The Effects of Confidence and Perception of Test-taking Skills on Performance

Lisa F. Smith
Kean University

This study examined the effects of confidence and perception in test-taking skills on test performance. Participants were 106 undergraduate students in an urban state university, with an average age = 24.42 (*SD* = 6.39) and an average grade point average = 3.22 on a 4.0 scale (*SD* = .44). Each participant completed a demographic questionnaire, the Learning and Study Skills Inventory (Weinstein, Palmer, & Schulte, 1987), a 20 item scale developed for this research to assess attitudes toward test-taking skills (the Self-perceptions of Test Taking Scale), and two multiple choice exams made up of 30 released items from the social studies and mathematics portions of the Praxis Exam (Educational Testing Service, 1992). Regression analyses indicated that confidence was related to test performance but self-perception of test taking skills was not. The results are discussed in terms of assisting students in building confidence in the classroom to bolster test performance.

Students have been known to describe themselves as being "good test takers" or, more commonly, *not* "good test takers." Often, these beliefs are used to excuse poor performances on examinations. Previous research (Pintrich, 1988, 1989; Smith, 2000, 1998a, 1998b; Wolf, 1993; Wolf & Smith, 1995; Wolf, Smith, & Birnbaum, 1995) has shown that when the expectancy-value theory of motivation (Wigfield, 1994) is applied to test performance it can be extended to include personal characteristics, affective components, and emotional reactions. The expectancy-value theory of motivation states that in approaching a task a student takes into account the value of that task and the expectation for success. When applied to test performance, factors such as the perceived amount of effort necessary to successfully complete individual items on the test, personal motivation, and test anxiety must also be considered (Smith, 2000, 1998a, 1998b; Wolf, 1993; Wolf & Smith, 1995; Wolf, Smith, & Birnbaum, 1995). It seems logical that other individual differences contribute to the variability seen in test scores. For example, the level of confidence in the answers one gives on an exam, coupled with an overall positive or negative belief in one's test-taking skills may well play into the performance on that exam.

In general, the study of affective factors and test performance is fairly new in the literature. The results of current research that examine whether confidence is related to test performance have been varied. Some work has demonstrated that students are fairly accurate in their self-assessments on test-performance. Sharma (1993), for example, found that undergraduate engineering and science majors (*n*=38) were quite accurate when asked to predict how well they thought they would perform on a quiz. Results from this study suggested that the formation of a composite score made up of examinees' confidence ratings and their expected scores can provide a meaningful evaluation index as well as an index of personal psychological satisfaction in the examinees.

In a study with ~~junior high school aged students,~~ Sherman (1980) reported a positive relationship between confidence and test performance on three cognitive tests, the Scholastic Reading Achievement Math Concepts Test and the Vocabulary and Differential Aptitude Tests: Space Relations tests from the California Achievement Tests. In a later study (Pressley & Ghatala, 1989), gender differences in confidence levels were found at the junior high school level. Boys in that study tended to be more confident than girls.

Other studies have indicated that the accuracy of confidence ratings may increase with awareness of ability and the accurate assessment of the difficulty of the material. Shaughnessy (1979) found that all of the undergraduate participants (*n*=49) taking a multiple choice classroom test demonstrated some confidence-judgment accuracy; however, there was a strong positive relationship between confidence judgments and test performance for those participants who had a high level of memory-monitoring ability.

Sjostrom and Marks (1994) reported a similar finding. In their study, 90 undergraduate students in an introductory psychology course rated their confidence in passing each of 12 tests, both before and after each test. Average confidence ratings across all tests were significantly correlated with test performance. When the participants were divided into high, medium, and low performance groups, those in the high group were better able to predict their performance than the other two groups. The authors suggested that this finding indicated that the ratings were probably based more on the participants' assessments of the difficulty of the material on the tests coupled with knowledge of individual ability, than on any perception of individual study skills.

Sinkavich (1995) also found support for Shaughnessy's (1979) findings. This study demonstrated that the level of confidence in the answers given by 67 university students was related to exam scores. Overall, those participants with a high mean confidence rating had significantly higher performance scores on a multiple choice exam than those participants with a low mean confidence rating. Furthermore, the good students were better than the poor students in predicting their test item performance. Sinkavich suggested that this indicated better metamemory accuracy for multiple choice tests for the good students as compared to the poor students.

In fact, overconfidence in performance judgment can lead to problems for poor students. Overconfidence has been shown to be related to test difficulty (Schraw & Roedel, 1994) and belief in quick learning (Schommer, 1990) for this

subset of examinees. It seems that these students may both overestimate their test performance ability and believe that they can attain more with less effort than is actually needed to succeed on an examination.

Confidence has also been related to other factors. For example, Savitz (1985) found that the placement of the items on a multiple-choice exam can affect self-confidence evaluations and test performance. When items were randomly ordered on two science exams, junior college students (n=427) demonstrated lower levels of confidence and poorer test performance than when easy items were placed at the beginning of the exam. Furthermore, participants made more accurate assessments of their knowledge on the exam that had the easier items at the beginning. In another study, Feldt (1990) found that study time, test strategies, and confidence ratings were significantly related to test performance on factual items, but not on higher order items. Yancey, Humphrey, and Neal (1992) gave 46 undergraduates feedback about their performances on a practice test in a mathematics class. On the subsequent consequential exam, they found a negative relationship between confidence and arousal. Schraw, Dunkle, Bendixen, and Roedel (1995) and Schraw (1997) have argued that confidence in responses to test items is better depicted as domain-general as compared to domain-specific. These two studies have demonstrated that confidence judgments are related not just to performance on a particular test but also to confidence judgments across unrelated tests, including a lexical comparison test, a syllogistic reasoning test, a math test, and a reading test. Based on these findings, Schraw, et al. and Schraw have suggested that metacognitive knowledge about test performance in general affects confidence judgments across domains.

Not all research has found a correlation between confidence and test performance. Glenberg and Epstein (1985) asked participants to rate their confidence in their ability to draw inferences from text, but found no calibration of comprehension. However, a modest increase was observed when the participants were asked to predict future performance. In a later study, Morris (1990) reported that confidence in the ability to answer items on previously studied expository passages was unrelated to test performance.

While there are numerous studies in the literature to indicate that ability, study habits, motivation, and test anxiety are related to performance, there are fewer studies that examine the relationship between personal affective factors and performance. If it can be demonstrated that affective factors such as confidence and belief in test-taking skills are related to test performance, educators can better prepare to work with their students to maximize performance on exams. This study explores the effect of confidence and test-taking skills on performance. The hypotheses for this research are that (a) confidence will be positively related to performance, and (b) self-evaluation of test-taking skills will be positively related to performance.

METHOD

Participants

There were 106 participants in this study. All participants were junior or senior undergraduate students in an urban state university located in central New Jersey. They were enrolled in either introductory statistics (n = 51) or experimental psychology (n = 55) during the fall 1998 and spring 1999 semesters. The average age of the participants was 24.42, with a standard deviation of 6.39 and a range of 19 to 48. The average grade point average was 3.22 on a 4.0 scale, with a standard deviation of .44 and a range of 2.0 to 4.0. For the completion of all parts of the study, participants were awarded three extra credit points toward their next classroom exam, which equated to one point toward their final average.

Apparatus

The apparatus consisted of a short demographic questionnaire to collect information on variables such as gender, GPA, and age, and the *Learning and Study Skills Inventory* (LASSI) (Weinstein, Palmer, & Schulte, 1987), a 20-item scale to measure attitude toward test-taking skills, and two multiple-choice tests designed for teachers.

The LASSI is made up of 77 items yielding 10 subscales. These subscales evaluate attitude and interest, motivation, time management, anxiety, concentration and attention to academic tasks, information processing, selecting main ideas and recognizing important information, use of support techniques, self-testing and preparation for classes, and test strategies and preparing for tests. The LASSI was selected for the content of the subscales and because it is known to be psychometrically sound. Coefficient alphas for the subscales range from .68 to .86; test-retest coefficients for the subscales range from .72 to .85.

The 20-item scale developed for this research for the purpose of assessing attitudes toward test-taking skills, is called the Self-perceptions of Test Taking Scale (SPOTT) (see Appendix). Two multiple choice exams were given, made up of 30 publicly released items, 15 each taken from the social studies and mathematics portions of the Praxis Exam, (Educational Testing Service, 1992). Items were selected to reflect a wide range of p-values as supplied by the test publisher.

Procedure

Participants signed and were given a copy of informed consent. Each participant completed the demographic questionnaire, the LASSI, the test-taking scale, and the multiple choice exam. They were given sufficient but not unlimited time to complete the multiple-choice exam. Most participants took about 30 to 40 minutes to complete the

exam. In addition to giving the answer for each item, participants were asked to rate their confidence in their response to each item, on a 1 (low) to 5 (high) scale. Finally, using a 1 (low) to 10 (high) scale, participants were asked to rate their overall test-taking ability. Students self-scored the LASSI and had the opportunity to meet with the instructor to discuss their individual results. After completion of all parts of the study each participant received a debriefing form.

RESULTS

Coefficient alpha was calculated for the SPOTT scale to determine the internal reliability of this instrument. Alpha equaled .69, which indicated that this scale probably contains more than one construct. To examine this, a factor analysis of the SPOTT was completed, using a varimax rotation. A three-factor solution was obtained. The following items from the scale loaded on the first factor:

4. I often have difficulty understanding the instructions on a test.
5. During a test, I am easily distracted and lose my concentration.
6. My anxiety during a test interferes with my ability to focus on the test questions.
7. I often have difficulty figuring out what the test questions are asking.
8. I often get hung up on a question that I don't know, rather than going on to the next question.
12. When taking a test, I often "go blank" on material I studied and thought I knew well.
13. I often feel rushed while taking a test, like I will run out of time.

This factor appears to concern test anxiety. The items that loaded on the second factor were (an asterisk indicates that the item was reversed for scoring):

*1. When taking a test, I feel that I am in control.
*2. I try to get myself psyched up (motivated) just before a test.
*3. I usually begin a test feeling confident that I can do well.
7. I often realize that I have studied the wrong material.
13. I get very tired while taking tests.
*18. When I finish a test, I usually have a good idea of how well I did.
*20. I think I have good test-taking strategies/skills.

This factor seems to relate to confidence in test taking. The items that loaded on the third factor were (an asterisk indicates that the item was reversed for scoring):

*10. I look through the whole test before I begin.
*11. I leave the most difficult questions on a test for last.
15. On multiple choice questions, I often get down to two of the options and then can't decide between them.
16. On short answer or essay questions, I write everything I can think of on the topic instead of focusing on what is being asked by the question.
17. I often think the test questions do not reflect the material that was emphasized in class.
18. When I take a guess on a question, I always seem to make the wrong choice.

This factor appears to concern test-taking behaviors. As the three factors all pertain to perceptional aspects of test-taking that may affect performance, the total scale score was used for all subsequent analyses.

Next, cross-tabulations were computed for each item with that item's confidence score. The items were scored dichotomously; the confidence ratings were on a 1 (no confidence) to 5 (absolutely confident) scale. Two pieces of information were extracted from these crosstabulations. The first examined the percent of those participants who were absolutely confident in their response but got the item wrong, as well as the percent of those participants who

indicated no confidence in their response but got the item correct. In other words, the perception of confidence was not congruent with performance on that item. Next, each cross-tab was examined to compare the p value for this sample to the empirical *p* value of the item. In this way, potential "trick" items could be identified. See Table 1 for these results. There were three items that were identified as potential trick items for this sample. The first was a social studies item that asked the examinee to recognize a situation that would identify the term "détente." The second was a social studies item that required selecting the main idea of a short descriptive paragraph. The last was a mathematics item that required knowledge of fractions.

Table 1 Comparison of Item Responses to Confidence Ratings and Empirical *p* Values

Item	Percent Confident/Wrong	Percent Not Confident/Correct	Observed p	Empirical p
Social Studies 1	.9	.9	.85	.73
Social Studies 2	5.8	4.8	.75	.44
Social Studies 3	1.0	21.2	.28	.53 *
Social Studies 4	4.8	1.9	.62	.66
Social Studies 5	7.5	1.9	.06	.15
Social Studies 6	3.9	2.9	.73	.85
Social Studies 7	2.9	5.8	.56	.56
Social Studies 8	3.8	4.8	.35	.46
Social Studies 9	---	4.7	.63	.81 *
Social Studies 10	1.9	6.6	.49	.61
Social Studies 11	1.9	3.8	.79	.77
Social Studies 12	1.9	14.2	.65	.64
Social Studies 13	1.0	5.8	.62	.65
Social Studies 14	7.8	8.7	.42	.47
Social Studies 15	1.0	3.9	.71	.78
Math 1	14.6	---	.70	.73
Math 2	4.9	2.9	.85	.71
Math 3	10.4	5.7	.83	.83
Math 4	4.8	2.9	.72	.79
Math 5	11.4	10.5	.59	.67
Math 6	9.5	4.8	.83	.89
Math 7	17.3	2.9	.16	.11
Math 8	6.7	3.8	.73	.78
Math 9	6.7	10.5	.49	.59
Math 10	4.8	7.7	.48	.63 *
Math 11	1.0	8.7	.40	.53
Math 12	6.8	6.8	.37	.47
Math 13	3.0	3.0	.55	.62
Math 14	2.9	14.4	.35	.38
Math 15	34.3	---	.14	.16

Note. * indicates potential trick question for this sample

The next analyses used two regressions to determine which of the affective variables in the study were related to performance. The dependent variable in the first regression was the Total Correct score and the dependent variable in the second regression was the Total Confidence score. Analyses using all affective items in the study, including the LASSI scores, did not yield significant results for any of the LASSI subscales for the regression using Total Correct as the dependent variable. Therefore, the regression for Total Correct was re-run using grade point average, confidence score, SPOTT score, and self-rating (1 = low, 10 = high) of test-taking skills as the predictors. The *R* was .499 and the *R* square was .249. Results for the model were $F_{(4)} = 7.362$, $p < .001$. Confidence and grade point average were significant predictors. The regression coefficients are shown in Table 2.

TABLE 2 Results of Regression for Total Correct

Predictor	Beta	*t*	*p*
Self-rating of Test Taking Skills	-.043	-.393	.696
Confidence Score	.431	4.186	.001
SPOTT Score	-.030	-.282	.778
Grade Point Average	.207	2.017	.047

An initial regression using the Total Confidence score as the dependent variable indicated that the LASSI subscale for motivation should be included in the model. Therefore, the predictors for this regression were self-rating of test taking skills, SPOTT score, the LASSI motivation subscale score, and grade point average. The *R* was .500 and the *R* square was .25. The model was significant, $F_{(4)} = 7.40$, $p < .001$. Self-rating of test taking skills, the LASSI motivation subscale score, and grade point average were significant predictors. The regression co- efficients are shown in Table 3.

TABLE 3 Results of Regression for Confidence

Predictor	Beta	*t*	*p*
Self-rating of Test Taking Skills	.342	3.33	.001
LASSI Motivation Subscale Score	-.244	-2.38	.019
SPOTT Score	.116	1.08	.281
Grade Point Average	.215	2.01	.048

Although the SPOTT did not prove to be a significant predictor in either regression, it was correlated with grade point average as well as several of the LASSI subscales and the self-rating and confidence scores (see Table 4).

Finally, correlations were computed to directly address the hypotheses that confidence would be positively related to performance and self-evaluation of test taking skills would be positively related to performance. There was a significant correlation for confidence and total score, $r = .46$, $p < .001$, lending support for the first hypothesis. The measures of test taking skills, however, did not yield significant correlations with performance. The correlation of the SPOTT with total score was $r = .135$, $p = .167$ and the correlation for the self-rating of test taking and total score was $r = .139$, $p = .159$. It was interesting to note that, for this sample, the correlation between the LASSI subscale for test taking strategies and total score was not significant, $r = .149$, $p = .127$.

TABLE 4 Correlation of SPOTT Score with Selected Variables

Variable	*r*
Grade Point Average	.26 **
LASSI Attitude and Interest	.30 **
LASSI Motivation	.30 **
LASSI Time Management	.25 **
LASSI Anxiety	.69 ***
LASSI Concentration	.45 ***
LASSI Select Main Ideas	.48 ***
LASSI Test Strategies	.67 ***
Self-rating	.41 ***
Confidence Score	.25 **

Note. *** $p < .001$ ** $p < .01$

DISCUSSION

This study set out to examine the effects of confidence and self-perception of test taking skills on performance. The results indicated that although confidence was significantly related to performance for this sample, self-perception of test taking skills was not significantly related to test performance. Prior research findings with regard to confidence in responses to test items have been mixed. A full range of results have been reported, from a significant relationship between the level of confidence in the answers given and exam scores (Sinkavich, 1995) to no correlation between confidence and test performance (Morris, 1990), with a curvilinear relationship (Yancey, Humphrey, & Neal, 1992) falling between the extremes. No studies were found that examined confidence within the larger framework of personal beliefs about test taking skills.

There is sufficient evidence from this study to suggest that working in the classroom to increase confidence may have a positive effect on test performance. Classroom tasks that assist students in their preparation for examinations

or that familiarize students with test formats under less stressful or less consequential settings than exams may bolster confidence for actual examinations. Research (Kellaghan, Madaus, & Raczek, 1996; MacIver, Stipek, & Daniels, 1991) has indicated that increased confidence leads to increased effort and valuing of education in general. On the other hand, it is interesting to note that for almost every item on the test there were at least some students who were highly confident that they had correctly answered the item, when in fact they had not. (The opposite of this was also true; that is, completely unconfident students got items correct, but that may be the result of fortunate guessing.) This finding might be construed as overconfidence from the perspective of the student or as a trick question on the test (fooling students into believing they had the correct answer, when in fact, they fell for the "trick") or even as reading too much into an item. In any case, the role of confidence in test performance is an intriguing one. Confidence in one's abilities, or lack thereof, affects how an individual approaches each new item on the test. The relationship between confidence and performance can be cumulative as one progresses through the examination. This is a particularly interesting possibility for continued research along this line.

In terms of the interpretation of test scores, it seems that consideration of affective factors such as confidence and motivation would allow a more complete and accurate evaluation of student performance. The results of this study indicate that confidence is a strong predictor of performance and in turn is predicted by affective measures such as self-perception of test-taking skills and cognitive measures such as grade point average. It is particularly interesting to note that the single item measure of self-rating of test-taking ability (asked prior to taking the test) correlated at .462 with the summation of the confidence scores given on an item-by-item basis, but only .139 with the total score (number right). Confidence while taking a test appears to be a function of both how well the student perceives he or she is doing during the test and a general tendency to be confident in such situations. To continue this line of argument, one can think of confidence as a positive analogue or "flip-side" to anxiety, and to consider the item-by-item fluctuations in confidence as a "state-confidence" which would be equivalent to "state-anxiety" and the more enduring estimate of confidence in performance given before the test as a "trait-confidence." Of course, this is just speculative at this time, but it certainly seems to be the case that confidence has a role in test performance, perhaps a very useful one.

The demographics of the sample, the subject matter of the exams, and the fact that the exam itself was not part of the course grade limit the generalizability of the findings. This may not be as much of a problem given Schraw et al. (1995) and Schraw (1997)'s findings that confidence judgments generalize across domains or if additional research supports the notion of "trait-confidence." Further examination of this area is needed to help determine the components of a test score. Most assuredly, a consideration of the affect for the person taking an exam must be factored into any complete understanding of a test score.

REFERENCES

Educational Testing Service. (1992). *NTE® Core Battery Tests Practice & Review* (pp. 26-43). Princeton, NJ: Educational Testing Service.

Feldt, R. C. (1990). Test expectancy and performance on factual and higher-level questions. *Contemporary Educational Psychology, 15*, 212-223.

Glenberg, A. M. & Epstein, W. (1985). Calibration of comprehension. *Journal of Experimental Psychology Learning Memory and Cognition, 11*, 702-718.

Kellaghan, T., Madaus, G. F., & Raczek, A. (1996). *The use of external examinations to improve student motivation*. Washington, DC: The American Educational Research Association.

MacIver, D. J., Stipek, D. J., & Daniels, D. H. (1991). Explaining within-semester changes in student effort in junior high school and senior high school courses. *Journal of Educational Psychology, 83*, 201-211.

Morris, C. C. (1990). Retrieval processes underlying confidence in compre- hension judgments. *Journal of Experimental Psychology - Learning, Mem- ory, and Cognition, 16*, 223-232.

Pintrich, P.R. (1988). A process-oriented view of student motivation and cognition. In J.S. Stark & R. Mets (Eds.), *Improving teaching and learning through research* (pp. 55-70). San Francisco: Jossey-Bass.

Pintrich, P.R. (1989) The dynamic interplay of student motivation and cognition in the college classroom. In C. Ames & M. Maehr (Eds.), *Advances in achievement and motivation* (Vol. 6, pp. 117-160). Greenwich, CT: JAI Press.

Pressley, M. & Ghatala, E. S. (1989). Metacognitive benefits of taking a test for children and young adolescents. *Journal of Experimental Child Psychology, 47*, 430-450.

Savitz, F. R. (1985). Effects of easy examination questions placed at the beginning of science multiple-choice examinations. *Journal of Instructional Psychology, 12*, 6-10.

Schommer, M. (1990). Effects of beliefs about the nature of knowledge on comprehension. *Journal of Educational Psychology, 82*, 498-504.

Schraw, G. (1997). The effect of generalized metacognitive knowledge on test performance and confidence judgments. *Journal of Experimental Education, 65*, 135-146.

Schraw, G., Dunkle, M. E., Bendixen, L. D., & Roedel, T. D. (1995). Does a general monitoring skill exist? *Journal of Educational Psychology, 87*, 433-444.

Schraw, G. & Roedel, T. D. (1994). Test difficulty and judgment bias. *Memory and Cognition, 22*, 63-69.

Sharma, N. K. (1993). How confident are humans about their self-assessment? Special issue: Psychoeducational assessment. *Psychological Studies, 38*, 150-156.

Shaughnessy, J. J. (1979). Confidence-judgment accuracy as a predictor of test performance. *Journal of Research in Personality, 13*, 505-514.
Sherman, J. A. (1980). Predicting mathematics grades of high school girls and boys: A further study. *Contemporary Educational Psychology, 5*, 249-255.
Sinkavich, F. J. (1995). Performance and metamemory: Do students know what they don't know? *Journal of Instructional Psychology, 22*, 77-87.
Sjostrom, K. P. & Marks, A. (1994). Pretest and posttest confidence ratings in test performance by low-, medium-, and high-scoring students. *Teaching of Psychology, 21*, 12-16.
Smith, L. F. *Confidence and test performance*. Paper presentation at the annual meeting of the American Educational Research Association, New Orleans, April, 2000.
Smith, L.F. (1998a). *The effects of difficulty, consequence, and effort on performance*. Paper submitted in partial fulfillment of Kean University Untenured Faculty/Librarian Research Initiative.
Smith, L.F. (1998b). *The influence of test consequence and perceived item effort*. Paper submitted in partial fulfillment of Kean University Untenured Faculty/Librarian Research Initiative.
Wigfield, A. (1994). Expectancy-value theory of achievement motivation: A developmental perspective. *Educational Psychology Review, 12*, 265-310.
Wolf, L.F. (1993). The effects of motivation and anxiety on test performance. *Dissertation Abstracts International, 54*, 04A. (University Microfilms No. 93-24654)
Wolf, L.F., & Smith, J.K. (1995). The consequence of consequence: Motivation, anxiety and test performance. *Applied Measurement in Education, 8*, 227-242.
Wolf, L.F., Smith, J.K. & Birnbaum, M.E. (1995). Consequence of perfor- mance, test motivation, and mentally taxing items. *Applied Measurement, 8*, 341-351.
Yancey, G. B., Humphrey, E., & Neal, K. (1992). How perceived incentive, task confidence, and arousal influence performance. *Perceptual and Motor Skills, 74*, 279-285.

APPENDIX
Self-Perceptions of Test Taking

Please respond to each of the following statements on a scale of 1 (strongly disagree) to 5 (strongly agree).

1. When taking a test, I feel that I am in contr
2. I try to get myself psyched up (motivated) just before a test.
3. I usually begin a test feeling confident that I can do well.
4. I often have difficulty understanding the instructions on a test.
5. During a test, I am easily distracted and lose my concentration.
6. My anxiety during a test interferes with my ability to focus on the test questions.
7. I often realize that I have studied the wrong material.
8. I often have difficulty figuring out what the test questions are asking.
9. I often get hung up on a question that I don't know, rather than going on to the next question.
10. I look through the whole test before I begin.
11. I leave the most difficult questions on a test for last.
12. When taking a test, I often "go blank" on material I studied and thought I knew well.
13. I get very tired while taking tests.
14. I often feel rushed while taking a test, like I will run out of time.
15. On multiple choice questions, I often get down to two of the options and then can't decide between them.
16. On short answer or essay questions, I write everything I can think of on the topic instead of focusing on what is being asked by the question.
17. I often think the test questions do not reflect the material that was emphasized in class.
18. When I finish a test, I usually have a good idea of how well I did.
19. When I take a guess on a question, I always seem to make the wrong choice.
20. I think I have good test-taking strategies/skills.