**Proposal for the Department of Psychology to award the**

**Master of Science and NOT the Master of Arts Degree**

**(4-6-18)**

**BACKGROUND**

The Department of Psychology at Ohio State offers a PhD in psychology as its only graduate program. However, like many psychology departments at Big 10 universities and universities throughout the nation, students typically earn a Master’s degree in route to the PhD. The Master’s degree is typically awarded at the end of the 2nd year of PhD study. Our Department does not admit students to a terminal Master’s program, though some graduate students who matriculate into the PhD program choose, for personal or professional reasons, to terminate their studies and receive the Master’s degree as a terminal degree if they complete all requirements of a Master’s degree, including the defense of a thesis.

Currently, our students are awarded the Master of Arts (MA) degree – that, frankly, has been a source of confusion for many years. Both students and faculty in Ohio State Psychology believe that the MA does not accurately capture a) the clear scientific bases of the issues that they research (typically brain-behavior relations), b) the tight scientific and quantitative methods that are utilized in their research, and c) the large number of science-based courses that are required as part of their graduate training. Note that this proposal was initiated by our graduate students, which reflects the strength of their conviction that they are not satisfied with receipt of an MA rather than an MS and feel that their interests would be better served, and their training more accurately acknowledged, if they received the MS degree after completion of the thesis at the end of their 2nd year in our graduate program. The faculty strongly concur. Below, we provide data supporting the sentiment of the students and faculty on this issue.

Note that we do **not** propose creating a new graduate degree program or modifying our current program. We are **not** proposing any changes to our curriculum or staffing. This is an error that should be corrected, not a change driven by significant adjustments to our curriculum or training. **The evidence for Psychology as a science is quite strong. The methodological backbone of our students research projects is closely tied to the scientific method and the analyses of our data are driven by sophisticated quantitative techniques. The didactic training given to our students is inherently scientific in nature. Finally, IT MUST BE STRESSED THE PSYCHOLOGY AT OSU HAS BEEN RECOGNIZED BY ODHE (formerly, BOR) AS A STEM DISCIPLINE AND RECEIVES STEM SUBSIDY FOR ALL RANKS OF STUDENTS.**

No additional resources are required from the Department of Psychology, the College of Arts and Sciences, or the Graduate School. This change would have no effect on faculty or administrative workload or graduate student enrollments.

**RATIONALE FOR THE CHANGE**

The MA is a generic Master’s degree awarded across the arts, humanities, and social sciences. By contrast, the MS is a specific Master’s degree awarded to those training in the sciences who have demonstrated a mastery of subject material and/or written an empirical thesis based on data collection and analysis that advance the knowledge base of a scientific discipline. We believe (i.e., our students and faculty) that the MS degree better reflects the nature of the work that our graduate students do. Although we train PhD student as our primary graduate education mission, some students do leave the university prior to completion of the PhD but after completion of a Master’s degree. We feel, as do our students, that receiving an MA rather than an MS mis-characterizes their training and places them at a competitive disadvantage when they are searching for the kinds of science-related jobs in industry and government for which they are trained. Given misunderstandings by the public in what psychology as a discipline does, it is likely recruiters trying to decide between two applicants for a position, one with an MA in Psychology and one with an MS in Psychology (or an MS in some other social science), are likely to believe mistakenly that the person with the MS is more qualified and thus award the job to the applicant with an MS. This is not good for our students or the university.

**DATA IN SUPPORT OF THE CHANGE**

Perhaps the appropriateness of the MS degree in Psychology can best be supported by an inspection of the titles of recent Master’s theses over the past years as well as an inspection of the courses (and their accompanying syllabi) that these students take in preparation for their thesis work and degree. In looking over, this material it seems absolutely clear why Psychology is seen as a STEM discipline and why we are making this request.

**Titles of Representative Master’s Theses:**

**Transient Inactivation of the Neonatal Ventral Hippocampus Disrupts Mesolimbic Regulation of Prefrontal Glutamate Release / by Dave Bortz**

**Acetaminophen, affect, and risk : an analysis of psychological and neurochemical mechanisms / by Alexis A. Keaveney**

**The association between resting cardiac vagal tone and facets of perseveration: sex as a moderating factor / by Gina M. Gerardo**

**Associations between resting heart rate variability, depressive symptoms, and autobiographical memory specificity / by Nicole Feeling**

**A biobehavioral intervention for breast cancer patients : sexuality and body image outcomes and mediators of change / by Kristen Cecilia Williams**

**Cancer-specific stress and absolute lymphocyte count trajectories in patients with chronic lymphocytic leukemia / by David Michael Weiss**

**Differences in human heart rate variability due to trait and state worry : a meta-analysis / by Jarret Mathew Holley**

**Does response modality influence conflict? modelling vocal and manual response stroop interference / by Alex Fennell**

**Does the future look bright? Visual imagery perspective moderates the impact of trait biases in expectations / by Zachary Adolph Niese**

**Extending the Johnson-Neyman procedure to categorical independent variables : mathematical derivations and computational tools / by Amanda Kay Montoya**

**Advancing the formulation and testing of multilevel mediation and moderated mediation models / by Nicholas J. Rockwood**

**Altered NMDA Receptor Structure and Function Contribute to Deficits in Forebrain-Dependent Learning and Memory in Adult Rats Exposed to Ethanol as Neonates / by Molly Goodfellow**

**Efects of Oxytocin in the Medial Prefrontal Cortex: Anxiety, Maternal Care, and Maternal Aggression / by Sara Sabih**

**Courses Students Take in Preparation for the Master’s and Ph.D. Degrees**

**Courses taken by ALL 1st or 2nd year students:**

**PSYCH 6810 "Statistical methods in psychology I": Basic concepts of descriptive and inferential statistics; includes estimation, hypothesis testing, non-parametric techniques, and analysis of variance.

PSYCH 6811: "Statistical methods in psychology II": Simple linear regression and correlation, multiple linear regression, interactions; introduction to other related methods such as nonlinear regression and random effects models.

Courses taken by all Clinical Students, all Behavioral Neuroscience Students, and some Cognitive Neuroscience students:**

**PSYCH 5613H: “Introduction to Biological Psychiatry”: For each disorder, students will learn the diagnostic classifications, presenting symptomatology, underlying neurobiological dysfunctions, and therapeutic strategies (pharmacological vs non-pharmacological).**

**PSYCH 6853: “Developmental Psychopathology I”: syllabi included**

**PSYCH 6854: “Developmental Psychopathology II”: syllabi included**

**Courses taken by all Behavioral Neuroscience Students and some Cognitive and Clinical students:**

**PSYCH 7898: “Seminar in Advanced Behavioral Neuroscience”: syllabi included**

**PSYCH 5602: “Behavioral Genetics”: syllabi included**

**PSYCH 5898: “Seminar in Behavioral Neuroscience”: syllabi included**

**Courses taken by all Quantitative Psychology Students and from many other areas of Psychology, Business, and Engineering:**

**PSYCH 6820: Introduction to Bayesian Statistics for Psychological Data
PSYCH 6822: Mediation, Moderation, and Conditional Process Analysis
PSYCH 7820: Fundamentals of Factor Analysis
PSYCH 7821: Covariance Structure Modeling (structural equation models)
PSYCH 7822: Fundamentals of Item Response Theory
PSYCH 7823: Analysis of Repeated Measures and Longitudinal Data
PSYCH 7896: Special Topics in Quantitative Psychology
PSYCH 8896: Advanced Seminar in Quantitative Psychology**

**\*\*(MANY OF THE SYLABBI FOR THESE COURSES HAVE BEEN INCLUDED IN THE ZIP FILE THAT ACCOMPANIES THIS REQUEST)**

**STUDENT AND FACULTY SENTIMENT**

The graduate students and faculty are overwhelmingly in support of changing the Master’s degree awarded from MA to MS. The movement to enact this change began in May 2017 and was initiated by the graduate students through the Psychology Graduate Student Association and then continued in discussions between the students and Department Chair, John P. Bruno. The leaders of the PGSA administered a survey first to graduate students and then, a month later, to the faculty. The data collected from this survey were compiled in June 2017. By then, 92 graduate students (of 147 currently enrolled, 63%) and 29 faculty (of 55; 53%) had responded to the survey. The survey asked respondents to indicate their position (graduate student or faculty), their departmental area (behavioral neuroscience, clinical, cognitive, decision, developmental, intellectual and developmental disabilities, quantitative, or social). The final question asked respondents to rate their “level of support for a change to an MS” on a scale from “Strongly Opposed” to “Strongly in Favor” with a middle point labeled “Indifferent”.

Overall support for the change was strong with 75% of respondents indicating strongly in favor, 10% slightly in favor, 10% indifferent, 2% slightly opposed, and 2% strongly opposed (See Table 1).

Table 1: Counts in favor and opposed by position

|  |  |  |  |
| --- | --- | --- | --- |
|  | Graduate Students | Faculty | Total |
| Strongly in Favor | 79 (85.9%) | 12 (41.4%) | 91 (75.2%) |
| Slightly in Favor | 7 (7.6%) | 5 (17.2%) | 12 (9.9%) |
| Indifferent | 5 (5.4%) | 8 (27.6%) | 13 (10.7%) |
| Slightly Opposed | 1(1.1%) | 2 (6.9%) | 3 (2.5%) |
| Strongly Opposed | 0 (0%) | 2 (6.9%) | 2 (1.7%) |
|  |  |  |  |
| Response rate | 64% | 53% | 60% |
| Percentages are percentages within columns |

The graduate students felt it was important to assess how support may vary across different areas of psychology, as an MA and an MS may carry different weight in different academic areas. Two areas were unanimously in favor of the change to an MS (Behavioral Neuroscience and Quantitative Psychology). Four areas had no responses in opposition: Cognitive, Decision, IDD, and Social. Only two areas contained students or faculty who expressed opposition to the change, but they were a clear minority. Table 2 pools the responses of faculty and students but separates responses by area.

At the end of the survey students were allowed to write additional comments. Some of the comments have been compiled below. Many students noted identifying with the term science more and how this degree will better represent the work they do in this department. Some expressed a wish that such a change could be applied retroactively so that their MA already earned could be changed to an MS.

Table 2: Counts and percentages in favor and opposed by departmental area

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | BN | Clinical | Cognitive | Decision | Develop | IDD | Quant | Social |
| Strongly in Favor | 2 (66.7%) | 31 (73.8%) | 17 (81.0%) | 4 (80%) | 7 (70%) | 7 (70%) | 7 (87.5%) | 19 (76.0%) |
| Slightly in Favor | 1 (33.3%) | 3 (7.1%) | 2 (9.5%) | 0 (0%) | 1 (10.0%) | 2(18.2%) | 1 (12.5%) | 3 (12.0%) |
| Indifferent | 0 (0%) | 5 (11.9%) | 2 (9.5%) | 1 (20%) | 0 (0%) | 2 (18.2%) | 0 (0%) | 3 (12.0%) |
| Slightly Opposed | 0 (0%) | 1 (2.4%) | 0 (0%) | 0 (0%) | 2 (20.0%) | 0 (0.0%) | 0 (0%) | 0 (0%) |
| Strongly Opposed | 0 (0%) | 2 (4.8%) | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) |
| Percentages are percentages within columns |  |  |  |  |  |

**QUOTES FROM CURRENT STUDENTS**

*I will be starting my second year and hope this would take effect for my upcoming Masters!*

Developmental Graduate Student

*I think this is a great proposal and agree that it reflects the work we do in the program.*

Clinical Graduate Student

*I think changing to an MS is an excellent idea and I strongly support it. Way too many of our psych students leave after their masters, and I think the department owes those students a degree that will actually be useful in the job market.*

Decision Graduate Student

*I received my MA several years ago from this department and have always held the complaint that an 'MS' is a much more appropriate representation of my studies.*

Cognitive Graduate Student

*I think this is a great idea and with more accurately reflect the nature of work that we do and the emphasis our program places on science (e.g. rigorous statistical and research methods)*.

Clinical Graduate Student

*This should have been done years ago! M.S. degrees are more highly regarded than M.A. degrees in industry and government*

Quantitative Graduate Student

*100% support this transition! (... and feel a little peeved it didn't happen sooner.... can we get our previous M.A. degrees changed retroactively?)*

Social Graduate Student

*I strongly believe that this is a much needed change.*

Cognitive Graduate Student

*Seems like an obviously beneficial change, and more accurately representative of the demands of the degree.*

Social Graduate Student

*I agree that the word science better represents our training and the work required to complete a thesis.*

Clinical Graduate Student

*It has always been unclear to me why we it's an MA rather than an MS in the first place - I never felt like my Master's reflected the work I did to earn it. I think this would be much more reflective of the work needed to earn the degree.*

Social Graduate Student

*I would also like the option to change the masters I already got into a masters of science!*

Decision Graduate Student

*A change to an MS would be a wise revision. Fair or not, MS degrees carry a more prestigious connotation than MA degrees, and would grant more legitimacy to psychologists being perceived as scientists*

Clinical Graduate Student

*If requirements/curriculum do not change, would there be potential to change MA to MS for students that have already received their degree?*

Clinical Graduate Student

*My bachelor degree in psychology is a BS, and I am doing even more scientific/research work now. An MS truly better reflects the nature and rigor of the program.*

IDD Graduate Student

*This won't affect me at this point, but getting a Master of "Arts" did feel odd/disjointed with the type of work I was doing in order to earn the degree*

Social Graduate Student

At the January 2018 faculty meeting, Professor Andrew F. Hayes, co-Director of Graduate Studies, and Professor John P. Bruno, Chair of the Department, presented these findings to the faculty. Some discussion occurred. Following discussion, Professor Bruno called for a vote by show of hands who supported and who opposed the proposal. Support for this proposal was unanimous.

**MA vs MS in other Departments and Institutions**

At OSU and other universities, the master’s degree is frequently awarded to students who complete the kind of graduate training program we offer. However, there are inconsistencies in the name of the degree even though the differences in the training and curriculum, if any, seem minor. For instance, the majority of SBS departments at OSU require training in data analysis, theory development, and use the scientific method to answers questions relevant to their discipline. Yet some offer an MA whereas others offer an MS, either as a terminal degree or in route to the PhD.

There is a similar mixed-practice in psychology departments at universities in the state of Ohio. Of those that award a PhD as well as a Master’s in route to the PhD, including Ohio University, University of Cincinnati, Miami University, and Case Western Reserve University. Of these, Ohio University awards an MS in Psychology, whereas University of Cincinnati and Miami University award the MA.

Like Ohio State, all other psychology departments at Big 10 universities award a Master’s degree to students enrolled in a PhD programs, though they differ when the degree is awarded (e.g., some award it following the candidacy exam in the third year, some following the completion of a thesis in the 2nd year). Wisconsin, Michigan, Penn State, Maryland, Illinois, and Purdue award the MS, while Iowa, Ohio State, Rutgers, Northwestern and Nebraska award the MA. As within SBS at OSU, from what we can discern, the difference between universities in the names of their degrees does not reflect differences in the kinds of activities that justify the degree. All are science-oriented graduate programs that require the collection and analysis of data using the scientific method, just as we require at OSU.

**SUMMARY**

Psychology is a scientific discipline. Graduate students in our Department engage in scientific research in order to advance our understanding of the human experience. From the first semester of enrollment until the completion of their degree, they contemplate and create theory, collect data, use statistical methods to analyze that data, and present their work at scientific conferences and publish in empirical journals. All students in our program, regardless of area, earn a Master’s degree in route to the PhD. Yet the degree awarded is a Master of Arts rather than Master of Science. We do not know the origins of the decision for the University to confer the MA rather than the MS to graduate students in Psychology. But as our students and faculty recognize, the MA is not consistent in name with the work required in our program, and for those who leave OSU prior to completion of the PhD, having an MA rather than an MS likely makes them less competitive relative to graduates of MS-granting programs when searching for jobs for which they are trained and qualified. The faculty and graduate students strongly believe that it is past time that the scientific contributions and accomplishments of our students be recognized by conferring on them the Master of Science rather than the Master of Arts.