Differences)		
	Gender	Agency
AVG use	$F(1, 92) = 0.002$	$F(1, 92) = 7.82^{**}$
Sedentary time	$F(1, 92) = 4.53^{*}$	$F(1, 92) = 1.12$
Surgency	$F(1, 92) = 0.01$	$F(1, 92) = 2.53$
BMIz	$F(1, 92) = 4.20^{*}$	$F(1, 92) = 1.89$

Table 1. Preliminary analyses of group differences.
Note. Controlling for age; * $p < .05$; ** $p < .01$.

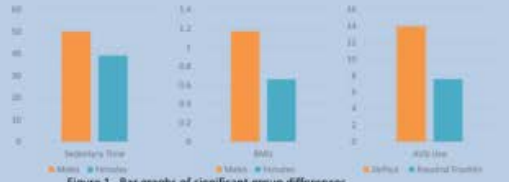


Figure 1. Bar graphs of significant group differences.

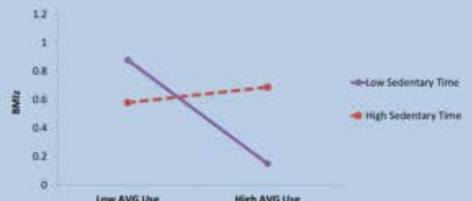


Figure 2. Simple slopes of interaction
Note. * Difference between slopes: $p < .05$.

Hierarchical Linear Regression Models			
Predictors	ΔR^2	β at step	Final β
Step 1 (R^2)	.11		
Child sex		.22*	.19
Child ethnicity		.02	.06
Agency		.12	.17
Surgency		-.22*	-.21*
Step 2 (ΔR^2)	.01		
AVG use		-.01	-.15
Sedentary time		.08	.04
Step 3 (ΔR^2)	.04		
AVG x Sedentary time			.26*

Table 2. Hierarchical Linear Regression Models Predicting BMIz.
Note. * $p < .05$.

Hierarchical multiple regression was used to examine surgency, AVG use, sedentary time, and AVG use moderated by sedentary time as predictors of BMIz (while controlling for sex, ethnicity, and agency of participation). A significant AVG use X sedentary time interaction was found (δ = 0.26, $p < .05$). Additionally, surgency was found to be a significant independent predictor even when accounting for the AVG use X sedentary time interaction (δ = -0.21, $p < .05$). However, a three-way interaction between AVG use, sedentary time, and surgency was found to be non-significant (δ = -0.03, *ns*).

A simple slopes analysis was conducted to help interpret the significant interaction (Figure 2). The analysis showed that AVG use was most predictive of BMIz for youth with low sedentary tendencies, whereas children with high sedentary tendencies benefitted less from high AVG use. The differences between the slopes was found to be significant ($p < .05$).

Discussion

The current study provides support for AVG use as a predictor of BMIz, at least for youth with already low sedentary tendencies. Emerging intervention programs that seek to promote AVG use as a form of physical activity should take into account that the success of introducing AVG's will likely depend on already-established behaviors of the youth. However, the current study does not support a link between temperament and sedentary time or AVG use.

Future studies should examine the effect of introducing AVG's to youth longitudinally, to see if AVG use can lead to decreases in BMI or if the current findings are due to a confound variable predicting lower BMI, higher AVG use, and lower sedentary tendencies. In addition, there is a need to replicate the findings of the current study with populations in other areas, as the current results are limited to a predominantly Caucasian and African American population in the Midwest.

References

Centers for Disease Control and Prevention. (2012). Trends in the prevalence of extreme obesity among US preschool-aged children living in low-income families, 1998-2010. *Journal of the American Medical Association, 308*(24), 2563–2565.

Chaput, J. P., LeBlanc, A. G., McFarlane, A., Colley, R. C., Thivel, D., Biddle, S. J. H., ... Tremblay, M. S. (2013). Active Healthy Kids Canada's position on active video games for children and youth. *Paediatrics and Child Health, 18*(10), 529–532.

Maddison, R., Mhurchu, C. N., and Jull, A. (2012). Active video games: The mediating effect of aerobic fitness on body composition. *The International Journal of Behavioral Nutrition and Physical Activity, 9*, 1–4.

Mhurchu, C. N., Maddison, R., Jiang, Y., Jull, A., Prapavessis, H., & Rodgers, A. (2008). Couch potatoes to jumping beans: A pilot study of the effect of active video games on physical activity in children. *International Journal of Behavioral Nutrition and Physical Activity, 5*(1), 8–12.

Rothbart, M. K., Ellis, L. K., Rosario Rueda, M., & Posner, M. I. (2003). Developing mechanisms of temperamental effortful control. *Journal of Personality, 71*(6), 1113–1144.

Wu, T., Dixon, W., Dalton, W., Tudiver, F., and Liu, X. (2011). Joint effects of child temperament and maternal sensitivity on the development of childhood obesity. *Maternal and Child Health Journal, 15*(4), 469–477.

Examples of Research Posters

Community Building Through Assessment: Creating a Culture of Practice

Sarah Jardeleza, Gabe Ording, Julie Libarkin: CENTER FOR INTEGRATIVE STUDIES IN GENERAL SCIENCE

COMMUNITY OF PRACTICE?

Can CISGS be transformed into a community of practice (Wenger 1998) through assessment?

WHY ASSESSMENT?

- Easy segue for scientists: assessment and evaluation are similar to experimentation and scientific processes
- Discipline-Based Education Research (DBER; NRC 2012)
- Continuous improvement of teaching and learning

Figure 1. Assessment cycle for continuous improvement.

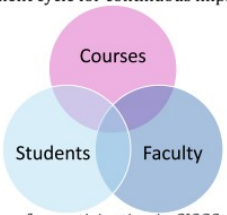


Figure 2. Structures for participation in CISGS program evaluation and continuous improvement.

Table 1. Faculty and student interaction with assessment process (% by AY for lunch meetings or semester for surveys).

Semester	Student: Surveys	Faculty: Surveys	Faculty: Lunch Meetings
Spring 2011	n/a^{Early}; 62%^{Late}	37%^{An}; 37%^{In}	67%
Fall 2011	39%^{Early}; 32%^{Late}	56%^{An}; 40%^{In}	61%
Spring 2012	33%^{Early}; 30%^{Late}	52%^{An}; 40%^{In}	
Fall 2012	49%^{Early}; 41%^{Late}	39%^{An}; 30%^{In}	72%
Spring 2013	49%^{Early}; 37%^{Late}	41%^{An}; 38%^{In}	

OUTCOMES:

Jardeleza, S., A. Cognato, M. Gottfried, R. Kimbirauskas, J. Libarkin, R. Olson, G. Ording, J. Owen, P. Rasmussen, J. Stoltzfus, S. Thomas (accepted). Summer 2013. The Value of Community Building: One Center's Story of How the AAC&U VALUE Rubrics Provided Common Ground. Liberal Education - AAC&U Press; 99(3).

Association of American Colleges and Universities

Global Learning VALUE Rubric Review:

1. Professional development related to rubrics
2. Collaborative iterative feedback for rubric improvement
3. Alignment of instructor's course goals with the rubric
4. Shared effective rubric-related instructional activities
5. Developed innovative rubric-related instructional activities
6. Improved community of practice with faculty across disciplinary boundaries.

Energy Concept Inventory:

- What is a set of concepts common across CISGS?
- Syllabus review, faculty discussion = Energy

- Research /Development
- AAAS Project 2061, etc.

AOP
- Survey Creation & Student Pilot Testing #1
- Administered survey during student orientation

Angel
- Survey Revision & Student Pilot Testing #2
- Administered survey early-course FS2012

FLC
- Faculty Feedback
- Item revision and creation

Angel
- Survey Revision & Student Pilot Testing #3
- Administered survey late-course FS2012

Example Question

Which of the following contain(s) energy?
CHOOSE ALL THAT APPLY.

- A) Rocks sitting on a hill
- B) Rocks rolling on a hill
- C) Rocks sitting on the ocean floor
- D) Rocks rolling on the ocean floor
- E) I do not know

Faculty DBER Projects:

1. Dr. Remke Van Dam – Weather, Climate, Water, and Communication

2. Dr. Jon Stoltzfus – Flipped REAL Classroom

3. Drs. Julie Libarkin, Stephen Thomas, Gabe Ording

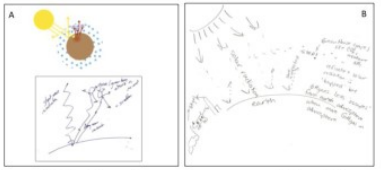


Figure 3. Ideal student and expert models of the greenhouse effect.

FUTURE STEPS

- Faculty Collaborative DBER AOP Assessments
- Coordinated embedded assessments
- Automated course reports for faculty as requested
- Continued Collaborative Publications
- Collaborative Grants

CITATIONS

- AAAS Science Assessment ~ Home. http://assessment.aaas.org/.
- National Research Council (2012) Discipline-Based Education Research: Understanding and Improving Learning in Undergraduate Science and Engineering.
- Wenger, E. (1998) Communities of Practice: Learning, Meaning, and Identity. Cambridge University Press.

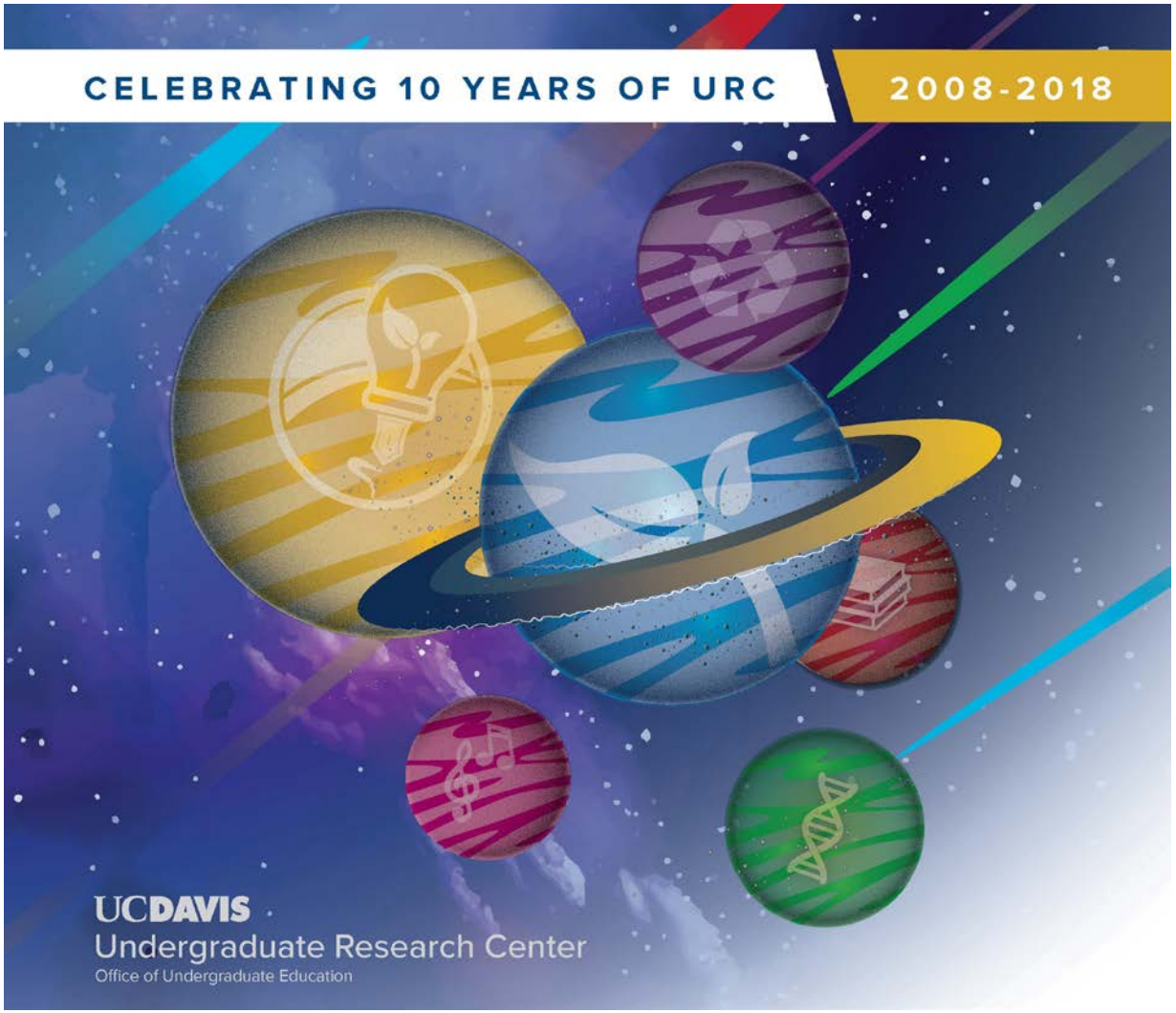
Presenting Your Research

- Remember that you are the expert!
- Don't block your poster
  - Have more than one presenter?
- Treat your poster presentation like a conversation
  - Allow for questions
- Practice!
  - Prepare 1-2 sentences per section

Presenting Your Research

- Prepare and practice for common open-ended questions
  - Tell me about your research…
  - How does this relate to the field?
  - How will this research impact your future research?
- Be enthusiastic about your work
  - Have more than one presenter?
- Practice projecting your voice
  - Have water
- Dress appropriately

QUESTIONS?


CELEBRATING 10 YEARS OF URC
2008-2018
UCDAVIS
Undergraduate Research Center
Office of Undergraduate Education