

The study objectives are the guide to your unit assignment. The study objectives will let you know what the reading assignment is for the week and what the exercise is – when there is one. There is no exercise for U1.

Some units will consist of assignments from both the Aamodt text and the course pack (as Unit 1 does). Therefore when I refer to "Aamodt", I am referring to the text. If I do not indicate where the material is from, you will find it in the course pack.

Study Objectives: Page and paragraph designations. At the beginning (or end) of each objective I have indicated the page and paragraph where the answer to the objective can be found. The page is listed first, followed by a comma, and then the paragraph number is provided. The paragraphs should be counted down from the top of the page. Therefore "6,3" should be read as page six, the third NEW paragraph from the top of the page. When referring to material at the top of a page when the paragraph is continued from the previous page I will use a "0". Therefore, "12,0" would mean that the answer to the objective can be found on page 12 at the top of the page. I try to be as accurate as possible with these numbers. However, sometimes my computer makes a mistake - so if the answer cannot be found in the designated paragraph always look at the paragraphs that precede and follow the one that is indicated. If there are mistakes, please bring it to my attention in class so that I can inform the other students.

Finally, do not panic over the number of study objectives! Many are not for the exam.

Unit 1: The history of I/O and OBM

1. Aamodt, Chapter 1
2. Dickinson, A. M. (2000). The historical roots of Organizational Behavior Management in the private sector. *Journal of Organizational Behavior Management*, 20(3/4), 9-58.

I have also included the following optional article in the unit. I have asked you to learn some of the material from the Bucklin et al. article which I abstracted and embedded in the study objectives; thus you don't have to read the article unless you want to.

Bucklin, B. R., Alvero, A. J., Dickinson, A. M., Austin, J., & Jackson, A. K. (2000). Industrial-Organizational Psychology and Organizational Behavior Management: An Objective Comparison. *Journal of Organizational Behavior Management*, 20(2), 27-75.

Suggested further readings: I have not included the following materials in your course packs, but they are stellar and I highly recommend them.

Johnson, C. M., Redmon, W. K., & Mawhinney, T. C. (Eds.). (2001). *Handbook of organizational performance: Behavior analysis and management*. New York: Haworth. ISBN 0-7890-1086-0. This is the latest handbook in OBM and the articles are excellent.

Komaki, J. L., Coombs, T., Redding, T. P., Jr., & Schepman, S. (2000). A rich and rigorous examination of applied behavior analysis research in the world of work. *International Review of Industrial and Organizational Psychology*, 15, 265-367. This is an incredibly complete review of all well-designed behavioral field experiments.

Aamodt text: Chapter 1

1. 2,4-5. State two differences between IO psychology and related fields taught in business colleges. Provide a brief explanation of each difference. (yes, I am dropping the "slash" in I/O –it's too annoying to type it over and over again)

2. 3,1. Not for the exam, but note that IO psychologists are not clinical or counseling psychologists. By the way, other specializations would be very annoyed that Aamodt states that IO is distinguished from them because we adopt a scientist-practitioner model. All specializations (clinical, behavior analysis) have now adopted this model. And, in fact, clinical psychology was the first to officially adopt this model ~1949. It is commonly referred to as the Boulder Model because it came from a conference held in Boulder, CO.
3. 4,2. Briefly describe what the “I” and “O” mean in IO psychology. (I bet this is something you have been wondering about! The distinction is not valid any more as both of these areas overlap, but the historical name for the field and the distinction continues...)

The following is not for the exam but in Europe, our field is called “work psychology,” and in Great Britain our field is called “occupational psychology.”

4. 6,1 Based on the following material be able to answer:
 - A. What is the oldest “organized” area of application in I/O – the one that still dominates the field today? The answer: Personnel Selection.
 - B. When and how did this specialization get started? The answer: Selection and placement of military personnel in WWI and WWII.
5. 7,1-2. I am going to cover the Hawthorne studies in detail later in this course. They were critical to the development of IO. Most IO psychologists maintain that these studies were the studies that put the “O” in IO psychology. Aamodt hints at that in these paragraphs.

For the exam: For now, simply be able to state the name of the event that expanded the scope of IO psychology from personnel issues (industrial psychology) to human relations, job satisfaction, and motivation (organizational psychology).
6. 8,1. Not for the exam. No other event in the history of IO psychology increased the number of IO psychologists than the civil rights legislation mentioned in this paragraph. These laws also account for the fact that personnel selection still dominates the field of IO psychology today. I do not cover any of these topics in this course because we offer a specialized course in Personnel Selection & Placement (PSY 6430).
7. 8,2. Not for the exam. It’s cool that Aamodt recognizes us here. OBM did get started in the early 1970s. Alas, it was NOT due to Skinner’s book *Beyond Freedom and Dignity*. My article in this unit describes the actual events that led to OBM.
8. 8,3. Not for the exam, but note the last sentence in this paragraph. This is absolutely true. I am often asked about the differences between “traditional” IO psychology training programs and ours; this is one of the major differences. And, as I shall come back to later, helps explain why there is a “deep divide” between IO psychology and OBM: most IO psychologists do not accept our single subject research designs and visual analyses as “scientific.”

Do you know that Dr. Huitema’s Ph.D. is actually in IO psychology, not statistics? But because of the traditional emphasis on statistics in IO, many IO psychologists became statisticians.
9. 8,7-9,2. What three major factors are greatly affecting the practice of IO psychology today?

10. 9, Table 1.2

A. State the three top employers of Ph.D. level I/O psychologists, in rank order (you do not have to learn the percentages).

Not for the exam, but note that **40%** work in universities while 25% work in consulting firms and 23% work in the private sector. There is quite a difference in the percentages of those who work in universities vs. consulting firms and the private sector.

B. State the two top employers of MA level I/O psychologists, in rank order (you do not have to learn the percentages).

Not for the exam, but notice the differences in the percentages between the percentage of Ph.D. level IO psychologists and the percentage of MA level IO psychologists who work in the *private sector*. MA level psychologists are much more likely to work in the private sector than are Ph.D. level psychologists. These percentages are important to you when you are making career decisions (see also the last sentence in 10,1: I would now add to the list “process improvement” specialist).

11. 10,3. None of the following will be on the exam, but I thought you would find the following information about salaries interesting.

Starting salaries. The mean *starting* salary for new Ph.D.s is ~ \$75,000, regardless of whether they accept a position with a university or an applied setting (I can assure you, however, not here at WMU – our faculty start out in the mid to upper \$50,000s). The median *starting* salary for MAs is ~ \$55,000, as is the mean.

Not surprisingly, Ph.D.'s who work at universities/colleges make statistically significantly less money than those who work in applied settings (\$90,000 versus \$135,000 respectively). The median academic salary was *next to last* (the last was state government).

And, alas, the median income for women (doctoral and masters combined) is 16.4% lower than the median income for men, and the mean income for women is 21% lower than the mean income for men. If you take into account the degree and number of years since obtaining a degree – that is, if you equalize the degree – Ph.D. or MA – and the number of years since obtaining a degree, women’s median salaries are still **20%** lower. The percentage discrepancy has not changed much since 1982 (when mean salaries were 18% lower), even though more and more women are now entering the field.

Also, alas for females, at WMU, females make less than males at **all** faculty ranks: instructor, assistant, associate, and full. At the full professor rank, females are paid an average of \$12,700 (15%) less; at the associate level, \$5,800 (10%) less; at the assistant level, \$1,500 (5%) less (getting better!); but at the instructor level, \$6,400 (13%) less.

12. 10,3 (last sentence). State the name of the main professional organization for IO psychologists (do not abbreviate). The web site listed is an excellent resource, by the way. Long story, but SIOP is an independent organization but also Division 14 of the American Psychological Association. It is unusual that “divisions” are also independent of APA.

13. Turn to 17,2 and page 18, Table 1.4. Be able to state the name of the premier journal for IO psychology – it is not stated explicitly in the text but it is: *Journal of Applied Psychology*.

Not for the exam, but note the interesting name – the journal is devoted solely to IO psychology even though the name of the journal is *Journal of **Applied** Psychology*.

Also, not for the exam, but if you look at Table 1.1 (page 5), you will see that this journal was first published in 1917. The first person who received a degree in IO psychology was awarded the degree in 1921 - so you can see the field became a "codified" field around 1917-1920.

Finally, again not for the exam, but notice in Table 1.4 that the *Journal of Organizational Behavior Management* is not listed.

14. Not in the text, but for the exam. Be able to state the percentage of psychologists that practice IO psychology. The answer: 4%

Not for the exam, but it is not a surprise that people don't know we exist (or that the field of OBM exists). 50% of APA's more than 96,000 psychologists are Clinical, Counseling, and School Psychologists.

15. Not for the exam: Growth of IO psychology (Landy & Conte, 2010; Levi, 2010)

Year	Estimated Number of IO psychologists
1939	100 (in the entire world)
1960	760
1991	3,000
2008	7,500

Number of MA and Ph.D. training programs

Year	MA programs	Ph.D. programs
1986	23	44
2008	75	65

16. OK, there is one last issue I want to deal with before moving to OBM: Licensure. The material in this study objective is not for the exam, but see the next study objective.

The licensing of IO psychologists varies from state to state. Some states require IO psychologists to be licensed, but most do not. And some states, prevent or preclude IO psychologists from becoming licensed because of the educational and experiential requirements that focus on clinical psychology. Michigan falls into this latter category.

This is very different than in the field of clinical psychology. Clinical psychologists must be licensed.

In order to become licensed, an individual must pass a licensing exam. There is only one general exam, no specialty exams. Thus, you will often hear clinical psychologists bitterly complaining about the exam on the grounds that "it had IO psychology items on it! I never had a course in IO psychology!"

17. Based on the material below, be able to state the main reason why many (including SIOP as an organization), maintain that IO psychologists should not have to be licensed. This is a very controversial issue, often pitting IO psychology against state licensing boards.

Licensing was originally developed to protect the public in health care areas (mental health, behavioral health areas which basically deal with populations that are vulnerable). IO psychologists are not health providers and do not deal with vulnerable populations.

In case you are not aware of it, some behavior analysts are strongly advocating licensure for behavior analysts. It will be interesting to see whether OBM specialists will have to become licensed or whether we will be exempt. The current certification process in behavior analysis permits OBM specialists to become certified, but the exam does not contain any questions relating to OBM or performance management and is strongly slanted towards working with individuals who are diagnosed with autism or developmental disabilities. Stay tuned on this one.

Some Major Differences Between traditional I/O Psychology and OBM. The information in these study objectives is based on the article by Bucklin, Alvero, Dickinson, Austin, & Jackson that I have included in the course pack. You do not have to read the article - I have included all of the information I want to learn in the study objectives. However, some of you may want to read the entire article. I have provided the page and paragraph numbers for the information I have asked you to learn, just so you can refer to the article for more detail should you want to do so.

To conduct the comparison, articles that were published in *JOBM* and *JAP* (Journal of Applied Psychology) between the years of 1987 and 1997 were analyzed and classified. I am only going to present some of the "highlights" of the results below. By the way, it would be pretty cool for someone to redo this article – some of the categories would have to be changed, but it is time for an update!

I am presenting this material because students often ask me what the difference is between traditional I/O psychology and OBM.

18. 30, 1 and 31, 1. Not for the exam. There is no unifying theory underlying the field of I/O. In fact, there are dozens of different theoretical perspectives. There is one unifying theory for OBM: behavior analysis.

To get an idea of the number of different theories that abound, peruse the chapters on motivation and leadership in Aamdot. There are at least 10 different motivational theories discussed, and 8 different leadership theories presented. And the motivational theories do NOT correspond to the leadership theories. Therefore, without delving very deeply, there are 18 different theoretical perspectives identified.

It is not very surprising, therefore that most of the research in I/O psychology is designed to test hypotheses derived from the various theories (who is right, in other words?).

19. 44, 3-45, 1. Not for the exam. Gender of authors: Percentage of male and female authors for both *JAP* and *JOBM* were almost identical: 68% male in both, 31% female in *JOBM* (the gender of the other 3% could not be determined), 25% female in *JAP* (the gender of the other 7% could not be determined).
20. 48, Table 2. **For the exam:** Based on the material in this study objective: (a) Be able to rank order the top *three* areas of inquiry for I/O (you don't have to learn the top three for OBM), (b) and state of the top 12 topics addressed, how many were common to both I/O and OBM (you don't have to state what the three areas were).

The rank order of the top three topics that were addressed in articles in *JAP* and *JOBM* follow.

Traditional I/O: 1. Selection and placement; 2. Statistical analysis procedures; 3. Performance appraisal.

For OBM: 1. Productivity and quality; 2. Customer satisfaction; 3. Training and Development. Note that there is no overlap in the top three areas.

In the top 12 topics addressed there were only **three** areas common to both I/O and OBM: Training and Development; Productivity and Quality; and Health/Safety.

21. 49,2. Experimental vs. Correlational research. Based on the material below be able to state the primary research strategy for OBM and for I/O. Also, what is the problem with correlational research?

In JOBIM, 95% of the research articles were experimental where at least one IV was manipulated. In JAP, 60% of the articles were correlational.

Thus, the primary research strategy, experimental manipulation versus correlational reflects a major distinction between the fields.

22. 49,3. Not for the exam, but interesting to know: Field vs. laboratory research. In JOBIM, about 80% of experimental research was conducted in field settings; In JAP, 80% of the experimental research was conducted in the lab. “Experimental” is defined as a study in which at least one IV was actually manipulated.
23. 51,2. Based on the following material, be able to state what percentage of research articles in JOBIM was designed to solve applied problems and what percentage in JAP was designed to solve applied problems.

In JOBIM, about 45% of the research articles were designed to solve an organizational problem; in JAP, only about 5%! (Note I rounded these percentages to make them easier for you to learn.)

24. From the information in the two preceding study objectives, you can certainly argue that OBM has much more of an applied focus while I/O has much more of a theoretical focus.

Based on the material below, state and explain the two main reasons why I/O research tends to be theory-driven and conducted in laboratory settings. **Please note that while the answers to many of the study objectives in this unit are short memorization items, I want to give a thorough and complete explanation for this one.**

I/O research tends to be theory-driven and conducted in laboratory settings for two main reasons: (1) the fact that there is no unifying theory in I/O and thus much of the research is focused on testing hypotheses derived from a particular theory and comparisons of the validity of various theories; and (2) a tradition of adherence to rigorous experimental methodology and between group designs *coupled* with a rejection/ignorance of within-subject designs as legitimate experimental methodology (because of the small N and reliance on visual analyses).

Not for the exam: In the 8 IO texts I reviewed last summer, not one mentioned or acknowledged the existence of SS research designs in their research section.

25. Why does strict adherence to between-group designs restrict research in applied settings *in contrast* to within-subject designs that are commonly adopted by behavioral psychologists. You must mention both types of research designs in your answer. (See page 57,1 for a discussion of this.)

Between-group designs are usually not feasible in applied settings because participants must be randomly assigned to experimental groups. Companies are not willing and are usually unable to randomly assign employees to the experimental conditions. Because of this, most of the research gets conducted in the lab where such designs can be done. Thus in I/O psychology, research directed at applied issues/topics often takes the form of laboratory simulations. Within-subject designs do not require random assignment of participants to conditions, hence, can be much more easily implemented in work settings.

26. 55,1-56,0 and Table 3 on page 56. In experimental studies (whether conducted in the lab or in the field - correlational studies were excluded from this analysis), Bucklin et al. identified the top 9 IVs that had been examined. Of those, the top 7 IVs were the same in JOBM and JAP. They consisted of: (a) Antecedents/Information; (b) feedback; (c) training; (d) goals; (e) monetary consequences; (f) non-monetary consequences; (g) and praise.

However, the proportion of experimental studies was very, very different. The data suggest that the main IV in I/O research is antecedent/information - most often by itself instructional control. Traditional I/O researchers rarely manipulate consequences. In fact about **70%** of the studies examined antecedents/information while only about **15%** examined feedback and/or consequences.

In OBM, antecedents are manipulated much less frequently (32%), and when used, are typically used in combination with other IVs. Feedback was examined in **75%** of the studies and consequences were examined in ~ **65%** of the studies. Moreover, more OBM research uses "package" interventions consisting of feedback, goals and consequences.

Package interventions are used frequently in OBM in comparison to the research conducted by traditional IO psychologists. That is because more of our research is conducted in applied settings where it is important to get changes in performance as quickly as possible. In contrast, lab research has a very different focus – lab research is designed to partial out the effects of various IVs.

For the exam:

- A. Bucklin et al. identified the top 9 IVs that were examined by both JAP and JOBM researchers. Of those, how many were the same?
- B. Describe the major differences between the IVs examined in JAP and JOBM.
- C. Explain why package interventions are often used in applied settings but not in laboratory studies, referring to the objectives of the two types of research.

Not for the exam: The above is not really surprising if one considers the predominant theoretical influences. Recall, that while there is no one underlying theory that unites I/O psychology, cognitive psychology predominates - hence the use of antecedents and instructional control. In OBM, in contrast, the emphasis is placed on the consequences of behavior/performance.

27. 59,1. One of the weaknesses in OBM in comparison to traditional I/O is the extent to which we assess social validity. Social validity was assessed in 51% of all I/O field studies, whereas it was assessed in only 27% of OBM field studies – this, in spite of the fact that OBM researchers conducted a much higher percentage of field studies.

Not for the exam, but there are three aspects of social validity: 1. Goals – are the goals of the intervention important? 2. Procedures/interventions – do managers and employees consider the intervention procedures acceptable? 3. Effects/Results – are managers and employees satisfied with the results – all the results, not just the intended ones (that is, are there any side effects that occurred?).

FOR THE EXAM: Learn the following reasons why it is important to assess social validity.

(a) It tells us whether our consumers (the employees and management) are satisfied with *both* the intervention and results – if they are, they are more likely to continue PM. (b) It could increase acceptance of our behavioral interventions in business and industry in general if we have data indicating that employees and management are satisfied with our interventions and results, and (c) it could mitigate complaints that our interventions/technology is manipulative and coercive (ethical issues that have been raised by traditional I/O psychologists).

Dickinson article

28. 10,1 When did the first signs of OBM become visible?
29. 18,1. Name the individual who is responsible for "programmed instruction."
30. 19,1 What area within the field was the first organized application of behavioral principles in the work place?
31. 19,2 Not for the exam, but notice the name of the authors who published what many consider to be the first applied article in the field of behavior analysis.

21, 0 Also, not for the exam, but according to Hopkins, who is the "father of behavior modification" and thus the "grandfather of OBM?"

An interesting aside - Many of you know Dr. Jon Bailey, who is a faculty member at FSU. Dr. Bailey was an undergraduate student of Dr. Michael's at Arizona State University, and later received his Ph.D. from the University of Kansas. His advisor was Mont Wolf who received his Ph.D. with Dr. Michael at ASU (Dr. Wolf also mentored Dr. Bailey at ASU). Dr. Bailey was the doctoral advisor of Dr. Austin (and Dr. Carr) -- the "family" tree continues. And, Dr. Dave Wilder at FIT was a Ph.D. student of Dr. Carr's. Unfortunately for the field, Dr. Bailey retired about 2 years ago, after graduating more than 100 Ph.D. students. He is still, however, teaching at the FSU Panama City campus in an MA program that focuses on training individuals to work in human services.

32. 22,1. What was the name of the first professional organization devoted to the advancement of behavioral applications? When was it founded? What is the name of this association now? Give the full names of these organizations, not just their abbreviations.
33. Learn the following contributions that Brethower made to the field of OBM: "programmed instruction", "performance-based training", and "the development of behavioral systems analysis" along with Rummel.

For odd reasons, Brethower's contributions are not recognized nearly to the extent that they should be.

Not for the exam, but the "family" tree continues once again - Dr. Brethower took his first undergraduate class in behavior analysis from Dr. Michael at the University of Kansas. The timeline is confusing, but before Dr. Michael went to ASU, he was at UK – where they “gently” fired him because he was a behavior analyst. They hired him as a statistician and when he became a behaviorist, which occurred while he was UK, they told him he would not get tenure, but should take his time and find a good job somewhere else, and then helped him find another job. They did this because his orientation conflicted with their Lewinian orientation at that time.) Anyway, back to the main point, Dr. Brethower was my doctoral advisor at Western Michigan University.

34. Based on the material below explain how programmed instruction led to performance-based training which led to the development of behavioral systems analysis.

Experts in programmed instruction realized that they could get individuals to learn the material they taught, however, they came to realize that often that training did not transfer to the job. Hence, the development of performance-based training which means that training is evaluated not only by whether or not trainees learned the material, but whether the training improved performance on the job. Then, they realized that even if trainees improved their job performance, the improved job performance still might not affect critical business drivers (results). Hence, the advent of behavioral systems analysis that examines not only the individual's job, but also the work processes (how the work gets done) and organizational level measures of success.

35. 22-26. This section explains why the works of Brethower, Rummler, and Gilbert are so similar. However, there is far too much detail for you to learn. Based on the following summary, be able to explain why their works are so similar.

Brethower and Rummler formulated behavioral systems analysis while they were graduate students at the University of Michigan in the 1960s. Gilbert was invited to teach some of the training workshops at UM, and then later Rummler and Gilbert formed one of the first behaviorally oriented consulting firms together.

Not for the exam: Brethower and Rummler remained good friends their entire lives. Brethower and his wife built a house in AZ about 25 miles from where the Rummlers lived, and retired there. Tragically, Rummler died suddenly in 2007.

36. 28,0. State the name of the very influential book written by Gilbert and the date it was published. People in OBM still refer to this book all the time – you should get a copy and read it. In lecture I will talk a bit about why this book was so important, although I won't require you to know that for the exam.

The following is not for the exam: Recently, years after Tom Gilbert's death, his wife, Marilyn, came across his unfinished autobiography. Aubrey Daniels International has just published it. What did Tom name the book? *Human Incompetence*.

37. 32-35. State the following three major accomplishments of Daniels with respect to the formation of OBM, or if I list one of these accomplishments, be able to give Daniels' name: (a) Formed one of the first major OBM consulting firms (specifically, BSI); (b) Was the first editor of the *Journal of Organizational Behavior Management* (in 1977); (c) Published one of the first OBM books in 1982, called *R+ Performance Management* - written for

supervisors and managers. (We still use a newer version of this book in our undergraduate class on PM.)

38. 34,1. Where did the name for our field come from?
39. A. 37,1 What university was the first to offer OBM and behavioral systems analysis?
B. 37,1. State the name of the faculty member who was responsible for the systems analysis training program at WMU.
40. 39,1. What year was the Journal of Organizational Behavior Management first published?
41. 45,1 . According to Dickinson, how do early events in traditional management fields such as I/O psychology, organizational behavior and management science relate to the development of OBM? In other words, what type of precursors were they and what type weren't they? Where did the field of OBM emanate from?

Also, explain why she arrived at the conclusion that the field of OBM developed in relative isolation from I/O and emanated primarily from programmed instruction and behavioral applications in other areas. Students have had trouble with this, so let me help: The individuals who most influenced and pioneered the field, such as Aubrey Daniels, Dale Brethower, Tom Gilbert, etc., came from other areas in behavior analysis, not from I/O or management fields. (Not for the exam, but note that there are exceptions: for example, Ed Feeney, Tom Mawhinney, Fred Luthans, and Judi Komaki.)

THE END

Unit 2: Traditional Performance Appraisal, Performance Measurement, Performance Assessment, and Task Clarification

There are two parts to the ppt presentation this unit.

Reading Assignment

Aamodt, Chapter 7

The following articles in the course pack:

1. Daniels, A. C. (1989) (I realize there is a new edition of the text, but this chapter was not altered in that new edition.)
2. Pampino, R. N., Jr., Heering, P. W., Wilder, D. A., Barton, C. G., & Burson, L. M. (2003). The use of the performance diagnostic checklist to guide intervention selection in an independently owned coffee shop. *Journal of Organizational Behavior Management*, 23 (2/3), 5-19.
3. Anderson, D. C., Crowell, C. R., Hantula, D., & Siroky, L. M. (1988). Task clarification and individual performance posting for improving cleaning in a student-managed university bar. *Journal of Organizational Behavior Management*, 9(2), 73-90.
4. Komaki, J. L. (1986). Toward effective supervision: An operant analysis and comparison for managers at work. *Journal of Applied Psychology*, 71(2), 270-279.

Additional Readings: Not required for the exam but in the course pack

5. Abernathy, W. B. (2010). A comprehensive performance analysis and improvement method. *Performance Improvement*, 49(5), 5-17.

I included this article because it is an amazing article about how to do a systems analysis and translate the analysis into performance improvement and you might not ever come into contact with this publication. You should read everything that Bill Abernathy writes.

6. Komaki, J. L., Desselles, M. L., & Bowman, E. D. (1989). Definitely not a breeze: Extending an operant model of effective supervision to teams. *Journal of Applied Psychology*, 74(3), 522-529.

I included this article because it is one of my all-time favorites – an applied article done with captains in an actual sailboat regatta. It extends Komaki's work in the article above to teams and also provides an up-date of her research in this area.

Additional Recommended Readings: Not required for the exam and not in the course pack

7. LaFleur, T., & Hyten, C. (1995). Improving the quality of hotel banquet staff performance. *Journal of Organizational Behavior Management*, 15(1/2), 69-93.

This is an excellent example of using Gilbert's BEM as an assessment instrument.

8. Doll, J., Livesey, J., McHaffie, E., Ludwig, T. D. (2007). Keeping an uphill edge: Managing cleaning behaviors at a ski shop. *Journal of Organizational Behavior Management*, 27(3), 41-60.

This is an excellent example of using Daniels' PIC/NIC as an assessment instrument. It also examines task clarification, and once again indicates that task clarification alone increases performance moderately, and that further increases can be obtained if feedback is combined with task clarification.

Some Major Take-Home Points

(or perhaps, the World According to Dr. Dickinson)

These are not for the exam, but they do explain the articles and study objectives I am having you master for the exam

1. Different traditional performance appraisal systems all have advantages and disadvantages; none is better than any of the others overall.
2. In the absence of more behaviorally based measurement systems, annual performance appraisals are a necessary “evil” for administrative purposes, but have little effect on employee performance. It’s not the type of performance appraisal form or system that is the problem; rather, it’s the (a) *annual* evaluation combined with the (b) *subjectiveness* of the evaluation that causes problems.
3. There are several different behavioral assessment tools/instruments in OBM; most are descriptive, not functional, in nature. None has been shown to be better than the others; all seem effective in identifying environmental barriers to effective performance. Assessments are not new in OBM, although the recent literature would lead one to believe they are.
4. Task clarification has been examined extensively and there are dozens of studies. It has been shown to be effective in a wide variety of settings for a large number of positions, behaviors, and performances. And, once again, task clarification is not new in traditional I/O psychology, ISPI, or OBM; the recent literature just tends to lead one to believe it is.
 - A. Task clarification increases performance in most cases, however, only modestly.
 - B. When task clarification is combined with feedback, the effects are much better.
 - C. When task clarification is combined with feedback and goal-setting, again the effects are much better. Goal-setting may increase the effectiveness of both feedback and task clarification by providing an “evaluative” component. More on this later in the course.
 - D. When task clarification is combined with feedback and some type of praise or tangible rewards, the effects are even better than when it is simply combined with feedback. Again, this is not surprising because when feedback is combined with either (a) some type of evaluative component or (b) tangible rewards, its effects are greatly enhanced as well. Again, more on this in Unit 6.
 - E. None of the above should be *any* surprise to behavior analysts. Task clarification is an antecedent intervention. It’s not clear whether feedback functions primarily as a consequence or antecedent; probably both in many situations, although it could be either one or the other in any specific situation. It is clear, however, that any type of tangible rewards are consequences and that evaluation is also a consequence, or depending upon the type of evaluative component, at least implies consequences will be forthcoming, and thus we would expect both rewards and evaluation to have greater effects than task clarification or any other antecedent intervention.

Finally, the study objectives!

Aamdot, Chapter 7, Traditional Performance Appraisal

1. 239,1. Explain, giving specific examples of types of performance appraisal systems, why it is important that you determine why the organization wants to evaluate employee performance.

2. 241,1. When a particular employee is being evaluated, why is it that there may be little agreement between the supervisor's rating and ratings by peers, the person's subordinates, and the person's customers?
3. 242,3.
 - A. When peers are similar and well acquainted with the person being rated how reliable are peer ratings?
 - B. Do peer ratings correlate well or poorly with supervisor ratings?
4. Learn the following: The most serious obstacle in using peer assessments/evaluations *is that employees do not like them and object to doing them* (Muchinsky, 2010).

None of the rest of the material in this study objective will be on the exam: Our university provides a very nice example of this type of obstacle. For many years, the faculty participated in a peer assessment merit evaluation procedure. The union did not want the system because of the divisiveness it would create among faculty but the administration insisted. About ten or so years ago, the union got its way, and faculty merit based on peer assessment was eliminated. Now, all of the merit money (when there is merit money available which has not been the case for the past seven years or so) is awarded by the administration (chairs and deans). Note that this is an odd thing - the administration originally insisted on giving a certain proportion of merit money to the faculty to award. The faculty protested the peer assessment, and was willing to give the administration total control of merit increases to be rid of that type of performance appraisal procedure. Then, of course, the union and faculty protested that they did not know the criteria that were being used by the administration when awarding merit money - sometimes it really is the case that the administration can't win.

Another interesting note. While the Department of Psychology developed a rather good procedure for doing peer assessments, faculty in many other departments refused - and simply split the available merit money equally among all faculty in the department.

Now, while you are thinking about how strange this is, consider how you would feel if you were asked to assess the performance of the other students who are studying with your advisor, or the other students in your degree program. Further, assume that the peer assessments would influence whether or not students received financial aid and how much financial aid they received. Would you embrace such a system or not? Why or why not?

5. 243,2-3
 - A. Not surprisingly, why can subordinate ratings be difficult to obtain?
 - B. Subordinate ratings correlate highly with ratings from what type of raters?
 - C. Feedback from which of the following sources resulted in the most performance change? (a) supervisors, (b) peers, (c) subordinates (same thing as direct reports)

Not for the exam: Many organizations do use 360 degree feedback to provide managers with "motivation" to change. But, as hinted at by Aamodt in 243,3, it has to be done carefully (very carefully). Imagine your reaction to something like this if you discovered that your subordinates and/or peers did not rate your performance as well as you thought you were doing - it could be devastating at worst, and disconcerting at best. So you need to "debrief" (counsel) managers about the results and provide them with a course of action on how to

improve. As Aamodt indicates, the feedback from this type of appraisal is best done by someone other than the person's direct supervisor, and really should be restricted to employee development, not evaluation purposes.

6. 244,1.

A. Again, not surprisingly, what is the main problem with self-assessments?

B. How to self-appraisals correlate with (1) actual performance, (2) subordinate ratings, and (3) supervisor ratings?

C. Note that there is little agreement between self-assessments and supervisory assessments. What are the very important implications of this difference, from a behavioral perspective? (Answer: *Given that self-assessments do not agree with supervisory assessments and individuals rate themselves higher, employees are not going to believe that the rewards they receive are truly contingent upon their performance. Clearly, from a behavioral perspective, that is likely to lead to performance problems because people are going to believe that they are not getting the rewards they deserve, not to mention strained relations between supervisors and employees.*)

7. 245,1-255. Not for the exam, but Aamodt does an excellent job in describing and explaining the various types of performance dimensions that are used in performance appraisals and the various types of performance appraisal instruments.

8. 247,6. Why do employers use employee comparisons rather than rating scales?

9. 249,4-250,2. Describe the major drawback with forced distribution performance appraisals (don't just say "unfairness" – explain why these are often/usually considered to be "unfair").

Not for the exam: As Aamodt states, more than 20% of Fortune 1000 companies use forced distribution systems. However, there have been some very public lawsuits over the use of these type of systems because of the extent to which underrepresented groups tend to be disproportionately ranked in the low category. As a result both Ford and Goodyear (targets of the lawsuits) have stopped using them (Levi, 2010). So, be careful with these.

10. 250,3. What is the greatest problem with employee comparison methods?

11. 253,1. What is the disadvantage of graphic rating scales?

12. 253,2-255,1. Based on the following material, state the reasons why behavioral checklists should not be seen as "behavioral" (as in behavior analysis) method of performance appraisal.

Behavioral checklists are often referred to as a behaviorally-based performance appraisal system because they are based on observable behaviors. And many in OBM recommend their use. However, they should not be seen as an acceptable way to measure performance from a behavioral perspective unless we have no other choice.

Why? Because behavioral measures rely on (a) the **objective** measurement of behavior/performance, not subjective judgment by the supervisor (b) **over time as it occurs on the job**, not an assessment that occurs just once or twice a year.

When we get to the Daniel's material, you will see that he recommends a behaviorally-anchored rating scale if an organization must rely on subjective judgment, but then qualifies that by stating that such an appraisal system can be gradually moved to a better one.

13. 255,2. What does the research indicate about the superiority of “complicated,” more “sophisticated” methods of performance appraisal when compared to inexpensive and uncomplicated rating scales?
14. 256, 3. The material on the legal issues surrounding performance appraisals is very important, but I don’t want to ask you to memorize all of the factors that increase the likelihood of surviving a legal challenge. But if you are ever in a position to develop a performance appraisal system, you should note these factors very, very well and use them as a checklist to determine the adequacy of your system. Lawsuits can cost companies millions and millions of dollars.
15. 258,0. What are conservative courts likely to base their decisions on? What are liberal courts more likely to base their decisions on?

Not for the exam: In the US, there are 92 district courts, eleven courts of appeals corresponding to eleven “circuits” (composed of several districts), and then at the top, the Supreme Court. Not surprisingly, just like politics, in various parts of the country courts are more conservative than in other parts of the country. The 4th Circuit (which includes North and South Carolina, Virginia and West Virginia) has historically been one of the most conservative circuits while the 9th Circuit (which includes California, Alaska, and Hawaii) has historically been the most liberal circuit in the country.

16. Turn to 273. Not for the exam, but the material on “Employment-at-Will” is very interesting. Aamodt covers this beautifully. Notice the material in 274,1. See also the “Focus on Ethics” panel on page 278.
17. 274,2-276,4. Not for the exam, but once again the material on “Legal Reasons for Terminating Employees” is fascinating (at least I think it is) and informative.

Daniels chapter: I am including this primarily so you have some examples of checklists and the performance matrix which you might find useful for your projects. Most of you have probably read this chapter before.

18. 145, 3
 - A. Why do problems arise when we start to measure what people do in organizations? Hint - the answer is in the sentence that begins "These comments indicate..."
 - B. Daniels states that most organizations measure negative performances and hence people are "not delighted when someone suggests counting the number of errors." Based on the material below, explain why Dickinson maintains that people will resist measurement **even** if what is measured is positive.

I agree with Daniels when he says that measurement is typically an antecedent to punishment - however, I don't agree with the logic of his next point - that the punishment occurs because organizations tend to measure negative things. Think about it for a moment - if the organization measured only negative things, like the number of rejected parts, but supervisors rewarded and praised performance improvements, do you think people in organizations would resist measurement? No.

The key to understanding resistance is in the consequences, not whether measures are stated positively or negatively. No matter whether the measures are stated positively or negatively, if supervisors/managers respond to them by criticizing employees, (which is typical),

employees will resist measurement. So even if you measure positive things, individuals are still likely to resist measurement.

Students are sometimes surprised at the resistance they encounter when attempting to implement a feedback/reward program in business and industry. The resistance is perfectly understandable, and it is important that you remember this when you go to intervene.

19. 148, 3. Not for the exam, but note the four categories of measures that should be considered when developing measures for any position (Quality, Quantity, Timeliness and Cost) and, on page 150, Figure 1.1, the subcategories of these measures.
20. Again, not for the exam, but note carefully the material on pages 155 - 159 – they offer examples of some very nice ways to measure behavior. The checklist provided in Figure 11.7 is a good start at a checklist for motel/hotel housekeeping staff and provides an example that can be adapted for ANY type of “housekeeping” – in a manufacturing plant, cleaning up at the end of the shift; in a bar, cleaning and stocking items before the end of a shift, etc. And, although in this example, points are assigned to each and every task, a checklist does not have to be this detailed to be effective. A simple list of tasks, with percentage completed, usually works just fine.
21. 161,1-162,2. If given a sample Performance matrix like the one in Figure 11.9, be able to state what each number means, what the circled numbers refer to, and, given the weight, how to determine the points. Or if I give you this matrix or a similar one, be able to indicate performance on the matrix, and determine the total points. *For some reason, students have had some problems with doing this on the exam. So study this carefully.*

I have included another example of a performance matrix at the end of the study objectives for this unit – in the form of four ppt slides that I will be reviewing in lecture. The matrix is for a postal worker. To make sure you understand how to calculate the points, fill in the points for each measure (ppt slide numbered 7) and bring it to lecture.

Performance matrix. The performance matrix is an excellent tool. Abernathy also uses it in all of work with incentive systems, in a slightly different format, referring to it as the Balanced Score Card or more recently, the Performance Scorecard. Many consultants use this system and refer to it as the Balanced Score Card - that was the name given to it by Felix and Riggs, the individuals who invented it - they were NOT behavioral psychologists by the way. The measures they recommended were not the same type of measures that behavioral psychologists would use, but many behavioral psychologists, notably Aubrey Daniels and Bill Abernathy recognized the value of the measurement system, if not the measures recommended by the individuals.

Note that "current performance" is listed as a "5" on the matrix. The term "current performance" is misleading and has confused students in the past. In this case, "current performance" refers to baseline, historical performance. Use the term baseline when referring to this column. When a person is evaluated, his/her actual "current" performance is written in the raw score column, and then the number in the row that corresponds to it is circled on the matrix. For example, on page 161, the "current accountability results for May" are provided at the top of the page and in the Raw Score column on the Performance Matrix in Figure 11.8.

Not for the exam, but to see an example of the use of the Performance Matrix to improve customer service behaviors in a large department store, see Eikenhout, N., & Austin, J. (2005). Using goals, feedback, reinforcement, and a performance matrix to improve customer service in a large department store. *Journal of Organizational Behavior Management*, 24(3), 27-62.

22. 163,1. Why can collecting the data be as much problem as developing the measure? We often forget that both time and effort can function as punishers – this has been shown to be true in the operant laboratory with nonhuman animals as well. Be able to provide the following diagram:

R (measuring) → Sp (time and effort)

Some of you may encounter this problem in your own measurement project - many students have in the past. It is probably the most frequent problem I have encountered when students have developed their measurement project in the past.

Now on to functional assessment....

From lecture:

23. There are three general types of functional assessment procedures based on how the assessment is conducted: informant, descriptive, and functional *analysis*. Learn these three types. After lecture, and be able to recognize and label examples of each.
24. Give the names of three functional assessment procedures that are currently popular in OBM today – as well as the names of the individuals who created them.

Pampino, Heering, Wilder, Barton, & Burson: Performance assessment & demonstration of a very effective component package consisting of task clarification, training, and consequence (public posting and a monthly lottery). They also assessed social validity!

25. 8,2. Based on study objective 23 above, what type of functional assessment was used: informant, descriptive, or analysis?
26. 8,4. Not for the exam, but note the multi-component intervention consisting of task clarification, training, and consequence (lottery). Recall from last week that most of the interventions in OBM are, indeed, multi-component. This particular combination has historically been shown to be a VERY effective combination.
27. 9,1.
- A. Describe the method used to post the number of lottery tickets won.
- B. Also, for the exam, what factors from a behavioral perspective might influence the extent to which a lottery like this is effective? (this is not in the article).

Not for the exam, but what do you think about identifying the employees by name on the data sheet that was publicly posted?

28. 11, Figure 11. In this study, which two areas were identified as the top two areas that were possibly responsible for the low performance levels?

Not for the exam, these two areas are likely to be the same in most organizations – Gilbert in his book *Human Competence* also identified these as the “usual suspects.” Just food for thought – this may explain why it really doesn’t matter which assessment procedure you use

to identify the barriers to performance. Each and every one of them includes an analysis of these two factors.

Anderson, Crowell, Hantula, & Siroky: I am including this article primarily because it showed that task clarification alone resulted 21 of 30 participants showed only modest improvement in behavior while the addition of feedback resulted in much greater improvement. Again, you should keep this in mind if you implement only task clarification – remember it is only an antecedent intervention, and by itself may not be very effective.

29. 79,2 Not for the exam, but again note that participation was voluntary and employees were told that the checklists would not be used to harass anyone or threaten their jobs. These are excellent HSIRB procedures.
30. 81,2. When task clarification was implemented, what was the overall improvement?
31. 81,2. After presenting the overall improvement of baseline the authors specify the percentage of participants in each group that improved performance. Why are these data important?
The latter answer is not in the text, so let me explain: These data are important because with group data you cannot tell how the intervention affected individuals. If the overall group average increases, and only group data are provided, you can't tell whether that increase was due to a large increase in performance by just 1-2 individuals, or whether most or all of the individuals improved their performance. Thus, the individual data tell you something about the generality across individuals – how likely is it that this type of intervention will affect most or all of the employees?
32. 84,1 At the end of the Feedback-3 phase, what was the *overall* average increase across *all* three groups? (in other words, don't memorize all three percentage increases; rather calculate the average of the three and memorize that one). I am having you learn this so you can compare this to the % for task clarification alone – from SO 30.

Komaki: I am including this article because it represents a way to assess the performance of supervisors and managers. Komaki and her colleagues are the only ones I know who have done research in this area. I did not include this material in the course last year although I had included it in earlier 6450s. But, this year, at ABAI, I went to a presentation by CLG and they were making extensive use of Komaki's work – so, I put it back in. ☺

33. Abstract. What were the two key differences between effective and ineffective managers?
34. 270,5 Why was performance monitoring believed to be important?
35. 271,1 State the two reasons why the author did **not** believe that antecedents such as instructions, reminders and training would discriminate between effective and ineffective supervisors?
36. 271, 5, Assumptions, point 1. Not for the exam but: note the emphasis on specificity. This again reflects our behavior analytic perspective - only if very specific behaviors/performances are identified, as opposed to general traits, can individuals be given a prescription on how to improve their performance. Here, the author is implicitly criticizing the leadership theories of trait theory. This criticism can also be extended to the more recent very popular Myers-Briggs assessment. See chapter 12 in Aamodt for examples.
37. 271, 5. Assumptions, point 5. Not for the exam. Here the author is implicitly criticizing leadership theories that maintain that the leader's effectiveness is highly dependent on the situation - such as leader-group relations, task structure, and position power. The most well-

known is Fiedler's "contingency theory", followed by Path-goal theory. The Vroom-Yetton contingency theory focuses on "mutual influence" - so again, the author is criticizing this approach. Again, see chapter 12 in Aamodt for examples.

38. 274,1. Approximately what percentage of time did managers, as a group, spend dealing with the performance of others? Does this seem small to you? This is an important point. When we intervene with supervisors and managers, it is very important to remember that they have many other responsibilities. Time management and the labor intensiveness of our interventions becomes a critical issue.
39. 275,1. What was performance monitoring *not* related to? Again, this is important. It is important that managers/supervisors have job knowledge; but monitoring was not related to job knowledge.
40. 275, 9. Not for the exam. Notice that there was no difference re the time spent providing consequences. In a subsequent study, Komaki and her colleagues found that providing consequences did make a difference *if* performance monitoring was adequate. Thus, in order for provision of consequences to matter, supervisors/managers must first monitor performance adequately. This does make conceptual sense!
41. 277, 1. Not for the exam. Note that Komaki stated that monitoring may function as an establishing operation. We will be looking at establishing operations in the next unit, and I will return to this analysis.

THE END - but see the following amusing quotes from actual performance evaluations.

For your Entertainment Only

Quotes Taken from actual Performance Appraisals

1. Since my last report, this employee has reached rock bottom and has started to dig.
2. His men would follow him anywhere, but only out of morbid curiosity.
3. I would not allow this employee to breed.
4. This associate is really not so much of a has-been, but more of a definitely won't be.
5. Works well when under constant supervision and cornered like a rat in a trap.
6. When she opens her mouth, it seems that this is only to change whichever foot was previously in there.
7. He would be out of his depth in a parking lot puddle.
8. This young lady has delusions of adequacy.
9. He sets low personal standards and then consistently fails to achieve them.
10. This employee should go far - and the sooner he starts, the better.
11. This employee is depriving a village somewhere of an idiot.

Unit 3: Work Motivation from a Traditional and Behavioral Perspective

Unit assignment

1. Dickinson's paper on Motivating Operations in Unit 3 of the course pack
3. Aamodt, Chapter 9: Traditional motivational theories

Recommended Reading: Not in course pack:

Olson, R., Laraway, S., & Austin, J. (2001). Unconditioned and conditioned establishing operations in Organizational Behavior Management. *Journal of Organizational Behavior Management, 21*(2), 7-35.

Motivation from a behavioral perspective:

The motivating operation (previously called “establishing operation”) is the motivating variable in behavior analysis. We have not made much practical use of the MO in OBM, for reasons that are discussed in my summary of the MO; namely, we have been very successful in changing work performance by changing antecedents and consequences.

The paper I have recommended by Olson et al. provides a thoughtful analysis of the potential use of the concept of the EO in OBM. At the current time, however, in spite of the usefulness of this concept in other areas in behavior analysis, it is not clear how useful the concept is or will become in OBM, which is why I did not include the article in your course pack.

Nonetheless, the MO is a very important concept and is often used when analyzing the behavior of workers. Thus, it is important that you understand this concept.

Dickinson's paper

1. 2,2-4.
 - A. Provide two reasons why applied behavior analysts have been successful even though they have ignored the motivating operations of deprivation, satiation and aversive stimulation. This is true for OBM.
 - B. Explain carefully why generalized conditioned reinforcers can be used successfully to alter behavior without manipulating motivating operations. **2,3-4.**
2. 5,4. State the name of the two **main** effects that MOs have and describe them.
3. 9, Table 2. Be able to state the Reinforcer Establishing Effect and the Evocative Effect for the MOs listed in this table. On the exam, I may ask, for example:

What is the reinforcer establishing effect of becoming too warm?

What is the reinforcer establishing effect of an increase in pain?

What is the evocative effect of sleep deprivation?

What is the evocative effect of salt ingestion?

Note carefully, that in the first two questions, you should **ONLY** state the “reinforcer establishing effect” (not the evocative effect) and in the last two questions you should **ONLY** state the “evocative effect” (not the reinforcer establishing effect). Although these effects do occur simultaneously, they are very different effects.

There are a few different ways to answer the above questions correctly. In lecture, I will use slightly different ways to say the same thing – students sometimes benefit from my “saying

the same thing in different ways.” That said, however, let me give you some language, or what we call “verbal frames” for the above answers that will perhaps make this easier for you:

Reinforcer Establishing Effect:

What MO makes what specific consequence *more* reinforcing.

Evocative Effect:

What MO evokes behaviors that have resulted in what specific consequence in the past.

On the exam, for the evocative effect, it is also OK to list specific behaviors that may be evoked as follows: What MO would evoke what specific examples of behaviors.

4. 9, Table 3. Be able to state the Reinforcer Abolishing Effect and the Abative Effect for the MOs listed in this table. On the exam, I may ask, for example:

What is the reinforcer abolishing effect of water satiation?

What is the reinforcer abolishing effect of becoming warmer?

What is the abative effect of a *decrease* in pain or *no pain*?

What is the abative effect of activity?

Again, note very carefully that in the first two questions you should only state the “reinforcer abolishing effect” (not the abative effect) and in the last two questions you should only state the “abative effect” (not the reinforcer abolishing effect).

To help you out, I am going to give you verbal frames that you can use to answer these types of questions.

Reinforcer Abolishing Effect:

What MO makes what specific consequence *less* reinforcing.

Abative Effect:

What MO suppresses behaviors that have resulted in what specific consequence in the past.

On the exam, for the abative effect, it is also OK to list specific behaviors that may be suppressed as follows: What MO would suppress what specific examples of behaviors.

5. 10, first 2 paragraphs in the Section “Confusion with SDs.” Why are MOs most commonly confused with SDs? In other words, how are they similar? What is the main difference between SDs and MOs? (You do not have to learn the diagrams on page 11. I have provided these simply to help you understand the difference between MOs and SDs.)
6. 12. Not for the exam, but note that I explain that an MO not only affects the reinforcing value of an unconditioned reinforcer but also affects the reinforcing value of any and all conditioned reinforcers that have been paired with that unconditioned reinforcer. I give some examples on pages 13-15. The effects that an MO have on conditioned and generalized conditioned reinforcers are often the ones that “come into play” in a business or organizational setting. I am not going to ask any questions over this material, but you should be aware of this.

Also when an MO affects a conditioned reinforcer rather than an unconditioned reinforcer, the MO is, technically, a “*conditioned* motivating operation.” When an MO affects an unconditioned reinforcer it is, technically, an “*unconditioned* motivating operation.”

7. I am not going to ask any questions over the rest of the material in this article – we don’t have enough time to go into all of the complexities of MOs in this class.
8. Now, let’s consider some possible MOs in the workplace. *Learn these three examples.* Be forewarned – students often have trouble with these, so study them carefully.

A. Feedback.

Assume: R (making widgets) → Sc (sight of completed widget).
The sight of the completed widget is NOT reinforcing.

Now Assume: MO (Feedback): R (making widgets) → Sr (sight of completed widgets)

Feedback may make the sight of the completed widget more reinforcing and evoke making widgets. On the exam, I may ask (a) in the example I gave in the study objectives about feedback, what is the evocative effect of feedback or (b) what is the reinforcing establishing effect?

Note that the sight of the completed widgets was available before the feedback, but it was not reinforcing (and hence the feedback cannot be an SD because the sight of the completed widgets is not differentially correlated with the feedback – that is, the sight of the completed widgets is available whether or not feedback is present as an antecedent stimulus).

B. Irritation or anger at the supervisor.

Assume: R (work not getting done as quickly or as well as usual) → Sc (signs of distress by supervisor)

Signs (stimuli associated with distress, such as frowning, yelling, etc.) by the supervisor are NOT reinforcing to begin with, and may even be punishing.

Now assume: MO (anger, irritation): R (sabotage, work slow down) → Sr (signs of distress by supervisor)

When you are not “angry” at the supervisor, signs of distress on the part of the supervisor are not reinforcing. Once you are “angry” at the supervisor, then signs of distress become reinforcing and behaviors that produce those signs of distress will be evoked. On the exam, I may ask in the example I had on the study objectives about the MO of anger/irritation at the supervisor, (a) what is the evocative effect or (b) what is the reinforcing establishing effect.

Once again, note that signs of distress on the part of the supervisor was available when you were not angry or irritated, but it was not reinforcing (hence the anger/irritation cannot be an SD).

C. Work sampling (objective measurement of performance – from Komaki in U2).

Assume: R (working) → Sc (supervisor praises or criticizes).

However, the supervisor's praise and criticism are not very reinforcing or punishing because he really does not understand what you do and does not look at your work products.

Now: MO (supv. samples work): R (working)→Sr/Sp (supervisor praise/criticism)

The objective sampling of your work increases the reinforcing effectiveness of the supervisor's praise and the punishing effectiveness of the criticism. Again, I may ask about the evocative effect of work sampling and/or the reinforcing/punishing establishing effect of work sampling.

And again, note that the supervisor's praise/criticism were available without the objective sampling of work, but it was not reinforcing/punishing (hence the objective sampling cannot be functioning as an SD).

9. At the end of the study objectives for this unit, I have included an excerpt from Olson et al. This study objective relates to that excerpt, paragraph 3.

Explain how the UEO of activity deprivation could disrupt monitoring performance and how/why the UEO manipulation of stretching breaks might improve such performance – using behavioral terminology, of course (that is making use of the value-altering and behavior-altering effects). Be able to label each of the effects in these examples with the terminology from my paper (e.g., reinforcer establishing effect, reinforcer abolishing effect, evocative effect and abative effect).

Motivation from a traditional I/O perspective

Aamodt, Chapter 9

10. 328,1 Note that Aamodt defines motivation as “the **internal force** that drives a worker to action as well as the external factors that encourage action. This is a common type of definition of motivation. Given this definition, you cannot measure motivation directly, rather you must infer it from “action” (behavior/performance).

One of the very important conceptual and empirical advantages of the MO is that you can measure it independently from behavior; that is, you can measure the extent to which a person is food deprived or water deprived.

For the exam: (a) How does the traditional way of conceptualizing and measuring motivation differ from a behavior analytic way of conceptualizing and measuring motivation? and (b) what is the important conceptual and empirical advantage of the MO from an objective scientific perspective?

11. 328,1 The MO does account for "driving a worker to action," although schedules of reinforcement also influence this.

For the exam, based on the material below explain how the MO accounts for the concept of *drive* in traditional motivational theory.

The MO determines what is or is not reinforcing at a particular moment in time and then evokes or abates behaviors that have, in the past, resulted in that reinforcer.

12. 328-331. Not for the exam. I am not going to deal with the concept of “self-esteem” and “self-efficacy” except to state that the environmental contingencies have a great deal to do with how we feel about ourselves. The behavioral interpretation is that environmental variables both shape what we feel and how we behave/perform. That is, it is not our “self-

esteem” or “self-efficacy” that causes performance, but rather that the environmental contingencies cause both.

For an absolutely brilliant study that deals with this topic and, in my opinion, puts this notion of the importance of self-esteem and self-efficacy to rest, see: Cole, B. L., & Hopkins, B. L. (1995). Manipulations of the relationship between reported self-efficacy and performance. *Journal of Organizational Behavior Management*, 15(1/2), 95-135.

13. 331,4-5. See also Aamodt, page 347,3, where he talks about this issue of intrinsic motivation again.

For the exam:

A. Define/translate “intrinsic motivation” behaviorally. I have boldfaced the definition below, but in order for you to understand it, I need to explain a few things first.

B. Illustrate your answer with an example and be able to explain your example.

In 1989, I published a paper that thoroughly reviewed the evidence for the claim that “extrinsic rewards decrease intrinsic motivation.” Based on that review, I concluded “the controversy surrounding the detrimental effects of extrinsic rewards is ‘much ado about nothing’.” Later, Cameron & Pierce’s meta-analysis confirmed my conclusion.

From a behavioral perspective, there isn’t a functional difference between “extrinsically motivated” behavior and “intrinsically motivated” behavior. Intrinsically motivated behavior occurs in the absence of any obvious or programmed consequences. **However, intrinsically motivated behavior (or my preference, intrinsically controlled behavior) is simply behavior that is maintained by response-produced reinforcers;** that is, by the natural and automatic consequences/results of the behavior. For example, when you paint a picture, your painting behavior is automatically reinforced by the picture/paint on the canvas. Similarly, when you do a jigsaw puzzle, your behavior is automatically reinforced by the pieces fitting together and progress on completing the puzzle.

The rest of this is not for the exam. The research does suggest that rewards may, at times, have detrimental effects if: (a) rewards are provided for task engagement (rather than being contingent on quantity or quality of performance), (b) rewards are not reinforcing, (c) performers fail to meet performance standards on which the rewards are based, and (d) rewards are competitive. Thus, the literature reminds us that some reward systems can be aversive and provides some guidelines for developing reward systems (e.g., rewards should be contingent on some type of objective performance standard, performance standards must be attainable, rewards should be noncompetitive). However, these are practices that behavior analysts have been recommending for years.

Dickinson, A. M. (1989). The detrimental effects of extrinsic reinforcement on “intrinsic motivation.” *The Behavior Analyst*, 12(1), 1-15.

14. 332,3-333,4. Not for the exam: Aamodt’s material is very reasonable here. People differ in terms of what events function as reinforcers, and if you can match a person to the job in terms of the rewards that intrinsic to the job, that person will typically perform better and be more satisfied. For example, I find selling things aversive, but there are many individuals who love it and thus make excellent sales representatives. I happen to enjoy the rewards/consequences from teaching; some of my former graduate students hated teaching and never wanted to step foot in the classroom. This is actually what Gilbert meant in the “motives” box of his Behavioral Engineering Model (from last unit).

15. 334,1. Describe Maslow's theory as follows.- Maslow maintains that behavior is motivated by the **satisfaction** of **innate/genetic** needs. According to Maslow, there are **five basic needs, arranged in a hierarchy. When lower level needs are satisfied, then the next need in the hierarchy "takes over" and motivates behavior.**
16. 336,3. Not for the exam. I have always found it interesting that the theory has been and remains very popular with managers (and, in general in business colleges), despite the fact that research does not support it (see 336,6).
17. In lecture, I will use Maslow's needs to demonstrate how to translate the concept of "needs" into behavioral terms. Learn this. Not surprisingly, I will be using the concepts of (a) the motivating operation, (b) unconditioned reinforcers and (c) conditioned reinforcers.
18. Skip to 353,5. (I am going to cover the material on goal-setting and incentive systems in future units.)
 - A. Define the major components of expectancy theory (I am going to give an expanded version of this in lecture and in the ppt presentation). The theory is summarized nicely in 354,2-3 - it may help you to understand how all of these factors influence motivation from this perspective.
 - B. Note, when reading about this theory, that individuals who believe it end up recommending the same types of interventions that behaviorists recommend - it exists in a "cognitive" parallel universe to behavioral psychology, if you will. I will provide a behavioral translation of the major components of the theory in lecture. Learn these for the exam.
19. A. 356, 2. According to Adams' equity theory, what motivates behavior? Note that it can be summed up rather easily – *inequity* between the ratio of one's inputs and outcomes and another's inputs and outcomes. Aamodt uses the term "outputs" rather than "outcomes." It should be *outcomes*. "Outputs" connotes what a person does – his/her outputs – not what the person "gets."
 - B. 356,5. If given examples of ratios with numbers for "Person" and "Other," indicate whether they represent equity, underpayment or overpayment. While Aamodt is correct in that the ratios are determined by dividing the outcomes by the inputs, that is confusing. I will just give you numbers. For example:

You	Other	
Inputs/Outcomes	Inputs/Outcomes	
50/50	50/50	Equity
40/40	50/50	Equity
40/40	40/50	Underpayment
40/50	40/40	Overpayment
20. Not for the exam, but note in 357,2, that research tends to support this theory when we are underpaid. However, research is not as clear when we are overpaid – we tend to have a very high tolerance if we are overpaid. See the last sentence in 357,5.
21. On the other hand, I believe the social comparison concept is a valid one (most of us do this) and we do need to incorporate that when we discuss motivation in industrial settings. The following represent possible behavioral analyses of the concept of inequity. Learn these two examples for the exam.

1. (General analysis) Signs of (more behaviorally, stimuli correlated with) inequity function as an MO that (a) makes equity more reinforcing and (b) evokes behaviors that have in the past, restored equity.
2. (Underpayment) Signs of inequity related to underpayment function as an MO that (a) makes one's current consequences less reinforcing and (b) abates behaviors that have in the past resulted in those reinforcers, and/or (c) evokes other behaviors that have in the past, restored equity.

Not for the exam, but food for thought: Why would underpayment be more likely to function as an MO than overpayment? Why would overpayment for **some** individuals function as an MO to evoke behaviors to restore equity? I guess what I am asking here is why signs of equity would function as reinforcement for individuals in our culture (some individuals anyway) even if the individuals are overpaid?

What I am getting at here, by the way, is agreement with Adams that we are dealing with a learned motivating variable, not a biological one. If one has been reinforced in the past for behaving in a “fair” and “equitable” way, then “fairness” and “equity” become conditioned reinforcers. On the other hand, if you have been reinforced in the past for behaviors that lead to your own advantage even if it results in the disadvantage of others, then “fairness” and “equity” will not become conditioned reinforcers (and stimuli correlated with “getting more than your fair share” will become conditioned reinforcers).

22. OBM representation in IO Psychology textbooks: Based on the following material, state how many of the 8 top selling IO textbooks both (a) include OBM in their discussion of “motivation” and (b) portray OBM favorably and reasonably accurately? (you only need to include the material that is boldfaced below)

In the summer of 2010 I reviewed the 8 top selling textbooks in IO psychology in order to select a new text for this course. I discovered that times are changing. In the past OBM was not included in texts, and if it was, the field was not portrayed well or accurately.

My review revealed that: (a) **four of the eight discussed OBM in their “motivation” chapters favorably**; (b) one included OBM or, I should say, “Reinforcement theory” very unfavorably, and (c) three didn’t mention OBM at all in their motivation chapters (although two of these do talk about the importance of reinforcement in their training chapters).

Muchinsky, which is by far the top selling IO text has deleted all material related to “reinforcement theory” in his most recent edition. Given the way he dealt with it in the past, I can’t decide whether this is a good thing or a bad thing.

23. Not for the exam: but turn to 343,2-344 and read how Aamodt deals with operant conditioning. It is actually a nice treatment. Note his statement in 344,1 that “research and applied literature abound with studies demonstrating the effectiveness of reinforcement.” Now, for a sample of negative presentations, see the course pack, the section titled, “Reinforcement Theory:” Excerpts from four of the top selling textbooks. I have underlined or drawn lines in the margins so that you can note the most important parts of these excerpts. Consider the implications of some of the material. This is what students in traditional IO psychology programs are reading about our field. Overall, would you be inclined to support OBM if this is what you had read?

In fairness to these authors, I want to point out that we do not have academic text in OBM (which is why I use a course pack). For the most part, the books in the area have been written by our consultants for managers and supervisors. Thus, the traditional IO

psychologists do not have a scholarly treatment available to them or a model on how we would deal with some of these issues – particularly the ethical concerns. It's a problem.

24. Excerpts from the top selling textbooks.

A. What is the **main** argument or concern about “reinforcement theory?” I'll discuss this in lecture, but before I do, I would like to see what you come up with.

B. After lecture be able to state what the “secondary” concern is.

The secondary concern is mentioned quite frequently in the texts, but I did not copy the sections that addressed that issue for you. Again, I will talk just a bit about this one in lecture.

We really need to help traditional IO psychologists understand our positions on these issues. It is unrealistic to assume they are going to read books on behavior analysis or articles from *JOBM*. I am of the opinion that it is our responsibility to dialogue with traditional IO psychologists about these issues in a cogent, scholarly way. (And, no I haven't done that – I always thought I would write an OBM book, but I never have gotten around to it! So, I realize I am part of the problem.)

THE END: But the excerpt from Olson et al. is on the following page.

Study Objective 9
Olson et al., pages 18-19

Unconditioned reinforcers and punishers and their supporting UEOs are of central importance for shaping for shaping the types of behaviors that will keep an individual healthy enough to survive and likely to reproduce, but they are rarely used directly to motivate workplace performance. Unconditioned reinforcers and punishers occur regularly during a person's workday, but these consequences are usually not contingent upon performances of special value to organizations (e.g., opportunities to eat are usually provided independently of performance). In most cases, generalized conditioned reinforcers (e.g., monetary incentives, social praise, stimulus changes intrinsic to tasks, completion of an assignment, "signs" of progress or success) maintain important organizational performances rather than unconditioned reinforcers. When this is the case, UEOs play only a supporting role in establishing the effectiveness of conditioned reinforcers, when those conditioned reinforcers have been "backed-up" by unconditioned reinforcers. However, UEOs may be important to workplace performance for reasons beyond a supporting role for generalized conditioned reinforcement.

If a person is hungry, tired, uncomfortably cold, or otherwise affected by a UEO, his or her behavior at work will reflect their motivational state. For example, a hungry employee will think about food, look for opportunities to take a break and have a snack, or procrastinate work and plan a dinner with a co-worker. Such behavior may compete with or displace the types of behavior that are of value to the organization. In this regard, UEOs can be powerful *distracters* from work tasks. One such UEO is activity deprivation, which is a pervasive condition when jobs require near continuous use of personal computers or other stationary electronic technological devices.

Some organizations manipulate activity UEOs for employees whose work involves restricted or minimal activity. For example, employees at an Intel microprocessor fabrication plant in New Mexico are periodically prompted during their shift by music over the loudspeaker to do 5-10 minutes of stretching exercises (Page, 2000). This activity is programmed for both office personnel and employees who participate in the microprocessor fabrication process. Although the prevention of cumulative stress injury is probably one rationale for this intervention, its effects as a UEO might also reduce the chances of costly manufacturing errors by reducing the likelihood that employees will be distracted during important performances. Once such performance might involve monitoring screens that track the operation of expensive manufacturing processes. Employees would need to detect subtle changes in machine operation and make necessary adjustments to avoid costly product defects. Fidgeting, looking around, and pacing are incompatible with such monitoring and might be evoked by activity deprivation. As a UEO, the stretching exercise breaks would momentarily decrease the reinforcing effectiveness of stimuli arising from gross muscle activity (reinforcer-establishing effect), and decrease the momentary frequency of all behaviors that had produced such stimulation in the past (evocative effect). The UEO manipulation would therefore reduce the relative frequency of fidgeting, looking around, or pacing when careful monitoring was required, thereby enhancing an important target performance of value to the organization.

Unit 4: Indirect Acting Contingencies and Feedback

Unit 4 Exercise (8 points): Due Wednesday, 10/12. In class on Wednesday, I will call on some, if not all, of you to present your analyses. I will collect the written exercises from all of you at the end of class.

There was a rather famous exchange between Komaki, a behavioral psychologist, and Locke, a nonbehavioral psychologist about feedback. Komaki conducted a safety study, and maintained that the feedback (she used feedback alone) functioned as a reinforcer because after she implemented the feedback procedure, safety related behaviors immediately and dramatically improved. Locke contested the interpretation that feedback could have functioned as reinforcement.

For this exercise you will respond to two of the issues raised by Locke (he raised more than two). I have listed the points I want you to respond to below. Base your responses on material in this unit (which means you will have to complete the study objectives in advance – particularly the ones from the Peterson article) as well as from previous units in the course – in your answer cite material/references to justify your explanations. Note that this is **NOT** an opinion article (that is, I will take off points if you miss the mark or fail to address the issues I am asking you to address). You should at least make use of relevant material we have covered in this course when addressing this issue, and I will take off points if you do not. *Also, while it may be the case, that feedback might have functioned as a different type of stimulus, and if you want, you can address that, but you need to address the central issue: that is, **Locke's contention that feedback was not a reinforcer in Komaki's study, and can never be a reinforcer, for the reasons Locke gave.***

You can (or should be able to) answer these questions based on the material from this course – you do not have to obtain references/citations from outside of this class, but if you do, you may earn a bonus point or two. If you do cite references from material outside of the class, use APA style formatting and also provide the complete citations (references) at the end of each question – again using APA format. However, I am not looking for a long paper! Two pages should do it.

I don't think it is necessary for you to read the original articles by Komaki and Locke, but in the past some students have looked up the articles and read them before they wrote their replies. Because of that I have included the two relevant articles in your course pack. But please let me stress again (a) that I am not looking for a long paper – two pages should do it, and (b) I am only asking you to respond to the following two issues.

For each question below: First specifically state whether you *agree* or *disagree* with Locke's position and then explain, giving as many reasons as you can (again, remember, however, this is not an opinion item – your answer should be based on relevant material from this class and/or others). If you want, you can bullet each of your points, and then provide a brief rationale or explanation under the bulleted point.

- A. Locke's first argument which is a general argument that feedback cannot ever be a reinforcer: Reviews of feedback indicate that feedback does not inevitably or automatically improve performance. Thus, feedback cannot be considered a **reinforcer** because it does not always produce an increase in performance.
- B. Locke's second argument which is a specific argument that it was not a reinforcer in Komaki's study: In Komaki's study, feedback was not a **reinforcer** since performance improved immediately and dramatically upon the introduction of feedback, rather than gradually.

1. Komaki, J., Barwick, K. D., Scott, L. R. (1978). A behavioral approach to occupational safety: pinpointing and reinforcing safe performance in a food manufacturing plant. *Journal of Applied Psychology*, 63(4), 434-445.
2. Locke, E. A. (1980). Latham versus Komaki: A tale of two paradigms. *Journal of Applied Psychology*, 65(1), 16-23.

Direct acting contingencies and rule-governed behavior

As most of you are probably aware, most of the performances we deal with in organizational settings represent rule-governed behavior rather than contingency-shaped behavior – due to the delay between the behavior and its consequences, or between the antecedent and the behavior. This year, I decided that I really didn't have to cover the conceptual aspects of rule-governed behavior in this class; rather just make sure you understand that general point.

For those of you who are interested in the theory/conceptual analysis of rule-governed behavior, there are two different widely accepted analyses. One was developed by R. Malott, the other was developed by two of Michael's students, E. Blakely and H. Schlinger. While Malott's is more popular, I actually prefer Blakely and Schlinger's analysis although their analysis has not received as much press or attention as Malott's. Of course, you should also read what Skinner had to say about this topic, so I have included the "classic" reference on rules. For those of you interested in learning more about these analyses, and importance in our field, please see the following articles.

- Skinner, B. F. (1969). *Contingencies of reinforcement* (chapter 6, particularly pages 157-171). Englewood Cliffs, NJ: Prentice-Hall.
- Agnew, J. L. & Redmon, W. K. (1992). Contingency specifying stimuli: The role of "rules" in Organizational Behavior Management. *Journal of Organizational Behavior Management*, 12(2), 67-76.
- Schlinger, H., & Blakely, E., (1987). Function-altering effects of contingency-specifying stimuli. *The Behavior Analyst*, 10, 41-45.
- Blakely, E., & Schlinger, H. (1987). Rules: Function-altering contingency-specifying stimuli. *The Behavior Analyst*, 10, 183-187.
- Malott, R. W. (1992). A theory of rule-governed behavior and organizational behavior management. *Journal of Organizational Behavior Management*, 12(2), 45 -65. (Included in this issue are several commentaries on Malott's theory.)

Reading assignment for the exam

3. Michael, J. (2004). Chapter 9: Behavioral effects of remote contingencies. *Concepts and principles of behavior analysis* (revised ed.) (pp. 163-167). Kalamazoo, MI: The Association for Behavior Analysis.
4. Graph of proof operator performance from Union National Bank (to be explained in lecture).
5. Peterson, N. (1982). Feedback is not a new principle of behavior. *The Behavior Analyst*, 5, 101-102.
6. Balcazar, F., Hopkins, B. L., & Suarez, Y. (1985-1986). A critical, objective review of performance feedback. *Journal of Organizational Behavior Management*, 7(3/4), 65-89. (I couldn't find this on the new JOBM web site, the entire issue seems to be missing.)

7. Richman, G. S., Riordan, M. R., Reiss, M. L., Pyles, D. A. M., Bailey, J. S. (1988). The effects of self-monitoring and supervisor feedback on staff performance in a residential setting. *Journal of Applied Behavior Analysis*, 21, 401-409.

Michael article

1. Learn the distinctions between direct and indirect acting contingencies in the first paragraph.
2. 163,2-164,1 Michael is making a very complex argument. It is very important and represents one of the main arguments in the molecular vs. molar analyses of behavior - which is a hotly debated topic in OBM and the applied behavior analysis field in general.

Because Michael's argument is complex and often misunderstood by students, I have provided the following material as an explanation.

- A. Learn Michael's argument in detail. *Note very carefully that he does not argue in terms of the delay per se (and thus neither should you)* – he uses the concept of the automaticity of reinforcement.
- B. Explain why/how the example I give below about an FT schedule is related to this argument.
- C. In lecture I will provide diagrams of how my explanation re the schedules of reinforcement are related to Michael's example; learn these for the exam.

Michael is saying that receiving money for a grant is sometimes viewed as "reinforcement" for grant writing, and thus grant writing will increase in the future. However, without a complex verbal repertoire, the delayed receipt of money would not affect grant writing - thus is cannot be seen as operant reinforcement. Let's assume the grant money was awarded six months after the grant was written. Now assume that the grant was written, and six months later, instead of the receipt of grant money, the person gets a large inheritance. That large inheritance would NOT influence grant writing. If operant reinforcement was at work, however, BOTH the receipt of grant money AND the receipt of a large inheritance should influence grant writing.

Why? Because we know for a fact that operant conditioning is "automatic." Reinforcement will increase behaviors when consequences are causally related to them, of course. But reinforcement also increases behaviors when consequences are *not* related to them - that is, if a response is accidentally or what is called "adventitiously" reinforced (Skinner referred to such behaviors as superstitious, but that is a side point).

Let's say that we have a food deprived pigeon in the chamber. And the E is going to deliver food on an FT 20 s schedule - that is, the E is going to deliver food every 20 s regardless of what the pigeon is doing at the time (hence there is not a contingent or causal relationship between any behavior and the food delivery). But let's say the pigeon is pecking the floor right before the food is delivered. The food will reinforce the peck at the floor even though the peck at the floor was not related to the delivery of food - this is called accidental reinforcement. In other words, the key peck to the floor will increase even though the consequence is not causally related to it.

Thus, given the automaticity of reinforcement, if the increase in grant writing was in fact an example of direct reinforcement, then it should increase whether the consequence is the

money from the grant OR the large inheritance. But grant writing is not going to increase in both cases, thus receipt of the grant money cannot be viewed as direct operant reinforcement even though it was causally related to it. Grant writing increases as a result of receiving grant money only because of more complex behavioral processes relating to verbal behavior about past events, rule-governed behavior, verbal stimulus equivalencies, etc.

3. 164,3-166,0. Note the types of things in OBM that function as indirect consequences. Be able to recognize and distinguish between direct and indirect consequences. Or, if given the consequences be able to state what the direct effect would be and what the indirect effect is likely to be.
4. 166-167. List all the clues that indicate that an effect is indirect (note that Michael has already discussed the delay issue - be sure to include this one). Give an *original* example of each. By original, I mean that you cannot use any of the consequences or behaviors that Michael uses in his examples (or, if I give any in lecture, any of the ones I use).
5. 167,3. Why shouldn't we use technical language to explain the effects of indirect effects?
6. 169,2-4.

A. **Explain completely** and fully why we as behavior analysts have been successful from a practical perspective even though in the past many indirect effects have been discussed as if they were direct effects. He states three reasons - some students have real problems with the second one - study it carefully.

B. To make sure you understand that second reason, provide an example from OBM that illustrates the difference between how a traditional I/O psychologist might approach a performance/safety/quality problem vs. how a behavioral psychologist would. That is, what are different causes of behavior these two groups would come up with that would then influence their interventions?

Peterson article

7. 101, 2-101, top of the second column. Explain why, according to the author, the question about which function feedback serves or even whether it serves a dual function as a discriminative stimulus or reinforcement is inappropriate.
8. A. Explain the reasons why feedback the way it is commonly provided in applied settings, cannot be examples of simple reinforcement or discriminative stimulus control (there are two given, one in the first sentence in 101, 3 and one in the last full sentence of the paragraph - students often miss this second point but it is extremely important and I will be expanding on it in lecture.). Note that on the exam I may ask two separate questions: First, why feedback, in most situations, should not be considered simple reinforcement; and second, why feedback should not be considered a simple discriminative stimulus.
 - B. I will discuss this in lecture and provide diagrams that explain these reasons. Learn the diagrams.
 - C. During lecture, I am going to discuss the difference between an *operational* definition of an SD and a *functional* definition of an SD. Learn what the difference is between the two types of definitions of an SD, and also why one is called an operational definition and the other is called a *functional* definition.

Note, I am having you learn this because you must understand the functional definition in order to understand Peterson's point. However, in addition, the two terms "operational" and "functional" are often used in the field, and you should know their meanings.

9. Lecture objective: Peterson argues that you cannot consider feedback a consequence because it is not provided contingently upon a response, as is reinforcement. That is, reinforcers are provided when a particular response occurs but is NOT provided if that particular response does not occur. On the other hand, in applied settings, "feedback" is typically provided when the appropriate response occurs AND when it does NOT occur. But is this true? After lecture, be able to explain Peterson's point and also my reanalysis in which "feedback" can be viewed as being contingent upon a response.

Balcazar, Hopkins and Suarez. Note this is a classic article in our field with which all professionals are well-acquainted. Alvero, Bucklin, & Austin conducted an updated review of feedback, that was published in *JOBM* in 2001. This is also a very good review, however, I am including the Balcazar et al. paper because of their astute conceptual and theoretical analyses, which of course Alvero et al. didn't repeat in their article because they were already contained in the Balcazar et al. article.

10. 66,0 Below, I update the information about the % of articles that have used feedback as an intervention. For the exam, based on the most recent review of articles published in *JOBM* (the Nolan et al. article below), what percentage of used some form of feedback?

Nolan, Jarema, & Austin (1999, *JOBM*) found that in the next ten years, approximately 70% of articles published in that journal used some form of feedback alone or in combination with other IVs.

11. 74,3. Based on the following material in this study objective: Currently, what do we know about the relative effectiveness of daily, weekly and monthly feedback in organizational settings?

The relative effectiveness of daily, weekly, and monthly feedback is not really known. That is, we really don't know anything definitive or conclusive.

Not for the exam: While in this article, Balcazar et al. found that daily and weekly feedback were equally effective, and both were more effective than monthly feedback, Alvero et al. (2001) found that daily, monthly and a combination of daily and weekly were more effective than weekly feedback (note that it really doesn't make a lot of sense logically that daily and monthly feedback are more effective than weekly feedback – if frequency of feedback affects its effectiveness, then daily and weekly should both be better than monthly. Thus, my guess is that this result is not reliable, and probably is due to the small sample of studies and/or the particular feedback interventions used in the studies.

Also, not for the exam but quite interesting: Only one published study has compared the relative effectiveness of daily vs. weekly feedback in an organizational study. That study was Pampino, R. N., Jr. MacDonald, J. E., Mullin, J. E., & Wilder, D. A. (2003). Weekly feedback vs. daily feedback: An application in retail. *Journal of Organizational Behavior Management*, 23 (2/3), 21-43. The results were not definitive, but daily feedback *may* (and I emphasize the may) have improved performance in comparison to weekly feedback.

In 2009, at ABAI, So, Lee, Oah, & Lee presented an excellent poster on the relative effects of weekly and daily group feedback on the customer service behaviors of gas station

attendants. Their data were very clear – daily worked much better. Unfortunately, this study has not been published. These are researchers from Chung Ang University, South Korea. Dr. Oah was my first Ph.D. student and, interestingly enough, I “inherited” him from Norm Peterson who was a faculty member here, but left to take a position in private industry– I was hired to replace Norm. And, just a little bit of more history, Norm was the first student to receive a Ph.D. from our program at WMU, and his advisor was Jack Michael.

Clearly, we could use more studies on feedback frequency in actual organizations.

12. 76,3. Describe the most parsimonious explanation for why feedback is only sometimes "reinforcing" (I have "reinforcing" in quotes because, as Peterson explained, we typically are dealing with metaphorical extensions in business and industry). (Hint: this is useful for your exercise for this week)
13. 77, 1. Why is it that if reinforcement already exists for the appropriate behaviors, feedback may improve performance? Provide a careful analysis as the authors do. (A second analysis is provided in 77,2 but this one has some serious flaws when it is analyzed carefully, so I am not going to ask you to learn that one.)

Not for the exam, but Barbara Bucklin, Heather McGee and I published a study (*JOBM*, 2003, 2/3, pp. 65-94) that supports the assumption that feedback enhances the effectiveness of monetary incentives (tangible rewards). Doug Johnson examined this in his master's thesis (published in *Performance Improvement*, 2008, 20(3-4), 53-74) and found that feedback did *not* enhance the effects of monetary incentives (or hourly pay). We believe this is because he was very careful not to provide any evaluation along with the feedback. That is, it appears as though in order for feedback to affect performance over the long term (and in most situations) two conditions are necessary: (a) it must be correlated with functional rewards, as noted by the authors in this paper, and (b) it must be accompanied by some type of evaluation, whether that evaluation be praise/criticism, goals, or social comparison feedback. More research is needed (which Dr. Johnson is doing), but that is what things are looking like right now.

14. Based on the material below, state the percentages of applications in which performance improved consistently when (a) used alone, and (b) used in combination with other interventions. This is very important.

78,4. Note that when feedback was combined with some type of tangible reward, performance improved consistently in 13 of 15 applications. The percentage works out to almost 90% (87% actually). Now, return to Table 1 on page 71. When feedback was used alone, performance improved consistently in only 28% of the articles – you can round to 30% for the exam.

Not for the exam: Alvero et al. also reported that feedback when combined with other interventions was more consistently effective than when used alone, the discrepancy was not as large.

15. 81,4 - 82,0.

A. Explain why supervisory feedback may be more effective than when feedback is provided by other sources.

Let me provide an expanded analysis that relates to the point the authors are making. Given that the feedback evokes supervisory behavior, when feedback indicates that a subordinate's performance is good, that may evoke the supervisor to provide praise, which, in turn, may actually be what controls the worker's behavior and not the feedback itself (this is suggested by Doug Johnson's thesis data as well). Alternately, if the feedback indicates that a subordinate's performance is not good, that may evoke the supervisor to provide criticism or prompts. It may be these differential consequences that the supervisor provides to the employees that affects the performance of employees.

B. After lecture, provide a second reason why feedback may be more effective when provided by the supervisor.

16. 84, 1 What is the fundamental conclusion that resulted from this review? Please, please, please remember this - for some reason, students tend to forget this in the future - when designing thesis and dissertation research and when designing interventions in applied settings. This is a very important point. Note that if feedback "works" **over the long run** in the absence of explicit correlation with other reinforcers/punishers, then it is no doubt the case that the feedback is being implicitly tied to other reinforcers/punishers.
17. 84,2 If feedback is going to be established independently of careful consideration of the existence of functional consequences as was the case in most of the studies reviewed, what type of feedback system is the best bet for achieving results?
18. Most individuals assume that feedback works because it is correlated with positive rewards. In lecture, I am going to provide an analysis of the effectiveness of feedback based on negative reinforcement, an aversive contingency - I'm in agreement with Malott and Michael on this one. Learn this analysis and the reasons why I believe that feedback works because it is correlated with negative reinforcement.

Richman et al. article

19. 402,3-402,4.
 - A. What two general categories of behaviors were recorded?
 - B. For the first category, how would a person be scored if a staff member was in the correct location with the appropriate materials, but was reading, drinking coffee, or interacting with another staff member - that is, not actually conducting the training?
 - C. For the second category, how would a person be scored if the staff member was engaging in an appropriate activity, but not the one that happened to be scheduled for that particular time period? In other words how would a person have been scored if he/she were doing one-on-one training when a group activity was scheduled?

These are very nice (and relatively simple measures of behavior): always a plus in any study. Many studies in Human Service Settings have VERY complex measures of behaviors, unlike the current one. That is one of the reasons I like this study so much. Remember, if the measurement system is too complicated and takes a lot of time, there is less of a chance that people will actually do it.
20. 402,5. Not for the exam, but note the very nice HSIRB procedure related to what the staff were told about the use of the data that were to be collected during the "special project"!

21. 403,3. Not for the exam, but some type of scheduling system is used in a large number of interventions in human service settings – and it seems to be a very effective procedure as well as one that is relatively easy to implement. The one used in this article is one of the best I have seen.

Each staff member copied down his/her schedule (in 1/2 hour blocks) onto a card. *The E initialed each card. Staff members initialed each activity as they completed it or wrote an explanation of why they couldn't complete it. They turned their cards in at the end of the day.*

22. 403,5. Not for the exam, but when and how many times did supervisors give feedback to each direct care staff member?
23. 404,3 and graph on page 405. Baseline data were fairly low and inconsistent. What effect did the in-service have on the behaviors of staff? (this is another reason why I really, really like this article.) Whenever researchers have evaluated the effects of in-service training or staff training memos, this IS the typical result.
24. 404,5. Self-monitoring increased the performance of staff members substantially.
- A. Why, then was supervisory feedback added? That is, what happened to the performance of 5 of the 10 staff members during the self-monitoring phase?
- B. What are the implications of these data? They suggest that self-monitoring alone may not be effective long-term for many employees (50% in this study).
25. 404,7 and 408, last sentence in article. Not for the exam but note that generalization occurred and also that the procedures were still in effect at that facility 2 years after the completion of the research and also had been adopted at 12 other facilities around the state.
- THE END.

Unit 5: Feedback cont., Goal Setting, and Schedules of Reinforcement

Unit Exercise (8 points) Due Monday, 10/24. As in the last unit, I will call on some, if not all, of you to present your answers. I will collect the written exercises from all of you at the end of class.

Read the Latham and Dossett article in the course pack, paying particular attention to the Methods section, pages 51 - 53.

Answer the following questions (again, this is NOT an opinion article – you should use the material from this class (and possibly others) to answer these questions and provide your justification):

- A. Was the continuous reinforcement schedule (CRF) a true CRF schedule? First say “yes” or “no” and then justify your answer, *listing as many reasons as you can*. Number each reason separately (1, 2, 3, etc.). The number of points you earn will depend upon (a) whether you identify the most obvious reasons and (b) the number of reasons you identify.
- B. Was the variable ratio 4 schedule (VR4) a true VR4 schedule? First say “yes” or “no” and then justify your answer, listing as many reasons as you can. Number each reason separately (1, 2, 3, etc.). Again, the number of points you earn will depend upon (a) whether you identify the most obvious reasons and (b) the number of reasons you identify.

Reading and Exam Assignment

1. Aamodt, Chapter 9, pages 338-342
2. Crawley, W. J., Adler, B. S., O'Brien, R. M., & Duffy, E. M. (1982). Making salesmen. In R. M. O'Brien, A. M. Dickinson, & M. Rosow (Eds.) *Industrial Behavior Modification* (pp. 184-199). New York: Pergamon Press.
3. Crowell, C. R., Anderson, D. C., Abel, D. M., & Sergio, J. P. (1988). Task clarification, performance feedback, and social praise: Procedures for improving the customer service of bank tellers. *Journal of Applied Behavior Analysis*, 21, 65-71.
4. Gaetani, J. J., & Johnson, C. M. (1983). The effect of data plotting, praise, and state lottery tickets on decreasing cash shortages in a retail beverage chain. *Journal of Organizational Behavior Management*, 5(1), 5-15.
5. Wilk, L. A., & Redmon, W. K. (1998). The effects of feedback and goal setting on the productivity and satisfaction of university admissions staff. *Journal of Organizational Behavior Management*, 18 (1), 45-68. Oddly, this is listed as 1997 on the web site for JOBM. The issue was published in 1998.

Recommended Readings: Not in the course pack:

6. Gaetani, J. J., Johnson, C. M. & Austin, J. T. (1983). Self-management by an owner of a small business: Reduction of tardiness. *Journal of Organizational Behavior Management*, 5(1), 31-41.

This is another one of my favorite articles. I like this article for two reasons. First, it is hard to believe that an owner of his own business would routinely show up to work an average of 3.75 hours late (he opened the store; his machinists worked second shift).

Second, while self-logging and data plotting decreased the tardiness of the owner, it was not until the researchers had him record the potential number of lost customers due to his tardiness that his tardiness remained consistently low. That is, it wasn't until an important (and certain) *personal* consequence was made clear to him by recording these data that his behavior was affected: "If I am late, I will lose customers and business."

7. Nebeker, D. M., & Tatum, B. C. (1993). The effects of computer monitoring, standards, and rewards on work performance, job satisfaction, and stress. *Journal of Applied Social Psychology, 23*(7), 508-536.

This is an amazing article and one of the few I have ever seen examine the effects of goal difficulty and how goal difficulty interacts with monetary incentives as well as whether workers are "overachievers" or "underachievers." The results are fascinating. Interestingly, because the authors wrote it up as a computer monitoring study, researchers who have investigated goal setting and incentives have not cited it. Students in my lab are currently following up this study.

Goal Setting

Aamodt, Chapter 9, pages 338-342

1. 338, 4. Not for the exam, but notice the really nice acronym for the qualities goals should have. And, also note that OBMers would agree with each of the qualities listed.
2. 338,5 Locke and Latham maintain that specific goals are better than general goals such as "do your best" or "do as many as you can." We certainly agree.
 - A. After lecture, but able to provide a behavioral analysis of why specific goals are indeed better than general goals (generally). [this analysis is actually from Fellner, D. J., & Sulzer-Azaroff, B. (1984). A behavioral analysis of goal setting. *Journal of Organizational Behavior Management, 6*(1), 33-51.]
 - B. After lecture be able to provide a behavior analysis of the problems with "do your best" goals (specifically).
3. 339,3. Note the very nice example of problems that can occur when goals are too difficult. Just as the students in this example, employees also sometimes set goals too high. In lecture I am going to provide a behavioral analysis of why goals should not be too difficult.

After lecture, provide a behavioral analysis of why goals should not be too difficult – be able to provide both the diagrams and verbal analysis.

Not for the exam: Daniels argues that it is better to set easy goals and then gradually increase them over time – because performance is "successful" more immediately.
4. 339,4. "Commitment" is an interesting issue. All of the factors listed in the last sentence are important. For the exam, be able to list them, noting very carefully the part about reward.

Not for the exam, but how do we insure goals are attainable and convince employees they are attainable? The best way I know to do this is by collecting and showing employees *baseline* data. I have never had employees in an organization balk at a goal that was reasonably set based on baseline data.

5. 340, 3. Does participating in goal setting increase performance?
6. 341,1. Not for the exam, but it is true that goal setting is more effective when combined with feedback and that feedback is more effective when combined with goal setting.
7. 341,1. What percentage of employees indicated they receive regular feedback on their performance? (you can round to 40% - this means, of course, that 60% reported that they do not receive regular feedback).

Not for the exam: These figures are quite common. Another recent survey (Bayt.com, December 29, 2009) indicated that employees reported that the lack of recognition and feedback is the major reason their productivity decreases. In this survey, 50% of employees reported that they did not receive any feedback on how they were doing.

8. In some situations, goals may serve as MOs. What specific effects (reinforcer establishing and evocative) could a goal have? Illustrate your answer with an example.
9. From lecture: Daniels maintains that if you set a goal and performers meet that goal but do not exceed it, it indicates that the behavioral contingency controlling the performance is a *negative reinforcement contingency* (an aversive contingency) rather than a *positive reinforcement contingency* (which he advocates). I will argue in lecture that this is an incorrect analysis.

After lecture and for the exam, provide the main point of my analysis, but be sure to include the critical points about negative vs. positive reinforcement. (You do not have to learn the Union National Bank example which I use to argue this point.)

10. From lecture again:
 - A. What is the most common mistake that business people make after implementing a goal setting program for employees?
 - B. Why is the answer to A a problem?
 - C. What are employees going to do when management does the above?

Schedules of reinforcement. This is a *much* misunderstood topic in OBM. Because (a) most “schedules of reinforcement” in applied settings are not examples of the basic schedules of reinforcement that have been examined in the lab (even though they are often erroneously called the same thing) and (b) because adult humans talk to themselves about how consequences are related to their performance, schedules of reinforcement per se have little relevance to work settings. I am *not* saying that more frequent reinforcement is not better than less frequent reinforcement (it is), but we usually cannot draw a parallel to the basic schedules of reinforcement examined in the lab.

11. I am providing the definitions for the basic schedules of reinforcement below - you do NOT have to memorize them, but you will need to know them to do the exercise I am asking you to do.

Fixed ratio: Reinforcement is provided after a specified number of responses.

Variable ratio: Reinforcement is provided after an average number of responses.

Fixed interval: Reinforcement is provided for the first response that occurs after a specified period of time has elapsed.

Variable interval: Reinforcement is provided for the first response that occurs after an average period of time has elapsed.

Fixed *Time*: Reinforcement is provided after a fixed period of time, regardless of any response.

Variable *Time*: reinforcement is provided after an average period of time has elapsed, regardless of any response.

12. **For the exam:**

A. Is hourly pay an example of a fixed interval schedule? Why or why not?

B. In lecture, I am going to talk about a study that was published in which the schedule of reinforcement was referred to as an FR3. After lecture, be able to state the example and explain why the schedule was not an example of an FR3 schedule of reinforcement.

13. Based on the following material, be able to state, to date, what the literature shows about how different ratio schedules affect performance in organizational settings. Also, what appears to be the most important factor with respect to improving organizational performance?

Don Hantula, a professor at Temple University, published a review entitled “Schedules of Reinforcement in Organizational Performance, 1971-1994.” Among other things, he concluded that (a) the parameters of the schedule did not result in consistent differences in performance; rather (b) the presence of a contingent relationship between performance and rewards/reinforcement was the most important factor with respect to improving performance.

The same year, Bucklin and Dickinson (2001) arrived at the same conclusion when they reviewed studies of monetary incentives. Hantula’s review included both monetary and nonmonetary rewards, while ours was restricted to monetary incentives. Hantula and Bucklin & Dickinson arrived at their conclusions independently. Neither knew that the other had written their articles until they were published.

Anyway, *what this means is that performance-contingent rewards do increase organizational performance but different schedules (fixed vs. variable ratio schedule; FR1 vs. FR4; CRF vs. VR2, etc.) do not differentially affect performance.* It may well be that people learn a simple “rule” – the more I produce, the more I earn or get.

In case you are interested, Hantula’s article is published in the following edited handbook (pages 139-166): C. M. Johnson, W. K. Redmon, & T. C. Mawhinney (Eds.). (2001). *Handbook of organizational performance: Behavior analysis and management*. The Bucklin and Dickinson article is provided in U7 of the course pack.

14. Our basic principles have been called into question by others outside of our field (particularly in I/O by the expectancy theorists) because adult humans do not show the same typical response patterns of nonhumans when exposed to reinforcement schedules. There are two reasons why humans do not show typical response patterns. Learn the following two reasons:

A. While schedules used in applied settings are, indeed, schedules of reinforcement, they rarely, if ever represent the schedules (FR, VR, FI, VI) examined in the laboratory with nonhuman animals, even though they are often called the same thing. Given that the

schedules are not the same, one would not expect the same or similar patterns of behavior.

- B. Adult humans who are verbal, tend to describe the nature of the contingencies to themselves, and then their behavior is influenced by those verbal descriptions or the self-generated rules they develop. For example - under an FI schedule, they may say to themselves - responding slowly is reinforced, they would not emit as many responses during an interval. Or FR, they may say, responding quickly is reinforced. Because of that verbal behavior, response patterns may not at all resemble the response patterns of nonhuman animals.

Crawley et al. (back to feedback)

I am including this because it is the best article I have seen in improving sales BEHAVIORS, and is, of course, a very fine example of the use of prompts and feedback. Note that the sales reps were already on commission yet this program dramatically improved sales by focusing and training appropriate sales BEHAVIORS. Moreover, I expect that the behaviors that are identified in this article would generalize to other sales positions as well. Also, note the use of the performance improvement opportunity analysis.

15. 185, 6 and 187,0-1.

A. Carefully explain the approach that was NOT successful in identifying what made a sales representative effective. Explain WHY this approach was not successful.

B. Also, there is a general point to be learned from this. Be able to provide this general point for the exam as well. Often your exemplary performers cannot tell you why they perform as well as they do – that is, they cannot specify the exact behaviors they engage in that makes them successful. Those behaviors are often *contingency-shaped* and under the control of immediate contingencies of reinforcement - employees have never had to describe them. (This is often true of excellent skilled workers such as automobile mechanics, electricians, etc.).

16. 187,2. Not for the exam, but notice how many top sales reps were observed for how long for how many hours in order to develop the list of sales behaviors. This is exquisite. Also, who else was interviewed? Stop and think about this a moment – this was an extremely labor-intensive process.

Again, not for the exam but note the incredible specificity of the behaviors identified as listed and discussed in 193,1-196,3 – I just want you to recognize how impressive it is.

17. 188, 3 State (a) who the coach was; (b) when the prompts occurred; (c) what and how many behaviors were prompted; (d) what occurred after the correct behavior; and (e) when the post-call feedback procedure occurred. You do not have to memorize the whole procedure – I will give you the information that I am giving in this study objective.

Not for the exam: We haven't talked about this yet, but prompts (in this case corrective feedback) appear to work best if provided right before the individual has the opportunity to engage in the relevant work performance.

18. 188,5. What are two reasons that commissions did not function as effective rewards? For the first, note specifically the 3-month lag time in the reflection of their performance (they couldn't have been reinforcers because they were too delayed). That is, sales reps received commissions monthly, but the commission they received during the current month reflected their performance 3 months earlier.

For the second (last sentence in the paragraph) note that commissions are based on actual sales, an accomplishment measure. If the sales reps cannot engage in the appropriate behaviors, providing rewards for accomplishments will NEVER increase performance. And, it became clear that the sales reps did not know what behaviors would lead to better sales.

Not for the exam: When Tom Gilbert's classic book, *Human Competence*, was published in 1978 it generated an incredible amount of controversy. Why? He stated that we should be focusing on accomplishments, not behavior. Accomplishments added value and were "worthy" to an organization while behavior was costly to an organization. That is, if a worker could produce an accomplishment with fewer behaviors (more efficiently) the better; thus we should not be rewarding behaviors, but accomplishments. Some behavior analysts went ballistic, on the grounds that you cannot "reinforce" accomplishments, only behaviors (and, after all, we were *behavior* analysts). There were a very large number of presentations at ABA for several years that addressed: Accomplishment versus Behavior (not unlike recent presentations on systems analysis versus performance management). I always felt the talks were silly. You start with the accomplishments, but if employees do not know how to produce the accomplishments, or there is indication that employees are producing accomplishments by unethical or aversive means, then you need to focus on behaviors.

Perhaps needless to say, I also believe the controversy surrounding systems vs. performance management is a "straw man" argument. You need both. You should use systems analyses to identify the critical accomplishments and areas you should focus on; but there certainly are times you need PM. You can change systems, but employees must change their behaviors in order for those systems to change.

19. 196,4. Why was it important to compare the data to records for the same months in the preceding year? This is a point that you should remember when intervening in an organization with respect to your baseline data.
20. 197,3 -4. Not for the exam. Notice the very nice analysis of the negative consequences for in-home calls and the changes in behavior when these consequences were changed. Things like this happen all the time in the real world and as a performance manager you must be constantly alert for such things.

Crowell et al. article: I am primarily including this article because it is an applied study that nicely demonstrates that task analysis by itself improves performance, but only moderately. Performance improved further when "objective" (non-evaluative) feedback was provided, and increased again when supervisors praised performance when presenting the feedback. The distinction between "objective" feedback and "evaluative" feedback is an important one.

21. 65,2-66,1. Not for the exam, but note the discussion of whether feedback exerts control as an antecedent, consequence, or both, and thus the rationale for the study. They are making one of the same points I made earlier – that is if you implement a feedback program you are also, to some degree, providing task clarification as well.
22. 67,2nd colm, 2. Not for the exam, but note the exquisite observation procedures.
23. 70,1. Task clarification effects emerged quickly and were stable over time. On the other hand, the feedback intervention produced a gradual improvement in teller performance over time.

These performance patterns are consistent with what behavioral mechanisms or behavioral principles? In other words, what behavioral principles are likely to have been responsible (a) for the effects of task clarification and (b) for the effects of feedback? Why? (I have answered the “why” in my two sentences above.)

24. 70,2.
- A. What finding, other than the ones related to task clarification and feedback, was of potential significance?
- B. What does the finding suggest?
25. 71. Not for the exam, but read the potential economic impact this intervention had and in 71,4, the fact that the bank itself extended this program to an additional six branches and at the time the article was written was in the process of implementing the program in the remaining branches. Unfortunately, we don't see this happen very frequently.

Gaetani & Johnson – cash shortage article

26. 7, 2. Not for the exam but notice how the efficiency estimate measure was calculated. This is an excellent measure. If you ever target this type of performance, remember this article!
27. 7,2 Why were EEs used as the measure?

Not for the exam but notice in 8,1, note that the EE was calculated from archival data. This is a very nice procedure because the organization does not have to wait until baseline data are collected before the intervention is begun. Also, notice that the organization already had the data used for the measure, thus the researchers did not introduce any new measures and did not have to introduce any new data collection procedures. This is an excellent procedure, and you should remember this when developing measures for your own interventions. ***If at all possible, it is good to take advantage of already existing measures/data in organizations.***

Gaetani and colleagues published several applied articles around this period of time– he always had a terrific “knack” of finding already existing measures to target.

28. 8,5. Describe the lottery intervention, including what the performance criterion was, how many lottery tickets were delivered and how much each lottery ticket cost. Notice the very small cash value of the lottery tickets – only \$1.00 a piece!
29. 10, Figure 1. Not for the exam, but the black triangles represent both feedback and praise – since praise was graphed with an open triangle and data plotting was graphed with closed (black) circle.
30. 11,2. Rank the interventions in terms of their effectiveness, starting with the interventions that were ***least*** effective.
- Be careful when answering this, not just to say “data plotting and praise” for the least effective interventions – that answer would suggest that you are referring to when those two interventions were used together – rather, be sure to say something like “data plotting ***alone*** and praise ***alone***.”

And, for the most effective intervention, remember that the intervention consisted of data plotting, praise AND lottery tickets, not simply lottery tickets.

Not for the exam: This is a very interesting study for a number of reasons. First, it is one of the few, if not the only one, that examined supervisory praise *without* feedback. And, interestingly, it was not very effective. Perhaps Daniels was right when he said, “In God we trust, all others bring data.” Also, this ties in nicely to the results that Komaki found (U2 article) in which *work sampling, not the number of consequences provided*, distinguished effective managers from ineffective managers.

Secondly, the study also examined data plotting (what we typically now call self-monitoring) by itself. And, once again it was not particularly effective by itself. The Richman et al. article in the previous unit also offer support for this position. That is, self-monitoring alone does not seem to be a particularly powerful intervention.

Note that Crowell et al. (preceding article) found that social praise increased performance *after* feedback had been implemented, but in that study, praise was *added* to the feedback.

So, to sum up, self-monitoring (data plotting) by itself doesn't appear to be a particularly powerful intervention; supervisory praise by itself doesn't appear to be a particularly powerful intervention; and the combination of feedback, praise and tangible rewards appears to be the most powerful intervention. Again, *remember your consequences!!*

31. Not for the exam, but notice the cost/benefit analysis in 13, 2.
32. Not for the exam, but notice in 14,0, the fact that “some of the store managers won up to \$25 from their earned lottery tickets.” It would have been nice to know how many store managers won money and how much money they won. The lottery was in effect for only 4 weeks – thus, it would also have been interesting to see how long the improvements would have lasted using the lottery tickets.

Wilk and Redmon article

Leslie Wilk Braksick, who founded CLG in 1993 and served as its president and CEO for years (she is now Chair of the Board), conducted this study as her doctoral dissertation at WMU. The study was conducted at University of Michigan. It is an excellent example of how to do research in the real world. There are few better models. This study is a follow-up of Wilk & Redmon (1990) that I have used in previous classes. The 1990 study was conducted at WMU as Leslie's thesis. The supervisor was Pam Liberacki, who retired last year, but was the Associate Director of Admissions and Orientation. She was a very staunch supporter of our program and behavioral approach. Leslie Wilk was hired as a consultant to UM based on the success of the program at WMU.

33. 50,2. Why was the efficiency measure used – in other words what does the efficiency measure tell us that the number of tasks completed for each section does not? (Do not just use the material in 50,2 to answer this - rather include the material in 60,0. It is an important point from an economic and productivity perspective).
34. 50,3. Not for the exam, but note the satisfaction questionnaire that was used. If you are looking for one to use, this sounds like a very good one.
35. 53,1. Not for the exam. The first time I saw this type of intervention - **daily** adjusted goal setting was in the earlier Wilk and Redmon article. It is a great solution in situations where the type of work fluctuates greatly from day to day or week to week.
36. 54,1. How often was verbal feedback given?

37. 54,1. How and when was the graphic feedback was delivered to each employee. (one thing I want you to notice is that it was given individually in this study.)
38. 54,3. What procedure was used to verify that the supervisor actually delivered the feedback? This is a great procedure. It is often used in studies to verify that the person who was supposed to deliver feedback actually did. I have used it myself in studies.
39. 57, 2-3. Not for the exam, but also note that performance was measured for approximately 30 weeks during the actual study, and follow up data were taken for 30 weeks. Thus, the entire dissertation took 60 weeks to conduct. Admirable.
40. 57,3-61,0. Not for the exam, but note the experimental design and the results! In 69,0, note the reduction in notification time, and the decreased cost of absenteeism. Again, this is very impressive.
41. 61,0. Most importantly, what does this study reveal?

THE END

Unit 6: Performance and Pay

1. Amadot, Chapter 9, pages 347-353.
2. Bucklin, B. R., & Dickinson, A. M. (2001). Individual monetary incentives: A review of different types of arrangements between performance and pay. *Journal of Organizational Behavior Management*, 21 (3), 45-137.
3. Honeywell-Johnson, J. A., McGee, H. M., Culig, K. M., & Dickinson, A. M. (2002). Different effects of individual and small group monetary incentives on high performance. *The Behavior Analyst Today*, 3(1), 88-103.

An Introduction to Pay Systems

The majority of workers in this country are paid by the hour or receive a set salary per year. However, in an effort to increase employee productivity and the flexibility of labor costs for the organization, companies are increasingly adopting monetary bonus and incentive payment plans. In addition, because of the move to work teams, many companies are moving to group incentive systems. I am going to focus on incentive systems, but before I do, I want you to understand a few things about compensation systems in general.

Aamodt

1. 347,4 and Figure 9.2. What components should a compensation plan include and why should each be included?

Not for the exam. In Figure 9.2, base pay is divided into two components: market value and job evaluation. Market value relates to the salary that other companies are offering for the same position (external salary comparison). Job evaluation refers to whether the salary attached to the position is fair in terms of the importance of the job to the organization (internal salary comparison). The process by which this is determined is called job evaluation. All organizations do this. Together with the benefits package (and adjustments due to location – NYC and CA have much higher living expenses than Kalamazoo, MI), these factors determine whether companies will attract and retain employees. However, as discussed below, because all employees in a position are offered the same salary and benefits, they do not differentiate between good and poor employees and thus they do not usually “motivate” employees to perform well.

2. The motivation problem: Based on the material below explain two reasons why hourly wage systems do not result in well-motivated employees from a behavioral perspective.

If I ask this on the exam I will give you the reason; for example, for the first one I would say explain the following reason why hourly pay does not result in motivated employees: Reason 1: You get what you pay for, or Reason 2: consequences. In other words you don't have to memorize the two reasons, but you do have to be able to explain each one.

Reason 1: you get what you pay for. First, if you pay by the hour you are paying for hours worked, not performance. Economically, it makes sense for employees to take as much time as possible to complete their work -- the more hours, the higher the pay. In other words if you pay for hours you get hours - exactly what you pay for!! This is particularly true if workers are given the opportunity to work overtime - for which employees receive 150% of their regular salary.

Most companies experience a large surge in overtime in the weeks that precede Christmas - surprise, surprise!

Reason 2: consequences. Second, in hourly wage systems, there are very clear consequences for performing below a minimally acceptable performance level - criticism from the supervisor, threat of termination of employment - but no clear consequences for performing above that minimum. Thus, hourly wage systems tend to support minimally acceptable performance levels.

3. A. Based on the following material, explain, according to Skinner, what maintains performance under hourly wage systems. Do not forget to include the role of the supervisor - this is a very important part of the analysis, because it is the supervisor that provides the negative reinforcement contingency.

Many people object to monetary incentive systems because they are "aversive." And, there is no doubt that they can be when implemented incorrectly, which many are. In *Contingencies of Reinforcement*, Skinner (1969) described the aversive contingencies commonly associated with hourly wage systems. He stated:

No one works Monday morning because he is reinforced by a paycheck on Friday afternoon. The employee who is paid by the week **works during the week to avoid losing a standard of living which depends upon a weekly wage. A supervisor who can discharge him is an essential part of the system.** Rate of work is determined by the supervisor (with or without the pacing stimuli of a production line), and special aversive contingencies maintain quality. The pattern is therefore still aversive. (p. 18).

He goes on to say: "Somewhat better contingencies are available under schedules of reinforcement based on counters rather than clocks" (p. 19), referring specifically to piece rate pay systems.

- B. Now, based on the following material, explain why Skinner believes that incentive systems may be "better contingencies" in the sense of not being as aversive as hourly pay.

Skinner readily acknowledges that piece rate pay systems have been misused, nonetheless, he notes in *About Behaviorism* that incentive systems may *evoke feelings of confidence, certainty of success, and enjoyment arising from a sense of mastery and effectiveness, and interest in the job as occurs when behaviors are frequently reinforced.*

Note that the evocation of feelings is a respondent, not an operant relation. I'll talk more about this in lecture.

4. Not for the exam, but I want to address/explain some of the popular variable pay plans that are being used in business and industry right now. Aamodt mentions some of them in Figure 9.2 on page 348 and describes some, but not all of them in the subsequent material.

I would have divided things up a bit differently, but in Aamodt's defense this is an undergraduate text in IO psychology and not a compensation text. Nonetheless, I believe it is important for you (and from a behavior analytic perspective) to know that there are really three categories of variable pay plans, not two: individual plans, work group/team plans, and organizational plans (Aamodt leaves out group/team plans).

A. Individual plans:

1. Tenure-based: An individual's base pay is increased based on length of service. This is a very popular plan with unions. As Aamodt indicates, this is not a performance-based plan.

2. Pay for skill or knowledge. An employee's base salary is increased based on the number of tasks or skills that he/she can do, regardless of the particular job he/she performs. Typically, employees receive higher pay for learning other jobs within the organization -- this creates a much more "flexible" workforce for the organization. But again, this is not performance-based.

3. Merit pay: See Aamodt, pages 351-352.

4. Special recognition bonus: See Aamodt, page 347,5 and 348, although some of the rewards he discusses are based on tenure. While these are individual recognition awards, in most cases, employees do not know the distribution method in advance or what criteria will be used to determine whether or not they will receive a bonus. Bonus plans are administered at the discretion of management. Bonuses are usually provided annually.

5. Employee suggestions: Some companies give employees a monetary reward based on their suggestions about how to improve performance/productivity. Some of these programs tie the amount of the monetary award to the amount the company saves given that it accepts and implements the suggestion.

6. Commissions: These are common in sales. Sales representatives are given a percentage of the cost of the item when they sell the item.

7. Piecework: See Aamodt's section "Pay for Performance" on pages 349 – 351. He actually mentions Union National Bank, which is really cool. Only a few companies actually use "straight" piecework pay. Most now offer employees a base salary and then piecework pay for above standard performance (which is what Union National Bank did). The incentive money is distributed in the regular paychecks of employees and thus is distributed weekly or biweekly. Aamodt also, in 349,4-5, discusses the problems with these plans and he is "on target" with these problems. However, the one related to evaluating employees is only relevant to merit based plans, not pay for performance plans. In these latter plans, pay is based, at least partially, on objective measures. And, I have found that supervisors/managers really like the plans (when done well) because they do have objective data re performance and thus don't have to rely on subjective appraisals.

B. Work group/team plans

8. Group incentive plans. These plans are typically implemented at the departmental level or sometimes at the "work unit" level (for example, work teams of five to ten). Employees typically receive a guaranteed hourly wage and can earn additional incentives when the group's productivity exceeds some predetermined level. All employees in the group typically receive the same amount of money, but in some cases the payouts are based on a % of base salary. For example, all employees get 5% of their base pay in incentives - the actual amount earned will vary depending upon the base pay, therefore. The incentive money is added to the regular paycheck of the employee and thus received weekly or biweekly.

C. Organizational plans

9. Profit-sharing. See Aamodt, page 352. One thing Aamodt doesn't mention is that profit-sharing payments are typically made annually. Also, notice that while Aamodt indicates that profit-sharing results in greater employee commitment, he does not indicate that profit-sharing results in better performance. I'll come back to this later.

10. Gainsharing. See Aamodt, page 352-353. Note two things in 353,2: (a) gainsharing has been associated with improvements in productivity and (b) it works best when there is not a

long delay between performance and the financial payoff. That means that annual payoffs are not nearly as effective as monthly payoffs (that should not surprise us as behavior analysts).

11. Stock options (also sometimes called employee ownership plans). See Aamodt, page 353. Again, notice, in 353,4 what he says about productivity and the motivational issues that may occur.

12. Bonus or lump sum payments. Bonus plans are different from profit sharing and gain sharing because, in most cases, employees do not know the distribution method in advance or what criteria will be used to determine whether or not they will receive a bonus. Bonus plans are administered at the discretion of management. Bonuses are usually provided annually at the end of the year.

4. 351, Merit Pay. There is a study objective below.

With merit pay, employees are given a % of base salary increase, usually based on annual subjective performance appraisals by supervisors. There are two key issues here for our purposes: (a) increases are applied to base pay, and (b) based on subjective annual performance appraisals by supervisors. Note in 351,7, while employees like the “idea” of merit pay, it is not popular with employees and many do not consider merit pay to be fair. Also, note in 351,8 the non-performance related issues that may affect supervisor ratings, which break the link between performance and pay.

For the exam, **based on the material below**, explain why “performance-based” merit pay is often unpopular and not likely to improve performance:

"Merit pay" is almost always based on **annual, subjective** performance ratings of supervisors. There are two problems with this. First, as you learned earlier in the course, self-assessments typically do not agree with supervisory assessments. Thus, employees do not believe that there is a link between their performance and their pay, often due to disagreements about their performance ratings. Second, supervisors may inflate ratings due to factors that are unrelated to the employee's performance, which again, breaks the link between performance and pay.

Bucklin & Dickinson article

5. 45,1-46,0. Abstract. Note the summary of the conclusions - the material beginning with "Taken together..." and the following sentence. As I mentioned in an earlier unit, these conclusions are the same ones that Hantula (2001) arrived at when he reviewed the effects of studies of schedules of reinforcement on organizational performance – whether or not the consequence was money.
- A. The abstract is too wordy. I am going to summarize the three main conclusions of our review in lecture: Learn these three conclusions.
- B. Be able to state the important implication of these conclusions which follows: *It appears, therefore, that you don't have to worry a lot about the details of how money/consequences are related to performance – as long as they ARE related in some type of ratio schedule, delivered fairly frequently, and supported by an on-going feedback system.* This is a VERY interesting point that is not commonly known in our field.

6. 49,1 Be able to state three reasons why it is not surprising from a behavioral perspective that profit-sharing has **not** been shown to increase productivity. I will talk about these in lecture and clarify them, providing additional information. Learn this material from lecture.
The three reasons I am going to focus on are: (a) profitability is based on the aggregate performance of all members of the organization - the explanation for this one is actually provided later on page 51,2; (b) profitability is based on organizational factors that are clearly outside the control of employees such as mergers, investment of funds in research, etc., and (c) the fact that profit sharing bonuses are distributed annually or placed in the employee's retirement account. The fourth reason (actually, the third one given in 49,1) - economic measures - is not as important as these three, so I am not going to cover it in this class, although it is relevant.
7. 52,3-53,0. Not for the exam - but note that organizations do adopt variable pay plans for reasons other than to increase employee productivity. Early on in my career, I was always puzzled about why companies adopted some of the other types of plans - this material explains it.
8. 56,1 Not for the exam, but note the analysis of the complexity of pay systems - clearly, I was responding to molar analyses and those who fail to recognize the multiple contingencies that influence and affect performance at work. Organizational settings and hence behavior is not simple and *cannot* be explained simplistically.
9. 61,0 Fill in the blank: Historically, compensation experts have claimed that performance would not be affected by incentives that were less than (what percentage - and what does the percentage refer to), nor would performance be affected by percentages that were greater than this.
10. 64,0. If employees do *not* have a high degree of control over their performance, why are they likely to perceive high percentages of incentives to be *unfair*? (include, but do not restrict your answer, to the material that follows "Additionally.")
11. 64,0. If employees *do* have a high degree of control over their performance, why are they likely to perceive *low* percentages of incentives to be *unfair*?
12. 72,1 (next to the last sentence on the page). What was the actual (not planned) *lowest* percentage of incentives examined by Frisch and Dickinson?
13. 73,1.
A. What relationship was found between the amount of pay earned and the percentage of incentives?
B. Why are these data important (the last sentence in the paragraph sums it up nicely)?
14. 73,2. Why were the results of Frisch and Dickinson "particularly interesting?"
15. 77,2. Not including 0%, what was the lowest percentage of incentive examined in LaMere et al.'s field study with truck drivers? What was the highest percentage (feel free to round the high percentage to 10%).
16. 80,1 Not for the exam, but notice the length of each of the phases. We collected data for about four years.
17. 84,1. What consistent results were obtained by all five studies that examined the effects of the percentage of incentive pay on performance? Surprised? We were!

18. 84,1. Be able to answer the following question: Which of the following are functionally related to performance? A. The percentage of total pay earned in incentive pay; B. the percentage of base pay earned in incentive pay; C. the amount of the per piece incentive; D. none of the above.

Not for the exam. Recently, one of my former Ph.D. students, Dr. Shezeen Oah, published a study in *JOBM* that reported something different; namely, that workers were more productive when they earned 100% of their pay in incentive pay vs. 10%.

Oah, S., & Lee, J. (2011) Effects of hourly, low-incentive, and high-incentive pay on simulated work productivity: Initial findings with a new laboratory method. *Journal of Organizational Behavior Management*, 31(1), 21-42.

He used an alternating treatment design and my guess is that the differences are due to contrast effects. We have found such contrast effects when we have used within-subject designs. I may talk more about these types of methodological issues in lecture. If I don't (or even if I do), I strongly recommend that you read the following chapter:

Komaki, J. L., & Goltz, S. M. (2001). Chapter 4. Within-group research designs: Going beyond program evaluation questions. In C. M. Johnson, W. K. Redmon, and T. C. Mawhinney (Eds.), *Handbook of organizational performance: Behavior analysis and management* (pp. 81-137). New York: The Haworth Press.

19. 86,2-87,0 Why can't the results of these studies be attributed to performance feedback rather than the monetary incentives?
20. 90,1. What is the major question with respect to this research?
21. 107,1. State two idiosyncratic factors in a work setting that could account for differences that occur when employees are exposed to various ratio schedules of reinforcement. Give one of the examples from the ms.
22. 111 (sentences beginning "Subjects in the accelerating pay condition earned....". What were the results of the Oah and Dickinson study with respect to the amount of money earned and the effects of linear vs. accelerating piece rate pay? Do NOT learn the average amount earned by Ss in each group - a general summary statement will do here.
23. 123,2. What two factors appear to affect ratings of satisfaction with various types of incentive pay plans?
24. 126,0-127,0 In general, to date, what do all of the data suggest regarding the generalizability of laboratory findings to actual work settings? This is a **very** important point. Many individuals question whether the results from the laboratory (particularly when college students are used as subjects) are relevant to the work place. To date, the data suggest that the results do, indeed, generalize, if care is taken to include the critical variables in laboratory simulations.

Honeywell-Johnson et al. article.

25. 89, 1. Conceptually, (a) why might individual incentives control performance more than small group monetary incentives; (b) on the other hand, why might small group incentives control performance as well as individual incentives?
26. 90,2, last sentence. Summarize the results of studies with respect to the comparison of the effects of equally-divided group incentives and individual incentives. Provide the range of

the number of subjects in the groups that were examined which you can get from Table 1 (for the Thurkow et al. study, use the average group size). This is important.

27. 90,3. When would individual performers be likely to perform the same under individual and group monetary incentives and why? When would performers be likely to decrease their performance under group monetary incentives and why?

Not for the exam: What are the implications of these results for team/group projects in classes and/or in business settings?

28. 100, 2nd col, 2. What were the results of the study? What do these data indicate?

29. 100, 2nd col, 2.

A. Which of the following three pay systems did all four high performers prefer: Hourly pay, individual incentive pay, group incentive pay?

B. Which of the following three pay systems did the majority of participants (three out of four) find to be the most stressful? Hourly pay, individual incentive pay, group incentive pay?

Not for the exam: The above preference data are interesting. Many people would probably assume that the individual incentive pay would be seen as the most stressful, yet three of the four found the group pay system to be the most stressful. Also, in spite of the fact that three of the four participants found the hourly pay to be the least stressful form of pay, all four preferred the individual incentive pay.

30. Again, not for the exam: We have confirmed the effects of group incentives on the performance and satisfaction of high performers in a subsequent study conducted by Dr. Heather McGee (as her dissertation). I prefer the Honeywell-Johnson article for this class because Dr. McGee's was rather complicated and also used a new type of statistical analysis developed by Dr. Huitema specifically for within-subject data. Both the study and the analyses are rather difficult to understand without intense study – more study than I thought was appropriate for this unit. It was published in the *Performance Improvement Quarterly*, which is the research journal of ISPI (ISPI funded the study rather handsomely). (Also, it really is too long – the ISPI reviewers required us to justify the fact that we conducted a laboratory study and also used a within-subject design, which did not “go over” particularly well with some of the reviewers.)

But, just in case you are interested here is the reference:

McGee, H. M., Dickinson, A. M., Huitema, B. E., & Culig, K. M. (2006). The effects of individual and group monetary incentives on high performance. *Performance Improvement Quarterly*, 19(4), 107-130.

THE END

Unit 7: Performance and Satisfaction, and The Hawthorne Effect

Cherrington et al. in the course pack: Please read this study before lecture. It is a complicated study.

Parsons article in the course pack.

Cherrington et al. article. I have provided a summary of the results of this study at the end of the study objectives - it may help you understand this article.

1. 531, 1. What are the two major speculations about the causal relationship between performance and satisfaction - they are implied but not directly stated in this paragraph.
2. In lecture I will talk about causal vs. correlational analyses, and present an example involving polio and Coke. Learn this example, and its main point.
3. A. Learn the following three situations that would lead to a zero relationship between performance and satisfaction. A zero relationship means that you cannot predict/know what a person's satisfaction is likely to be if you know what his or performance is and vice versa.
 - B. In lecture and on the ppt slides, I will provide diagrams of each of the below: Learn them for the exam.
 - (1) Random relationship: some high performers are satisfied and some are not; and some low performers are satisfied and some are not
 - (2) Satisfaction is the same for all workers, regardless of their performance.
 - (3) Performance is the same for all workers, regardless of their satisfaction.
4. 531,3 Skinner's analysis of feelings – very different than Malott's conception, which is one of the reasons I am including it. Michael agrees with the analysis that is presented here by the authors.
 - A. According to Skinner, what are feelings are what are they not?
 - B. What are both behaviors and feelings products of? Explain what this means in your own words.
 - C. What does Skinner's point of view imply for the relationship between performance and satisfaction?
 - D. From lecture and the ppt, be able to diagram the way traditional I/O psychologists view the relationship between performance and satisfaction, and the relationship between the two that is suggested by Skinner's analysis of feelings.
5. Abstract and 531,4. According to the authors, what determines the relationship between performance and satisfaction?

Note: The key to understanding this is that rewards cause satisfaction. But the rewards do NOT have to be contingent upon performance in order to cause satisfaction. If you keep this in mind as you read the article, the author's hypotheses should make sense to you.
6. 531,5-532,2. Describe the three types of performance-reward systems and the authors' hypothesis regarding each.

7. In lecture I will diagram a behavioral analysis of performance and satisfaction - learn these diagrams.
8. Lecture: Why is it that employers can probably never achieve a REAL high relationship between performance and satisfaction?
9. 533,4-5
 - A. What were the results of the comparison of the rewarded and nonrewarded group with respect to satisfaction? Don't worry about the results about performance – just learn the results about satisfaction. (see my summary at the end)
 - B. Explain why these results “make sense” (given that the receipt of rewards causes satisfaction) by referring to the sub-groups that comprised the rewarded vs. nonrewarded group.

The satisfaction data are a bit confusing because while the authors administered the questionnaire twice (once after the first hour and once after the second hour), they report only ONE satisfaction score per sub-scale. I am assuming the authors averaged the satisfaction scores for each P across the two administrations, but the text does not explain this and my assumption could be incorrect.
10. From a comparison of the rewarded vs. nonrewarded group, the authors concluded that *rewards cause satisfaction, even if they are not contingent upon performance*. Explain why this conclusion makes sense by referring to the sub-groups that comprised the rewarded vs. nonrewarded group.

Let me help here. The rewarded group consisted of ½ top performers (N= ~22) who *received* rewards and ½ bottom performers (N= ~22) who *received* rewards. *Thus, the rewards were not contingent upon performance for this group*. The nonrewarded group consisted of ½ top performers (N= ~22) who did *not* receive rewards and ½ bottom performers (N= ~22) who did *not* receive rewards. The results indicate that the Ps who received rewards were more satisfied than those that didn't; hence the conclusion that noncontingent rewards can increase satisfaction (because the rewards were noncontingent in the rewarded group).
11. 533,6-534,0 and lecture.
 - A. Explain the subgroups of participants that comprised the (a) appropriately rewarded group and the (b) inappropriately rewarded group.
 - B. What type of performance-reward system is represented by each group (i.e., a positively-contingent, negatively-contingent, or random reward system)?
12. 534,1 and my summary at the end.
 - A. Explain the results of the comparisons of the appropriately rewarded and inappropriately rewarded groups with respect to satisfaction. Again, don't worry about the results about performance for the exam.
 - B. And, once again, be able to explain why these results make sense (given that the receipt of rewards causes satisfaction) by referring to the subgroups that comprised each of the groups.
13. 534 and my summary. From a comparison of the appropriately rewarded vs. inappropriately rewarded groups, the authors concluded that (positively) contingent rewards do NOT increase satisfaction. Explain why this conclusion makes sense by referring to the sub-groups that comprised the appropriately rewarded and inappropriately rewarded groups.

Lecture and my summary. Note that at first glance it may appear strange that the authors concluded that *contingent* rewards do *not* increase satisfaction, in light of the fact that the authors are hypothesizing that *contingent* rewards will result in a high positive *relationship* between performance and satisfaction. However, it is not really “strange.”

Let me help here. The appropriately rewarded group consisted of ½ top performers (N= ~22) who received rewards and 1/2 bottom performers (N= ~22) who did *not* receive rewards. Thus this group represents a (positively) contingent reward group. The inappropriately rewarded group consisted of ½ top performers ((N= ~22) who did *not* receive rewards and ½ bottom performers (N= ~22) who did receive rewards. So for this group, rewards were NOT (positively) contingent upon performance. They were, however, *negatively* contingent upon performance. But, in both groups the same number of Ps received rewards (the 22 top performers in the appropriately rewarded group and the 22 bottom performers in the inappropriately rewarded group) and did not receive rewards (the 22 bottom performers in the appropriately rewarded group and the 22 top performers in the inappropriately rewarded group). In each group those who were rewarded were satisfied and those who were not rewarded were not satisfied. Hence, satisfaction was the same for both groups.

14. What type of performance-reward system is represented by the total reward group? Explain your answer by identifying the sub-groups that comprise the total reward group.
15. 534,2-535,1 and *my summary*. What relationships between performance and satisfaction (generally, as I discussed them in lecture) were found for: (A) the total group; (b) the appropriately rewarded group; (c) the inappropriately rewarded group?

Note that the authors did two analyses: They correlated (a) the self-reports of satisfaction after the *first* hour with performance during the *second* hour; and (b) performance during the *second* hour with the self-reports of satisfaction after the *second* hour. Because the results of these two analyses were, as the authors stated, strikingly similar, I am having you learn only one general set of results that I provide in my summary.

Parsons article

The Hawthorne studies, as indicated in the Aamodt text, are often cited as one of the most important episodes in the development of I/O psychology – and responsible for putting the “O” in I/O psychology. People talk about them and refer to them all the time. Moreover, a common phrase in experimental psychology, regardless of area of specialization, is “well, were the results due to a Hawthorne effect?” This article dispels the myth of the Hawthorne effect, accounting for the changes from a behavioral perspective. This is an incredible article. It is an article that every I/O psychologist, if not every behavior analyst, should know about. Most of us in OBM know about it, but few others actually do.

An article that is easier to read, and perhaps to understand, was published by Parsons in *JOBM* in 1992, pages 27-43. The article was invited by Mawhinney, the editor of *JOBM*, as a contribution to a special issue entitled “Pay for Performance: History, Controversy, and Evidence.” I could have included this article instead of the one I did, but I prefer the original, historical account. But, if you are interested in reading more about this, do read Parsons article in *JOBM*. I do like a phrase from that article. Parsons stated that “the Hawthorne studies became the biggest Rorschach blot in the history of behavioral and social science.” And he was so right!

16. Based on the material below, learn what is typically meant by the “Hawthorne Effect.”

Experimental methodology texts inevitably refer to the Hawthorne effect: It is typically defined as changes in the behavior of subjects that are *NOT due to the IV that was manipulated* but rather that were due to (a) novel or favorable treatment (i.e., attention from the E or supervisors) or (b) the fact that the Ps knew they were in an experiment, or more broadly.

17. In addition to what has become known as the "Hawthorne effect" why are these studies perceived to be so important?

Prior to this time, research had focused on examining how work efficiency could be improved, primarily by manipulating things such as lighting, the number and length of work breaks, the length of the work day, etc. Because of the way the results were interpreted, the Hawthorne studies were a catalyst for almost all of the studies on satisfaction/morale, culture, small group interactions, group norms, etc. Some of this was clearly misguided, of course, but nonetheless the study of group norms and interaction is very important in I/O. Unfortunately, it also gave rise to the notion that satisfaction causes performance - a myth that has been debunked in I/O but remains prevalent in society.

18. 922, 2nd colm, 1. How many studies were conducted, and what were the dates of those studies?

19. 922, 2nd colm-3rd colm, 0. Most identify the illumination study as the locus for the "Hawthorne effect." Is this emphasis justified? Explain.

20. 922, 3rd colm, 1. Not for the exam, but the first experiment conducted in the Relay Assembly Test Room was really the actual source of the so-called "Hawthorne effect."

21. 923, 2nd colm, 2 - 3rd colm, 0. In the Relay Assembly Test Room, describe the incentive system in detail and indicate how that was altered during the experiment.

The key to the change, from a behavioral perspective, is provided in the last sentence of the paragraph – however, that change would not have been important if the incentive system had not been a *group* incentive system so it is critical that you mention this in your article and describe the features of the group incentive system. I will discuss the essential features in lecture as well. But note carefully that the way in which the incentives were calculated *was not changed* - the only thing that differed was that the group incentives were based on the 5 workers rather than the whole department of 100 or more workers. But this is a very important change because after that change an individual's productivity contributed 20% to the total productivity of group upon which the group incentives were contingent as opposed to 1% of the total productivity of the group.

22. 924, 2nd colm, 1. What other very important difference existed between the test room and the regular department?

What I am looking for here is not just "feedback" but a general description of the feedback and measurement system, that includes the key components, from a behavioral perspective (counter for each completed relay which was visible at all times to the operators, readings taken every half hour or so by the supervisor, and daily reports of production, defects and rejected parts).

23. 924, 3rd colm, 1. *Note that no primary source ever gave details about the feedback system* (nor did secondary sources) Based on the following material, be able to answer: Why was the feedback overlooked for such a long time, given that it can have such a powerful effect on performance?

The Hawthorne studies were conducted between 1924 and 1932. In those days, people were not aware of the powerful effects of feedback, particularly when combined with monetary incentives. As typical of studies of the time, the Hawthorne studies were examining the effects of physical variables on performance (# of breaks, scheduling of breaks, lighting, etc.) rather than the effects of consequences or rewards for performance.

Remember that Skinner did not publish *Behavior of Organisms* until 1938 and *Science and Human Behavior* until 1953; thus there was no field of behavior analysis or operant conditioning (although Thorndike's law of effect was known).

24. 926, 2nd colm, 2 - 3.

- A. Second Relay Assembly Test Room Study: Who were the participants, how many were there, and how was their payment method was changed?
- B. What type of experimental design is represented by the way in which the conditions were implemented?
- C. What were the results?
- D. At the end of the 3rd paragraph, Parsons quite correctly notes that the results of the Second Relay Assembly Group experiment substantiate the hypothesis that the formation of the small group was an important factor in the first Relay Assembly Test Room Study. In the first part of the 3rd paragraph, however, Parsons contrasts the results of the Second Relay Assembly Group experiment with the results from the first Relay Assembly Test Room, noting how they differed.
 1. How did they differ?
 2. To what does Parsons (albeit subtly) attribute these differences?

25. 927, 1st colm, 3-2nd colm, 1-2. According to Homans, what factor made workers in the bank wiring room maintain rather than increase their performance and also made them punish members who worked too fast? In your answer don't just state the factor, also state its implications for workers (the second part of the sentence.) Also, what does "lower the piecework rate" mean? It is essential that you understand this in order to understand the point that Homans is making.

Not for the exam: In spite of the fact that we have known about this since the days of Hawthorne, raising standards or decreasing the per piece incentive amount is still the Number 1 error that managers make when they implement incentive systems! (Raising the standards and cutting the piecework rate, while different, have the exact same effect for the worker – they must work harder for the same amount of money.)

Also, not for the exam: The factors that Rothlisberger and Dickson's mention are also quite reasonable (except that I can't understand why workers would be upset if management *increased* rather than *decreased* the piecework rate), but there are too many for you to learn.

26. Often people believe that "cohesive" groups will perform better than "noncohesive" groups. The above results dispel that myth as well. Cohesive groups can perform worse. It all depends upon what group contingencies are implemented within the group. (The group norms were very different in the first relay assembly test room - those workers ostracized and punished poor performers.) Learn this point.

Not for the exam, but for a very interesting example of how cohesive groups can go wrong, read 479,4 in Aamodt: an example about the Hollywood Division of the Los Angeles Police Department.

27. Not for the exam. Note that he discusses interpretations in terms of Locke's goal-setting theory and instrumentality theory (same thing as expectancy theory) on page 929, 1st colm. Also note that he states that expectancy (instrumentality) theory has much in common with an incentive approach as it emphasizes contingent relationships.
28. Not for the exam. The rest of the article is intriguing as well, particularly how he handles other interpretations of the data - this is a true scholarly work. Do read 930,3, for the typical way people interpret the results from Hawthorne (the first sentence is what people typically mean when they talk about a "Hawthorne effect" as I indicated earlier). Note how Parsons argues against this claim.

I also like his redefinition of the Hawthorne Effect in the last paragraph. "*I would redefine the Hawthorne effect as the confounding that occurs if experimenters fail to realize how the consequences of subjects' performance affect what subjects do.*"

29. Not for the exam, but the Hawthorne studies and their interpretations are still widely discussed and debated. For example, based on the material I presented in this class, Ryan Olson (one of Dr. Austin's former Ph.D. students) wrote and published two articles on the Hawthorne studies. The references are below:

Olson, R., Hogan, L., & Santos, L. (2006). Illuminating the history of psychology: Tips for teaching students about the Hawthorne studies. *Psychology Learning and Teaching*, 5(2), 110-118.

Olson, R., Verley, J., Santos, L., & Salas, C. (2004). What we teach students about the Hawthorne studies: A review of content within a sample of introductory I-O and OB textbooks. *The Industrial-Organizational Psychologist*, 41, 23-39.

THE END

Summary of the results of Cherrington et al.

- I. Performance and satisfaction measures
 - A. Rewarded subjects vs. nonrewarded subjects
 - 1. No performance differences (not for the exam)
 - 2. Satisfaction significantly higher for rewarded subjects
 - 3. Conclusion: rewards cause satisfaction, even if they are not positively contingent upon performance (what we would typically just refer to as “contingent rewards” rather than “positively contingent.”)
 - B. Appropriately rewarded vs. inappropriately rewarded subjects
 - 1. Performance significantly higher for appropriately rewarded (not for the exam)
 - 2. No differences in satisfaction
 - 3. Conclusion: positively **contingent** rewards do not affect satisfaction (note that rewards improve satisfaction, but the main point here is that they do **not** have to be positively contingent in order to increase satisfaction - that is, if they are given to individuals who perform poorly those individuals will be satisfied too.)
- II. Relationship between performance and satisfaction
 - A. Total Group: Random performance-reward system
 - 1. No relationship between performance and satisfaction
 - B. Appropriately rewarded group: Positively-contingent reward system
 - 1. Positive relationship between performance and satisfaction
 - C. Inappropriately rewarded group: Negatively-contingent reward system
 - 1. Negative relationship between performance and satisfaction.

Unit 8: Interventions in Human Service Settings

1. Parsons, M. B., Cash, V. B., & Reid, D. H. (1989). Improving residential treatment services: Implementation and norm-referenced evaluation of a comprehensive management system. *Journal of Applied Behavior Analysis*, 22, 143-156.
2. Green, C. W., Reid, D. H., Perkins, L. I., & Gardner, S. M. (1991). Increasing habilitative services for persons with profound handicaps: An application of structural analysis to staff management. *Journal of Applied Behavior Analysis*, 24, 459-471.
3. Iwata, B. A., Bailey, J. S., Brown, K. M., Foshee, T. J., & Alpern, M. (1976) A performance-based lottery to improve residential care and training by institutional staff. *Journal of Applied Behavior Analysis*, 9, 417-431.
4. Green, C. W., Reid, D. H., Passante, S., & Canipe, V. (2008). Changing less-preferred duties to more-preferred: A potential strategy for improving supervisor work enjoyment. *Journal of Organizational Behavior Management*, 28(2), 90-109.

This set of articles represents a rather odd collection of articles. The first one is a model for implementing a large staff management program in a residential treatment program. I chose the other ones because they represent interventions that can be implemented with little cost to the organization. Over the past few years, I have had several students in the behavior analysis program take the class, and they suggested that I include some articles that addressed low-cost effective interventions that could be used in human service settings. Thus, I have done that.

If you are interested in staff management, I would be remiss if I did not encourage you to read *everything* you can get your hands on that has been published by Denny Reid, Marsha Parsons, and Carolyn Green; both their staff management publications and their clinical publications. I have been amazed over the years at the consistently high quality, innovative things they have done.

Also, in the past I have been asked about the effectiveness of general performance management workshops for staff as an intervention. I have looked at that literature and it is not encouraging, even when the staff management training programs are done well. The literature clearly suggests (at least at this point) that the best approach is to target specific behaviors/performances of either the staff or the clients, and implement a staff management program based on the tried and true PM procedures that we have covered in this class (feedback, goal-setting, consequences). There is one addition to this list, which is similar to task clarification, but not quite the same thing – restructuring the jobs of human service staff and scheduling specific individuals to do specific things. Scheduling has been a component of a surprisingly large number of interventions implemented in human service settings. It doesn't appear in many OBM interventions in business and industry.

Below are two articles that assessed the effectiveness of performance management training programs for staff. Both programs were top notch, done by top-notch behavior analysts. And while both were somewhat effective, if you compare the results to the results of the types of interventions I described above, they just are not as effective. I am just providing them for you in case you would like to read them yourselves. Also, Nicole Gravina's dissertation (which, to my knowledge, has not yet been published) assessed the long-term benefits and generality of an excellent workshop conducted in a human service setting by Dr. Austin, and the results were clear: there were few remnants of the workshop training 3-4 years later. And, the workshop was conducted in a setting that was managed by doctoral level behavior analysts. Thus, if workshop-

training effects will not sustain in this type of setting, the “prognosis” isn’t good for sustainability in a less “friendly” and supportive setting. Of course, the challenge is to perhaps come up with procedures that will make such workshops effective; but from a practice perspective, at the current time, your time and effort will be better spent targeting specific behaviors/performances of staff and clients and building a staff management intervention around that.

Fleming, R. K., Oliver, J. R., & Bolton, D. M. (1996). Training supervisors to train staff: A case study in a human service organization. *Journal of Organizational Behavior Management*, 16(1), 3-25.

Methot, L. L., Williams, L. W., Cummings, A., & Bradshaw, B. (1996). Measuring the effects of a manager-supervisor training program through the generalized performance of managers, supervisors, front-line staff, and clients in a human service setting. *Journal of Organizational Behavior Management*, 16(2), 3-34.

One more resource for you. The following book/manual is a superb manual that provides detailed training procedures for staff. Unfortunately, it costs \$300.00. Our library does have it, however. I strongly recommend that you consult this book/manual if you are ever in a position to train staff in human service settings.

Reid, D. H., Parsons, M. B., Rotholz, D. A., & Braswell, B. A. (2007). *Positive behavioral support training curriculum and trainee resource guide*. Washington, DC: American Association of Intellectual and Developmental Disabilities.

OK – finally to the study objectives.

Once again, the number of study objectives may seem daunting, but many are not required for the exam. I tried to focus on the main reasons/points of each article, without getting too caught up in the methodological/experimental procedures.

Parsons et al. article.

In this article, I am going to point out some very useful procedures that could be implemented in any human service setting although this study was conducted in five group homes for the developmentally disabled. Quite frankly, this is the best study I have seen of a large-scale OBM intervention in a human service setting. It can be used as a model for any human service setting, although, clearly some of the details of the procedures would have to be modified.

1. 146, 2nd col, 1. On average what percentage of resident behavior was off-task? On average what percentage of resident behavior was active treatment? Surprised? (Staff management *is* needed!)
2. 148, 2nd col., 1- 149, 1st col, 0. **Not for the exam.** There were essentially three main components to the “structure/scheduling” intervention.

Prior to the intervention, tasks for targeted times during the day were designated with terms like “leisure.” Notice how this was changed during the intervention.

Again, notice the importance of scheduling activities and providing clear task clarification for the direct care staff – this is a recurrent theme in OBM interventions, and one we saw in earlier in the Richman et al. article. This should always be a first step.

3. 149, 1st col., 1. What benefits from a PM perspective are derived from assigning staff to specific responsibilities/roles? Answer: this provided additional task clarification and

added individual accountability – by which I mean, individuals could be identified, their performance measured, evaluated, and consequated.

4. 149, 2nd col., 1.

A. How often did the cottage supervisor (or assistant supervisor) observe each staff person using a checklist of behaviors relevant to each job role?

B. What procedure was used to verify that the cottage supervisor not only observed the staff person's behavior, but provided *feedback to the staff person immediately afterward*?

Note that this is virtually the same procedure that was used by Wilk & Redmon in their study. You should remember this procedure. It is an excellent procedure to insure/measure that the observations/feedback are being provided by supervisors – and yet is NOT labor intensive for the researcher/consultant.

5. 149, 2nd col., 2-150, 0.

Not for the exam, but note the very important and nice systems approach here. (a) Each cottage supervisor observed each staff member at least once a week. (b) The area director reviewed the observation and feedback forms for each cottage supervisor weekly. (c) The facility program director reviewed the graphs displaying the % of intervals during which active treatment was being conducted for each unit weekly and sent those to the area director with comments. So you have four levels of organizational employees involved here: (1) cottage staff, (2) cottage supervisors, (3) the area director, and (4) the facility program director.

When people implement OBM procedures with staff and supervisors, they sometimes “forget” that someone has to monitor and give feedback to them as well. The procedures employed in this study are *excellent*.

Last year, one of the students asked me to address maintenance. This study provides an example of what you need to do in order to get PM interventions to maintain – the supervisors/managers must be held accountable for their PM practices, and they must be evaluated on them – not only on client goals. That means that the top person in the organization must create a system of accountability for good PM practices at every level of the organization. In most human service settings, only client services and goals are emphasized in the management system. That will not sustain/maintain PM practices. This point is also related to study objective 10, where the authors address this.

By the way, this is most likely the primary reason why general staff management training programs have not sustained. Interestingly, in some business organizations, ADI has included a measure of “number of PM projects in place” on the Performance Matrix for supervisors/managers.

6. 150, 2nd col., 1. Not for the exam, but initially I was confused about the specific number of times that the treatment was implemented, but if you turn back to page 148, 1st col, 1, you will see that they implemented the treatment for a total of 23 time periods, across the five buildings, which would also mean for different staff members. On the graphs in Figure 2, the numbers in the boxes are the time periods (i.e., 3:30 – 5:30 pm, 5:30-7:00 pm, etc.).

7. 150, 2nd col., 2. Explain, as I do in this study objective, the very nice contribution that the normative data that permits comparison with other agencies adds.

Most studies would simply have reported baseline data, which would have been sufficient, but *with the across-agency normative data, these group homes could not only show that*

they had improved, but that they were doing considerably better, for the most part, than other state residential facilities. (The original normative data was collected for 22 living units in six state facilities in three states – see page 144, 2nd col., 1). This is especially nice since one reason that the study was being conducted was because of the impending state Medicaid review team visitation.

8. 154, 1st col., 0. Be able to state why, *from a staff perspective* (and hence reasonable management expectation), it was important to collect normative data. Include in your answer “given typical staff-to-resident ratios.”

This point is important. The agency can only hire a certain number of staff due to budgetary constraints – and usually the agency is understaffed. Given the number of staff, it is unrealistic to assume that residents will always be in active treatment and never be off-task. Thus, it becomes important to determine what percentage of intervals *is* realistic.

9. 154, 1st col, 2-154, 2nd col, 0. Not for the exam, but notice how many total staff and residents actually participated in this management procedure. Again, this is impressive.
10. 154, 2nd col.,1 – 155, 1st col., 0. Again, not for the exam, but I completely agree with what the authors say about the likely reasons for the maintenance of the initial behavior changes – that is why I focused on these in the above study objectives.
11. 155, 1st col., 0. From an applied perspective, what is the disadvantage of targeting and focusing on *staff* behavior rather than *resident* behavior? And, what, therefore, may be one important result of focusing on resident behavior?

It’s interesting, but I never thought of the fact that individuals may prefer to have their accomplishments monitored rather than their behavior (resident behavior would be the equivalent of measuring an “accomplishment” for someone in business).

This would be an interesting study for someone to do; that is to compare a staff monitoring system where the staff behavior is observed, measured, plotted and consequated with a system where the resident behavior is observed, measured, plotted and staff consequated on that basis. An important component of the study would be to compare the extent to which the staff found the two systems acceptable.

12. Not for the exam, but I may add something about this material for the exam in lecture. an interesting question might be why feedback on the behavior of the assistants would improve the performance of the nurses in contrast to their just getting feedback on their own behavior.

This objective follows up on the preceding one. Babcock et al. conducted a very interesting study with nurses that found that nurses improved their performance *when given feedback on their assistants’ behavior in contrast to when they were only given feedback on their own performance.* I don’t know of any other study that has examined this.

In that study, Babcock et al. measured the number of times the nurses gave feedback to their assistants about wearing gloves when handling soiled linens in a head-injury treatment center (to prevent HIV infection). The researchers first gave the nurses feedback on the number of times they gave written “feedback slips” to their assistants. While that improved performance significantly, nurses gave even more feedback slips to their assistants when they were also given data on the percentage of time that the assistants actually used gloves when handling soiled linens. And, most of the assistants’ glove-wearing behavior increased more during this phase of the study.

Although the researchers assessed satisfaction of both the nurses and their assistants, they did not ask the nurses if they preferred one type of feedback to the other.

Babcock, R. A., Sulzer-Azaroff, B., Sanderson, M., & Scibak, J. (1992). Increasing nurses' use of feedback to promote infection-control practices in a head-injury treatment center. *Journal of Applied Behavior Analysis*, 25(3), 621-627.

Green et al. article

I like this article because it presents a very nice objective assessment of the barriers that can interfere with the implementation of training programs in human service settings. It is an excellent example of a low-cost intervention that substantially increased staff-conducted training with clients. Also, notice the “kindness” toward the staff. Staff were complaining that they could not complete training because of the interference of their care-taking responsibilities. These authors did not protest that, they listened, and then collected data to determine *when* staff had the time to do training.

Also, once again, notice that in Experiment 2, the intervention included a lottery; however, interestingly enough the staff did not rate the lottery system very highly.

13. 460, 1st col, 1. “A structural analysis of staff behavior patterns over time might help identify” what? In other words, why conduct a structural analysis of staff behavior patterns? Notice that the possibility of competing activities is essential to this discussion and answer. And, just to tie things together a bit, the PDC developed by Austin does include a question about this – it is the last question included in his). Austin has listed this under the “Consequences” section.
14. 462, 2nd col., 0. Explain why 10:30-11:00 AM appeared to be an optimal time to schedule training activities in the morning based on the structural analysis.
15. 464, 2nd col., 2. Not for the exam, but, note how labor intensive the management system was: daily verbal and weekly written feedback (to each of the 8 staff members) based on formal and informal observations by an individual employed at the facility, self-recordings when training sessions were conducted and a lottery for some tangible reward if the staff person conducted at least 80% of the sessions.
16. 464, 2nd col.
 - A. How often was the lottery held?
 - B. When were staff eligible for the lottery?
 - C. What types of things were used as “prizes.” Note that these prizes either did not cost the organization anything or cost very little.
 - D. How were the prizes selected? (again, notice the emphasis on staff participation.)
17. 465, 2nd col, 1. I am not going to ask you to memorize the results but do note them. They are quite amazing.
18. 456, 1st col, 1. Rank order the following management program components in terms of the staff acceptability: self-recorded feedback, external verbal and written feedback, and the lottery system. Which of the three components was not rated on the “like” end of the scale? This is interesting – it is not the usual finding in business and industry.
19. 469, 1st col., 1. Not for the exam, but this is an excellent discussion.

20. 469, 2nd col., 1, bottom. Not for the exam, but note the mention of the fact that verbal reports of acceptability do not necessarily coincide with the willingness of participants to be recipients of the procedures when provided with an actual opportunity. This is a *very* important point to keep in mind. And would make for an interesting study.

Iwata et al. article

I am including this because this is another very nice demonstration of an antecedent intervention vs. a combined antecedent and consequence intervention: staff assignments vs. staff assignments plus a performance lottery in which the winner could rearrange days off from work the following week. As I indicated earlier, as illustrated in the Richman et al. article in U4, and the Parsons et al. article in this unit, staff scheduling and staff assignments are *very* popular interventions in human service settings. This study compares that type of antecedent intervention with a low cost antecedent plus lottery intervention

21. 417, 2. Not for the exam, but notice the data about how staff spend their time. This article was published in 1976, but the data from Parsons et al. indicates there is obviously still a problem!
22. 418,1. Not for the exam, but note again the research regarding the effects of in-service training (the effects of instructions, training, and the development of job assignments) on the performance of staff. I would not at all be surprised if in-service training was, nonetheless, the most common form of “performance management” intervention in human service settings.
23. 421,1.
 A. How often was the lottery?
 B. What was the prize?
 C. Not for the exam, but notice in this study, those who met the criteria for the lottery were publicly acknowledged by having their names read out loud by the unit director during the weekly staff meeting.
24. 421, Table 1 and 426, Table 2. Not for the exam, but note, during baseline, how similar the %s are to those reported in previous studies for the percentage of time staff spent (a) in stimulation training (1% and 3% respectively for Unit A and B; 5% in Units C and D) and (b) off-task (24% and 33%, respectively for Unit A and B; 29% and 30% in Units C and D, respectively). (see Study Objective 28 above)
25. 421, 2nd col., 2-3. Not for the exam, but notice that only two categories showed clear changes; off-task behavior and stimulation training. The same thing was true in Experiment II as well.
 By the way, in Table 421 on this page, it looks like area supervision was affected, but the authors explain a problem with the measurement system on page 422, 2nd col., 1-423, 0.
26. Based on the following, provide the general results of Experiment 1 with respect to the effectiveness of assignments and the lottery.
 Experiment 1 data are a little hard to summarize, but notice in 422, 1st col., 0; 422, 2nd col., 0; 424, 1st col., 0 and 424, 1st col., 1, assignments alone led to partial improvements (with improvements ranging from small to large), but in each and every case, further improvements were observed when the lottery was implemented.

27. 426, Table 2, Neither indirect custodial work nor direct custodial work were affected by the interventions in either Experiment I or Experiment II. Why do you think this is the case? This is not answered in the text. By the way, this is also a common finding in human service settings – that is, the custodial care of clients often does get done.
28. 429,2-3. Not for the exam, but note the nice discussion of the lottery and its effects of having one less staff member on most weekends.
29. 429,2nd col., 1. Approximately what proportion of attendants was eligible for the lottery during any given week? And, how many consistently met all criteria every week?
30. 429,2nd col., 3, last sentence. Not for the exam, but notice that the lottery was continued on two of the units after the study was terminated, and *that the time-sample measurement procedure was incorporated into the regular employee evaluation process.*
31. Nothing from this study objective will be on the exam, unless I add something in class.

General issues regarding lotteries. In Unit 2, Study objective 27B, I had you learn three factors that probably influence the extent to which lotteries are effective: the probability that a person will win (determined primarily by the number of people who participate, but some researchers also give out a different number of lottery tickets depending upon the level of performance), frequency of the lottery, and amount/magnitude of the award.

In the Iwata et al. study, the number of staff members in each unit ranged from 12-14. This was the largest number of participants in a lottery system that we looked at this semester. On the other hands, the odds of winning may have been less in the Gaetani et al. article in which workers were given state lottery tickets. Some of the lotteries were held weekly, one was held monthly, and the value of the prizes differed across the studies.

At this point we really don't know how these three variables interact with each other. It would be an interesting line of research to pursue. I only know of two studies that have systematically examined these issues, but neither was conducted with staff. Nonetheless I provide the references below.

Lyons, C. A., & Ghezzi, P. M. (1995). Wagering on a large scale: Relationships between public gambling and game manipulations in two state lotteries. *Journal of Applied Behavior Analysis*, 28, 127-137.

Obviously, the prizes are too big for us to usefully relate to interventions in human service settings, but the article is interesting anyway.

Gravina, N., Wilder, D., White, H., & Fabian, T. (2004/2005). The effect of raffle odds on signing in at a treatment center for adults with mental illness. *Journal of Organizational Behavior Management*, 24(4), 31-24.

These authors examined whether different probabilities of winning a raffle (25%, 50%, and 75%) would increase attendance at a socialization center for approximately 75 adults diagnosed with mental illness. Individuals received "points" that could be traded in for store items such as coffee, soda, small food items, and soap. Attendance (well, actually signing in) increased by 14% over baseline when the raffle was implemented, but no difference between the probabilities was evident.

Green, Reid, Passante, & Canipe article

I like this article and included it because of its emphasis on increasing the satisfaction/work enjoyment for supervisors in a human service setting. They have very difficult jobs and this is one of the few articles that have addressed that issue. The interventions may be something that an OBM person would do anyway and not publish, but the important issue here is whether we would we *think* of doing it.

32. Abstract, 91,0. In general, how did the authors alter the disliked tasks? You don't have to include how they determined which tasks were the most disliked.
33. 91, 3 – 92,1. Not for the exam, but note the very nice discussion of quality of work life.
34. 93,1. Not for the exam, but notice how the researchers determined the social validity of their approach. This is one reason I am always so impressed with these researchers. Few of us would have thought to do something like this, just like few of us would have taken the trouble/time to do the normative study that Parsons et al. did in the first article in this unit.
35. 94,2-95,1. What were the DVs (you don't have to describe the actual instruments – my main point here is that I want you to recognize that they did both ratings and rankings. You do get different information from ratings and rankings; something OBM professionals/practitioners often fail to recognize.
36. 96,1. Not for the exam, but note the secondary DV of assessment of the quality of performance of the task.
37. 98,2. What was the major reason that made the completion of monthly progress notes aversive for Ms. Tome and Ms. Jones and reviewing time sheets aversive for Ms. Noel? How was this solved?
38. 98,3-99,0. The problem and thus the intervention for the fourth supervisor, Mr. Davis, was quite different. What was the problem and how was it solved? (all you have to say here is implementing a lottery system for staff who met performance criteria.) But again, notice the use of the lottery – but with a twist (next study objective).
39. 99,1. Be able to state the unique feature of this lottery: namely that while the lottery was held *monthly*, each staff member who met the performance criteria won *something*.
40. 99,2. What stimuli did researchers add to the task to make it less aversive for three of the four supervisors? Notice how “simple” and “cheap” this was.
41. 104,2. Not for the exam, but notice that the authors asked all supervisors if they wanted to continue the program and all four chose to continue it.
42. 104,2-105,0.
 - A. Of the 5 staff who reported to Mr. Davis, how many chose to continue it when given the choice? These data appear to disagree with earlier data from Parsons et al. re staff satisfaction with lotteries, but remember this one did differ from the previous lottery – perhaps the fact that each staff member got a prize made the difference. This would be another interesting feature to investigate.
 - B. What did the 5 staff members report about the lottery system? Don't forget to include the “extremely.” This is impressive.

Finally, the END!

Unit 9: Organizational Culture and Change

I am only kidding; there is no Unit 11. But, if there had been a unit 11, I would have dealt with the topic of Organizational Culture and Change. I sincerely regret there is not time in the class to deal with this topic because while it is complex, it is certainly not beyond our ability to analyze organizational culture and conceptualize it from a behavioral perspective. Organizational culture is a topic that perhaps belongs in a systems analysis class rather than a psychology of work class, because the two are certainly intertwined. In any event, below are some “classic” articles I would recommend on the topic if you are interested.

1. Scott, W. E., Jr., & Podsakoff, P. M. (1985). Behavioral principles in the practice of management (Chapter 8, Organizational Leadership, but particularly pages 176-198). New York: John Wiley.
2. Redmon, W. K., & Wilk, L. A. (1991). Organizational Behavior Analysis in the United States: Public sector organizations. In P. A. Lamal (Ed.), *Behavioral analysis of societies and cultural practices* (pp. 107-124). New York: Hemisphere.
3. Redmon, W. K., & Agnew, J. L. (1991). Organizational Behavior Analysis in the United States: A view from the private sector. In P. A. Lamal (Ed.), *Behavioral analysis of societies and cultural practices* (pp. 125-140). New York: Hemisphere.
4. Mawhinney, T. C. (1992). The evolution of organizational cultures as a selection by consequences: The Gaia hypothesis, metacontingencies, and organizational ecology. *Journal of Organizational Behavior Management*, 12(2), 1-26.
5. Eubanks, J. L., & Lloyd, K. E. (1992). Relating behavior analysis to the organizational culture concept and perspective. *Journal of Organizational Behavior Management*, 12(2), 27-44.
6. Malott, R. W. (1992). A theory of rule-governed behavior and organizational behavior management. *Journal of Organizational Behavior Management*, 12(2), 45-65.

On pages 57 - 59, Malott offers one of the most astute and succinct analyses of culture and organizational culture that I have come across. Very few people in our field apply rule-governed behavior or talk about the importance of “verbal behavior” in organizations. It is extremely important. In particular, see:

- A. For cultural practices to deal effectively with contingencies that are not direct acting, what must occur? 58,0.
- B. And, what is the important role of leaders? There are two important aspects to this that are stated in the last sentence of the paragraph. 58,2.
- C. Agnew and Redmon (1992) add a third important critical role/responsibility of leaders – that is that leaders must **explicitly** state what the cultural and organizational rules are to all workers in the organization – and certainly the management team. Learn this important role; and add it to Malott’s two in B – I may ask what are the three important roles of leaders in organizations, according to Malott and Agnew and Redmon?

Not of the exam, but the reference for Agnew and Redmon, if you are interested, is Agnew, J. L., & Redmon, W. K. (1992). Contingency-specifying stimuli: The role of

- “rules” in Organizational Behavior Management. *Journal of Organizational Behavior Management*, 12(2), 67-76.
7. Malott, M. E. (2003). *Paradox of organizational change* (really, the whole book, but in particular chapters 2, 3, 9 & 10). Reno, NV: Context press.
 8. Johnson, J., Dakens, L., Edwards, P., & Morse, N. (2008). *Switchpoints*. Hoboken, NJ: John Wiley & Sons.
 9. Krapfl, J. E., Cooke, J., Sullivan, T., & Cogar, W. (2009). Iterative processes and reciprocal controlling relationships in a systemic intervention. *Journal of Organizational Behavior Management*, 29(2), 136-154.