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Curious Genders
Gender Specific Obstacles in Exploration And Learning

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Abstract

Does one sex explore more than the other? Is one sex more curious than the other? That's a tough question to answer definitively. We know that we explore in varying degrees. Whether sociological or biological, good or bad, this investigation attempts to determine if there are substantive differences in acting upon inquisitiveness between genders. It is suspected that men will act upon curiosity more freely than women. Men and women were measured on levels of curiosity when confronted with an object that required a perfunctory decision. Curiosity is defined in this study as seeing an article marked confidential or private, and acting in an inquiring manner by opening the instrument.

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Dialogue on Curiosity & Exploration

What is it that makes people want to know about things that don't have anything to do with themselves and that they know don't concern them? What is it that drives men and women to ignore the societal implications of nosiness, and go ahead and be nosy? Nosiness is also curiosity. Curiosity is defined as a desire to know or learn, to inquire and seek knowledge. As a fourth grader, I received the award for being the most inquisitive. First, I thought, "Now what in the world does that mean?" I had to look up the meaning, and then realized the teacher was right. I am inquisitive. And so it naturally follows that I would be curious about being curious.

Piccone (1999) posits that our impetus for exploration is a developed behavior. To survive humans had to understand their surroundings. To eat more than berries, they had to learn to domesticate animals and grow plants in an organized fashion. Some curious individual began to experiment with these thoughts to solve his immediate needs for food and shelter. Inherently we feel a need to explore the things around us, our environment, and our world. It is how we make sense of our lives. Edelman (1997) believes that exploration refers to all behaviors concerned with gathering information about the environment (See Appendix A).

Other studies on the subject have found that curiosity is simply increased stimulation. Exploratory actions minimize the stimulation (Berlyne, 1960), thus the drive to explore is reduced when action is taken.

The sex part.

But, does one sex explore more than the other? Is one sex more curious than the other? That's a tough question to answer definitively. We know that we explore in varying degrees. I'm not sure that I could also accomplish what Christopher Columbus, Zebulon Pike, or Lewis and Clark were able to accomplish. I have no desire to climb to the top of high mountains.

So what we explore is different, but we all explore. Previous research has found differences between the sexes in the realm of exploratory behaviors. Maslow (1968) feels that our societies are inclined to encourage women to be less inquiring than males. Women have historically been thought of as the nosy sex, but that may have been perpetrated to discourage female education and empowerment. Studying, knowing, exploring and understanding have been denied women in many cultures and societies throughout the history of our world.

Curiosity in learning.

Curiosity plays a role in the learning process. If students are curious about a subject, they will investigate further. If further scrutiny is undertaken, more learning occurs (See Table 2). The biggest motivating factor in doctor's development since the 1920's has been intellectual curiosity (Hoffman, 1998). Previous studies found college students

with a penchant for the unexpected and who have a preference for unanticipated events have enhanced scores in the academic area (Fry, 1972). The desire to explore is so important and Perry (2001), states the child who is not curious is harder to teach because he is hard to motivate, enthuse, and inspire.

If women are at a disadvantage biologically when it involves curiosity, then learning in the classroom may be somewhat more difficult for women than for men. Motivation may be harder to attain for women than for men.

Sensation seeking.

Though there have been negative associations placed upon inquisitiveness that serves no good purpose; curiosity which furthers good (as opposed to bad) is acceptable. Zuckerman (1995) has related inquisitiveness with sensation seeking which is healthy until it drives one to risky behaviors. Zuckerman defined sensation seeking as "…the need for varied, novel, and complex sensations and experiences and the willingness to take physical and social risks for the sake of such experiences" (Zuckerman, 1994) (See Appendix B). Baumgarten (2001) found that people may not act on urges prompted by curiosity when a decision must be made about whether one should or should not act, and usually these decisions are based on moral theory. Societies have determined some forms of curiosity are acceptable and some are not. Intellectual seeking is encouraged while idle or morbid curiosity is frowned upon.

Purpose

Whether sociological or biological, good or bad, this investigation attempts to determine if there are substantive differences in acting upon inquisitiveness between

genders. It is suspected that men will act upon curiosity more freely than women, so the probability that a man will act is expected to exceed that of women. $H_1: \pi_1 \neq \pi_2$ thus, $H_0: \pi_1 = \pi_2$ (See Table 1). Men and women were measured on levels of curiosity when confronted with an object that required a somewhat perfunctory decision. Curiosity is defined in this study as seeing an article marked confidential or private, and acting in an inquiring manner by opening the instrument

Methods of Investigation

Participants.

When confronted with an object that arouses curiosity, men will act upon their impulses to a greater degree than women. To test the hypothesis, instruments were developed to arouse curiosity. These instruments were left in the seats of University school buses carrying thousands of students, teachers, and locals (See Appendix C). University students made up the major portion of participants in the study. Participants included couples, middle-aged persons, those not affiliated with the University of Arkansas, and graduate students among respondents. While the bus system used in the study serves for the most part, the student body of the University of Arkansas, the bus system is also open to the public. Thus, the sample was representative of the population. In all, the sample population was a diverse, cross-cultural group situated in their own ordinary, daily settings.

Whether one would be a participant or not was completely random, and no identifying information was gathered. There was equiprobability of being a participant;

selection was completely random, and no one observation was affected by another. The information given above was offered after people participated, laughed aloud, and were curious about the study itself. Several of the participants were responsive to the humorous aspects of the study, and began asking questions.

Description of instruments.

The instruments used to illicit a response based on inquisitiveness were unobtrusive and effective. They were designed to tempt. One article was a manila file folder. On the label tab, a common surname was scrawled. On the top right corner, the word confidential [italics added] was written. In the lower left corner, the words D 1 Level Confidential [italics added] was written. Another instrument, a small notebook with a plastic, see-through cover, left the impression that it was a young woman's diary. On the front the words private diary [italics added] and please don't open [italics added] were written. If the item was opened, one was informed that it was a research project on gender and curiosity, and most began to grin (See Appendix C).

Sample procedure.

The procedure for observations was undertaken by choosing a bus that had many students but not so many that the bus was overcrowded. The instruments were seemingly tossed into one seat near the middle of the bus and one was tossed on the seats at the back of the bus. Any person who boarded the bus had equiprobability of being an observation. If the instrument was noticed, and considered for more than 8 seconds, a decision was determined to have been made by the observed person about whether to inspect the item

further or whether to ignore the item. The parameters were restricted to a participant considering the object for at least 8 seconds.

Results

Both variables in the study are dichotomous. Of 102 observations, 59% were male and 41% were female. Females acted upon their curiosity piqued by the instruments 33% of the time, while males acted upon their curiosity 65% of the time (See Figure A). The phi-coefficient was calculated using a contingency table (See Table 1) and the results of $\acute{r}^2 = .3119$ indicates that males are more likely to act upon their curiosity than females.

A chi-square test was performed and with 1 degree of freedom and an alpha level of $\alpha=.01$, the test was determined to be statistically significant with a χ^2 value of 8.775. At $\alpha=.05$, the test is significant as well, and so we can reject our null hypothesis.

Table 1

Sample Data Analysis

Relationship depiction of gender and curiosity in the sample population

Contingency Table

Where curiosity = χ and gender = γ

Open χ	Female γ	Male γ	Totals
χ YES (1)	14 = a	39 = b	53 = a + b
χ NO (0)	28 = c	21 = d	49 = c + d
Totals	42 = a + c	60 = b + d	n = 102

$\sum = 102$

Female Coded 0

Male Coded 1

Table 2

Perry Curiosity Table

Curiosity	Results in	**Exploration**
Exploration	Results in	**Discovery**
Discovery	Results in	**Pleasure**
Pleasure	Results in	**Repetition**
Repetition	Results in	**Mastery**
Mastery	Results in	**New Skills**
New Skills	Results in	**Confidence**
Confidence	Results in	**Self esteem**
Self esteem	Results in	**Sense of Security**
Security	Results in	**More Exploration**

Proportion of gender and curiosity-based behavior

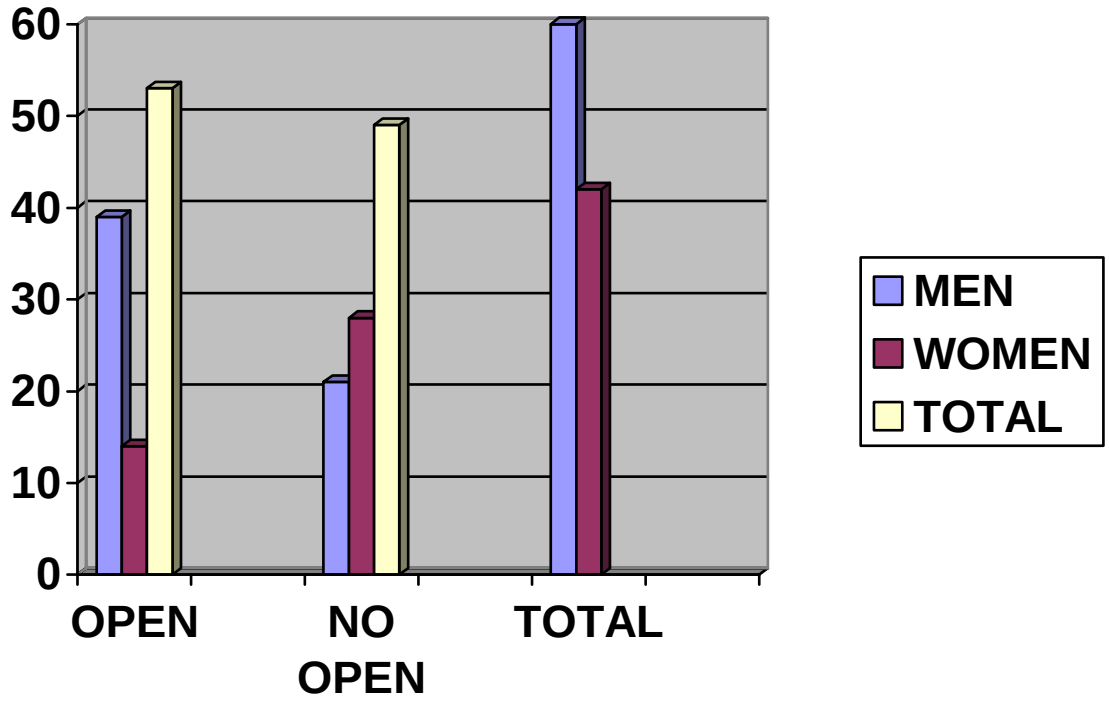

Figure A

Discussion

This study was fun and informational. Participants and others on the bus were interested, asked questions, and laughed. Comments were noted that included: “That’s funny!” and “Women know what is in women’s diaries. We don’t.” Some people were so interested that they could not resist another impulse; that of taking something that doesn’t belong to them. One male put the file folder inside of a newspaper and exited the bus. On a different day, another male, after making room in his backpack, put the private diary instrument inside. In all, the instruments were heisted 3 times.

The play of emotion that crossed the faces of participants was one of the most fascinating aspects of the study. I observed raised eyebrows, frowns, and struggles of indecision. Some participants exhibited anxiety over not opening the item. It was observed that people wrestled with the decision to open the instrument or not, and the exhibited behaviors were expressive.

Perry (2001) says the curiosity we feel as children fades and that curiosity which is denied is a future that will not materialize and he states that curiosity acted upon eventually leads to security. (See Table 2).

It appears that men are either biologically wired to be more curious, or because of socialization, are inclined to act upon their curiosity to a greater extent. The sample data support the assumption that men are more curious than women and armed with this information, educators can better understand the role curiosity plays in all of learning.

Curriculum design that elicits inquiry, further study, and a real enthusiasm for the subject is preferred; and a curriculum which recognizes the need for curiosity, exploration, and realization in learning will benefit students. However, recognizing the differences in learning initiative between genders is imperative if all students are to have equal opportunity in the classroom.

Curiosity is a fascinating subject because it presents so many varied forms; nosiness, sensation seeking, exploration, good types and bad types of curiosity as defined by societies and many other forms of curiosity based behaviors.

The results of this study should be compared with data from other studies of the same category to determine if the findings are consistent across populations and demographic areas.

References

Baumgarten, E. (2001). Curiosity as a moral virtue. *International Journal of Applied Philosophy*. Retrieved November 28, 2003 http://www.umd.umich.edu/casl/hum/phil.curiosity.htm

Berlyne, D. E. (1960). *Conflict, Arousal, and Curiosity*. New York, McGraw-Hill

Edelman, S. (1997). *Curiosity and Exploration.* California State University. Retrieved October 26, 2003 http://csun.edu/~vcpsy00h/students/explore.htm

Fry, J. P. (1972). Interactive relationship between inquisitiveness and student control of instruction. *Journal of Educational Psychology*. 63(5): 459-465.

Hoffman, R. R. (1998). *Viewing Psychology as a Whole*. New York.

Kashdan, T. B., Rose, P., & Fincham, F. D. (2001). *The Curiosity and Exploration Inventory. Theoretical basis and construct validation.* Manuscript submitted for publication. Retrieved November 24, 2003 http://www.acsu.buffalo.edu/~kashdan/ampsy.curiosity.html

Maslow, A. H. (1968). *Toward a Psychology of Being*. New York, Van Nostrand Reinhold.

Perry, B. (2001). Curiosity: The Fuel of Development [Electronic version]. Early Childhood Today. Retrieved October 26, 2003 http://teacher.scholastic.com/professional/bruceperry/curiosity.htm

Piccone, J. (1999). Curiosity and Exploration. California State University. Retrieved November 24, 2003 http://www.csun.edu/~vcpsy00h/students/curious.htm

Stephens, S. (2003). *Sensation Seeking Scale*. Retrieved November 24, 2003. http://www.ithaca.edu/faculty/stephens/sss.html

Zuckerman, M. (1994). *Behavioral Expressions and Biosocial Bases of Sensation Seeking*. New York: Cambridge University Press.

Zuckerman, M. (July/August, 1995). *Measuring Sensation Seeking*. Retrieved November 23, 2003 http://www.drugabuse.gov/NIDA_Notes/NNVol10N4/MeasureSens.html

Bibliography

Bateman, T. *School Library Journal*. March 2003. Volume 49 Issue 3; New York.

Byman, R. (2001). *Curiosity and learning*. Didacta Varia Finnish Educational Research Association. 6(2): 131-136.

Fowler, H. (1965). *Curiosity and Exploratory Behaviors.* New York: MacMillan.

Giambro, L. M., Camp, C. J., & Grodsky, A. (1992). Curiosity and stimulation seeking across the adult span. Cross-Sectional and 6-8 year longitudinal findings. *Psychology and Aging*. 7(1): 150-157.

Kashdan, T. B. (2002). Facilitating Creativity by Regulating Curiosity. Volume 57(5).373-374.

Rossing, B. E. & Long, H. B. (1981). Contributions of curiosity and relevance to adult learning motivation. *Adult Education.* 32(1): 25-36.

Vidler, D. C. (1977). *Curiosity. Motivation in Education*. New York, Academic Press.

Voss, H. G. (1987). Possible Distinctions Between Exploration and Play *in Curiosity, Imagination and Play*. London, Lawrence Erlbaum Associates.

Appendix A

CEI-T

Using the scale shown below, please respond to each of the following statements according to how you would usually describe yourself. There is no right or wrong answers.

1 2 3 4 5 6 7

Strongly Disagree neither Agree nor Disagree Strongly Agree

_____ 1. I would describe myself as someone who actively seeks as much information as I can in a new situation.

_____ 2. When I am participating in an activity, I tend to get so involved that I lose track of time.

_____ 3. I frequently find myself looking for new opportunities to grow as a person (e.g., information, people, resources).

_____ 4. I am *not* the type of person who probes deeply into new situations or things.

_____ 5. When I am actively interested in something, it takes a great deal to interrupt me.

_____ 6. My friends would describe me as someone who is “extremely intense” when in the middle of doing something.

_____ 7. Everywhere I go, I am out looking for new things or experiences.

Notes. Item 4 is reverse-scored before summing; to reduce potential subject error, we suggest that “*not*” be italicized. Items 1, 3, 4, and 7 refer to the Exploration subscale and items 2, 5, and 6 refer to the Absorption subscale. Reprinted from Kashdan, T. B., Rose, P., & Fincham, F. D. (in press). Curiosity and exploration: Facilitating positive subjective experiences and personal growth opportunities. *Journal of Personality Assessment*.

Appendix C

Illustration of Instruments

Figure B

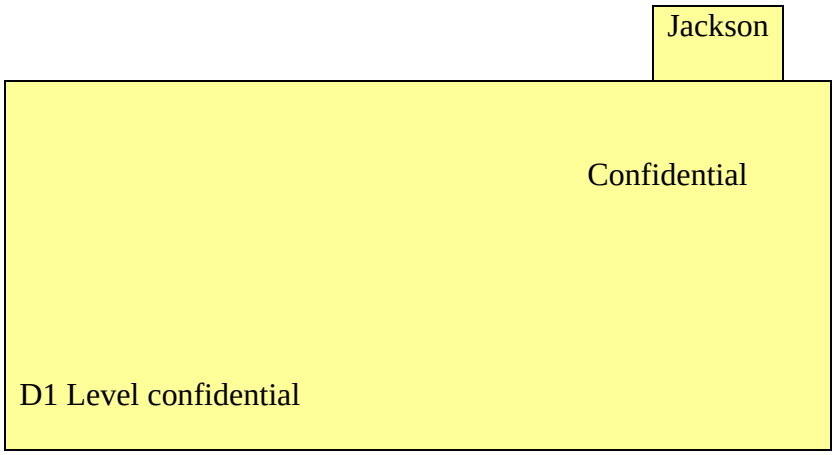

Figure C