

Supplemental Material

Teaching

- Student Evaluation Reports: Since submitting my application for promotion, I have, of course, received my student course evaluations from the Fall 2017 semester. They are generally unremarkable and consistent with my past evaluations.
- Chair Observation Report: A department chair observation has been completed.

Scholarship

- Peer-Reviewed Manuscript: Regarding scholarship, the manuscript based on Faith McConnell's honors thesis has been published. This was addressed in the application.
- Symposium Proposal Form (proposal has been accepted) for the Annual meeting of the eastern Psychological Association (EPA) to be held in Philadelphia, March 1-3. I have been invited, along with co-presenters Barney Beins (Ithaca College) and Jennifer Thompson (University of Maryland, University College) to present a symposium titled, **APA's Recent Tools for Teaching and Research: Data, Content, and Assessment**. This symposium pertains to the previously mentioned work I have been doing on the Online Psychology Lab. Each of us will present a paper addressing our contributions to this project.

Service

- Program from the conference I co-chaired: Regarding service to the state system, Andrew Bland and I chaired the successful Pennsylvania State Psychology Conference which was held on October 27-28, 2017. Our department has been asked to host this conference again in the 2018-2019 academic year.
- APSCUF Position Statement: Regarding service to APSCUF, president Ken Mash asked me, as chair of the statewide Academic Affairs Committee, to draft another position statement, **Program Review as Justification for Retrenchment**. (Note: This title may change and the word "whereas" will probably be added liberally before the statement is finalized and added to the APSCUF website.) This statement is based on a troubling trend that emerged during the last round of negotiations as PASSHE employed a very narrow definition of Program Review to justify threats of retrenchment.
- Website description of a conference for which I reviewed submissions: Regarding service to the discipline, I was asked to review – *and have reviewed* - paper and poster submissions for this regional meeting of the Northeastern Evolutionary Psychology Society, a group in which I have had intermittent membership, <http://neepsociety.com/>.
- Finally, regarding service to the department, this semester, I have assumed the chair of the Undergraduate Curriculum Committee.

Eval ID: 731601
 Department: PSYC
 Professor: Gallagher, Shawn P

Course Name: Statistics and Exper Design 2
 Course No: 212
 Section No: 00

Enrollment: 20
 Responses: 20
 Response Rate: 100%

Evaluation Questions

COURSE CONTENT	Section		Number of Responses	Prof Mean		Dept Mean		College Mean		Univ Mean	----- Frequencies ----->									
	Mean	StDev		Mean	Mean	Mean	Mean	1	2		3	4	5	6	7	8	9	10		
1. I recommend this course.....	9.1		20	8.4	8.6	8.6	8.4	8.4	8.4	0	0	0	0	1	1	0	2	5	11	
2. This course challenged me to think.....	9.8		20	9.4	8.7	8.5	8.5	8.5	8.5	0	0	0	0	0	0	0	1	1	3	16
3. This course builds understanding of concepts & principles.....	9.7		19	9.2	8.9	8.8	8.7	8.7	8.7	0	0	0	0	0	0	1	1	1	1	16
4. I can/bliv I will be able to apply info/skls learned in this course 9.4	9.5		20	8.5	8.8	8.9	8.4	8.4	8.4	0	0	0	0	0	0	2	2	3	3	13
OVERALL MEANS, COURSE CONTENT--> 9.5																				
LEARNER OUTCOMES																				
5. I was actively involved in class activities.....	8.8		20	8.3	8.3	8.7	8.3	8.3	8.3	0	0	0	1	1	0	0	5	3	10	
6. I completed assignments on schedule.....	9.7		20	9.3	9.4	9.4	9.3	9.3	9.3	0	0	0	0	0	0	1	1	1	1	17
7. I met stated course objectives.....	9.4		20	8.8	9.2	9.3	9.2	9.2	9.2	0	0	0	0	0	0	0	0	5	3	12
8. My knowledge, skills, and understanding of the subject increased..	9.6		20	9.1	9.0	9.0	8.8	8.8	8.8	0	0	0	1	1	0	0	1	1	1	17
9. My interest in the subject area has increased.....	7.3		20	7.7	8.3	8.3	8.0	8.0	8.0	1	0	0	1	5	0	0	7	1	5	15
OVERALL MEANS, LEARNER OUTCOMES--> 8.9																				
THE INSTRUCTOR																				
10. treated the class fairly and with respect.....	9.4		20	9.2	9.4	9.4	9.4	9.4	9.4	0	0	0	0	1	0	1	1	3	14	
11. showed enthusiasm for teaching.....	9.8		20	9.7	9.5	9.4	9.3	9.3	9.3	0	0	0	0	0	0	0	2	0	18	
12. graded my work fairly and impartially.....	9.3		20	9.1	9.3	9.4	9.3	9.3	9.3	0	0	0	0	2	0	1	0	2	15	
13. was available to assist students in or outside of class.....	9.5		20	9.2	9.1	9.1	9.1	9.1	9.1	0	0	0	0	0	0	1	3	1	15	
14. varied teaching approaches to promote student learning.....	9.1		20	8.4	8.3	8.5	8.2	8.2	8.2	0	0	0	0	2	0	0	2	4	12	
15. encouraged critical thinking.....	9.9		20	9.5	9.0	8.9	8.8	8.8	8.8	0	0	0	0	0	0	0	0	2	3	17
16. demonstrated concern and interest in students.....	9.0		20	9.0	9.0	9.1	8.9	8.9	8.9	0	0	0	2	1	0	2	2	13		
17. returned materials in a reasonable amount of time.....	9.8		20	9.1	9.1	9.1	9.1	9.0	9.0	0	0	0	0	0	0	0	1	2	17	
OVERALL MEANS, THE INSTRUCTOR--> 9.5																				
INSTRUCTIONAL METHODS																				
18. The course objectives and grading criteria were explained clearly. 9.4	9.4		20	9.0	9.1	9.0	9.0	9.0	9.0	1	2	3	4	5	6	7	8	9	10	
19. Texts, materials, and/or activities helped achieve the stated obj. 8.7	8.7		20	8.6	8.3	8.4	8.4	8.4	8.4	2	0	0	0	0	0	0	3	3	12	
20. Information/concepts were presented clearly & understandable..... 9.4	9.4		20	8.7	8.7	8.7	8.6	8.6	8.6	0	0	0	1	0	0	0	2	3	14	
21. The lectures/class activities were all well organized..... 9.5	9.5		20	8.8	8.8	8.7	8.7	8.7	8.7	0	0	1	0	0	0	0	0	4	15	
22. I received useful feedback on my course work thruout the semester. 9.3	9.3		20	8.6	8.5	8.6	8.5	8.5	8.5	0	0	0	0	0	0	2	0	4	13	
23. Given opportunity, I would take another course from this instructor 9.4	9.4		20	9.0	8.6	8.6	8.5	8.5	8.5	0	0	0	0	0	1	1	1	4	13	
OVERALL MEANS, INSTRUCTIONAL METHODS--> 9.2																				
ADDITIONAL QUESTIONS FROM INSTRUCTOR																				
28. Additional question 28.....	0		0							1	2	3	4	5	6	7	8	9	10	
29. Additional question 29.....	0		0							0	0	0	0	0	0	0	0	0	0	
30. Additional question 30.....	0		0							0	0	0	0	0	0	0	0	0	0	
31. Additional question 31.....	0		0							0	0	0	0	0	0	0	0	0	0	
32. Additional question 32.....	0		0							0	0	0	0	0	0	0	0	0	0	
Lowest Rating (1) .. to Highest Rating (10)																				
Gen Ed Requirement																				
24. Which of the following best describes this course for you ?	1	17	0	0	0	0	0	0	2	1	2	3	4	5	6	7	8	9	10	
----- Frequencies ----->																				
Major/Minor Requirement																				
25. I expect to receive this grade in this class :	A	B	C	D	F	Missing	Missing	Missing	Missing	0	0	0	0	0	0	0	0	0	0	
----- Frequencies ----->																				
Freshman																				
26. My class level :	0	3	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
----- Frequencies ----->																				
Sophomore																				
27. My gender :	0	6	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
----- Frequencies ----->																				
Female																				
	12	6	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
----- Frequencies ----->																				
Male																				
	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
----- Frequencies ----->																				
Missing																				
	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
----- Frequencies ----->																				

EVALUATION FORM B
COMPLETED BY OBSERVER
Department of Psychology

Faculty member observed: Shawn Gallagher

Date: December 1, 2017 (10 am)

Faculty observer: Fred Foster-Clark (Chair)

Course: Psyc 212 Stats & Design II

OBJECTIVES:


In Dr. Gallagher's words, he planned "to introduce the chi-square test for goodness of fit and I expect that the students will be able to complete at least two different sample problems before the end of class. I expect to explain the difference between parametric and non-parametric tests and to show students that, although the chi-square test is a nonparametric test, it is still derived from a ratio (or fraction) that compares expected outcomes to observed outcomes and, as such, follows a format similar to the inferential statistics that they already know (z, t, F, r)."

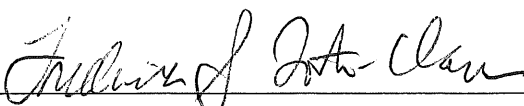
PROCESS (Instructional Organization, Strategy, Materials):

Class began with brief discussion of the last research article reading assignment for the semester. Dr. Gallagher explained how correlations and two-way ANOVAs often appear in the literature. He then lectured about chi square tests, beginning with a brief exposition about non-parametric tests and then showing the general formula for the chi square statistic. Here and throughout the class, Dr. Gallagher asked questions to elicit student participation. More often than not, he seemed to call on students randomly rather than wait for volunteers. He then demonstrated how to solve a simple chi square problem based upon coin flips. He used the chalkboard actively to complete the problem with the aid of student input. He displayed the chi square table of critical values via computer projection and reviewed its use. Dr. Gallagher then engaged the class in another "one-way" chi square problem by having the students generate current movie names and filling in hypothetical national box office sales figures for the expected values. As with the first problem, Dr. Gallagher led the students through the steps necessary to solve the problem and evaluate the hypothesis that his local movie theater sales figures matched the national trends. After completing this second demonstration problem, he then named the test they had been doing and explained it in relation to the two examples they had used. He then previewed the type of chi square test (test for independence) that would be covered in the next class and dismissed class with a reminder about Monday's quiz.

CLASS RESPONSE (Attentiveness, Questions Raised, Responses to Inquiry, Discussion):

Class was attentive throughout the period, occasionally asking and answering questions and consistently engaging with the calculations for the demonstration problems. Students seemed

Signature of Observed Faculty Member:  Date: 1/5/18
(Signature indicates this completed form has been read but does not necessarily indicate agreement with its contents.)

Signature of Faculty Observer:  Date: 1/4/18

comfortable in the classroom environment and were generally able to answer the questions they were asked, at times with just a little assistance from the instructor. At one point, a student correctly challenged the way that Dr. Gallagher had written the results of the statistical test on the board. He had inadvertently reversed the “less than” symbol in presenting the p value. Students only occasionally had questions of their own, but this was not surprising given the nature of the topic.

TEACHER RESPONSE (Enthusiasm, Motivation, Attitude, Quality of Communication):

Dr. Gallagher is a seasoned instructor who appeared to have an excellent rapport with his students. There was occasional good-natured banter, e.g., around a student’s use of a calculator for an easy calculation and when Dr. Banna dropped off a cup of coffee for Dr. Gallagher. But even in kidding with the student about her reliance on the calculator, he still was able to plug an important teaching point about “resisting the calculator impulse.” His verbal style, pacing, and use of the chalkboard were effective and kept the students engaged and motivated. Even with material he has obviously taught many times over, he maintains a freshness with his examples and teaches with enthusiasm and concern.

CONCLUSIONS:

Dr. Gallagher enjoys an outstanding reputation for his teaching, and it is easy to see why. His teaching techniques and lecture style are clear and effective. Even in a statistics class and with students who have previously shown struggles with the material, he has created a comfortable but engaging classroom environment and maintains an excellent rapport with students.

Response by Observed Faculty Member (if desired):
(Attach response to completed form).

Signature of Observed Faculty Member: SLG Date: 1/5/18
(Signature indicates this completed form has been read but does not necessarily indicate agreement with its contents.)

Signature of Faculty Observer: Frederick A. Joth Date: 1/4/18



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Please follow the guidelines provided at the back of this *Journal*.

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Performance of Grapheme-Color Synesthetes on a Color Sorting Task that Employs Graphemes

Faith McConnell • Shawn P. Gallagher, Ph.D. • Mark Snyder, Ed.D. • Millersville University of Pennsylvania

Introduction

Color perception is not universal and, for the people who do have color vision, it still may vary. As many as 8% of men have an inherited deficiency in color perception and a small fraction of women (less than 1%) have the ability to see an unusually wide variety of colors (Gegenfurtner & Sharpe, 1999). This variation is often due to differences in the anatomy of the human eye (e.g. *photoreceptor* deficiencies) but some of it is due to how the brain processes color. Some people even experience specific, vivid colors when viewing particular printed letters, regardless of the text's color. These people have one form of an unusual condition called *synesthesia*. Brain scientists believe that these strange experiences are due to "crossed wires" in the brain that activate color detecting parts of the brain whenever specific letters or numbers are viewed (Ramachandran & Hubbard, 2001). Although unusual, synesthesia is not rare and may affect as many as 1 in 200 people (Ramachandran & Hubbard, 2001). Few of these people (called *synesthetes*), however, realize that their experiences are atypical, but some know that they are unusually particular about color choices and select font colors that "fit" the characters and symbols in their creative works (unpublished observations). For example, one of our student synesthetes printed his resume using only dark green and brown text because, according to him, these colors "matched" his two initials which appeared in bold capitalized text at the top of the document.

Our aim is to draw attention to this fascinating phenomenon and determine if synesthesia shapes the perception of text, or if it is an intermittent experience that can be "tuned out" when, for example, the demands of a printing project contradict a synesthete's perception of congruence. We believe that our findings shed light on a little-known phenomenon that may be affecting the subjective nature of design and experience.

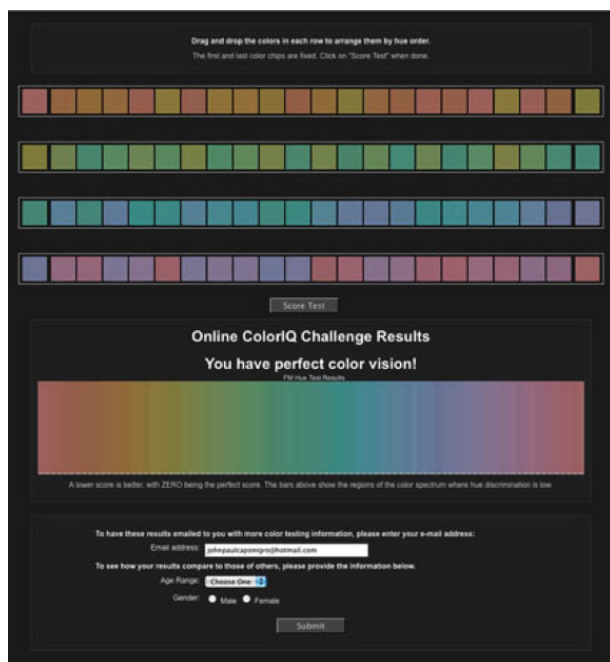
Testing Color Vision

The human eye contains two kinds of light-sensitive cells that convert light to a neural message that the brain can process. Rods are cells that operate in low light conditions and provide no color information; cones function when light is abundant and create the foundation for color vision. Color perception, therefore, starts with the cones in our eyes which respond best to short (usually seen as blue), medium (usually seen as green or orange), and long-wavelength (usually seen as red) light. Fewer than five percent of people have atypical color vision due to non-functioning cones and, at least in the United States, these people are often diagnosed as children during routine eye exams. Other differences in color perception are more difficult to identify. Although most people see color using the same three cones, the cortical (or brain-based) part of color perception is equally important. Cortical processing, like image processing software, may compromise or enhance color vision in ways that are more difficult to detect.

The Farnsworth-Munsell 100 Hue Test (100 Hue Test, X-Rite, Grand Rapids MI) uses color-sorting to measure color discrimination ability (Figure 1). The test can, of course, diagnose typical forms of color blindness, but it can also be used to monitor slow changes in color perception caused by eye diseases. The test consists of four trays of 85 sortable colored caps that span the visible spectrum and the objective is to arrange the caps into a spectrum of hues that varies progressively from one color to the next. Interested readers can explore a publicly available version of the task by Daniel Flück (www.color-blindness.com). This computer-based test is automatically administered and scored but is otherwise like the original. Instead of manually sorting disks on a table, participants use a computer mouse to sort colored tiles displayed on a monitor (Figure 1).



Figure 1: (Above) The Farnsworth-Munsell 100 Hue Test (100 Hue Test, X-Rite, Grand Rapids MI) uses color-sorting to measure color discrimination ability. (Below) The participants use a computer mouse to sort colored tiles displayed on a monitor. This computer-based test is automatically administered and scored but is otherwise like the original.



Synesthesia

Synesthesia is a perceptual phenomenon in which stimuli in one sensory modality evoke experiences in another. For example, some people experience specific colors when they hear specific notes played on a piano; others associate tastes with shapes. Grapheme-color synesthesia may be the most common and easiest to objectively verify and, like color blindness, is often heritable (Ramachandran & Hubbard, 2001).

When an individual has grapheme-color synesthesia, they experience color when viewing certain, but not necessarily all, graphemes (letters, numbers, or other printed symbols) even when they are printed in black on white paper. For example, if a grapheme-color synesthete is shown the letter "A" they may experience a red glow, or *photism*, around the letter but fully realize that the color they "see" is in their mind, not on the paper. Synesthesia has been recognized for more than a century (Galton, 1880), but only recently have scientists been able to validate these experiences by showing synesthetes perform exceptionally well on tasks that involve visually searching for specific letters that "pop-out in color" when printed in black and white (Ramachandran & Hubbard, 2001). For example, finding a letter "F" in a sheet full of "Es" is difficult for most people, but if a synesthete associates "F" with red and "E" with green, the task is as easy as spotting the only ripe apple in a tree.

Eagleman, Kagan, Nelson and Sarma (2007) have demonstrated that the strength of synesthetic experiences can be measured with computerized tests that repeatedly present participants with graphemes while asking them to choose the associated color from an enormous array of hues. The strength of the synesthetic association is quantified from the consistency in color choices across multiple presentations (Figure 2). Synesthetes find such tasks easy and are reliable in the way they match specific letters with specific colors; non-synesthetes find these tasks impossible.

One proposed reason as to why synesthetes see colors when looking at graphemes might be that stray neural connections are linking and accidentally activating neighboring brain regions (Ramachandran & Hubbard, 2001). Two brain regions believed to play a role in synesthesia are the V4 color center (so called because it is the *fourth* in a group of visual processing areas) and the nearby posterior temporal grapheme area (PTGA), which

is active when people view numbers and text. Neurons in the V4 color center are commonly activated in response to color but stray connections from the PTGA might reach V4 and trigger the sensation of color when colorless letters are viewed (Nunn, Gregory, Brammer, Williams, Parslow, Morgan & Gray, 2002).

Currently, researchers and vision scientists still do not know if this miswiring offers synesthetes an advantage or disadvantage. Bannissy et al. (2009) found that, when graphemes were not involved, synesthetes demonstrated enhanced color discrimination abilities as measured by the Farnsworth-Munsell 100 Hue Test. The researchers used the cap-sorting task in the typical fashion and found that grapheme-color synesthetes have unusually good color discrimination skills, perhaps as a result of having more brain regions involved in color processing.

Although synesthesia might improve color discrimination when graphemes are not involved, it might create a disadvantage when synesthetes must sort or arrange colored text. Smilek, Dixon, Cudahy, and Merikle (2001) showed how synesthesia can lead to confusion in some specific situations. They instructed synesthetes to find specific characters, or "targets," presented against backgrounds that were either congruent or incongruent with the color of the target's photism. They found that, for example, if a synesthete experienced the digit "5" as red, it was easy for them to spot it among other digits that evoked the experience of green, provided the digits were displayed on a white background. However, they also found that the same task was difficult when the digits were presented on a background that was congruent with the color of the target's photism; the same red photism that made the digit "pop out" on a white background could camouflage it on a red background.

Purpose of the Study

Color-grapheme synesthetes are good at color sorting tasks, but certain graphemes might confuse their perceptual abilities in specific situations. The purpose of this study was to determine if photisms can affect a synesthete's performance on a color discrimination task when it involves sorting colored graphemes, rather than caps or blocks. Synesthesia may give graphic designers better color discrimination skills when they are sorting and arranging non-grapheme objects, however, graphemes might evoke photisms that can confuse a

synesthete's ability to discriminate or match colors. This effect could have tremendous implications each time a synesthetic designer chooses a font color for either print or video display. The current study combined themes from the previously mentioned research and examined grapheme-color synesthetes' performances on color hue sorting tests that used graphemes chosen to minimize and maximize the odds of color confusion.

Our first task was to develop a computerized Grapheme Hue Test so our participants would be able to sort colored "A"s and "B"s or "4"s and "5"s instead of colored disks (as in the original 100 Hue Test) or colored square tiles (as in the computer-based version of the 100 Hue Test). If the synesthetes had great difficulty sorting, for example, an array of "A"s that were displayed in shades of green, it could be because the actual printed colors don't match the color of the letter's associated photism. If a particular grapheme was among those that did not generate a specific colored photism, we would expect the synesthete to have no difficulty in sorting colored letters. Such findings would support the theory that synesthesia can affect color perception and discrimination skills when the affected individual is manipulating colored graphemes. We predicted that synesthetes would commit more errors and require more time when sorting colored graphemes that generate photisms than when sorting colored graphemes that do not.

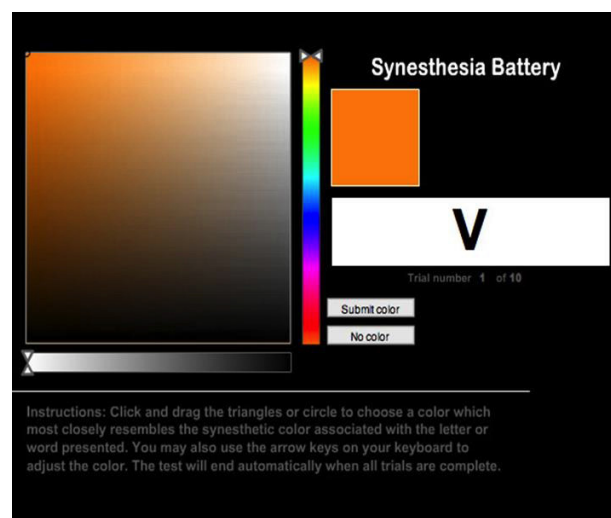


Figure 2: Screenshot from the Synesthesia Battery (Eagleman et al., 2007).

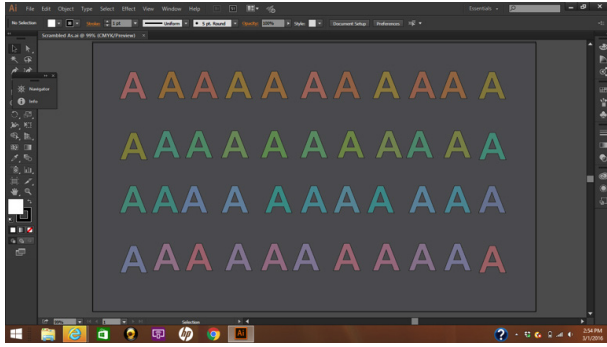


Figure 3: Grapheme Hue Test modelled on the computer-based Farnsworth-Munsell Color Hue Test.

Method

Participants

This study was conducted with the approval of the Institutional Review Board. Candidate synesthetes were recruited from a population of undergraduates and classified using the system developed by Eagleman et al. (2007) through the Synesthesia Battery that is publicly available at www.synesthete.org (Figure 2). Six confirmed synesthetes performed the full battery of tests and received \$25 gift cards for their time.

Procedures

We used Adobe Illustrator (Adobe Systems, San Jose CA) to create the Grapheme Hue Test which generated grapheme arrays in colors that matched those used in the computer-based 100 Hue Test (Figure 3). We also made our test shorter than the original by increasing the step increments and employing 36 sortable elements, rather than 85. Finally, we validated our test by administering it to eight participants who had also taken the computer-based 100 Hue Test. Participant scores on the original 100 Hue test were highly correlated with scores on our Grapheme Hue Test, $r(6) = .97, p < 0.01$.

Figure 3 shows one unsorted set of graphemes in the Grapheme Hue Test. The synesthetes had four grapheme sets to sort; first, they sorted two scrambled sets of graphemes for which they had no photisms, these were control trials, and then two for which they did, these were photism trials.

To score performance on the Grapheme Hue Tests, we assigned each grapheme a number (not visible to the participant) that represented where it should fall in a perfectly sorted array. We then calculated a deviation

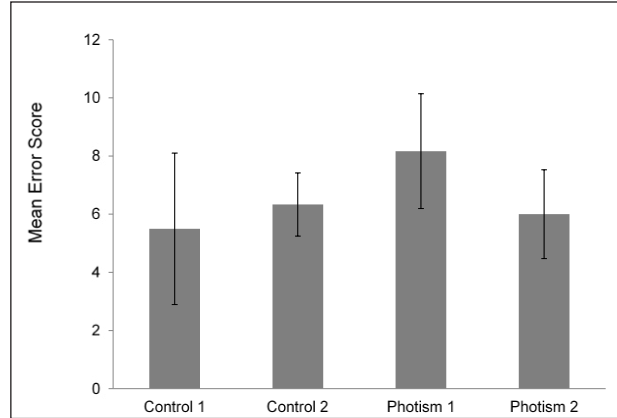


Figure 4: Mean deviation scores for participants in each phase of the grapheme sorting task. A one-way ANOVA demonstrated no significant difference across conditions, $F(3, 20) = .38, p > 0.05$.

scores for each trial per the methods described by Bannissy et al. (2009). Lower scores indicated fewer errors and a score of 0 indicated that all graphemes had been perfectly sorted. We recorded times and deviation scores for each trial.

Results

We hypothesized that synesthesia could create confusion in a color sorting task and that synesthetes would have higher deviation scores in the photism trials than the control trials. A one-way ANOVA demonstrated no significant differences in mean deviation scores across the four trials, $F(3,20)=.38, p > .05$ (Figure 4).

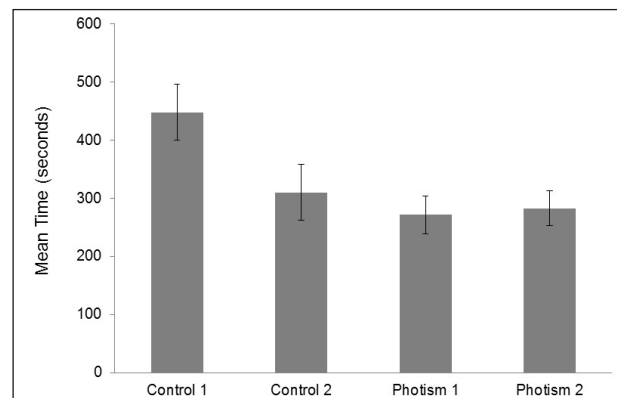


Figure 5: Mean time required for participants to complete each phase of the grapheme sorting tasks. Although a one-way ANOVA demonstrated a significant difference across the four conditions, $F(3, 20) = 4.00, p < 0.05$, a post-hoc Tukey test showed no significant differences among Control 2 and the Photism 1 and Photism 2 conditions ($HSD = 161.29$ sec).

We also hypothesized that synesthetes would require more time to sort colors in the photism condition than they would for the control condition. This hypothesis could not be supported. A one-way ANOVA revealed a significant difference among the four conditions $F(3,20)=4.00, p<.05$, but a *post hoc* Tukey test revealed that the difference was only between the first control condition and each of the remaining three. This result was contrary to our expectations and most likely shows a practice effect; participants struggled a bit while learning the task during the first trial, but improved on subsequent trials (Figure 5). Switching the participants from the control to the photism trials did not lead to a sudden decrease in performance.

Discussion

We developed a grapheme sorting task that effectively tested color discrimination ability but, contrary to our expectations, synesthetes did not differ in their ability to sort photism and non-photism graphemes. The results of this study suggest that synesthetes quickly adapt to their photisms or that they can ignore them when necessary. Although we cannot conclude that synesthesia has no effect on one's ability to sort or discriminate printed graphemes, these effects are probably small and certainly would not preclude one from a career in graphic design. When one synesthete in this study was asked if our sorting tasks were difficult, he replied that he could "eventually ignore the shape of the letters and only focus on the colors." Almost all of our participants reported a similar ability. Although synesthetes perceive photisms and associate specific graphemes with specific colors, our data give us no reason to suspect that synesthesia significantly compromises color discrimination skills.

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Glossary of Terms

Cortical — involving or resulting from the action or condition of the cerebral cortex— that part of the brain that functions chiefly in the coordination of sensory and motor information.

Grapheme — a unit within a writing system—such as letters and numbers.

Grapheme-color Synesthesia — a person with grapheme-color synesthesia will associate colors with letters and numbers involuntarily. For example, when shown the letter "A" they may sense red.

Photism — a synesthetic visual sensation. To synesthetes, it is an involuntary, consistent and memorable response.

Photoreceptors — a receptor for light stimuli. There are two types of photoreceptors in the human eye: rods and cones.

Synesthesia — a neurological phenomenon in which stimulation of one sensory or cognitive pathway leads to automatic, involuntary experiences in a second sensory or cognitive pathway. For example, it can involve associations between letters, shapes, colors, tastes, smells, etc. People who experience these crossover associations are known as synesthetes.

Eastern Psychological Association

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Your Submission

Submitted by: Barney Beins, PhD (Ithaca College)

Email: beins@ithaca.edu

Professional level: Faculty

Submitted on: 2017-11-15 10:32:33

Type: Symposium

Primary Category: Teaching of Psychology

Secondary Category: Undergraduate Research

- I am willing to serve as chair (also for another session in the case of Symposium).
- This submission may be considered in a category other than the primary and secondary categories.

Title: APA's Recent Tools for Teaching and Research: Data, Content, and Assessment

Presentation(s): The Online Psychology Laboratory: Now it's mobile: Bernard Beins (Ithaca College)

Introducing the "Gist" of Inferential Statistics with The Online Psychology Laboratory: Shawn Gallagher (Millersville University)

APA's Online Resources for Educators: Jennifer Thompson (University of Maryland University College)

Short abstract: The American Psychological Association has developed new pedagogical tools. In this symposium, we will describe the new version of the Online Psychology Laboratory's data collection modules and content pages that have been renovated to make them more accessible for students with mobile devices. We will also detail specific applications for using OPL's data for in introducing inferential

statistics. Finally, we will broaden the discussion to include APA's new assessment tools for associate and baccalaureate programs.

Long abstract: Fellow

The Online Psychology Laboratory: Now it's mobile
Bernard C. Beins
Ithaca College

The Online Psychology Laboratory has undergone significant revision to make classroom data collection more accessible to students. The renovation features data-collection modules accessible from standard computers and from any mobile device so students can learn research by generating data that can be combined with data sets from other classes for meaningful statistical analysis. In addition, OPL provides static resources that students can use for learning a wide range of content material independent of data collection.

Introducing the "Gist" of Inferential Statistics with The Online Psychology Laboratory
Shawn P. Gallagher
Millersville University

The Online Psychology Laboratory is a teaching tool that offers students opportunities to participate in online experiments. Students can learn about within and between-group variance by analyzing the large, unfiltered data sets and comparing their own results to those from other institutions. Results can vary dramatically and simple exercises, like drafting frequency distribution histograms, invite explanations and discussions about why results may vary across groups.

APA's Online Resources for Educators
Jennifer L. W. Thompson
University of Maryland University College

APA's Committee on Associate and Baccalaureate Education (CABE) hosted the Summit for the National Assessment of Psychology in Green Bay, Wisconsin in 2016. The result of that Summit is Project Assessment (<http://pass.apa.org/>). Project assessment is an online repository that contains assessment tools aligned to the APA Guidelines for the Undergraduate Psychology Major: Version 2.0. Assessments are aligned not only with each guideline, but also with common content areas in psychology. In addition, the website includes resources to help with program level assessment at the associate and baccalaureate levels.

**Position Statement written by
Shawn P. Gallagher, Chair, Statewide Academic Affairs Committee**



Program Review as Justification for Retrenchment

APSCUF's February 2018 legislative assembly is scheduled to review the following statement:

APSCUF POSITION STATEMENT ON THE USE OF PROGRAM REVIEW AS JUSTIFICATION FOR RETRENCHMENT

Periodic program review is a best practice in American higher education that involves stakeholders in the continuous improvement of existing academic programs in support of the student experience.

– Opening sentence of PASSHE Policy 186-04-A; Program Review

APSCUF is committed to and appreciates the value of comprehensive and effective program review and, as recognized by PASSHE, understands that it is, first and foremost, a means of enhancing the student experience. Increasingly, however, it has been used as a tool to justify threats of retrenchment. APSCUF also recognizes that “sustainability” is one of many dimensions of program review, but we are troubled by the emphasis on this poorly-defined term which is secondary to “student experience” and “accreditation standards” in PASSHE policy 1986-04-A: Program Review.

Retrenchment has costs of its own; it should be a last-resort consideration and its broad impact on the “student experience” must be understood before it is evoked as a negotiations tool. The immediate impact on students, the long-term trends in student demand, and the relative short and long-term costs of retrenchment must be fully considered by all parties before a university acts to reduce its faculty ranks. Many relatively small programs serve vital roles in the student experience and their value cannot be derived from enrollment alone. Program Reviews, which provide a wealth of information, are diminished when their only yield is a simplified interpretation of enrollment trends aimed at proposing a single, short-sighted solution to every financial concern.

APSCUF is committed to comprehensive and effective program review as one of many ways to direct evidence-based improvements in the student experience and the quality of our university programs. We do, however, strongly recommend that the matter of evaluating “Academic Program Sustainability” (a secondary program review objective) not be the sole purpose of program review and that retrenchment not be regarded as the sole solution when “Program Sustainability” is brought into question.



Pennsylvania State System Psychology Conference

*A Forum for Psychological Research
Across the PA State System*

**Millersville University
October 27-28, 2017**

Pennsylvania State System Psychology Conference 2017

Millersville University

Friday (Susan P. Luek Hall Multipurpose Room)

6:00-6:10 – Welcome

6:15-6:45 – Pre-Conference Presentation #1

Shawn Gallagher, Ph.D.: *The Revised Online Psychology Lab: Improved Tools for Building an Engaging Methodology Course*

6:45-7:15 – Pre-Conference Presentation #2

Andrew Bland, Ph.D.: *Assessment Meets Automation: A Humanistic Psychologist's Response to Computerized Intellectual Testing*

7:15 – Adjourn to Dinner!

Saturday (Student Memorial Center)

8:00-8:45 – Registration and Breakfast (Room 118)

8:45-8:55 – Welcome (Room 118)

9:00-10:00 – Morning Keynote (Room 118)

Henry Hallock, Ph.D.: *The Molecular Logic of Fear Extinction Circuitry: Implications for Psychiatry*

10:05-10:35 – Paper #1 (Room 118)

Elizabeth Boerger, Ph.D.: *Childhood Fantasy Orientation Predicts Creativity through Openness to Experience*

10:40-11:10 – Paper #2 (Room 118)

Catherine Best, Ph.D.; Tony Williams, B.S.; Allison Crouse, B.S.; and Paola Cordova, B.S.: *How Do Everyday Interactions with Diversity Influence Children's Face Recognition?*

11:15-12:15 – Poster Session (SMC Multipurpose Room)

12:15-1:10 – Lunch (SMC Multipurpose Room)

1:10-2:10 – Afternoon Keynote (SMC Multipurpose Room)

David Baker, Ph.D.: *Finding the History of Psychology in Unexpected Places*

2:15-2:45 – Paper #3 (Room 118)

Kelly Banna, Ph.D.: *What We've Got Here... Is an Opportunity to Replicate*

2:50-3:20 – Paper #4 (Room 118)

Nicolle Mayo, Ph.D.: *The Magic of Introspection in the Classroom*

3:25-3:55 – Paper #5 (Room 118)

Shaun Cook, Ph.D.: *A Neuropsychological Investigation of Source Memory, Highlighting Contributions from the Frontal Lobes*

4:00 – Closing Remarks and Adjourn

*** FRIDAY ***

PRE-CONFERENCE PRESENTATIONS

6:15PM

Shawn Gallagher, Ph.D.

Millersville University

***The Revised Online Psychology Lab:
Improved Tools for Building an Engaging Methodology Course***

The Online Psychology Lab (OPL) is supported by the Education Directorate of the American Psychological Association and aims to improve the teaching of psychology in colleges and high schools. It offers free, online experiments from different domains of psychology and, more importantly, gives students and instructors direct access to raw data sets, making it ideal for methodology courses. I will review ways to use the OPL in the classroom, demonstrate some (useful) limitations, and describe upcoming modifications.

6:45PM

Andrew Bland, Ph.D.

Millersville University

Assessment Meets Automation:

A Humanistic Psychologist's Response to Computerized Cognitive Testing

Vrana and Vrana (2017) recently published an article that explored the feasibility of fully computerized cognitive testing—a “direction in which test publishers may be heading” (pp. 1-2). They concluded that “where automation of assessment will go, and what the psychologist’s role in assessment ultimately will be, are unsettled questions in a rapidly changing environment, and merit attention and discussion” (p. 7). My presentation will propose pros and cons of computerized cognitive testing for both examiners and examinees in light of humanistically-oriented literature on the impact of automation upon human consciousness as well as creativity. Particular emphasis will be given to the philosophical, ethical, and social issues raised by the advent of computerized cognitive testing, as well as to the importance of balancing the role of the examiner with the phenomenological experience of the examinee in the process of person-centered assessment. Throughout the presentation, I will provide illustrations based on my experience administering, scoring, and interpreting cognitive instruments as well as instructing a graduate course in cognitive assessment.

*** SATURDAY ***
KEYNOTE ADDRESSES

9:00AM

Henry L. Hallock, Ph.D.

Millersville University, '10;

Lieber Institute for Brain Development, Johns Hopkins Medical Campus

***The Molecular Logic of Fear Extinction Circuitry:
Implications for Psychiatry***

Cognitive deficits are a core component of many neuropsychiatric diseases, but we have yet to understand how these deficits arise in mental illness and how to treat them. In this talk, I will touch on how Psychology and Neuroscience can inform Psychiatry by 1)



2) outlining methodological advances in Neuroscience over the past decade that can be used to probe brain function and behavior with exquisite detail; 2) demonstrating how these techniques can be applied to understanding the neural mechanisms underlying cognition in the healthy brain, and; 3) giving examples of how these approaches might be used to treat a specific behavioral/cognitive phenotype (fear extinction deficits) commonly observed in post-traumatic stress disorder (PTSD). It is my hope that this talk will serve to further open the channels of communication between laboratory

scientists and clinicians who share the common goal of ameliorating mental illness, and provide an update on state-of-the-art techniques currently used in the neuroscientific community to probe function in both the healthy and diseased brain.

1:10PM

David B. Baker, Ph.D.

Millersville University, '78;

Executive Director of the Center for the
History of Psychology, University of Akron

***Finding the History of Psychology
in Unexpected Places***

The material culture (objects and artifacts) of psychology provides important and illuminating entry points into understanding our science and practice. This talk will examine the ways in which objects can be contextualized to tell us about ourselves, our culture, and the history of psychology.



PAPERS

10:05AM

Elizabeth Boerger, Ph.D.

Slippery Rock University

Childhood Fantasy Orientation Predicts Creativity through Openness to Experience

Childhood fantasy proneness is related to creative performance, but no research has examined how the personality factor 'openness', which also predicts creativity, may impact this relationship. 465 participants (56% female; M age = 24 years, SD = 13.26) completed measures of fantasy proneness (the Creative Experiences Questionnaire, CEQ), Big 5 personality traits (the Ten Item Personality Inventory, TIPI), and an objective divergent thinking test of creativity. After controlling for age and gender, there were significant correlations ($ps < .01$) between childhood fantasy proneness (items 1-6 from the CEQ) and openness ($r = .13$), and between openness and creativity (number of responses-fluency, $r = .18$; number of categories of responses-flexibility, $r = .17$; uniqueness of each idea-originality, $r = .23$). Mediation analysis revealed that openness was a significant mediator of the links between childhood fantasy proneness and creativity scores for fluency, flexibility and originality.

10:40AM

Catherine Best, Ph.D.

Tony Williams, B.S., Allison Crouse, B.S., and Paola Cordova, B.S.

Kutztown University (P. Cordova is now at Millersville University)

How Do Everyday Interactions with Diversity Influence Children's Face Recognition?

The other-race effect suggests that people typically have better memory for newly learned faces of one's own race vs. another race (e.g., Kelly, et al, 2008; Meissner & Brigham, 2001). The current study tested children's recognition of unfamiliar Black, White, and Latino faces, using typical and distinctive exemplars within each race. We familiarized 5- to 7-year-olds to a series of 12 faces within the context of a story, and then tested their memory of 12 old vs. 12 new faces. Hit vs. false alarm rates revealed that children with more daily diversity (i.e., regular interactions with other-race neighbors, caregivers, relatives, or peers) recognized significantly more faces than children with less daily diversity, suggesting that routine experiences with other races can counteract the traditional other-race effect. Furthermore, memory for other-race faces was more pronounced if the faces were distinctive looking as opposed to typical looking, replicating previous research results (Newell, 2005).

2:15PM

Kelly Banna, Ph.D.

Millersville University

What We've Got Here... Is an Opportunity to Replicate

In 2015, the Open Science Collaboration (OSC) published a paper in *Science* describing a massive undertaking to replicate 100 previously published studies in the areas of cognitive and social-personality psychology. The OSC reported a success rate of under 50%, prompting concern over what has come to be known as the “replication crisis” in psychology. The degree to which these results accurately represent the state of psychological science has been hotly debated, and I will not relitigate those arguments in this talk. Rather, I will focus on the fact that this debate has, at the very least, reminded the scientific community about the importance of replication, and propose that those of us who teach at primarily undergraduate institutions are ideally situated to carry out such studies.

2:50PM

Nicolle Mayo, Ph.D.

Mansfield University

The Magic of Introspection in the Classroom

This presentation is based on a qualitative study that investigated undergraduate student perceptions of experiential learning in an introductory counseling course. Seven students reflected on how five teaching strategies impacted their understanding and application of the course material. Teaching strategies consisted of weekly peer counseling sessions and reflections, professor disclosure, chapter reflections, in-class role-plays, and in-class group or think-pair-share activities. Phenomenological analysis identified strengths in how these methods contributed to significant introspection based on student perceptions of experiential learning, among many other outcomes. These results are not comprehensively generalizable, but provide meaningful data connected to the introspective processes at work in vulnerable experiential exercises. The resulting internalizations can be best understood through a developing model about introspection processes, which may guide psychology professors in how to increase student internalized learning and better understand student experiences, while also creating the right environment for student curiosity, application, and practice beyond the classroom.

3:25PM

Shaun P. Cook, Ph.D.

Millersville University

***A Neuropsychological Investigation of Source Memory,
Highlighting Contributions from the Frontal Lobes***

The memory literature commonly refers to source memory as a single form of memory. However, there are data to suggest that source memory is not a uniform cognitive process; rather, it is a category subserved by multiple processes. To investigate whether source memory is a single process, young adults, older adults, and patients suffering from Parkinson's disease were tested on both item memory and source memory. Importantly, the source memory test included probes for variable forms of contextual information. The results suggest that source memory should not be considered as a single cognitive process, but raise questions regarding the contributions from the frontal lobes to source memory ability in patients suffering from Parkinson's disease.

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Dr. George Drake (Dean, College of Education and Human Services)
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Keisha Patterson (Office Manager, Psychology Dept.)

***Thank you for your interest
and participation in this conference!***

Online description of the upcoming conference for the **Northeastern Evolutionary Psychology Society**. I was invited to be part of a four-person committee to review paper and poster submissions for this conference.



The screenshot shows a web browser window displaying the website for the Northeastern Evolutionary Psychology Society (NEEPS). The browser's address bar shows the URL `neepsociety.com/upcoming-conference/`. The website header features the organization's name, "NorthEastern Evolutionary Psychology Society", with the tagline "Applying Evolutionary Principles to Mind and Behavior". A green navigation bar contains links for "Next Conference", "Past Conferences", "Join!", "EBS", "Officers", "Students", "Fellow Program", "News Archive", "Documents", and "More!".

The main content area is titled "Upcoming Conference" and contains the following text:

The Northeastern Evolutionary Psychology Society's 12th Conference on the Evolutionary Behavioral Sciences (NEEPS XII) will be held on the campus of SUNY New Paltz in New York's Hudson Valley, April 19-22, 2018. This will be the fourth time that New Paltz will host NEEPS – and the New Paltz Evolutionary Psychology Lab, directed by Glenn Geher, is very much looking forward to hosting another great conference. The [CALL FOR PROPOSALS](#) is OPEN. Submissions are due on November 15, 2017. We welcome a diverse set of presenters and we encourage any submissions relating to evolution and behavior from all disciplines and fields. The theme for NEEPS XII is "What is your next big idea?"

Below the text, there is a section for "Keynote Speakers:" which includes a black and white photograph of a smiling woman with blonde hair, likely a keynote speaker, standing in front of a rocky coastline.

To the right of the main text, there is a logo for NEEPS, which features a stylized map of the Northeastern United States with a silhouette of a human figure in the center, and the acronym "NEEPS" in large, bold, green letters below it.

Below the logo, there is an "About Us" section with the following text:

NEEPS, the NorthEastern Evolutionary Psychology Society, started as a regional sister organization of the Human Behavior and Evolution Society in 2007. Now into our second decade of business, NEEPS continues to provide extensive opportunities for the advancement of the evolutionary behavioral sciences. We welcome all researchers and students with interests along these lines. NEEPS is designed to facilitate interactions among scholars who study psychological questions from an evolutionary

The browser's status bar at the bottom shows a message: "It looks like you haven't started Firefox in a while. Do you want to clean it up for a fresh, like-new experience? And by the way, welcome back!" and a "Refresh Firefox..." button.

Hi, Mike

I'm honored and happy to assist. Thanks for considering me and I look forward to working with you.

Good luck with the tenure bid!

Thanks,

Shawn

On Dec 22, 2017, at 5:24 PM, Michael Frederick <mfrederick@ubalt.edu> wrote:

Dear Shawn,

I write to you today because I am currently serving as Program Chair for the NEEPS 2018 conference, which will be held in New Paltz, NY in April. I am currently tasked with recruiting raters for the abstracts that have been submitted. As someone who has attended NEEPS in the past, but does not have any abstracts under consideration this year, you are a perfect candidate!

We have received about 35 talk proposals and 35 poster proposals this year. The evaluation process is pretty straightforward. If you are available to rate them, I will send you a spreadsheet of the abstracts with identifying information removed. You will simply rate each talk proposal on a scale of 1-5. For the posters, a simple thumbs up or thumbs down will suffice. My hope is that this will be a quick and easy task that will allow you to get a sampling of the types of projects people in the field are working on. If you do not currently have the time to devote to this, I totally understand. We are aiming to have the decisions made by early to mid January. Please let me know either way.

Thanks for your consideration and have a great winter break!

Best regards,
-Mike

—

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