Psychology Department Assessment
2008 – 2009

The 2008-2009 Psychology assessment included an evaluation of graduating psychology seniors regarding their experience in the program, an analysis of introductory psychology students' beliefs about the scientific status of the discipline, and the creation of a curriculum grid. Each of these analysis will be presented and

Study 1: Graduating Seniors.

The same questionnaire used to assess graduates' experiences in 2003-2004 and again 2005-2006 was used again to assess students' experience in the department and with the curriculum. The questionnaire was developed to assess psychology majors' background and interests, their overall evaluation of the major, the skills that they that they learned and the experiences that they had. Since the last review, a new more rigorous curriculum was implemented and first year faculty become more experienced, with the newest faculty undergoing a third year review in the 2008-2009 academic year. The purpose of the analysis then was to examine the impact of these changes on graduating majors' attitudes and experiences in the department.

The Graduating Senior Questionnaire is handed out only to students who are signed off for graduation during a final Graduation Evaluation meeting with the chair. They receive the questionnaire after the signoff is completed and it is presented as a voluntary assessment which is unrelated to graduation. Table 1 below describes the number and characteristics of the three samples. Most students take the questionnaire and our return rate is steadily climbing over the three sampled times, despite decreases in the number of graduating students, χ^2 (2) = 6.91, p< .05. The age, sex, GPAs of student in each period are not statistically different

Table 1: Features of Graduating Seniors used in the present analysis

FEATURES	GROUPS		
	2003-2004	2004-2006	2007-2009
N	52	64	82
Average Date of Graduation	2003.58	2005.27	2007.26
Average Age	26.12 years	26.22 years	25.09 years
Percentage Female	73.1%	67.2%	65.9%
Average University GPA	3.40	3.34	3.45
Average Psychology GPA	3.53	3.53	3.64

A. Students Background and Interests

Students have remained fairly stable in their academic goals over the three time periods. There was no difference in the distribution of goals over time. Over the three time periods, a plurality of graduating seniors characterized themselves as preparing for graduate school (47%). Other goals they expressed included preparation for employment (21%), preparation for life (15%), a generalist educations (7%) and preparation for professional school (6%).

The academic interests of our seniors have also remained stable over time. As Table 2 notes, a plurality of students' academic interests focus on Abnormal-Therapeutic. This is in keeping with other findings regarding psychology students' interests in pursuing a career in the helping professions. However, other areas of psychology are also reasonable represented.

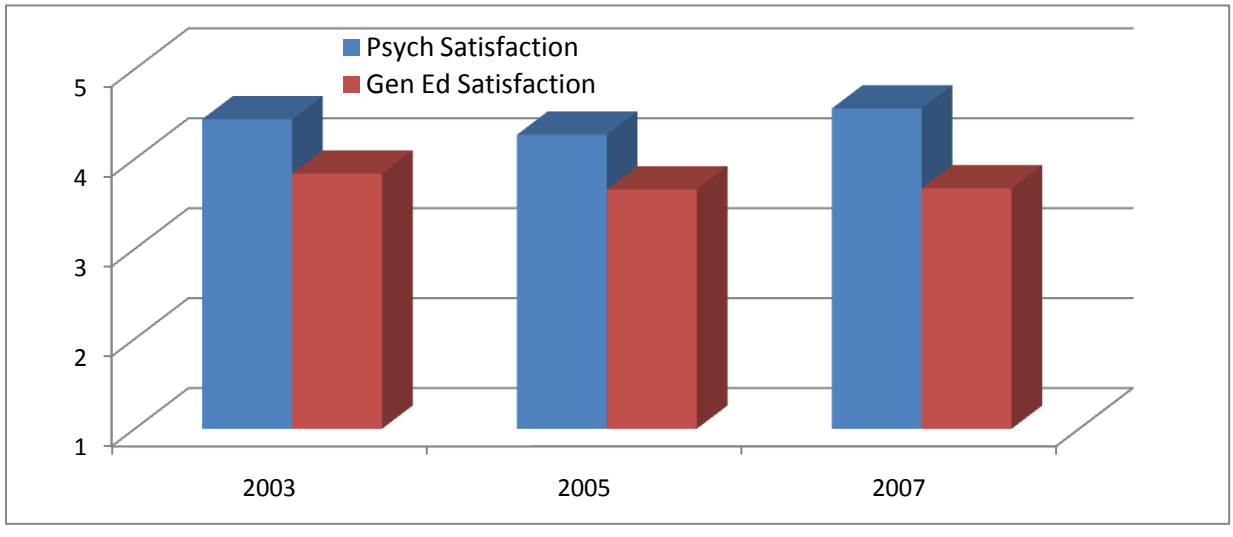
Table 2: Academic Interests of Graduating Seniors

AREAS OF INTEREST	GROUPS			TOTAL
	2003	2005	2007	
Biological	4 (8%)	6 (10%)	14 (17%)	24 (13%)
Cognitive-Behavioral	13 (27%)	12 (20%)	19 (24%)	44 (23%)
Abnormal-Therapeutic	16 (33%)	24 (41%)	28 (35%)	68 (36%)
Social-Developmental	16 (33%)	17 (29%)	19 (24%)	52 (28%)

B. Overall Satisfaction with Psychology

The second analysis addressed the overall satisfaction of graduating psychology majors with their education in the psychology department. Students rated their satisfaction on a 1 (not at all satisfied) to 5 (very satisfied) scale with their education in psychology with general education programs. The results revealed a much greater satisfaction with the psychology major than general education and a trend ($p = .09$) towards increasing difference between the measures (see Figure 1). Follow-up univariate analysis showed a linear increase over group in rating of satisfaction in Psychology ($p < .05$) but not in General Education.

Figure 1: Mean Satisfaction scores by Group and Program.



We additionally asked whether students were satisfied with the academic rigor and advisement in the department, whether they were adequately prepared for graduate school, and whether they would become psychology majors again if they had to do it all over again. Again the same 1 – 5 scale was used with a high score affirming the proposition and a low one denying

it. Students strongly and consistently reaffirmed their choice of a psychology major (Overall M = 4.44), endorsed the academic rigor of the department (Overall M = 4.35), and their preparation for graduate school (Overall M 4.21).

The psychology advising scores showed a lower mean (Overall M = 3.94) than other scores, with a significant difference between the 2003 and 2005 groups. A more careful analysis of the distribution of satisfaction scores (see Table 3) reveals only about 60% of the students being moderately to completely in 2003 and 2007 cohorts and almost 80% being so in the 2005 cohort. Advising has been an issue for the department and was cited as a concern by the review team in 2006. Subsequently implemented new procedures seem to have only had a modest effect. A new designated Faculty Advisor position, to be implemented in the 2009-2010 academic year, will hopefully alleviate perhaps some of the inconsistency in the department advising protocol.

Students were asked to identify department faculty members who made a significant difference to them. The number of faculty students endorsed has risen over group. Among those graduating in the 2003 group, the average number of faculty cited was 3.42, which rose to 3.93 among the 2005 group and 4.35 among the 2007 group.

Table 3: Distribution of Advising Satisfaction Scores.

AREAS OF INTEREST	GROUPS			
	2003	2005	2007	TOTAL
Completely Unsatisfied	0 (0%)	0 (0%)	1 (1%)	1 (1%)
Moderately Unsatisfied	7 (14%)	4 (7%)	8 (10%)	19 (10%)
Neutral	13 (26%)	9 (15%)	24 (30%)	46 (24%)
Moderately Satisfied	17 (34%)	18 (30%)	14 (18%)	49 (26%)
Completely Satisfied	13 (26%)	30 (49%)	33 (41%)	76 (40%)
Overall Mean	3.72	4.21	3.88	

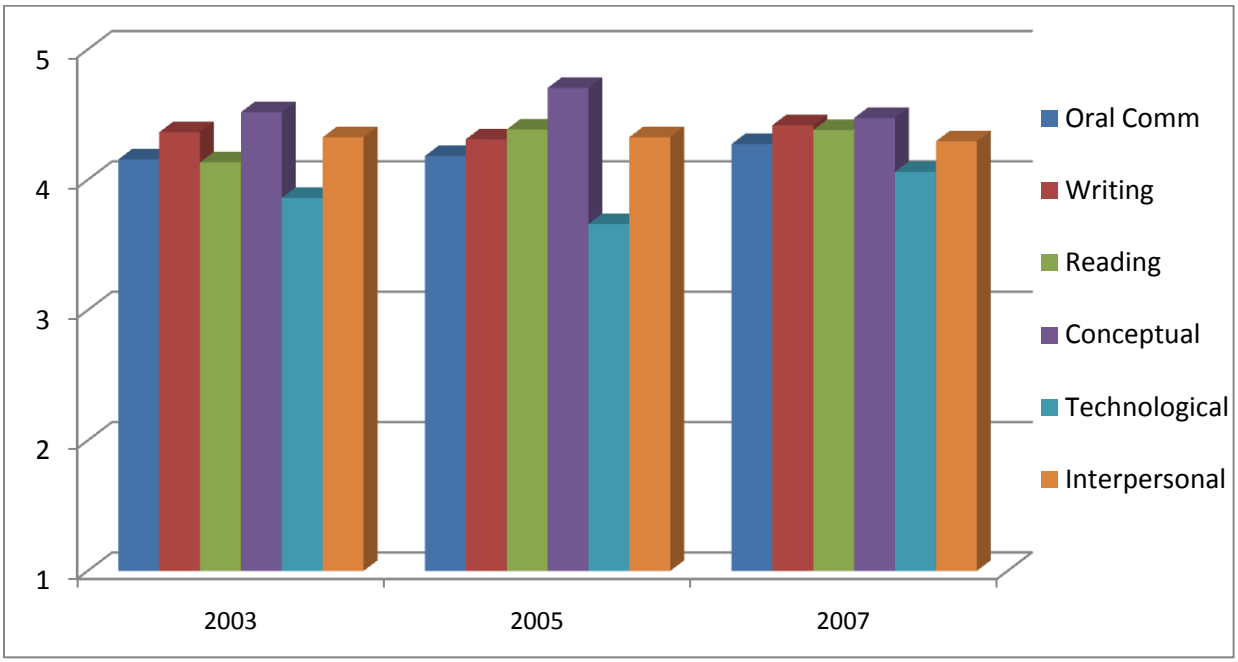
C. Development of Student Skills

The final analysis explored students ratings on six skills targeted as outcome learning goals. Specifically, students were asked, “How well did your experiences in the Psychology department help you develop your skills?” and then listed each skill: Oral Communication Skills, Written Communication Skills, Reading Comprehension Skills, Conceptual Skills (ability to think through problems and develop your own ideas and perspectives on psychological issues), Technical Skills (e.g., computer skills, data collection, management, and analysis), and interpersonal skills. Students were asked to rate each skill on a 1 (not at all) to 5 (a lot) and analyzed by group.

The results revealed only an effect of Skill which remained relatively stable over the three groups of graduating seniors. Overall students rated the greatest development in

conceptual skills (overall M = 3.85) and the least development in technological skills (overall M = 4.56) with other skills falling in between.

Figure 2: Mean Development Ratings by Skill and Group.



A final analysis explored factors which predicted student satisfaction in the psychology department. A stepwise multiple regression on student satisfaction ratings used a range of criterion variables, including student demographical variables, student goal assessments, and ratings of the various department features. Four factors individually predicted students' satisfaction (see Table 5), three of which was positively related: Students' ratings of the department's academic rigor, satisfaction with General Education, and writing development rating. Interestingly, rating of interpersonal skill development was negatively related to satisfaction with the department. The four-factor regression model (R = .82) accounted for 67% of the variance.

Table 5: Regression Analysis

CRITERION VARIABLES	β	*t* value	R^2 change	F Change
Academic Rigor Rating	.58	4.60***	.34	14.91***
General Education Rating	.39	3.12**	.13	6.63*
Interpersonal Development Rating	-.39	3.43**	.13	8.30**
Writing Development Rating	.28	2.43*	.08	5.92*

***(p < .001) **(p < .01) * (p < .05)

Taken together, the findings paint a picture of graduating students' overall satisfaction with the department. Most ratings of the department, its functions, and student development

show stability over time despite departmental changes in personnel and curriculum. Student satisfaction with the department did show a linear increase suggesting that recent changes made in the curriculum are being positively evaluated by students. These curricular changes has streamlined advising (requiring fewer choices of classes by students) and made it more rigorous (requiring courses which students have often avoided in the past). The changes may positively impact students' satisfaction with the advisement process which had been rated relatively lower by students. The advising issue is also being addressed by having designating a faculty advisor for the department.

Study 2: Introductory Psychology Students' Understanding of the Discipline.

The second set of studies explored how students learn the scientific status of the discipline. A variety of measures have been used to assess the issue, but the most productive one has been the *Psychology as Science* questionnaire (Friedrich, 1996). It is a reliable and valid assessment of students' belief (from 1, strongly disagree to 7, strongly agree, with 4 neutral) to a set of 15 statements about the scientific nature of the discipline, including the following:

1. Psychological research can enable us to anticipate people's behavior with a high degree of accuracy.

2. Research conducted in controlled laboratory settings is essential for understanding everyday behavior.

3. Psychological theories presented in the media should not be trusted unless they are supported by experiments.

In a recent study, Holmes (2008) tested psychology instructors and their students and found large differences between them, reflecting a stronger belief in psychology as a science among instructors than students. A large (N = 420) assessment study of Weber State students in psychology courses across the curriculum revealed skepticism with regard to the science of psychology (Amsel, Ashley & Baird submitted). The mean was a weak agreement (overall average score of 5.18 on the 7-point scale) with the proposition that psychology is a science and only minimal change from freshmen to senior year. There was no synchrony over academic year between PAS scores and scores on a measure of students' knowledge of science (TIPS test). Holmes and Beins (2009) conducted a similar study with psychology students at Ithaca College, a small elite liberal arts college. They found no changes in PAS scores across students in courses at different levels of the curriculum and no correlation between PAS scores and scores on a measure of scientific literacy. Amsel, Johnston, Alvarado, Kettering, Rankin, & Ward (in press) found that Introductory Psychology students could easily adopt their professors' beliefs. Students scored higher on the PAS when randomly assigned to answer from their Professor's perspective than their own (Self). This Perspective effect (*M* Professor - Self = .36) was compatible is size to the Academic Year effect (*M* Senior - Freshmen = .38).

The results of these studies suggest that psychology students who graduate from very different institutions do so without fully adopting core disciplinary beliefs. It is not that the students are ignorant of those beliefs or conceptually incapable of grasping them. The students are just skeptical about the scientific status of the discipline.

Study 2a: Longitudinal Study

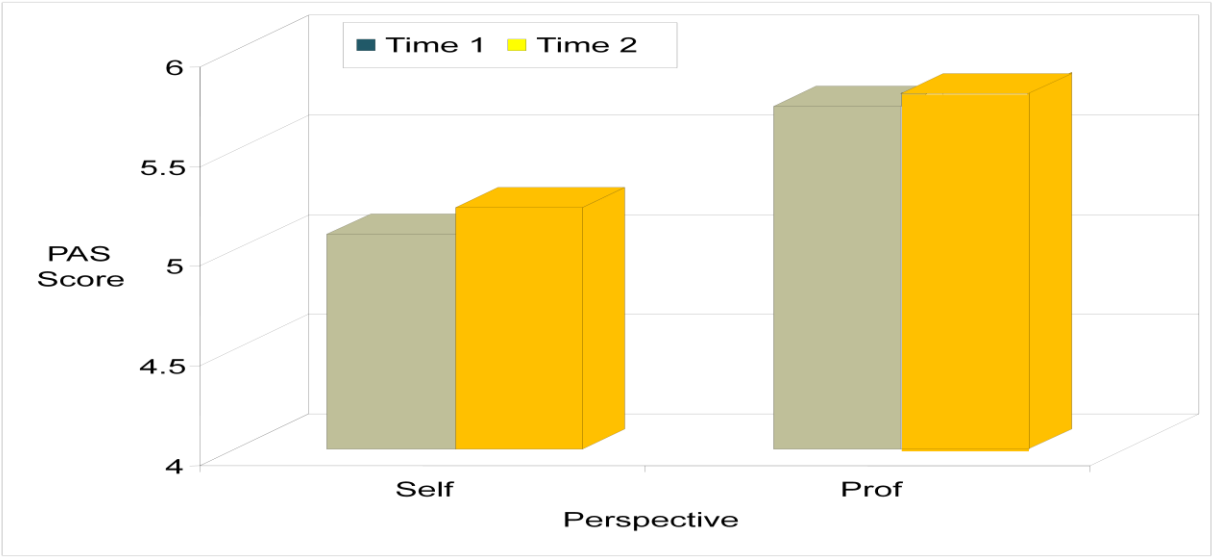
Study 2b was design to better test accounts of students' learning of psychology. Introductory Psychology students completed the PAS questionnaire from their own (Self) or their Psychology professor's (Professor) perspective. They completed the assignment during the first and tenth weeks of the semester.

Participants: Students (N = 105) from three Introductory Psychology classes taught by three different faculty members were the participants in the study. Their average age was 22.37 years (*sd* = 5.56). Most of the participants were female (55%) and most were freshmen (61%), followed by sophomores (30%), juniors (8%), and then seniors (2%).

Task and Procedure: Participants completed the PAS questionnaire at the beginning (first week) and end (10th - 12th week) of the semester. At each session they responded to each PAS item from their own (Self) and their psychology professor's (Prof) perspectives. The order of asking for a Self or Prof response was counterbalanced randomly over participants at each session. At each session, participants reported the number of other psychology courses they took, their anticipated final grade, and the likelihood that they would major in the discipline. Additionally, they gave their approval for a check of their ACT scores and final grade. Participants' ACT Math scores were at the average for the university (*M* = 20.84, .*sd* = 4.2). Students' final grade averaged B-.

Results and Discussion: A 2 (Time) by 2 (Perspective) ANCOVA (controlling for demographic and academic variables) revealed main effects of Time, $F(1, 92) = 4.84$, $p < .05$ and Perspective, $F(1, 92) = 13.91$, $p < .001$ and a Time by Perspective interaction effect which approached significance $F(1, 92) = 3.69$, $p = .058$. PAS scores were higher at Time 2 than Time 1, higher in the Prof than the Self Condition, and there was a trend towards greater differences in PAS Self and Prof scores at Time 2 than Time 1, see Figure 3.

Figure 3: PAS scores by Perspective and Time



PAS Self scores increased over time and the extent of the increase was related to students' Time 2 Prof scores (r = .61, N = 96, p < .001), independently of Time 1 Prof scores, demographic variables, and academic variables. A stepwise multiple regression found that only Time 1 PAS Prof scores predicted students' Introductory Psychology final course grade (β = .27, p < .01). The findings suggest that students' ability to correctly entertain their professor's beliefs about scientific psychology predicts overall course performance and changes in their own beliefs.

Study 2b: Role of Psychology Knowledge on Understanding the Discipline.

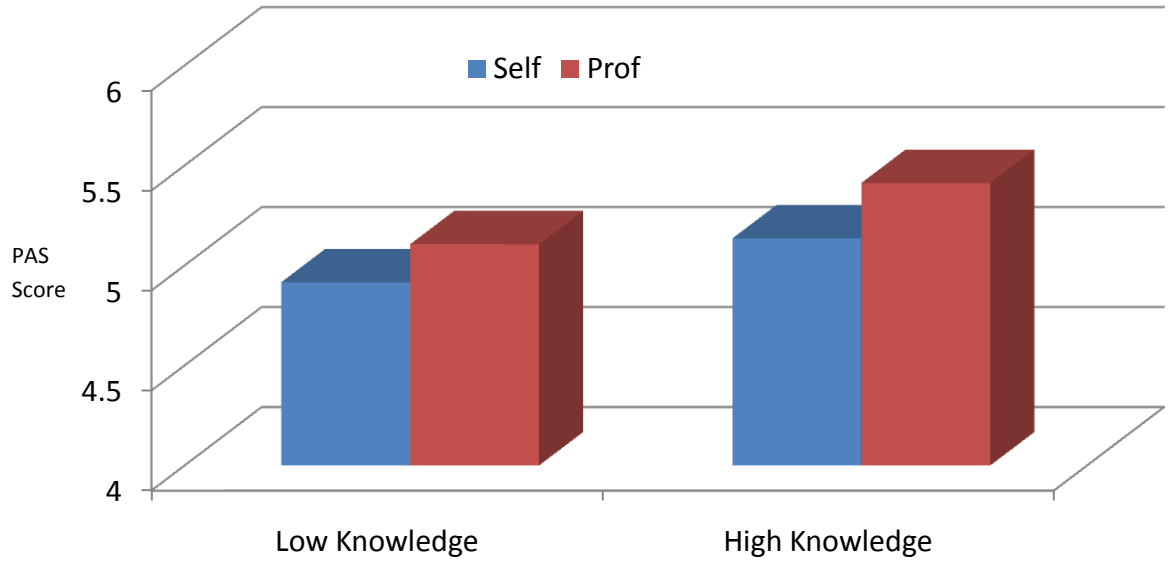
How does knowledge about the discipline affect students' ability to think like their professors?

Participants: Introductory Psychology students (N = 169, 56% female, 65% freshmen) from multiple different Introductory Psychology classes were assessed between the 7th to 10th week of the semester.

Tasks: Students completed the PAS and a standardized 30-item multiple choice test (MC) assessing general psychology knowledge. Participants were randomly assigned to complete both tasks in the Self or Professor condition. The MC test was found to predict final psychology grades independently of ACT scores and other demographic variables (Thompson & Zamboanga, 2004).

Results and Discussion: MC scores showed no effect of Perspective. MC scores were divided into high and low according to median split (Median Split M < 45%). PAS scores were affected by MC Level (High vs. Low) and Perspective (Self vs. Professor), independently of age, sex, interest, and class engagement (see Figure 4).

Figure 4: PAS scores by Perspective and MC Level.



Knowledge of the discipline strongly predicted final grade. A stepwise multiple regression found that MC scores predicted students' Introductory Psychology final course grade ($\beta = .25$, $p < .01$), along with Year in School, Professor, and Class Engagement variables. General psychological knowledge was related to beliefs about psychology as a scientific discipline. There was a significant partial correlation between PAS and MC scores ($r = .20$ $p < .01$), independent of condition, academic, and demographic variables.

Overall Discussion

The two studies suggest that internalizing disciplinary beliefs about psychology appears related to students' ability to adopt their professors' beliefs, despite being skeptical about them. Knowledge about the discipline is related to students' ability to adopt of their professor's beliefs which, in turn, promotes improved academic performance and greater internalization of the beliefs.

Study 3: Student Outcome Matrix

The Assessment committee constructed a Curriculum Grid, based on newly articulated Mission Statement and Student Learning Outcomes (see Table 6).

Table 6: Student Outcome Goals (approved Spring, 2008)

Knowledge: Students will understand psychology as a scientific discipline. Essential to this, students will understand a core set of statistical and methodological knowledge regarding how psychologists critically evaluate, creatively test, and scientifically defend psychological claims. They will also understand a core set of content knowledge addressing the biological, cognitive/behavioral, social/personality, and developmental aspects of behavior.
Application: Students will be able to critically apply psychological principles and research to explain social issues, inform public policy, solve problems, understand themselves, and achieve career goals.
Values/Ethics: Students will share key values adopted by psychologists, which include (but are not limited to) skepticism and intellectual curiosity, tolerance of ambiguity, respect for human diversity, appreciation of their civic, social, and global responsibilities, and humility regarding the limits of their psychological knowledge and skills. Students will also grasp the spirit of the APA Code of Ethics, follow its guidelines, and recognize the necessity of ethical behavior in all aspects of the science and practice of psychology.
Communication: Students will exhibit skills to professionally communicate their understanding of terms, concepts, research, and theories of the discipline to others via written and oral formats. Students will also have interpersonal and collaborative skills necessary to effectively work in groups with others who hold diverse opinions, beliefs, and attitudes.

The grid was constructed by the faculty members rating each of the General Education and Core courses they teach on each of the student outcome goal on a scale from 0 (does not

apply) to 4 (primary course goal) scale. A review of the grid (see Table 7) makes clear that most courses emphasize knowledge and application followed by communication and ethics/values.

Table 7: Mean Faculty Ratings for the Applicability of Goals to Courses

Course Category	**Courses**	**Student Outcome Goals**			
		Knowledge	Application	Values/Ethics	Communication
General Education					
	Introductory Psych	3.38	2.56	2.25	1.75
	Interpersonal Comm.	3.00	3.50	2.00	2.50
Core Methodological Requirements					
	Statistics	3.75	3.25	2.25	2.50
	Research Methods	4.00	4.00	4.00	4.00
Core Content Requirements					
	Biopsychology	4.00	2.50	2.50	3.00
	Abnormal Psychology	2.75	2.75	3.00	2.25
	Child Psychology OR	4.00	2.00	1.00	1.00
	Adolescent Psychology	3.00	3.00	2.00	3.00
	Cognition OR	4.00	3.50	2.50	3.00
	Conditioning & Learning	4.00	4.00	3.50	3.00
	Personality Psychology OR	2.25	4.00	2.00	3.00
	Social Psychology	4.00	4.00	4.00	4.00
MEAN		**3.51**	**3.26**	**2.58**	**2.75**