

MindMatch Chess Research Internship
PSYC 494
FA14

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Office Hours: Thurs 10am-12pm or by appointment
Weekly research team meeting/seminar: Fridays: 11am to noon in 800 W Franklin Street (Room 106)

Course Options

<i>Call #</i>	<i>Course</i>	<i>Units</i>	<i>Weekly Hours</i>	<i>Total Hours/Semester</i>
31170	Psyc 494	3	9 hours	135 hours

Course Description

This internship entails working on the MindMatch Chess project. This is an internationally collaborative research project between the University of Cambridge, VCU and Ashley-Parr, Inc., funded by the US Department of Education's Institute for Education Sciences. The goal of the research is to identify whether chess improves thinking and reasoning skills, and academic achievement. Our team partners with Richmond public elementary schools to provide afterschool chess programs 3 days/week. Team members serve as chess coaches and mentors, help prepare materials and run chess activities. In addition, they receive training to assist with collecting data at local chess tournaments, administering assessments to children, scoring and entering data, maintaining project materials and completing other activities related to successful completion of the project.

* SPECIAL NOTE: This PSYC 494 involves community-based research with children as such you will be required to complete the Richmond Public Schools (RPS) volunteer screening process. If you fail the RPS screen or faculty or senior research staff determine you are not suited to work with children in a school setting, you will be asked to withdraw from this PSYC 494 course.

Course Goals

As part of this course, you will learn:

1. to work as a member of a team
2. to value diversity of background and experience
3. new skills in one or more of the following areas: administering and scoring cognitive assessments, gathering attitudinal data from students in ways that protect their rights, using SPSS to enter and analyze data
4. to read and critically evaluate research articles
5. to present research articles to a group
6. about the process of research from conceptualizing a research question, to collecting, cleaning, analyzing data, and presenting findings
7. about the ethics of conducting research with humans, and the process of getting approval from an Institutional Review Board (IRB)
8. about professional associations and conferences and how to prepare a proposal, and poster
9. about graduate school, including different programs, the application process, being a graduate student

Course Schedule

Must be able to work in the afterschool program at least 2 days/week, program hours are M-TH 4pm-5:30pm. Attendance at weekly research meetings on Fridays in 800 W. Franklin Street (Room TBA) is required. If assigned primarily to do lab work, work must be completed during designated lab hours, which are more flexible and posted on the lab door (808 W Franklin St, rm 106). Additional hours for training may be required depending on the student's skill-level.

Evaluation

Your final grade/internship evaluation will be based on the following (details are provided in pages following):

Timely completion of CITI-Training	10%
Leading a class discussion of a relevant research article	10%
Research poster proposal	25%
Timely completion of lab work (data entry/ coding)	25%
Supervisor ratings (15% at midterm and 15% at end)	30%

The grade will be based on the sum of the earned scores according to the following scale.

A = 93 – 100	B+ = 87 – 89	C+ = 77 – 79	D+ = 67 – 69
A- = 90 – 92	B = 84 – 86	C = 74 – 76	D = 60 – 66
	B- = 80 – 83	C- = 70 – 73	F = < 60

Citi-Training: Collaborative Investigator Training Initiative (CITI) is required human subjects protection education for all team members. Details can be found here: <http://www.research.vcu.edu/irb/citi.htm#basic>. Register with a user name and password. WRITE THESE DOWN. You will need it if you don't complete the training in one sitting.

- Sign in as a Research Assistant.
- Complete the Social-Behavioral modules only (Social and Behavioral Conduct of Research Curriculum AND Basic Course Human Subjects Research Curriculum).
- You MUST pass **each** module at 80% or higher. Please retake the test for each section until you achieve at least 80%. Please print BOTH of your certificates of completion and bring it to the lab no later than September 4 at our weekly meeting time.

Lead One Discussion: Each student will sign up to lead a lab meeting discussion during the semester. The discussion should be based on at least one journal article related to the research being conducted. A list of required reading, as well as possible presentation journal articles are provided on the last page of this syllabus. All articles will be posted on a shared gmail drive. The student should present information about the study, focus on information about the study that relates to the question, integrate this with the identified reading, and lead a 30-minute discussion. If you decide to select your own research article, you must submit the citation to me, and the article should be posted/ given to the team one week ahead of the discussion.

Research Study Proposal: You are going to develop a 1 page single-spaced document, 12 point font, 1 inch margins all the way around that includes: Poster Title, a 50-word abstract describing the proposed research, and 500-word supporting summary, which includes the 4 sections of a typical research article: introduction, method, results and discussion.

On Time Attendance

Please treat this internship with the same level of seriousness as you would a formal JOB. You are not expected to work on public holidays, nor when the university is closed unless prior arrangements have been made. Five points out of 25 total points will be deducted for each absence after the first 2 excused absences from any of the required activities. Unexcused absences will result in a deduction of 8 points out of 25. Excused absences are due to illness or other unavoidable conditions (e.g., death in family, car-breakdown, etc) and the supervisor is notified ahead of the absence. Notification alone does not make an absence excused. Students need to receive verification from the supervisor that the absence is excused. You will sign in at your designated field location (school) and when you work in the lab using XPUNCH (an electronic time-keeping program). When you log your hours, you will also specify what activity you were engaged in during the times logged. A link to xpunch will be sent to you via email after the first research team meeting.

Supervisor Ratings

The student's assigned supervisors include the graduate research assistant who will be supervising daily lab activities and/or Dr. Teresa Parr who will be supervising the implementation of the chess program and data collection at local chess tournaments (currently scheduled for the following Saturdays: Sept. 20, Oct 4, and Nov 15) will complete the rating scale included with this syllabus at the midpoint of the semester and complete it again at the end of the semester. The supervisors will review the ratings with the student. The ratings will be summed and result in the score out of 15 for each of two rating times.

Supervisor Ratings Form

Student Name _____ Supervisor Name _____

Date Ratings Completed _____ Number of Excused Absences _____

Number of Unexcused Absences _____

Place a mark in the box that best represents the level of the student's work on this research project. A mark in the "3" box means that the student exhibits these characteristics at a level of an undergraduate student who is likely to be able to successfully go on to graduate school. His/her performance is exemplary. A mark in the "1" box means that the student has performed so poorly that the supervisor has had to limit the roles offered to the student because his/her performance risks compromising the project by performing so poorly on tasks.

Rating	3	2	1
Student arrives and leaves at the scheduled time (if there has been more than one tardy or early departure, a score of 5 should not be given)			
Student completes assigned work on time			
Students work is high quality Student produces work void of errors the first time The product of his/her work meets the assigned criteria			
Student actively participates in supervision meetings Comes with questions Generates ideas Brings relevant materials			
Student communicates effectively with supervisor and others Speaks in a professional manner Is respectful Communicates essential information Is assertive and tactful			

Students with disabilities

Students seeking adjustments or accommodations must self-identify with Ms. Joyce Knight (jbknight@vcu.edu, (804)828-2253, Student Commons), the coordinator of services for students with disabilities. After meeting with the coordinator and before the first assignment is due, I encourage you to meet with me to discuss your needs.

Honor policy and student conduct

We will follow VCU's honor code policy http://www.provost.vcu.edu/pdfs/Honor_system_policy.pdf and policies related to student conduct <http://www.provost.vcu.edu/pdfs/policies/FacultyGuideToStudentConductInInstructionalSettings.pdf> .

READINGS/ASSIGNMENTS

(we will review one article each week—the schedule of who will lead the discussion will be posted on Blackboard, as will a list of readings. You can select your own research article to discuss. You may also selection one from the list below.)

1. Ashcraft, M., & Kirk, E. (2001). The relationships among working memory, math anxiety, and performance. *Journal of Experimental Psychology: General*, 130, 224-237.
2. Cohen, G., Garcia, J., Purdie-Vaughns, V., Apfel, N., & Brzustoski, P. (2009). Recursive Processes in Self-Affirmation: Intervening to Close the Minority Achievement Gap. *Science*, 324, 5925, 400-403.
3. Coll, C.G., Lamberty, G., Jenkins, R., McAdoo, H.P., Crnic, K., Wasik, B.H., and Garcia, V. (1996). An Integrative Model for the Study of Developmental Competencies in Minority Children. *Child Development*, 67, 1891-1914.
4. Diamond, A. & Lee, K. (2011). Interventions Shown to Aid Executive Function Development in Children 4 to 12 Years Old. *Science* 333, 959. Plus supplementary materials at: www.sciencemag.org/cgi/content/full/333/6045/959/DC1)
5. Bialystok, E., & Craik, F. I. M. (2010). Cognitive and linguistic processing in the bilingual mind. *Current Directions in Psychological Science*, 19, 19-23..
6. Blackwell, L., Trzesniewski, K., & Dweck, C.S. (2007). Implicit theories of intelligence predict achievement across an adolescent transition: A longitudinal study and an intervention. *Child Development*, 78, 246-263.
7. Blair, C., & Diamond, A. (2008). Biological processes in prevention and intervention: The promotion of self-regulation as a means of preventing school failure. *Development and Psychopathology*, 20, 899-911.
8. Crone, E. A., & van der Molen, M. W. (2004). Developmental changes in real life decision making: Performance on a gambling task previously shown to depend on the ventromedial prefrontal cortex. *Developmental Neuropsychology*, 25, 251-279.
9. Dweck, C. S. (1986). Motivational processes affecting learning. *American Psychologist*, 40, 1040-1048.
10. Friedman, N., Miyake, A., Corley, R., Young, S., DeFries, J., & Hewitt, J. (2006). Not all executive functions are related to intelligence. *Psychological Science*, 17, 172-179.
11. Gaskins, I. W., & Pressley, M. (2007). Teaching metacognitive strategies that address executive function processes within a schoolwide curriculum. In L. Melzer (Ed.), *Executive function in education: From theory to practice* (pp. 194-215). London: Guilford Press.
12. Gathercole, S., Pickering, S., Knight, C., & Stegmann, Z. (2004b). Working memory skills and educational attainment: Evidence from national curriculum assessments at 7 and 14 years of age. *Applied Cognitive Psychology*, 18, 1-16.
13. Hong, S., & Bart, W. M. (2007). Cognitive effects of chess instruction on students at risk for academic failure. *International Journal of Special Education*, 22, 89-96.
14. Horgan, D. D., & Morgan, D. (1990). Chess expertise in children. *Applied Cognitive Psychology*, 4, 109-128.
15. Karbach, J., & Kray, J. (2009). How useful is executive control training? Age differences in near and far transfer of task-switching training. *Developmental Science*, 12, 978-990.
16. Mazzocco, M., & Kover, S. (2007). A longitudinal assessment of executive function skills and their association with math performance. *Child Neuropsychology*, 13, 18-45.
17. Meltzer, L., Pollica, L. S., & Barzillai, M. (2007). Executive function in the classroom: Embedding strategy instruction into daily practice. In L. Melzer (Ed.), *Executive function in education: From theory to practice* (pp. 165-193). London: Guilford Press.
18. Metcalfe, J., & Mischel, W. (1999). A hot/cool-system analysis of delay of gratification: Dynamics of willpower. *Psychological Review*, 106, 3-19.
19. St Clair-Thompson, H., & Gathercole, S. (2006). Executive functions and achievements in school: Shifting, updating, inhibition, and working memory. *The Quarterly Journal of Experimental Psychology*, 59, 745-759.
20. Unterrainer, J. M., Kaller, C. P., Halsband, U., & Rahm, B. (2006). Planning abilities and chess: A comparison of chess and non-chess players on the Tower of London task. *British Journal of Psychology*, 97, 299-311.