



**The Development of a
Qualitative and
Quantitative Survey
Instrument to Identify
Future Industrial
Hygienists**

Relevance To The Recruiting Needs Of EKV

- **Recruit students in various ways**
 - **Recruit wherever and whenever we can**
 - **Visit local high schools for career days**
 - **Send out flyers to schools we do not visit**
 - **Participate in University-wide recruitment days**
 - **Two half semester classes**
- **Recruiting is a never ending & always an on going process**





Relevance To The Recruiting Needs Of EKV

- Attempting to evaluate students before they decide Environmental/Occupational Health and Safety (EOHS) is too difficult
- One tool suggested is a predictive test to ascertain the likelihood that the student will complete the program and be a success in the EOHS field
 - This predictive test could be given to students at several stages of their college career as well as to high school students
 - A cohort of potential students would be created and would become a part of our recruitment program

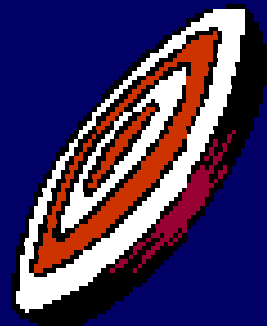
Project Goal

- **Development of a set of tools to identify students who are capable and interested in the potential of a career in EOHS**
 - **The project entails the development of an instrument that will predict the satisfaction and success of potential students with EOHS Occupations**
 - **Can be used as a career guidance tool**



Project Goal

- It is anticipated that the outcome will be the ability to predict who will be a good candidate to engage in EOHS is threefold
 - Allow for a more well-adjusted student, in that the student will have immediately found a profession that suits their needs
 - Assist Eastern Kentucky University (EKU) to recruit such candidates and can be disseminated to other EOHS Departments
 - Allow for better targeting of recruitment efforts of future EOHS students in a time of scarce resources





Biodata

- **A biodata instrument measures experiences and behaviors that are assumed to distinguish between (or predict) the specific behavioral criteria for which the instrument was constructed**
 - **Has been shown to predict many different criteria, including absenteeism, supervisor ratings, accidents, tenure, sales, and so forth, for many different jobs, in addition to non-work behavior such as loan defaults**
 - **Research has also supported the notion that biodata can be used to predict career selection and job satisfaction within occupations**



Development Steps

- **Ascertained the different jobs/occupations included in the field of EOHS**
- **Polled the faculty on what they believe makes a good undergraduate student**
- **Canvassed past EOHS alumni to develop database of jobs, duties, and levels of satisfaction with their chosen careers**
- **Developed a personality profile of the ideal EOHS student and graduate**
- **Administered the instrument to former EOHS students, currently enrolled students in the program, and to undergraduates enrolled in the Intro to Environmental Health course**
- **Cross-validated of the test through statistical examination methods**



Environmental Health Science Career Interest Survey

Part One Instructions

For each statement please select the number the best corresponds to your reaction to the statements.

5 = Strongly Agree

4 = Agree

3 = Neither Agree Nor Disagree

2 = Disagree

1 = Strongly Disagree

1. _____ I would find it interesting to visit a science museum.
2. _____ I would prefer a job where I work outside to one where I would work inside.
3. _____ I would be interested in learning how sunlight might be used for energy.
4. _____ Wildlife fascinates me.
5. _____ I think I would find studying the planets and stars interesting.
6. _____ I think I would find being a Fish & Game Warden an interesting job.
7. _____ Wildlife biology would be a career field I'd be interested in.
8. _____ I am orderly, and am good at following a plan.
9. _____ I am good at teaching, or giving information to others.
10. _____ I like helping people and helping them solve problems.
11. _____ I value things that you can see and touch like plants and animals.
12. _____ I'm good with things like tools, mechanical drawings, machines, or animals.
13. _____ I enjoy math.
14. _____ I enjoy physics.
15. _____ I enjoy biology.
16. _____ I enjoy chemistry.
17. _____ I like to travel.
18. _____ I like to talk to people.
19. _____ I like to participate in discussions.
20. _____ I am concerned with the spread of diseases.
21. _____ I enjoy science fiction books or movies.
22. _____ I prefer spending time outside over spending time inside.
23. _____ My physical health is very important to me.
24. _____ I am a health conscious person.

_____ Subtotal A

Proceed to Part Two (Back Page)

OVER →

EHS Survey Part Two

Part Two Instructions

For each statement please select the number the best corresponds to your reaction to the statements.

5 = Very Frequently

4 = Often

3 = Sometimes

2 = Not Very Often

1 = Never

1. _____ In the past, I have read the ingredients of household cleaners before using them.
2. _____ In the past, I have boycotted companies that are known to pollute the environment.
3. _____ In the past, I have tried to eat foods that are healthy and avoid those that aren't.
4. _____ In the past, I have read the labels of grocery store foods that I purchase.
5. _____ I have noticed pollution in the environment.
6. _____ I have discussed environmental issues with others.
7. _____ I keep up on health news, such as the spread of a new disease.
8. _____ I read books.
9. _____ When I was younger, I was concerned about environmental issues.
10. _____ When I was younger, I discussed environmental issues with others.
11. _____ When I, or others I know, get sick I think about how the environment might have contributed to it.

_____ Subtotal B

_____ Total (Subtotal A + Subtotal B)

What your results mean:

Greater than 135	115 to 135	100 to 115	Less than 100
EHS college students who are very satisfied with their academic major tend to score above 140.	Students who are satisfied with EHS as their major tend to score 115 or more.	About half of all students who score 100 to 115 are satisfied with EHS as their major.	Very few students who are satisfied or very satisfied with EHS as their academic major score below 100.



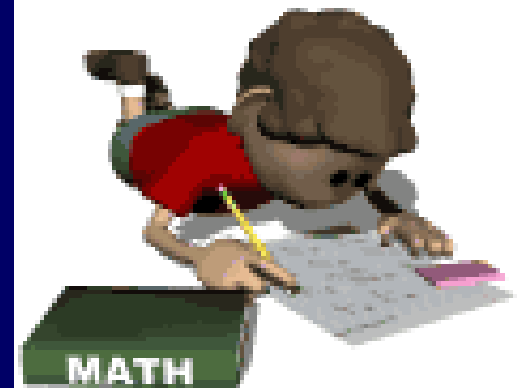
Administered The Instrument To EOHS Students

- Administered the measure to over 400 students enrolled in EOHS classes
 - EOHS majors score profoundly higher on the biodata / interest measure we created
 - These differences are statistically significant across most scale dimensions
 - When correlating the scores on the measure and satisfaction with one's major, the correlations for EOHS majors are much higher than for non-EOHS majors
 - The measure predicts satisfaction with one's major fairly well for EOHS majors, but much less well for non-EOHS majors

Validation Of The Test

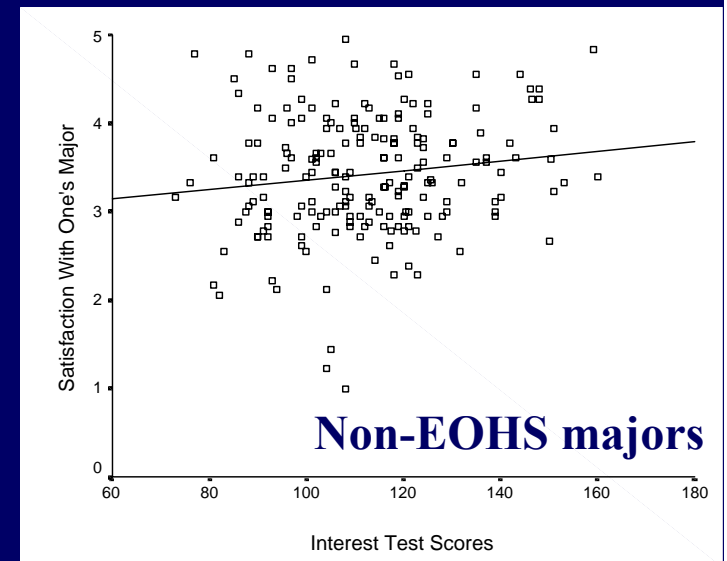
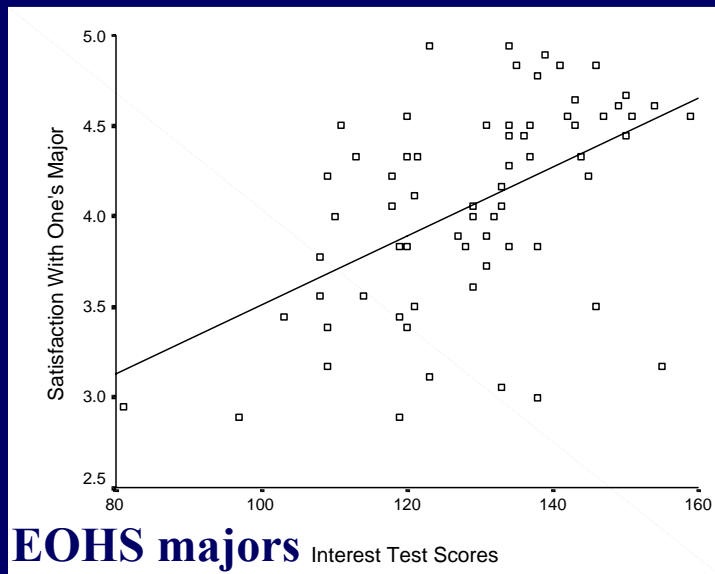
■ Item Comparisons

- T-tests comparing EOHS and non-EOHS majors were computed for each item
- Correlations With the Criterion between each item and the total score for the satisfaction with major scale were computed separately for EOHS and non-EOHS majors
- Reliability (coefficient alpha) was computed for the 51 items



Validation Of The Test

- **Predictive Validity & Differential Validity**
 - **Correlated test scores on the 35-item EOHS interest scale with satisfaction with one's major for both EOHS and non-EOHS majors**
 - **Correlation was .509 ($p < .001$) for EOHS majors and .137 ($p < .05$) for non-EOHS majors**



Validation Of The Test

■ “Known-Groups” Validity

– Compared total test scores for EOHS majors and non-EOHS majors

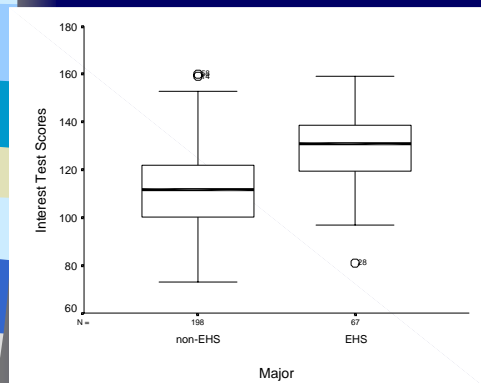
- Average score for EOHS majors was 129

- Average score for non-EOHS majors was 112

- Difference was significant ($p < .001$)

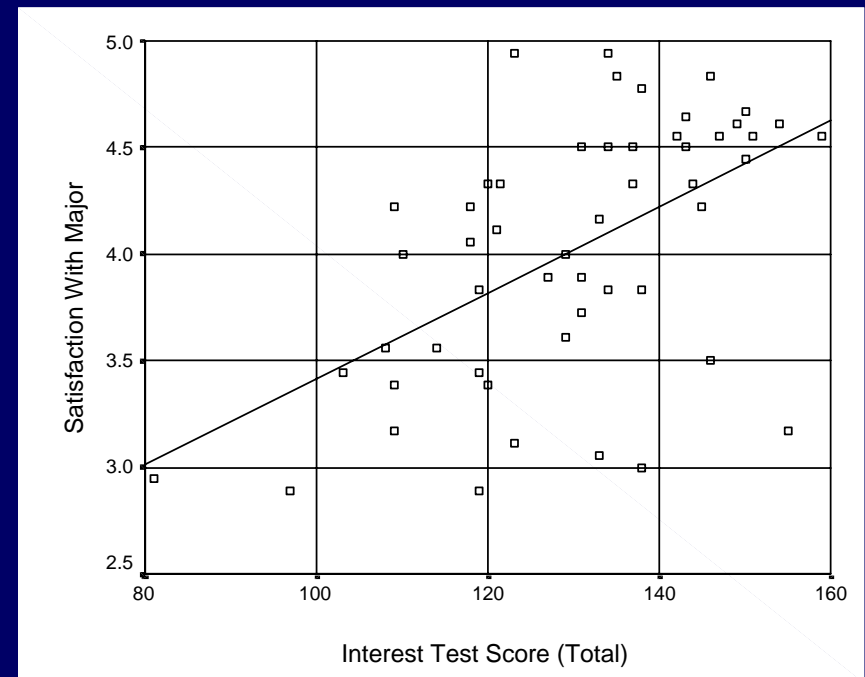
- » EOHS majors and non-EOHS majors score significantly different on the measure

- » EHS majors clearly answer the questions differently than do non-EOHS majors



Validation Of The Test

- Plotted total test scores (for EHS majors) and satisfaction with one's major scores, divided the distribution into intervals and created an initial version of a self-scorable “Environmental Occupational Health and Safety Interest Test”





Administered The Instrument To EOHS Professionals

- Administered the measure to over 50 former ECU graduates practicing EOHS
 - For EOHS practitioners, four of the factors significantly predicted satisfaction with one's job

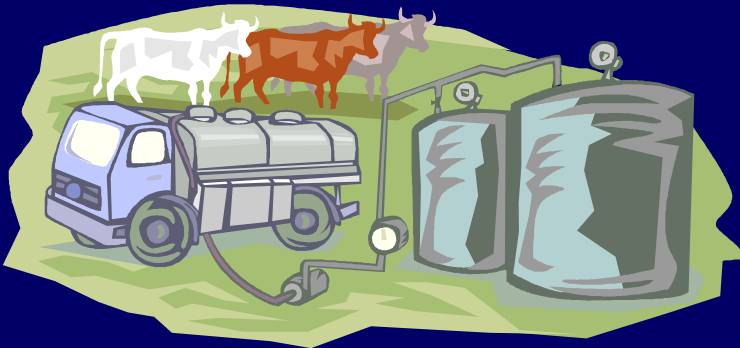


Results

- Large and significant test score differences were found between EOHS practitioners and EOHS majors and non-EOHS majors
- The instrument demonstrated that both EOHS majors and EOHS practitioners were satisfied with EOHS
- People who choose EOHS as a career are satisfied with EOHS initially in college
 - Satisfaction continues throughout a persons career

Summary

- People who choose EOHS as a career thoroughly enjoy what they do and gain satisfaction from their career





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