

Equivalence of Three Versions of The Career Key™ among High School Students

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Many school counselors use the newer, 1997 versions of The Career Key to achieve their career development goals. But how equivalent are these newer versions with the original one published in 1987? This study found that among rural high school students ($N = 265$). The 1987 version was generally equivalent to the 1997 paper-pencil and Internet versions with respect to reliability, validity, and student satisfaction. Implications for practice are discussed.

Students need help in making good career decisions. Their choices are likely to affect their school grades, as well as their future career satisfaction and success. Choosing a course of study, for example, that does not fit their interests and abilities often results in low grades and frustration. Changing that decision later is often a challenge because it requires making up work in order to meet course and graduation requirements. Besides providing needed information, career guidance can open students' eyes to occupations they have never thought of and be a source of motivation for doing well in school. The National Standards for School Counseling Programs (Campbell & Dahir, 1997) has given career development a high priority. It is identified as one of the three areas of student development that should be in every school counseling program.

One of the activities that school counselors often use to achieve their career development goals is to administer a self-directed career interest inventory followed by other career guidance activities, such as, reading about occupations identified, and discussing their educational requirements and job outlook.

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Counselors and experts in the field (e.g., Herr & Cramer, 1996) note that these inventories help students (a) become more aware of themselves -- their interests, personality, and values, (b) relate their personal characteristics to possible occupations and educational programs, (c) expand the options they are considering, and (d) stimulate their career exploration, such as, discussing possible careers and training programs with their parents, or going to a library to learn more about their opportunities.

In choosing an interest inventory, school counselors must consider such practicalities as how much time it takes to administer and cost. Equally important, they need to consider the validity and reliability of the measure, and whether students find it helpful. Many counselors have chosen to use the Career Key (Jones, 1987, 1997). It was first published in 1987 (CK'87; Jones, 1987) in its paper-pencil form, and it was later revised in 1997 (CK'97; Jones, 1997). Since 1997, the author has sent a camera-ready, pdf copy of the CK'97 to school counselors, upon request, and they make arrangements to have it printed. In 1998 the CK'97 was integrated into a free public service website on the Internet (CK-Internet; www.ncsu.edu/careerkey; Jones, 1998). At the website, users can take the CK'97 measure, as well as learn from a variety of self-help modules (e.g., "Take further steps in my career exploration . . ."). The website is used by students and adults, approximately 4,000 a day. The websites of many schools, colleges, and organizations are linked to it.

Studies of the original CK'87 (Jones, 1983, 1987, 1990, 1993; Jones, Gorman, & Schroeder, 1989) showed that its reliability, validity, helpfulness, and effects were comparable to other instruments of this type (e.g., Self-Directed Search Career Explorer, Holland & Powell, 1994). The newer versions of the Career Key, the paper-pencil CK'97 and the CK-Internet, are similar to the CK'87. For example, they use the same test items as the CK'87, but they do not use all of them. The newer versions are shorter. This raises the question, "Are the newer versions of the Career Key equivalent to the CK'87?" Do these recent versions share the same positive qualities of the CK'87? Are they equivalent in their reliability, validity, and helpfulness to the CK'87?

The results of a recent study of the CK'97 with eighth graders (Jones, Sheffield, and Joyner, 2000) are promising. In this study, the CK'97 was compared with the Self-Directed Search Career Explorer (SDSCE; Holland & Powell, 1994) and the Job-O Enhanced (Cutler, Ferry, Kauk, & Robinett, 1995). Since the CK'87 was shortened to create the CK'97, it was expected that students would be able to complete it in a relatively short time, leaving school counselors more time to do other related career guidance activities. This assumption was confirmed when it was found that students taking the CK'97 completed it in a mean time of 25 minutes, compared to 57 minutes for students taking the SDSCE, and 72 minutes for those taking the Job-O Enhanced. This study also found that most students reported taking the CK'97 helpful, as helpful as the other two instruments. And, the CK'97 suggested more occupations to the students than the other two instruments. The study did not, however, answer the question of

equivalence between the CK'97 with the CK'87. That equivalence is investigated in this study.

The purpose of this study, then, was to investigate the equivalence between the CK'87 and the newer versions of the Career Key. The following research questions guided the study:

1. Is the reliability of the CK'97 comparable to the original CK'87 version?
There were two specific questions:
 - a. How reliably do students self-score the CK'97? Do they make errors that change their three-letter code? And, how does this error-rate compare with that found for the CK'87 in previous studies?
 - b. What is the test-retest reliability of the CK'97 among high school students? And, how does it compare with that found with the CK'87 in previous studies?
2. Is the concurrent validity of the CK'97 and the CK-Internet comparable to the CK'87?
 - a. For the CK'97, there were two questions: How well do the three-letter Holland high point scores of the CK'97 compare with the three-letter codes of the Holland's (1985b) Vocational Preference Inventory? And, how well do the three-letter codes of the CK'97 compare with those found with the CK'87?
 - b. For the CK-Internet, there were three questions: How well do the three-letter codes of the CK-Internet compare with those of the VPI? How do they compare with those of the CK'87, and, with those of the CK'97?
3. Do high school students rate taking the CK'97 and CK-Internet a satisfying experience? How do their ratings compare with those previously reported for the CK'87?

METHOD

Participants

The participants in the study were 265 students in 17 English and computer classes in two rural high schools in Duplin County, North Carolina. Nine different groups of these classes were created to investigate the three areas of research interest: reliability, validity, and student satisfaction. The characteristics for the total sample and the nine groups are shown in Table 1 (all tables are at the end of this report).

Instrumentation

Satisfaction Opinionnaire (SO)

Originally developed by Zener and Schnuelle (1972), the SO assesses individual's satisfaction with taking a career interest inventory (see Table 2). Researchers have varied the number and content of items (e.g., Cooper, 1976; Lawler, 1979). In this study the SO contains seven items. Each is rated on a 5-point scale ranging from 1 (strongly disagree) to 5 (strongly agree). Once the data were collected, the three negatively worded items (i.e., 2, 3, and 6) were reverse

scored, and a mean score for all seven items computed. The SO alpha coefficient in this study was .81 (for students who took the CK'97 and completed the SO; $n = 142$).

Vocational Preference Inventory (VPI)

The VPI is Holland's (1985b) original measure of his six personality types: Realistic, Investigative, Artistic, Social, Enterprising, and Conventional (RIASEC). It involves reading 160 occupational titles and indicating whether or not they interest or appeal to the person. Scores may range from 0 to 14. The VPI manual (Holland, 1985c) summarizes numerous studies that generally support its validity and reliability. The VPI was used as an index of concurrent validity. The three-letter code for three highest scores on the VPI were compared with the three-letter code students received with the CK'97 or the CK-Internet.

Interventions

The Career Key

The CK'87 is a 16-page booklet. The assessment section contains a total of 106 items: 70 are occupational titles that individuals' check if they "interest you in a special way," and 36 statements (six for each of the six Holland personality types: RIASEC) that are rated on a three-point scale "to the extent to which each one describes you." Individuals score and graph the results to form their "Career Key." This is followed by a list of occupations that is organized by Holland type and "work groups" (derived from the Guide for Occupational Exploration; Droege & Padgett, 1979) which they read over "for the two or three personality types that you most closely resemble and check those that "interest you, or those you would like to know more about." This step is followed by two pages that encourages users to learn more about themselves and the world of work, providing concrete steps they can take.

The CK'97 is a shortened version of the CK'87. The CK'97's eight pages contain 66 items from the CK'87: 24 statements that users rate on a three-point scale with respect to "how much it describes you," and 42 occupational titles that are rated similarly. Again, users calculate their scores for the Holland personality types, graph their Career Key, and review the list of occupations for those of interest. It ends with a short section, "Further Career Exploration" that suggests a number of career exploratory activities individuals can profitably pursue.

The CK-Internet (www.ncsu.edu/careerkey) incorporates the 66 items of the CK'97 into the assessment section where they are organized according to the following questions: "Which jobs interest you?," "What do you like to do?," "What are your abilities?," "How do you see yourself?," and "What do you value?" and scored by the computer. Based on their high scores, users explore the list of occupational titles checking those of interest or ones they would like to learn more about. When finished, their scores and the occupations they have selected are listed on a page they can print out. They are then instructed to click on those occupations on their list to learn more about them. In doing this, they are

connected on-line with the section in the Occupational Outlook Handbook (U.S. Department of Labor, 1998) that describes that occupation.

In addition to taking this assessment, CK-Internet users have nine educational modules from which to choose, for example: "Learn about the Career Key measure and Holland's types," "Take further steps in my career exploration and decision making," "Learn to make high-quality decisions," and "Choose and appropriate training program or college major."

PROCEDURE

To investigate the research questions, nine groups of classes were created (see Table 1 for the student characteristics of each), using random assignment where possible. To investigate the test-retest reliability of the CK'97, three teachers (six classes) had the students complete the CK'97 booklet and the SO in class. Four weeks later, the students completed the assessment section of the CK'97 again (pp. 1 - 8, without tallying the results) and the CK'97 they had completed earlier was returned. After the assessments were completed, a counselor provided students with a classroom career guidance activity designed to complement The Career Key.

To investigate the validity of the CK'97, one group (three teachers, four classes) took the CK'97 and the VPI, the same day. Another group (one teacher, three classes) took the CK'97 and the CK'87 (assessment section only, without tallying the results) the same day. In both groups, the order they took the instruments was counterbalanced by class. When students completed the CK'97 they completed the SO.

Three groups were created to investigate the CK-Internet. Each group started by taking either the VPI (one teacher, one class), the CK'87 (one teacher, one class), or the CK'97 (two teachers, two classes). Students taking the CK'87 or CK'97 completed only the assessment section, not tallying the scores. After taking one of these instruments, the students went to the library or computer room where they took the CK-Internet, printed out their results and, then, completed the SO. These three groups, together, became a single group (three teachers, four groups) that was used to learn students' opinion regarding the CK-Internet. Another group was created to assess students' opinion of the CK'97; it was comprised of those who had completed the CK'97 and taken the SO (four teachers, nine classes).

And, finally, a group was formed using all of the classes where students completed the CK'97; this became the group for analyzing student self-scorer reliability (five teachers, 13 classes). The assessment section for these students were analyzed for errors. The two most serious types of errors from a counseling viewpoint, according to Christensen, Gelso, Williams, and Sedlacek (1975) are a mistaken high-point code and a mistaken three-letter code. Accordingly, the students' scoring of their CK'97 was analyzed for these two types of errors.

The concurrent validity of the CK'97 and CK-Internet was investigated by comparing students' three-letter codes for these measures with the three-letter codes they received with the VPI or CK'87. As recommended by Holland

(1985a), the Iachan Index of agreement (IIA; Iachan, 1984) was used to make these comparisons. The IIA ranges from "0," for no agreement, to "28" for a perfect match (e.g., ASE with ASE).

Great care was taken in organizing and coordinating the study. School administrators, counselors, and teachers were given oral and written instructions. A representative of the research team was on location numerous times to (a) coordinate the preparation and conduct of the study, (b) observe how it was done, and (c) talk afterwards with those involved.

RESULTS

Reliability

The first research question was: Is the reliability of the CK'97 comparable to the original CK'87 version? To investigate self-scorer reliability, students from several classes who took the CK'97 were combined ($n = 229$). Among them, 3% made an error in calculating their high-point code (incorrect first letter of the three-letter summary code), and 6% made an error in calculating their three-letter code (letters incorrectly omitted or letters in wrong order). This compares with 1% and 4%, respectively for these types of errors in an earlier study of college students using the CK'87 (Jones, 1990).

The test-retest reliabilities of the CK'97 scales were calculated for students who took it twice, with a four-week interval between the first and second time they took it. The reliabilities for the six Holland RIASEC scales were .85, .80, .84, .85, .74 and .63, respectively ($n = 97$). These results are similar to those found with the CK'87 in an earlier study done with college students (Jones, 1990) where there was a three-week interval: .83, .86, .88, .74, .83, and .80, respectively ($n = 107$).

Validity

The research questions focused on the concurrent validity of the CK'97 and CK-Internet. The comparison between the three-letter codes for the different measures was done using the 28-point Iachan Index of Agreement (IIA), as previously described.

CK'97

With respect to the CK'97, the analyses involved two student groups. In the first, the three-letter codes students received from the CK'97 and Holland's VPI were compared, and in the second group the three-letter codes were compared for students taking the CK'97 and the CK'87. For the first group, there was complete data for 68 students. However, there were a significant number of students whose scores were tied among the six RIASEC scales. In cases where two of the three high scores were tied, their three-letter scores were determined by a coin toss (CK'97 $n = 27$; VPI $n = 10$). Excluded from analysis were (a) students having three or more scores that were tied (CK'97 $n = 1$; VPI $n = 9$), and (b) students not having scores for at least three scales (CK $n = 0$; VPI $n = 27$). The mean IIA for those remaining was 21.77 ($SD = 7.28$; $n = 30$).

The second analysis compared the three-letter codes for a group of students ($n = 43$) who took the CK'87 and the CK'97. There were 24 cases where two of the three highest scores were tied (CK'87 $n = 16$, CK'97 $n = 8$), these were decided by a coin toss. There were nine cases where three scores were tied and these were excluded. The IIA mean was 22.00 ($SD = 5.69$; $n = 34$).

How do the results of these two analyses of the CK'97 compare with previous studies? In a study of career undecided college students (Jones, Gorman & Schroeder, 1989), the three-letter codes of the VPI were compared with those of the SDS and the CK'87. The IIA results for the SDS and CK'87 were: $M = 23.34$, $SD = 4.39$ and $M = 20.38$, $SD = 7.93$, respectively.

CK-Internet

In the investigation of the concurrent validity of the CK-Internet scores, three groups of students were involved; each took the CK-Internet. In addition, one group took the VPI, another group took the CK'87, and the third group took the CK'97. For the first group, the three-letter codes for 17 students completing the VPI and the CK-Internet were compared. Due to ties, the data for three were not included in the analysis, leaving 14. The mean IIA was 19.86 ($SD = 7.66$; $n = 14$). For the second group, there were 13 students who completed both the CK'87 and the CK-Internet; the data for six were excluded because of three-letter ties. The IIA mean was 23.14 ($SD = 5.87$; $n = 7$). And, finally, the third group included those who completed both the CK'97 and the CK-Internet ($n = 31$). The data for four students were excluded because of three-letter ties. The Iachan mean was 23.18 ($SD = 5.48$; $n = 27$).

Satisfaction with the Career Key

The research questions were: Do high school students rate taking the CK'97 and the CK-Internet a satisfying experience? How do their ratings compare with those previously reported for the CK'87. A review of Table 2 shows that the results for CK'97 and CK-Internet were quite similar; students gave both versions high ratings on the SO. On a scale of 1 to 5 (items 2, 3, and 6 were reverse scored), the overall mean ratings were 3.9, and the percent who marked Agree or Strongly Agree to the items were quite high, mostly in the 70s and 80s. In other words, most of the students reported that it was a positive learning experience: it was a good use of their time; it gave them helpful career guidance; and they would recommend it to a friend.

Table 2 also shows the ratings high school students gave the CK'87 in an earlier study of high school students (Jones, 1993) for six of the seven items. For the 12 comparisons, the mean ratings for the CK'97 and CK-Internet were higher than those for the CK'87, except for one instance where they were equivalent. For the percent who marked Agree or Strongly Agree, the CK'97 and CK-Internet received higher ratings than the CK'87 for the 12 comparisons, except one.

DISCUSSION

The primary purpose of this study was to investigate the equivalence between the CK'87 and the CK'97 and CK-Internet when used with high school students.

The results showed that newer versions of the Career Key compare favorably with the CK'87. The results are discussed here with respect to the findings in the areas of reliability, validity, and student satisfaction. And, to provide another point of comparison, the results are compared with those given in the manual for the Self-Directed Search (Holland, Fritzsche, & Powell, 1997), when this information is provided.

Reliability

The self-scoring reliabilities of students taking the CK'97 compared well with students in the closest comparison group available, 175 college students enrolled in an introductory psychology course who took the CK'87 (Jones, 1990). It would be expected that this group of older, more academically able students would make fewer scoring errors and, yet, the error rates were quite similar (1% vs. 3% and 4% vs. 6%). No comparison could be made for the versions of the SDS since this information is not provided in the manual (Holland, et al., 1997).

What caused those few errors that did occur? As school counselors know, there are many factors unrelated to a test itself that can adversely affect test performance, such as, student motivation, classroom distractions, and the ability to read and follow instructions. A follow-up analysis of the data was done where the error rates were examined by gender, ethnicity, grade, and post high school plans -- but no pattern was observed that might identify one of these as an important contributing factor. Counselors can minimize errors by creating a positive, well-controlled classroom environment, giving students opportunities to ask for help and cautioning students to double-check their work. Or, alternatively, counselors can have students take the CK-Internet, avoiding the possibility of scoring errors.

The test-retest reliabilities for the CK'97 were also satisfactory. Most of the reliabilities were in the 80s, although the Conventional scale's reliability coefficient (.63) was lower than the others. It was noted that the students in this sample were relatively young ($M = 15.8$ yrs.; 52% were in the ninth grade, see Table 1), a period in life when career interests are relatively less stable. This factor is likely to influence test-retest reliabilities over a four-week period. It is for that reason, of course, that school counselors encourage students and to keep their career options open as much as possible, and to engage in a variety of experiences that will help them clarify their interests, values, and abilities and become more knowledgeable about the world of work.

The CK'97 test-retest reliabilities were comparable to those found with a college student sample (Jones, 1990) using the CK'87. In both instances the reliabilities for five of the six scales were in the 80s, one scale was lower. It was noted that the college students taking the CK'87 were older ($M = 19.8$ yrs. vs. 15.8 for the sample in this study) and would be expected to have more stable interests. In addition, the test-retest interval for the 1990 study was a week shorter (three vs. four). Due to these two factors, the test-retest reliabilities of the college students would be expected to be higher than those for the high school students in this study. But, overall, the test-retest reliabilities for the CK'97 and CK'87 were comparable.

Two studies for the SDS that are roughly comparable are reported in the manual (Holland, et al., 1997). One study, done with the 1971 edition of the SDS, found the test-retest reliabilities ranging from .31 to .87 (3 - 4 week interval; $n = 175$). The second study included a broad mix of high school, college, and adult samples using the 1994 edition of the SDS-R. Test-retest reliabilities ranged from .76 to .89 (4 - 12 weeks; $n = 73$). These reliabilities are similar to those found with the CK'97 in this study.

Validity

The concurrent validity for the CK'97 and CK-Internet was supported by the data. The three-letter codes of these two instruments matched up well with the three-letter codes produced by the various criterion instruments. The mean IIA score for the five comparisons ranged from 19.86 to 23.18 (on a 28-point scale). According to Holland (1985a), the author of the theory underlying the assessment, these scores lie within the range of scores he calls "reasonably close matches." Unfortunately, no three-letter comparisons of this nature are reported in the SDS manual, so the results of this study could not be compared to the SDS.

One factor that we did not anticipate was the substantial number of tied scores for the six RIASEC scales for the VPI. This often made it difficult to identify the order of the three top scores. Two-letter ties were handled with a coin toss, but when three or more high scores were tied, the data for that participant had to be deleted. A related problem with the VPI was students not having scores for at least three scales. They, too, were deleted from the analyses. Future research with high school students should be done with some other instrument than the VPI. Nevertheless, since several instruments were used to evaluate the concurrent validity of the CK'97 and CK-Internet, and the results were positive, the data definitely support the concurrent validity for the CK'97 and the CK-Internet.

Student Satisfaction

As seen in Table 2, students were quite positive in their reactions to taking the CK'97 or using the CK-Internet, and their ratings were quite similar to those received earlier with the CK'87 (Jones, 1993). Students' high ratings were comparable to an earlier study (Jones, et al., 2000) done with eighth graders in a middle school. They, too, gave the CK'97 high marks. School counselors will be able to use both CK'97 and CK-Internet with the confidence that students will like the experience and consider it helpful.

In comparing the SO items for the CK'97 and the CK-Internet, it was noticed that the mean rating scores and percent agree scores were very similar for the first six items (see Table 2). This is somewhat surprising since the CK-Internet offers much more information and guidance. For example, students can click with their mouse on an occupation that they earlier identified as one in which they were interested in, and they are then seamlessly linked to the section in the Occupational Outlook Handbook that describes that occupation. With such a helpful feature, why would students give the CK'97 and CK-Internet very similar ratings on item number 2, which asks them to rate whether they learned "anything about occupations through this experience?" The probable answer is that students

did not try this feature out. Instead, they followed their teachers' instructions which did not include using this feature or the other modules on the website. It is likely that if the students had been instructed on the features of the website and given activities to do with the different modules, their satisfaction ratings would have been even higher. School counselors who decide to use the CK-Internet will profit from reviewing all of its features and the modules of the website to make maximum use of them.

Limitations

This study has several limitations. First, it was done with students in a rural setting. Students from a suburban or urban setting may react differently so care should be exercised in generalizing these findings to those settings. Second, as noted earlier when discussing the validity data, there were a substantial number of ties in the scores for the six Holland personality types, which resulted in deleting students from those analyses and resulting in small numbers in some of the groups. Third, a review of Table 1 shows that the characteristics of the participants are not uniform across groups for the following areas: grade, ethnicity, and plans after high school. For example, the "CK'97 Validity: CK'87" group contains only 9th and 10th graders, whereas 90% of the students in the "CK-Internet Validity: CK'97" group are 11th and 12th graders. Consequently, these differences should be kept in mind in interpreting the findings. And, finally, the ethnicity of the students were primarily limited to European and African Americans. A different mix of ethnic groups might possibly result in different outcomes.

SUMMARY

The results showed that the CK'97 and CK-Internet are generally equivalent to the CK'87 with respect to their reliability, validity, and student satisfaction. In choosing to use one of them, school counselors will want to weigh their pros and cons. There are a number of advantages of the CK'97. For example: (a) there is no need to arrange for access to the Internet, (b) counselors can have greater control over how the instrument is presented and the follow-up activities that follow, (c) it will take high school students about 20 minutes to complete leaving time for other career guidance activities during a class period, and (d) the cost is low. One disadvantage is that the counselor needs to contact the author to receive a pdf copy and then make arrangements for printing it.

There are several advantages to using the CK-Internet: students generally are attracted to computer programs; there is no problem with potential scoring errors; and the website offers a great deal of helpful information and guidance activities. Of course, counselors can combine the CK'97 and CK-Internet in creative ways to achieve their career development goals.

As school counselors work to achieve career development goals like those in the ASCA National Standards for School Counseling Programs (Campbell & Dahir, 1997), it is important to recognize that self-guided career interest inventories have limitations. Even when combined with classroom career

guidance activities, they may have little impact on student behavior. For example, a recent study (Jones, 2000) found that the CK'97 and two other similar measures combined with a career guidance activity (a total of two class periods) did not affect eighth graders in their seeking information about occupations (e.g., talking with friends or relatives, talking with teachers or counselors, or going to the library). In addition, many of the student competencies listed in the National Standards are not likely to be affected by taking an interest inventory, such as, "learn how to make decisions." On the other hand, an inventory like the CK'97 could be used as a springboard for teaching decision-making skills.

There are many creative possibilities for combining an instrument like the Career Key with other activities, such as, exploring careers on the Internet, interviewing people in one of the "work groups" (like, "Literary Arts" for the Artistic type), job shadowing, discussing the results with parents, comparing and graphing Career Key results of class members, and grouping students according to career clusters for group research and presentations.

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Table 1

Characteristics of Participants

Group	Age		Gender		Grade				Ethnicity ^a			Plans ^b			
	<u>n</u>	<u>M</u>	Male	Female	9	10	11	12	Euro.	African	Hispanic	1	2	3	4
Reliability: Test-Retest	97	15.8	42	58	52	1	24	23	77	16	7	14	2	36	48
Reliability: Self-Scorer	229	15.8	45	55	40	22	24	14	79	16	5	9	3	26	62
CK'97 Validity: VPI	63	15.8	49	51	24	41	35	--	86	14	--	3	2	27	68
CK'97 Validity: CK'87	46	15.2	41	59	52	48	--	--	68	22	10	1	9	11	69
CK-Internet Validity: VPI	18	16.8	39	61	--	11	67	22	50	50	--	6	--	6	88
CK-Internet Validity: CK'87	17	16.6	71	29	--	47	18	35	71	29	--	--	12	29	59
CK-Internet Validity: CK'97	33	17.0	42	58	--	9	45	45	67	33	--	3	3	16	78
CK'97: Satisfaction	143	15.6	42	58	52	16	16	15	74	18	8	13	4	28	55
CK-Internet: Satisfaction	68	16.8	49	51	--	19	44	37	64	36	--	3	4	16	76

Overall	265	15.9	46	54	36	24	21	19	74	22	4	8	5	22	65
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Note. With the exception of n and Age, all values are percentages; all values for a characteristic may not total 100 percent due to rounding off.

^a"Euro." refers to European American, "African" refers to African American, and "Hispanic" refers to Hispanic American.

^b"Plans" refers to students' plans after graduating from high school: 1 = "Find a job," 2 = "Enter the armed forces," 3 = "Enter a 1 or 2 yr. training program at a technical college, and 4 = Enter a 4-year college or university."

Table 2

Comparison of Satisfaction Scores

Item	Career Key '97			Career Key-Internet			Career Key '87 ^a		
	(n = 143)			(n = 65)			(n = 70)		
	<u>M</u>	<u>SD</u>	%Agree ^b	<u>M</u>	<u>SD</u>	%Agree	<u>M</u>	<u>SD</u>	%Agree
1. I learned some things about myself by taking the Career Key.	3.8	.8	75	3.9	.9	75	3.4	.8	57
2. I did <u>not</u> learn anything about occupations through this experience. ^c	3.8	1.0	70	3.9	1.0	74	3.7	.8	61
3. Taking the Career Key was <u>not</u> a good use of my time. ^c	4.1	.8	85	3.9	1.0	80	3.6	1.1	56
4. I would recommend taking the Career Key to a friend.	4.0	.8	79	4.0	.9	83	3.7	.9	67
5. Taking the Career Key encourages me to learn more about occupations.	4.1	.8	82	4.1	.7	85	3.9	.8	77

6. The results of this experience are confusing or unsatisfactory. ^c	3.7	.9	68	3.8	1.0	73	3.7	.9	71
7. I am considering more occupations now than I did before I took the Career Key.	3.6	1.0	66	3.4	1.2	52	-- ^d	--	--
Overall	3.9	.7		3.9	.7		--	--	--

Note. A rating of 1.0 indicated Strongly Disagree and a rating of 5.0 indicated Strongly Agree.

^a The data for the three columns below was taken from the Jones (1993) study.

^b The percent of Strongly Agree and Agree responses were added and then rounded off.

^c Items 2, 3, and 6 were reverse scored to clarify the presentation.

^d This item was not used in the Jones (1993) study.