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Special Edition

The Loyola Cookie Experiment: Taking a Bite Out of Research

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Magnet Force: 6

Introduction

Hospitals around the country are looking to expand their nursing research. Hospitals are focusing in on creating research councils/committees to review policies and protocols, educating employees about nursing research, initiating and exposing staff to nursing research in the hospitals. Nurses are now living in a world that requires them to have nursing research and evidence based practice (EBP) to support their policies and protocols. EBP/nurse research assists nurses in providing confirmation of the age-old question, is nursing a profession.

The American Nurses Credentialing Center (ANCC) as a way to acknowledge Recognition Program focuses on education and implementation of best practice nursing. The Nursing Research and Evidence Based Practice Council at our hospital was initiated when our hospital started the journey to become a Magnet Designation site. The Nursing Research and Evidence Based Practice Council identified an interest among the nurse at Loyola to conduct research but that there existed resistance due to concerns about complexity and time to learn the process. Subsequently, the council formed the Housewide Research Project Committee whose task is to conduct a fun yet thorough research project to entice nursing staff to engage in participative learning of the research process. By participating as investigators under the guidance of nurses already involved in research, novice nurse researchers may obtain an understanding of the component of basic study, how they interrelate, and that the experience does not have to be overwhelming.

Literature Review

After reviewing the literature on teaching nursing research, the method used by Thiel (1987) to incorporate desensitization techniques to decrease fears of research to nursing students was selected. Thiel (1987) found that there was more student interest in the project because they found the interaction fun. Thiel's (1987) project is titled, the "Great American Cookie Experiment". The project involves using a topic that is creative and nonthreatening, in this case cookies. The project allows the novice researcher to implement a simple experimental design as an educational experience of the research process (Sawatzky-Dickson & Clarke, 2008). There have been a number of follow up articles that have replicated or tried variations on the Thiel technique. Some of the other project variations include internet-based music preference (Sternberger, 2002) and an expanded cookie study with multiple-day interaction for in-class education (Morrison-Breedy & Cote-Arsenault, 2000).

In This Issue:	
FEATURE STORY	
The Loyola Cookie Experiment: Taking a Bite Out of Research	Page 1
SPOTLIGHT ON NURSING	
CNE's Corner	Page 2
Caring for the Caregiver: Families of Stroke Survivors	Page 3
Ruth K. Palmer Symposium	Page 5
CONSULTATION AND RESOURCES	
Distinguishing between Research and Quality Improvement	Page 4

Cookie Experiment Continues on page 7



This issue is focused on nursing research. As I started to think about this topic, I reflected on my experiences with nursing research. My second job as a staff nurse was in a Coronary Care Unit at Boston University Medical Center. The chair for the department of Cardiology and the medical director of the unit were active researchers with the Framingham Heart Study. The physicians always involved the nurses in their projects and cited nurses as contributing authors. Then I went to Duke University for my masters and had to do a research project. I worked with the cardiovascular surgical population and assessed the impact of a new patient education program to reduce anxiety in that patient population. While at Duke I had colleagues from medicine and psychology who encouraged me to work with them on a research project that focused on assessing the impact of a consistent exercise program for individuals over 65 years of age. We found that the program had a greater psychological impact than a physical impact. I was so excited to have been a part of the project especially when it was published!

However, my experiences at Loyola have deepened my interests in evidenced-based practice (EBP) and research. As a nurse, we have maintained certain practices because that is what we were initially taught. But now I know that some of those practices were based more on tradition than science. Having a strong interest and involvement in quality improvement initiatives, I have learned that some of the practices I was taught do not stand the test of science. Examples include the management of pressure ulcers with antacids, the appropriate suctioning methods, and the best method of mouth care for an intubated patient. As a reminder, EBP includes research, education and experience, patient preferences and available resources,

The Research & EBP Council is encouraging every department to start a Journal Club where nurses critique research studies and discuss its impact on nursing practice. So I was especially intrigued with an article recently shared by Tricia Boylan, Assistant Manager in 2 ICU, about biofilms on the wash basin that may cause infections. In this research study, organizations were able to demonstrate a reduction in nosocomial infections in high risk patients by moving to the use of disposable bath products with Chlorhexadine. What is clear that as professionals, we need to stay current with the evidence-based practices to ensure we are providing the best care. We plan to collect data as we pilot this product in 2 ICU as a quality project. If it is successful, we will look at using the product with other high risk patient populations.

I see many of our nurses looking at current practices given the extensive number of quality projects displayed each year at the Quality Fair. Many of these projects could certainly move to become research projects. The projects in the past have been so impressive and I would like to work with those staff members willing to move those projects to a research project.

This year, we have also begun a research fellowship. We invited staff to apply for a program in collaboration with the Marcella Niehoff School of Nursing faculty. Over 25 people applied for the program which is outstanding for the inaugural group. These nurses have one day a month to learn the process of research and apply this knowledge to their own project over the next two years. This program is supported by Sandy Sojka, PhD, RN, Assistant Professor, from the School of Nursing as she is providing education about the research process. We also have each nurse assigned to one of our staff as a personal research mentor as they develop and implement their research projects.

The most exciting component of this project is the interest in testing new ideas and finding the best methods to provide care and ultimately improving the patients' experiences. On May 29th, all the Nursing Councils will be putting evidence-based practice on trial. I hope you can attend this exciting new CE program. In the meantime, I ask each of you to ask yourself why I am providing care this way?, is this an evidenced based practice?, and is there a better way to do it? Maybe you can find a better way!

Registered Nurse Education Stipend

- Reimbursement for certification, recertification, conferences, web-conferences, and presenter expenses.
- Nurses in a benefit eligible position for one year may apply.
- Due dates Jan 15, April 15, July 15, and Oct 15.
- One approved application per year up to \$300. (Up to \$1000 for presenter expenses)
- Go to the Nursing Website for application forms <http://www.luhs.org/feature/nursing/develop.htm>



Caring for the Caregiver: Families of Stroke Survivors

Karen L. Saban, PhD, RN, APRN, CNRN

Assistant Professor, Marcella Niehoff School of Nursing

Postdoctoral Nursing Fellow, Edward Hines, Jr. VA

Magnet Force: 6 & 10

Unpaid informal caregivers save an estimated \$257 billion annually to society in healthcare costs (National Family Caregiver Association, 2007). However, studies have consistently demonstrated that informal caregivers are at risk for developing depression, anxiety, sleep disturbances, poor quality of life, and health problems (Berg et al., 2005; Ski & O'Connell, 2007; Schlote et al., 2006; van Exel et al., 2005). Caregivers have been called the "hidden patients" as the needs of the patient are often the higher priority for nurses and healthcare providers with caregivers' needs often underestimated by both the caregivers themselves and healthcare providers.

Stroke is the third leading cause of death in United States following heart disease and cancer. However, the survival rate for acute stroke has improved over recent years due to advancing stroke treatment. It is estimated that about 80% of stroke survivors are discharged home and live for at least five years after experiencing a stroke (National Family Caregiver Association, 2007; Rosamond et al., 2007) resulting in 5.5 million stroke survivors in the United States with over one million suffering significant long term physical disabilities. Most stroke survivors rely on family members in the home to assist them with the physical and cognitive disabilities post-stroke. Although there is some published research specific to the experience of caregivers of stroke survivors, much of the research has focused on caregivers of dementia. Caregiving of stroke patients differs from that of dementia patients in that stroke caregivers are impacted suddenly and without warning. Perceived stress, use of coping mechanisms, and the response to stress may be different when the stressor occurs abruptly rather than over a period of time. A better understanding of the experience of family caregivers of stroke survivors during the first year following stroke is vital in identifying and meeting the needs of this vulnerable population. In addition, addressing the needs of caregivers may lead to decreased institutionalization of disabled stroke survivors and overall better care of these patients.

We recently received funding to study the experience of female family caregivers of stroke survivors. The overall purpose of this study is to gather pilot data to assist in developing a larger, multi-center study that will address the needs of female caregivers of stroke survivors.

The primary aims are:

- 1) To describe and explore the relationships between stress, coping, stress hormones (cortisol), physical health, psychological response to stress, and quality of life in female caregivers of stroke survivors, and
- 2) To identify the needs of female caregivers of stroke survivors in order to obtain information for a future study.

A descriptive, cross-sectional, correlational methodology will be used. A convenience sample of 40 female, unpaid family caregivers of persons who have experienced a first-time stroke (within the past 3 to 12 months) will be included.

The study will entail participants completing written questionnaires as well as obtaining saliva samples (to measure cortisol levels) using a swab at four designated times throughout the day for two consecutive days. Participants will be able to complete data collection at home and mail materials to the investigator in a provided postage-paid packet. A \$25 cash card will be provided to participants who complete the study. Findings from this study will help provide important information about the experience of caregivers of stroke survivors and will lay the foundation for the development of interventions to address their needs. To find out more about this research study please contact Dr. Karen Saban at Ksaban@luc.edu or (708) 216-1244.



Distinguishing between Research and Quality Improvement

Barb Pudelek, RN-CS, MSN, ACNP

Center for Clinical Effectiveness

Magnet Force: 6 & 7

You just finished reading an article in a nursing journal about how a hospital in Florida developed a new best practice for taking care of patients receiving tube feedings. You realize that the patients you take care of have the same problem and you begin to wonder if you can use this new idea on your nursing unit. Now what do you do? Is this a quality improvement project or is it nursing research? The definitive answer is... it depends. Quality improvement and nursing research share many similar traits and it is often difficult to distinguish the difference. However, both are important in developing best practices for patients and to improve patient outcomes.

Nursing research is a systematic search for facts with the purpose of discovering and generating new knowledge. Often the aim of research is finding out “why” or “how”. Research can be either quantitative or qualitative. Quantitative research focuses on predicting or explaining relationships and usually includes obtaining a measure of something, such as nursing work index or pain assessment. Qualitative research describes or explores phenomenon and utilizes focus groups, observation or interviews. The type of research used is dependent upon the research question. In general, research is a rigorous, well planned process and is usually a longer procedure than quality improvement. In addition, researchers must adhere to strict guidelines aimed at protecting participants, particularly in regards to safety and confidentiality. Therefore, all research projects need to be approved and monitored by the Internal Review Board (IRB). The new knowledge gained from research may be generalized to other patients and settings and is often published in peer reviewed publications, poster presentations or presented at professional conferences.

Quality improvement activities are useful in improving processes, practices, or cost-effectiveness with the goal of improving patient care. Most quality improvement projects can be short or time-limited, particularly when using the rapid cycle improvement process. In the rapid cycle process, one change in a process is made and data is collected over a short period of time such as one shift, a couple of days or maybe a month. It all depends on the change that was made and how much data can be collected. If the data doesn't support the result you want, then you stop the process, reevaluate and implement a new change. The process continues with this cycle of plan–do–study–act (PDSA) until you achieve the desired result. Since quality improvement is a shorter process and is less rigorous than research it is often easier to implement in the clinical area.

A new buzz-word you may have heard about is “Knowledge Translation”. Knowledge translation is taking research and evidence-based practice and translating it for use in the clinical arena. Sometimes the translation is the process of developing a quality improvement project by utilizing research and translating the findings into changes that can be tested through the PDSA cycle. Or you may have completed a quality improvement project that has demonstrated significant results and has become a best practice on your unit. You can use the quality improvement outcomes and develop a research project to test the results in other settings or populations.

Research or quality improvement can be challenging but also fun and rewarding. No matter which avenue you take, be proud of your efforts and continue to work toward improving nursing care and patient outcomes.

Quality and Safety Fair: A Celebration of Success April 20 & 21, SSOM Lobby, 11 a.m. -3 p.m.
Guest Speaker: Mark A. Keroack, MD, MPH
April 21: 10am SSOM Room 160 and 12noon SSOM Tobin Hall
Please stop by!!!

21st Annual Loyola University Chicago- Ruth K. Palmer Research Symposium

Frances R. Vlasses, PHD, NEA-BC

Magnet Force: 6,7,9,11 and 14

The Annual Ruth K. Palmer Symposium was held March 26th. The conference was well attended and focused on Clinical Translational Science and Health Disparities. Dr. Antonia Villaruel, Professor and Nola J Pender Collegiate Chair, University of Michigan, keynoted the day. She was followed by an enthusiastic group of researchers who provided new evidence for practice. The conference was a joint venture between the Niehoff School of Nursing, The LUHS Department of Nursing Services and Alpha Beta Chapter, STTI.

Oral Presentations Included:

Neurons to Neighborhoods: Perspectives on Disparities
Antonia Villaruel, PhD, RN, FAAN

Modeling the Epidemiologic Transition: Diet, Activity and Obesity in the African Diaspora
Amy Luke, PhD

Montronia: The Lived Experiences of Rural Auxiliary Midwives in Mali
Nicole Warren PhD, MPH, CNM

Making Sure: Registered Nurses Watching over their Patients
Lee A. Schmidt, RN, PhD

Dietary Quality and Nutrition Status of Hispanic Adolescents
Joanne Kouba, PhD, RD, LDN

Validity and Reliability of the N-PASS Pain Assessment Tool in Procedural Pain
Pat Hummel, MA, APN, NNP, PNP

Computerized Breathing Retraining for COPD: A Journey from Prototype to Practice
Eileen Collins, RN, PhD

Poster Presentations Included:

1. Validity and Reliability of Depression Assessment in Women with Type 2 Diabetes
Julie Brandy, MSN, RN, Mary Byrn, BSN, RN, Patricia Mumby, PhD, RN and Sue Penckofer, PhD, RN

2. Gestational Diabetes, Depression, and the Impact on Maternal-child Outcomes
Mary Byrn, BSN, Sue Penckofer, PhD, Julie Havey, BSN, RN & Linda Paskiewicz, PhD

3. Faith in God, Peace of Mind and Health Outcomes in Women with Diabetes
Kelly Zinn, MSN, RN, Mary Byrn, BSN, RN and Sue Penckofer, PhD, RN

4. Spiritual Care Inventory
Elizabeth Burkhart, MPH, PhD, RN

5. Parish Nurses: Interventions Used in the United States and Swaziland, Africa
Ann P. Solari- Twadell, RN, PhD, MPA, FAAN and Cynthia Gustafson, RN, PhD

6. The Development and Testing of the Continuing Bonds Inventory
Nancy Hogan, PhD, RN, FAAN, Lee A. Schmidt, PhD, RN and Pat Hummel, MA, APN, NNP, PNP

7. Expectation of Care Inventory Psychometric Analysis
Pamela Clementi, PhD, APRN, BC-FNP, Nancy Hogan, PhD, RN, FAAN and Lee A. Schmidt, PhD, RN

8. Patient Expectations During Health Care Encounters Theory
Pamela Clementi, PhD, APRN, BC-FNP

9. Impact of a New Nurse ID Badge on Patient's Ability to Identify their Nurse
Jody Heinrichs-Breen, RN-C, BSN, IBCLC Donna Gilski, APN, Jean M. Mau, APN, Sharon R. Moore, RN, BSN, Natalie Rudolph, APN and Carol S. Victor, RN-C, BSN, CDE

10. Does Less Intensive Observation Increase Inpatient Unit Safety?
Richard Ray, E. t-; RN, MSN, PMH-BC and Evelyn Perkins, RN, MS, PMH-BC, NE-BC

11. Critical Care Nurse Perceptions of Leadership, Control and Team Work
Laura Rogers, RN, MSN and Jennifer Bredemeyer, RN

12. Staff Nurse Perception of the Hospital Professional Practice Environment
Frances Vlasses, PhD, RN, NEA-BC, Mary Dominiak, PHD, MBA, RN, Mary Malliaris, PhD, Ida Androwich, PhD, RN, FAAN and Barbara Caspers, MS, BSN, RN

13. Analysis of the Medication Administration Process: Impact of interruptions
Ashley Currier, BSN, RN, Denice Anderson, BSN, Erika Elganzouri, MBA, MSN, Ryan Inlow, BS and Frances Vlasses, PhD, RN

14. Cardiovascular Risk Factors Among Preventive Cardiology Nurses
Meg Gulanick, PhD, APRN, FAAN, Joan Fair, PhD, ANP and Lynne Braun, PhD, RN, CNp, FAAN

Ruth K Palmer Symposium Continues on page 6

15. It's My Turn: Rotational Therapy in the ICU
Lynn Klassman, BSN, RN, CCRN, Denise Cole-Ouzounian, MS, APN, CCRN, Marcella Carolan, BSN, RN, Deidi Emso, BSN, RN, Maria Hagman, BSN, RN, CCRN, Debbie Kantoris, BSN, RN and Jody King, BSN, RN
16. Use of Electronic Documentation Tool for Pneumococcal Screening
Camille Robinson, RN, BSN, Julia Havey, RN, BSN, CCM and Frances R. Vlasses, PHD, NEA-BC
17. Stress and Inflammatory Markers in African American and White Women
Holli DeVon, PhD, RN and Karen Saban, PhD, APRN, CNRN
18. Stress, Immunity and Cancer: D, Epigenetic Mechanisms
Linda Witek-Janusek, PhD, RN and Herbert L. Mathews, PhD
19. Symptom Cluster in Cancer: Neuroendocrine-Immune Mechanism
Linda Witek-Janusek, PhD, RN, Valerie Bednar, RN, PhDc, Cheryl Peterson, RN, Jennie Johnson, BSN, Kelly Losier, BS and Herbert L. Mathews, PhD
20. The Efficacy of Versiva XC in Managing Venous Leg Ulcers
Catherine Jackson, RN, BSN, WCC and Diane Sarther, EdD, MS, RN
21. The Use of Topical Anesthesia During Intravenous Catheter Insertion in Adults: A Comparison of Pain Scores Using LMX-4 vs. Placebo
Nadya Valdovinos, RN, Christopher Reddin, MSN, RN, CEN, Brooke Shafer, MS, RN and Paula Tanabe, PhD, MPH, RN
22. Animal Assisted Therapy Who Let the Dogs In?
Julia Havey, BSN, RN, CCM, Frances Vlasses, PhD, RN, NEA-BC, Patty Kaplan, BSN and Patti Ludwig- Beymer, PhD, RN, CTN

Research Education Calendar

May 15-20, 2010

Annual National Teaching Institute and Critical Care Exposition

American Association of Critical Care Nurses

Washington, DC

November 12-13, 2010

St Albert's Day

Loyola University Health System

Maywood, IL

April 9-12, 2010

Annual Research Conference

Midwest Nursing Research Society

Kansas City, MO

February 2-6, 2010

SNRS Annual Conference

Southern Nursing Research Society

Austin, TX

March/April

Annual Ruth K. Palmer Research Symposium

Loyola University Chicago,

Niehoff School of Nursing

Maywood, IL

Research Procedure/Method

The Cookie Research Data collection focused on a variety of nursing units within the hospital and outpatient areas. Multidisciplinary staff were targeted to introduce them to research and make it fun for the data analysis. Set up for the experiment required a space where food was allowed. A table was utilized at each site. Research teams included one or two people. Cookies were brought to the areas in boxes labeled Cookie A & Cookie B; cookies were sorted and blinded prior to distribution to the investigators. Only two investigators were aware of the cookie identities. Cookies were placed in cupcake liners with rubber gloves and separated on the table. A label was placed on the table identifying Cookie A and Cookie B. Water was available and poured out of bottles into small cups for anyone requesting the need to drink something in between each cookie. As staff approached the table they were asked if they wanted to participate in a cookie research project. It was explained to them that this experiment was to help the staff learn about research. Investigators inquired if participants had any allergies to milk or peanuts that would prohibit their participation. If they wanted to participate then it was explained that they would need to first read and sign the informed consent. Once the signature was on the consent they were instructed to taste each cookie and then evaluate each cookie by answering some questions on the evaluation sheet. Participants were informed that water was available if they needed a drink in between cookies. The procedure did not take more than 5 minutes. Staff was thanked after their participation. Data was then compiled by the investigators directly from the evaluation sheets into a table. Data analysis was completed using SPSS.

Results

Excluding data from surveys with missing data, 219 participants were included in the final sample. As seen in Table 1, the overall preference score was 1.58. Since the data was coded 1 for low fat cookie, A, and 2 for regular cookie, B, the score suggests a possible preference for the regular cookie.

TABLE 1

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
Overall Preference	219	1.58	.495	.033

The subsequent t-test (Table 2) with a t-statistic of 47.262 showed that there existed a highly statistically significant difference at a p-value less than 0.001 between the two choices of cookies on the survey.

TABLE 2

One-Sample Test

	Test Value = 0					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Overall Preference	47.262	218	.000	1.580	1.51	1.65

When we look at the frequency differences between the choices of cookie A, low fat, and cookie B, regular, we find that 127 participants chose cookie B compared to 92 who chose cookie A (Table 3, Chart 1).

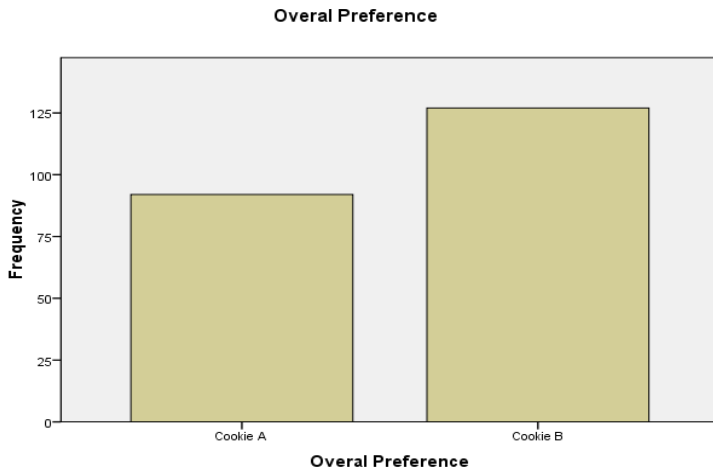
TABLE 3

Overall Preference

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid				
Cookie A	92	40.0	42.0	42.0
Cookie B	127	55.2	58.0	100.0
Total	219	95.2	100.0	
Missing				
System	11	4.8		
Total	230	100.0		

Cookie Experiment Continues on page 8

CHART 1



In order to practice creating a model, or mathematical tool, for use in predicting whether someone like cookie A or cookie B, we ran an Analysis of Variance. The result provides three primary pieces of information: 1) the variance of the model, 2) the quality of the model, and 3) the model itself. The variance of the model is depicted in Table 4 as the adjusted R squared. The adjusted R squared tells us how likely the model is to predict the correct outcome (cookie choice) if we knew the (predictor variables) preferences of texture, flavor, chocolate, and appearance as derived from the questions of the survey.

TABLE 4

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.792 ^a	.627	.613	.308

a. Predictors: (Constant), B Appearance, A Texture, B Flavor, A Appearance, A Chocolate, B Texture, A Flavor, B Chocolate

The adjusted R square of 0.613 indicates that the model accounts for 61.3% of the variance which means that the model if given the quantities for the predictor variables will provide an accurate prediction of overall preference (cookie choice) response 61.3% of the time.

We use the calculated F-statistic to determine if the quality of the model. The F-statistic for the data is depicted in Table 5.

TABLE 5

ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	33.230	8	4.154	43.711	.000 ^a
	Residual	19.766	208	.095		
	Total	52.995	216			

a. Predictors: (Constant), B Appearance, A Texture, B Flavor, A Appearance, A Chocolate, B Texture, A Flavor, B Chocolate

b. Dependent Variable: Overall Preference

The F-statistic of 43.711 with a p-value less than 0.001 indicates a “good model”; the statistical significance of the F-statistic suggests that at least one of the predictor variables is able to predict the cookie choice.

Ordinarily, we continue revamping the model, adding or removing predictor variables, until we get an adjusted R squared that is high enough for us to feel confident in the consistent predictive ability of the model. However, since this was a practice in model building, we did not continue with model building to seek a leaned model.

Nonetheless, the mathematical model that corresponds to the aforementioned F-statistic and adjusted R squared is derived from the unstandardized coefficients of Table 6.

TABLE 6

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	1.789	.093		19.199	.000
A Texture	.130	.038	.210	3.448	.001
A Flavor	.129	.041	.219	3.138	.002
A Chocolate	.034	.041	.059	.849	.397
A Appearance	.024	.034	.040	.713	.476
B Texture	-.052	.036	-.094	-1.460	.146
B Flavor	-.270	.040	-.523	-6.678	.000
B Chocolate	-.062	.044	-.118	-1.409	.160
B Appearance	-.034	.035	-.060	-.982	.327

a. Dependent Variable: Overall Preference

The mathematical model is the following:

$$Y_{\text{Overall Cookie Preference}} = 1.789 + 0.130X_{\text{ATexture}} + 0.129X_{\text{AFlavor}} + 0.034X_{\text{AChocolate}} + 0.024X_{\text{AAppearance}} - 0.052X_{\text{BTexture}} - 0.270X_{\text{BFlavor}} - 0.062X_{\text{BChocolate}} - 0.034X_{\text{BAppearance}}$$

One might wonder what variable is the most important in predicting whether someone prefers low fat cookies or regular cookies. The Beta column in Table 6 provides the answer such that the highest Beta indicates the variable that is contributing the most to the model's prediction ability. Therefore, the most important predictor of overall cookie preference is how someone grades the flavor of cookie B (absolute value Beta = 0.523); in other words, how much someone likes the flavor of the regular cookie indicates whether or not that person prefers it.

Discussion

The Housewide Research Project investigated whether people preferred non-fat or regular cookies. A sample size of 219 for overall preference was obtained. The non-fat cookie was selected less than the regular cookie. A t-statistic 47.262, with a p-value less than 0.001, suggests that there was a highly statistically significant difference between the preference for the fat free and regular cookies. The project also investigated whether people like cookies. The results suggest that a majority of people do enjoy cookies.

The researchers did investigate whether there were certain variables that lead to the overall preference. The results suggest that the flavor of the regular and the non-fat cookie had the greatest predictive value in the cookie preference. The texture of the non-fat cookie was a greater predictor of preference, than with the regular cookie. The chocolate for the regular cookie had greater predictive value than the non-fat cookie. The appearance of both cookies had the least predictive value for cookie preference.

The researchers tested the validity of the model. An ANOVA F-value of 43.711, with a p less than 0.001 suggests that the model does have predictive value towards people's preference of cookie. An adjusted R squared of 0.613 of the model suggests that the model would be able to correctly predict the overall preference choice of 61.3% of participants using the predictive variables. The model was not studied any further.

The research suggests that people do enjoy cookies, with a greater preference toward regular cookies, and flavor being the factor that most significantly impacts the choice of cookie. Further research can be done to investigate any additional predictive variables of cookie preference, and to further investigate the existing predictive variables.

There were limitations to the study. The research was conducted in one hospital setting in a Midwestern town. Therefore, the results can not be generalized. Also, the sample cookies and the surveys were distributed at locations where participants could interact, thus the participants may have affected one another's survey choices.

Cookie Experiment Continues on page 10

Conclusion

The results suggest that the null hypothesis, that the non-fat cookie is more preferred than the regular cookie, is rejected.

References:

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Nursing Education CE Programs		Magnet Force: 7 & 9
<i>Trauma Pearls Conf.</i>	<i>SSOM, Tobin Hall/Rm 190 7:00 a.m. - 3:30 p.m</i>	<i>Sat, May 2, 2009</i>
<i>Foundation of Pediatric Hematology & Oncology A Comprehensive Review Course-Malignancies-Day 1</i>	<i>Mulcahy Bldg/Rm 0701 7:00 a.m. - 3:30 p.m</i>	<i>Wed, May 6, 2009</i>
<i>Foundation of Pediatric Hematology & Oncology A Comprehensive Review Course-Treatment Modalities-Day 2</i>	<i>Mulcahy Bldg/Rm 0701 7:00 a.m. - 3:30 p.m</i>	<i>Wed, May 7, 2009</i>
<i>Advances in Organ Transplant</i>	<i>SSOM, Tobin Hall/Rm 190 7:00 a.m. - 2:30 p.m</i>	<i>Sat, May 9, 2009</i>
<i>Quality Improvement Education Session</i>	<i>SSOM, Rm 160 7:00 a.m. - 3:30 p.m</i>	<i>Fri, May 15, 2009</i>
<i>Evidence Based Trial Program</i>	<i>Mulcahy Bldg/Rm 0701 7:00 a.m. - 3:30 p.m</i>	<i>Fri, May 29, 2009</i>
<i>Neuroscience Heads Up: Education Session</i>	<i>SSOM, Tobin Hall/Rm 190 7:00 a.m. - 3:00 p.m</i>	<i>Sat, May 30, 2009</i>
<i>For more upcoming programs go to the Nursing Education Website!!</i>		

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